THE CREATION OF PRODUCTION PRACTICE IN THE EARLY B.B.C.

WITH PARTICULAR REFERENCE TO MUSIC AND DRAMA

PH.D UNIVERSITY OF LEICESTER

GEOFF MATTHEWS

1984
Preface

The one certain benefit arising from the long period over which intermittent work on this study extended, was that it allowed for my contacts at the Centre for Mass Communications Research to become friendships. I learned to love the man and know the scholar in Philip Elliott, and shared the good and bad times with his wife Wendy and the children. It is something remarkable that the same relation with man and scholar I had with Philip, continued with Peter Golding when he took over the supervision of my work in '84.

No husband who has made sacrifices at the altar of scholarship needs reminding that his wife bears most of the cost and Teresa is no exception to that rule. With this burden raised, my infant son "J J" will perhaps learn to know me as more than a figure who appears at mealtimes.

My friend of many years, the Rev. Trudi Norris, has checked and typed every word of the drafts. As a son, my thanks to my parents for their trust that the time I might have devoted to them was well spent in advancing this work.

Geoff Matthews. December '84.
# Table of Contents

## INTRODUCTION

| The Idea of Broadcasting                  | 1 – 10 |
| The Craft of British Broadcasting        | 11 – 15|
| The Craft of American Cinema             | 16 – 30|
| The Craft of American Broadcasting       | 31 – 43|
| Gramophone Records                       | 44 – 73|
| The "Distribution" of Music in the United States and England, 1895 to mid-XXth Century | 74 – 89|
| The "Distribution" of Drama in England, 1889 to mid-XXth Century | 90 – 96|

## Chapter One  BROADCASTING MUSIC

| The Music Elite and Popularisation, 1907-27 | 97 – 129|
| The Different Responses of Music & Drama to the Opportunities of Broadcasting, 1922-30 | 130 – 134|
| The Company's Response to the Problems of Music Broadcasting 1922-26 | 135 – 176|

## Chapter Two  DRAMA BROADCASTING

| The Interests Involved in the Drama-Broadcasting Project of the Early Twenties | 177 – 206|
| The Larger Context of Drama Broadcasting in the Early Twenties | 207 – 235|
| The Working-Out by Engineers and Drama People of a Method of Using Electrical Gear to Produce Precise and Calculated Effects on Listeners 1923–28 | 236 – 256|

## Chapter Three  THE SOCIOGENESIS OF PRODUCTION—FOR—BROADCASTING 1928–48

| BBC Enquiries into Studio Work 1928–48 | 257 – 298|
| Balance and Control Staff 1928–48 | 299 – 331|
| Broadcast Dance Music In-The-Making, 1923–48 | 332 – 342|
| The Persistence of a 'Scientific Management' Approach to Studio Work, 1948–9 | 343 – 350|
CONCLUSIONS

The History of Occupations:
Approaches To A Field of Study Derived From Everett Hughes

Art Worlds and Engineers Within Broadcasting 1922-26

The Inner Interactional Sphere, 1922-26

The Turning-Point of 1928-33

The Widening Span of Arts Seeking Production Through Broadcasting in the Thirties

Broadcast Engineers, The Institute of Electrical Engineering and the 'Big Six'

The 'Management Movement' and the Re-Organisation of 1933

The Mechanism of Disclosure of the Novelty of Broadcasting Work

The Formal Constitution of A Broadcasting Occupational Grouping, 1951

Summary Overview

BIBLIOGRAPHY
INTRODUCTION

THE IDEA OF BROADCASTING

The British Broadcasting Company was registered in December 1922 and received its P.O. licence in January 1923. London 2LO station broadcast its first programme in May 1922. There was a transitional period of several months, until the Company opened the Savoy Hill Studio, in which the Company broadcast from the old 2LO Studio in the cinema of Marconi House. By the end of 1923, the Company was putting out five and a half hours of programmes daily. From the autumn of that year and throughout the following year, the Company opened a series of low-powered 'relay' stations. In May 1923 it began experiments in distributing programmes, originating in London, to these low-powered stations via telephone. In the course of 1924 the creation of a network of relay stations made it possible for between 60% and 70% of the population to receive a programme. The aim of making a broadcast programme available to a truly national audience was brought a step nearer when planning commenced, in December, for a high-powered transmitter station. In the summer of that second year the decision was also made to go beyond the broadcasting of only news and talks and music. The Company established first a Drama Department and, in August, an Education Department.

The first eighteen months of the Company was, therefore, a period in which the idea of electrical wave communication, which would play a limited role in society, was set aside in favour of the idea and reality of 'broadcasting'. During the course of 1924, the second year of broadcasting, Burrows, Lewis and Reith published their syntheses of eighteen months' experience in an attempt to impress the public with their vision of what had been done and of the way ahead.

Their writings conveyed their shared sense of having initiated as much in the realm of ideas as in the realm of practice. The task of creating broadcasting was indivisibly theoretical and practical. Reith expressed
this dual demand, at once to theorise and to act, when he wrote "We were overwhelmed by the needs of the moment, but at the same time plans had to be formulated, not for the present but for the future; it had to be determined if possible where this service was to lead, how best it might be developed."¹

In a chapter headed 'Uncharted Seas', he wrote of the sparseness of the original terms of reference and of the irrelevance of all previous experience. "There were no sealed orders. The commission was of the scantiest nature. A broadcasting service was expected and had to be initiated and developed. There was no precedent, no store of experience to be tapped, no staff ready to hand with mettle proved in a similar field."²

As Reith saw it, the first staff defined as well as executed their task. Reith wrote: "Almost everything depended on the personality of those to whom, almost by chance, the service had been committed."³

Lewis found different words to express the same view of the Company's origins. He remembered the task of founding broadcasting as peculiarly without points of reference in any task previously undertaken in society. Lewis wrote: "... we had to deal with an entirely new set of circumstances of unparalleled difficulty."⁴ "... There we were, a round half-dozen people, with the whole company's organisation to set in motion, confronted with new and difficult problems on every side, with no precedents of past experience to go upon..."⁵

Burrows, likewise, saw the original staff as peculiarly "without precedent to work upon."⁶ He was not a technician but a Marconi public

---

4. Cecil Lewis, Broadcasting From Within (1924), p.48
relations counsel and so well-placed to foresee the 'broadcasting'
possibilities of electric wave communication. He did not entirely share
Reith's view of the founding group of November 1922, as set down in uncharted
conditions and lacking sense of the way ahead. Instead Burrows remembered
the gaps which separated the public from those who through long association
with the wireless field had already guessed at its broadcasting future.
The few, said Burrows, had "a desire to demonstrate to the public the
extraordinary, but in the majority of instances the unsuspected, possibilities
of broadcasting."¹

In 1924 Reith wrote of the first eighteen months, "... we had no
precedent ... Rightly or wrongly we took a comprehensive view of the
possibilities of broadcasting ... Had we then been officially informed ...
that we were to confine ourselves to the transmission of concerts, then the
service would ... have been limited to that ... No such intimation, however,
was received ... In setting aside the limited conception, one contracts
for an indefinite and continuously growing influence. The service would
either be conducted within clearly defined and narrow limits, or else there
would be no limits at all ... Assuming that the service is still to extend in
many directions and that a wider range of subjects is to come within its scope ..
and that millions of people are listening, the influence is obvious ... It is
not musical taste only which is likely to be affected."²

The decision in 1923 for broadcasting which enmeshed with the full range
of existing cultural interests - variety, drama, politics, public information,
sport, education and religion as well as music, was not one taken on the
spur of the moment. It was a decision shaped by the experiences and the
reflections of three of the original Broadcasting Company executives in the
two years before 1922. Those two years were marked by the opening of the
Western Electric Pittsburg Station in November 1920 and the boom in

broadcasting in the U.S.A. which followed. It was a period of greater importance in shaping a conception of what broadcasting should be than Reith's picture of an executive having no written terms of reference would suggest. In Britain, the period was marked by a new phase of growth in 'amateur' telephony. The interest shown by the press encouraged those who suspected that there was a market for receivers in this country to test the interest of the public in broadcasting. It was this period which saw the emergence of the idea of broadcasting from its telephony integument.

Before 1922 Eckersley, Burrows and Lewis had come to view the future of wireless in a way that put them ahead of their times. Eckersley, from the vantage point of the Writtle Station, which began transmitting in March 1921, broke free from the narrow horizons which wireless in the hands of scientists imposed. He was transformed from a scientist who saw the public utility value of electric wave transmission into one who saw the possibility of incorporating electric wave transmission into everyday life. Arthur Burrows' approach was defined by his position as a public relations counsel of the 'new' Marconi firm. He was attracted at first by the publicity value of telephony and then by the prospect that there might be a market for wireless receivers in the U.K. In accordance with his training as a public relations official, Burrows saw his task as fashioning an organisation that would provide the service that a many and varied range of publics would require. As early as 1918 he clearly foresaw a broadcasting future.

In contrast, the contribution made by Lewis stemmed from an avant-garde conviction that from new technology would emerge new modes of expression. He brought to the Company a constructivist tradition that valued the "new" as the material of artistic experimentation. Lewis's interest was in "the art of the microphone"; his faith was that artistic creation flourished in those milieux that were peculiarly products of their own times.

Eckersley became the engineer bent on spreading the service to the
whole nation. Burrows became the programme organiser who saw broadcasting in terms of the quality and range of programmes that would sell sets to a variety of publics or audiences. From Lewis came the inspiration that the unfamiliar resources of the microphone, the studio, the echo chamber, the possibility of appeal to one sense only, were not constraints but the sources of a new art.

Thus the original cadre of broadcasting executives collectively held the view that theirs was a field ahead of its time. Each of them was persuaded of the need to develop a practice unparalleled in previous experience. This practice was guided by bold projections of the type of organisation that national coverage, increasing hours of regular broadcasting, and an increasing audience with developing tastes would require.

The creation of the Balance and Control Section, in 1926, and of a Sounds Effects Section in Drama, some time later, were the products of this view. The formation of Music Balance and Control stemmed from the idea that the studio, the microphone and the broadcasting chain required an unprecedented system of production. The idea, that a new medium of communication must generate a new art and a new public stood behind the foundation of a Drama Department and a section specialising in Sounds Effects.

When the founders of broadcasting established Balance and Control and Sounds Effects staffs in the mid-twenties, they had behind them an experience which taught them self-reliance. In finding out what broadcasting required, they had learned already to look to their reflections on their everyday work experience to guide them. They were united by the conviction that their work was unprecedented. They were undertaking the creation of a communication praxis. Each of the major groups, programme organisers, engineers and producers, were constantly involved in the early twenties in major revisions or re-understandings of their tasks. The Programme Organisers came to understand that broadcasting was a new communications environment
with implications for all major interests in society. The three books published towards the end of the first eighteen months of the Company's life, intent on characterising broadcasting, were powerfully informed with that understanding. Likewise, the engineers, who grappled with the problems of reproducing music and dramatic sound, came round to the view that the studio must be treated as part of an artificial sound-reproducing system. Sound produced in the studio was conditioned by the acoustic of the studio and mediated through microphones of variable characteristics. Only at the end of a broadcasting chain was it received through the two ears of the listener. The complex variables that affected the performance as heard by the listener was a field beyond the competence of artists. From that understanding emerged the argument that, as well as the new functions of Programme Building and Microphone and Studio Engineering, there was the function of managing or 'faking' programme-specific sound, whether that sound was musical, dramatic or variety. The two specialised studio staffs were as indispensable to the constitution of 'broadcasting,' as such other articles of faith as programme-building, the producers' concepts of "pure radio" or "the art of the microphone" the engineers' devotion to the echo-chamber, and ideas like variable "artificial echo".

After 1927 the self-conscious originating role of the first executives became relatively less important. The period in which the first corps of executives attached priority to defining the fields of programme-building, of studio and microphone engineering, and of the 'management,' ended with the resignation of Burrows, Lewis, A.G. West and Eckersley. That sense of the

1. C.A. Lewis, Broadcasting From Within (February 1924), described by the author in an introductory note as "simply the first year's work and the future possibilities seen through the eyes of one who has been intimately connected with its development".

   J.C.W. Reith, Broadcast Over Britain (September 1924).


new-fangledness of everything done in broadcasting, and of the need to build
a new organisation in novel conditions, came to an end as electrical
communication became familiar in the world of the first national electricity
grid (1927-33), of electric gramophone records (from 1925) and of sound-on-
film movies (1927-29). Broadcasting ceased to be singular, and the vision
of broadcasting as an enterprise of undreamed-of possibilities became less
convincing. In the late twenties the accent was less on pioneering, visionary
leadership and origination, and more on the economic task of making efficient
use of the resources of a large organisation. The departure of Burrows,
Lewis, A.G. West and Eckersley, the winding up of the Production Research
Section, and the fall into relative disfavour of Lance Sieveking, the
experimental drama producer in the late twenties and early thirties, marked the
end of one era and the opening of a new one. The change had consequences for
Balance and Control. In 1930 the new 'managerial' executives started a
close examination of a claim for the expansion of the Balance and Control
staff. This raised, for the first time, the question of the legitimacy of
the "theory" of the Balance and Control function, a theory which went
relatively unexamined in the years in which a broadcasting praxis emerged.

Eric Barnouw has vividly recreated the pre-war years of continuous
wave communication in the U.S.A. when the occasion of picking up a Fessenden
music and voice test was "... a miracle never to be explained."¹ That

¹. Stanley Manning in 1912, equipped with a De Forest audion picked up a
snatch of speech and music, part of a Fessenden test. "When I heard it
I thought I was going crazy. I had never heard anything like it. I
was living in a rooming house up on 72a Street - I believe - at the time
and I called in several people, and they heard it, so it was real."

John Fetzer, on a night in November 1912, at an hour when he listened to
the time signals from the U.S. naval base at Arlington: "We were
suddenly startled to hear violin music bursting forth from the headphones..
as far as we were concerned a miracle never to be explained. The
phenomenon occurred for fully twenty minutes. The headphones were
passed round. We called in the neighbours, all of whom agreed that not
a single one was having daydreams."
Cited in Eric Barnouw, A History of Broadcasting in the United States
sense of the miraculous and unprecedented long persisted and was an important element in initial development of broadcasting. Eckersley recalled his years as an adolescent imitator of the young Marconi's experiments in electric wave communication. He recalled too that a powerful sense of the miraculous still possessed him as late as 1923. He described: "... when I first heard ... the BBC transmit an opera, Humperdinck's *Hansel and Gretel* ... I sat for three hours ... rigidly clamped by head telephones, completely absorbed, oblivious of discomfort ... I had been to the opera without going to the opera. Broadcasting, I realised, would let me join in events without my having to drag my body all over the place."


Cecil Lewis wrote in the following year: "... it never ceases to be a marvel to me how the great Symphony concerts go along the roadsides, all over the hills, through the towns, brushed by trees, soaked by rain, swayed by gales ... and are suddenly loosed out like a gushing fountain into the homes of millions of people..."


The illustration Burrows chose was: "the nightingale projected across starry skies and windswept mountains to a Swedish home, as well as to thousands of houses in the crowded cities of this country." The sound of the great orchestra contrasted so forcibly with our little band of seven in the studio, that it came as a revelation of what the future of broadcasting might be. It made us more confident of success and carried us forward to those days when we should have great conductors and orchestras in our own studios."


The vision of this first group of executives in the broadcasting company and the part they played in developing the idea of 'broadcasting', has to
some extent been overshadowed by the commanding figure of Reith who played
the role of publicist for himself, the Company and, later, the Corporation.
THE CRAFT OF BRITISH BROADCASTING

The problem which broadcasters faced throughout the period of this study was the uniqueness or unprecedented-ness of their medium. Broadcasting's singularity was overwhelmingly the condition which pioneers and listeners jointly experienced. In the first year, those within the Company shared with their lay public a view of broadcasting as an awesome transforming marvel of a new age. Cecil Lewis, the last surviving pioneer, in a BBC Oral History interview, conveyed the feeling of bouleversement which he and his contemporaries experienced at that beginning time.

"One should say at this point, that, no sooner had it started, broadcasting became something of a happening; it was one of those things which caught on immediately like wildfire. In a way that seems totally incomprehensible—why it caught the imagination of the public, as indeed it was absolutely right that it should—because now people suddenly realised that without moving from their home they could be put in touch with all sorts of things which would have cost them money and difficulty. All the whole world of different ages began to be wild about broadcasting. So the success of the thing was never in doubt. I think I can say from the first fortnight onwards, nobody ever doubted that the thing would be a success."¹

"Producing daily programme material with such a scale and range had never been dreamed of. At first in 1922, we did not really grasp it ourselves. The world's ear was our oyster. Into it we could pour anything and everything that could possibly interest it. The entire range of the daily news, the wide gamut of music, the stimulus of debate, the consolation of religion, all human endeavour was there to fine down to the point of the microphone and then amplified out and wider to the ends of the earth.

It was an extraordinary and unprecedented situation, An opportunity

¹. Cecil Lewis, BBC Oral History Unit Transcript, p.9, BBC Sound Archive.
and challenge, not only to us but to many others who very soon saw in this new scientific octopus a dangerous monster that could strangle their livelihood. The Press feared for their monopoly, the concert halls for their public, the sports arenas for their crowds, the churches for their congregations. On every side we were creating new problems and at the same time offering new possibilities.¹

Established interests and older media confronted in broadcasting a new component given a place of inestimable centrality in their affairs. Lewis, in his interview, showed that he joined with laymen in sensing the possibilities of the new power come amongst them. However, as Lewis recorded in his synthesis of 1924, that perspective he shared with laymen, overlaid his more immediate everyday work pre-occupation with the idea of the work of Broadcasting From Within. Lewis' pre-occupation was with the world of the work of production for broadcasting.

The focus of this study is the process of creation of an uniquely new division of labour; the making of a craft of broadcasting production. The establishment of a Division of Programme Operations in 1950 recognised the independence of a hierarchy of work that was not Engineering and was not Administration. The emplacement of a Division of Programme Operations signalled the point of arrival and acceptance of a new craft.

This study conceives the making of this new division of labour as a process of social interaction, in the course of which participants engaged continuously in attempts to define, establish, maintain and renew the tasks of broadcasting production they performed, and the relationships with others which those tasks supposed. For reasons of exposition, the study divides into two phases, the first centred on the making of production practice in the realms of drama and music broadcasting; but the process of creation of a social world of broadcasting work is essentially a continuous one. The

¹ Cecil Lewis, BBC Oral History Unit Interview, p.67.
pioneers defined the practice and theory of music and drama broadcasting in the first five years, but that process of creation continued. It was consolidated and developed by the original staffs and others who joined them, after '27. A first 'phase' is distinguishable from a second, only to the extent that those who carried forward the work of production for broadcasting, in the thirties and forties, perfected mastery over the production of mass entertainment forms and over the compilation and presentation of news and current affairs in the 'War of Words'.

It was a pre-condition of the success of the 'projects' of the Music and Productions Departments, founded in 1924, that they should reconcile and unite the work of the executives, or the financial interest of the Company, in promoting the sale of receiver sets; the sensibilities of the client cultures of music and drama; and the interests of electrical engineers came over to broadcasting in securing their place in a new branch of their profession. It was a pre-requisite of success that the totality of the efforts of the three groups, involved in promoting music and drama broadcasting, should acquire co-ordination. The preliminary action was taken when the Company executives brought engineers and artists together under one roof and made them co-ordinate in the broadcasting studio.

Co-ordination of the totality of activities required further that executives, engineers and artists be energised by concordant ideas about the profitability, promise and potential of music and drama broadcasting. The first section of this study focusses on the forging of such an alliance of ideas in Music.

The Company's Chief Research Engineer, A.G.D. West, saw in Wallace Sabine's theory of acoustical measurements, the prospect of a music-engineering practice that could faithfully reproduce auditorium performances in the studio through a system of artificial variable acoustic. The music critic, Filson Young, mediated between the Company and the client music culture. Young responded positively to the possibility of the
'democratisation' of good music through broadcasting. In his concern to secure musically untrained listeners against the 'mechanisation' of music, he focussed on the necessity of safeguarding devices, such as re-scoring; or other means of re-accommodating music in an as yet imperfect new medium. From the musician's side within broadcasting, L.S. Jefferies propounded a theory and practice of a new musicians' craft of music 'balance and control'. It was the concordance of these three ideas - of the client culture without and of the musicians' and engineers' within - that realised the project for music broadcasting.

A parallel pattern of concordant responses from three sides, energised the project of drama-broadcasting in the same period. In the perspective of the Repertory Theatre Movement - concerned with breaking new ground stylistically and communicating their experiments to new audiences — the Company's experiment in drama-broadcasting made it a natural member of the growing cohort of little theatres. From the engineer's side, the project fitted the engineering paradigm of a calculable artificial sound-producing studio with the 'cinematic' potential of 'cutting', 'fading' and 'superimposing' sounds. From the artists within broadcasting came the synthesis of a radiophonie drama, that would create a sounds literacy among its listeners, as the cinema had created a moving-pictures literacy among its spectators.

The pioneers of the first five years were exercised and sustained by the baffling novelty of their tasks. Lewis, West, Filson Young and Jefferies saw the medium as requiring an artificial, 'faked', sui-generis system of production distinctly its own. In the early 'twenties' period, there was a contingent and unquestioned accord between what one may call 'lay' opinion (Reith included in that body), which saw broadcasting as a new component hurled in society, and those closely associated with microphones and studios who saw, from the perspective from within, both the necessity
and possibilities of artfulness in broadcasting. The latter went ahead, creating in their everyday a new social world of work. They defined and established the artful tasks of music 'balance and control' and 'sound effects drama' and the relationships with others which those tasks supposed.

From the late twenties the earlier accord between 'lay' administrators grappling with the problem of accommodating broadcasting in society at large and those grappling with the problem of production, dissipated and broke down. In that time new electric media proliferated and competition between the media intensified. The grant to broadcasting of a public service monopoly brought with it the task of creating a further social world of work - the world of work of administration of a large-scale complex organisation of a new type. In the thirties BBC Engineering Division became a profession in its own right, with its own hierarchy of credentialled staff and its own examination system. From 1933 Engineering Division operated its own budget and came to stand relatively apart from the hierarchy of Administration and Programmes.

The third section of this study concerns itself with the thirties and forties. In those decades the original Balance and Control staff further extended and defined its task: support staff increased in number and ramified its kind. The cellular system of programme production was a forcing-house of powerful mutual interdependencies between producers and support staff. The study documents the process of interaction that occurred in the programme 'cells' and the efforts of both producers and support staffs to enunciate and gain acceptance in the Corporation generally, for the arcane value of work done in programmes by people who were neither 'artists' nor producers.

The section traces the dynamic, the pattern of continuous and emergent interaction between producers and support staff that pushed both to a fuller sense of the uniqueness of broadcasting - production crafthood. The very cellularity of broadcasting production organisation inhibited acceptance of
the value of support staffs' work outside their own relatively closed circles and departments. The major obstacle to acceptance of support staffs as a distinctive division of labour, was the co-existence of other social worlds, those of the Administrators and the Engineers.

In 1937, the efforts of these 'amorphous' staffs to achieve recognition as a distinct division of labour was interpreted by Administration and Engineering according to a management paradigm of occupation. It was identified in large measure as an independent technical function: studio staffs' labour became an administrative artefact, 'programme engineering', placed in the Engineering Division.

The long impasse of support staff's condition of existence, as a body sited at the intersection of three powerful divisions (Administration, Engineering and Programmes), was ultimately broken by the action of the Broadcasting Staff Association (founded 1941). The division in the Corporation between Engineering and Programmes ran also through the ranks of Staff Association and threatened its precarious unity. The first action for a post-war internal committee of enquiry (Studio Operations Committee, 1948) into the anomaly of Programme Engineers' position in the Corporation, was a Staff Association letter of February 1948, to Controller (Staff Administration). Among Staff Association's more-than-two-hundred 'programme engineer' members, there was near unanimity for "creation of a new Division intermediate between those responsible for programme output and engineering division ... supported by the argument that as broadcasting has developed, an increasing division of responsibility has become necessary." Threatened with the dissolution of its unity as a general association, Broadcasting Staff Association, "decided that its resources were inadequate to investigate or recommend organisational changes on this scale and I was instructed to suggest that Management should undertake a review of what was certainly a Managerial problem."

1. General Secretary of BBC Staff Association to Controller (Staff Administration), 24.2.48. File "Studio Operations Committee, File I, 1948". Acc.33571
THE CRAFT OF AMERICAN CINEMA

Broadcasting paralleled cinema in bringing artists and technicians together and in fashioning a system of production uniquely its own.

Those who created the craft of cinema brought with them skills and ideas of occupation acquired in kindred trades and professions. Those who assumed and shaped the roles of directors initially were recruited largely from the lower ranks of the theatre professions. D.W. Griffith had behind him years of touring with stock companies before he joined Biograph. Sennett, before he joined Biograph earned his living in New York burlesque. Thomas Ince, the pioneer mass producer of westerns was the son of parents who earned a precarious living on the stage. Before he joined Carl Leammle's Independent Motion Picture Company, he had behind him years of struggling existence in Atlantic City and New York vaudeville; still others joined existing companies at a young age and learned the rudiments from watching many films go through production. Von Sternberg was a props boy at Griffith's Biograph and John Ford the same at Universal.

Original cameramen were predominantly recruited from highly-skilled mechanics in the entertainment-orientated moving-photography trades. Billy Bitzer, Griffith's cameraman, was an electrically-trained mechanic in a firm specialising in the production of machines from patent plans. When that company became American Mutoscope (1895) and later American Mutoscope and Biograph, Bitzer alternated between filming and projecting newsreels (1896 American Presidential and Inauguration, Spanish American War, Galveston Flood, and Jeffries-Sharkey prize fight), and filming and preparing reels for mutoscope peep-parlours.

Fred Balshofer, founder of the Crescent Film Company in Brooklyn (1908) commenced his working life in the booming tur-of-the-century trades of lantern and stereoscopic slide-making.¹ When the home-entertainment

¹ Fred Balshofer and Arthur C. Miller, One Reel a Week (1967), Ch. 1.
slides and the mutoscope and kinetoscope trades declined, Balshofer joined Sigmund Lubins covertly in his Motion Picture Company, making duplicates of Melie's and Pathe Freres movies. By 1907 he had moved forward into newsreels and in 1908 risked prosecution from the Edison Motion Picture patents ring for the rewards of supplying the new nickelodeon market with picture plays.

The society of camera mechanics in the first years of the century bore all the hall-marks of an artisanal trade. The young Fred Balshofer entered the stereoscope business in New York City when peep-show parlours were at their peak and when a camera craftsman, Edwin Porter, opened a new market with his moving picture action play, The Great Train Robbery (1902). Fred Balshofer was typical of the young, alert and enterprising apprentices who were doing well. His career from 1902 to 1905 was moved by an upward spiral that caught up both photographic craftsmen and vaudeville artists and carried them together into a new industry.

"Evenings I would visit the penny arcades in Newark, and like other customers I would drop a penny in and turn the crank that made one picture follow the previous one rapidly enough to create the effect of moving pictures. At that time there were two types of viewing machines.

One was Edison's Kinetoscope with a continuous strip of film. The other, manufactured by the American Mutoscope Biograph Company, was called the Mutoscope and utilised paper prints. As one picture fell away, another was exposed thus achieving the effect of a motion picture.

As a photographer, naturally I was intrigued by the mechanical aspect, but my current job with Underwood and Underwood offered more of a challenge. Choosing subjects and compositions for the most suitable stereoscopic pictures was absorbing work, and, besides, my salary was now as such that I had no reason to want to leave for this new field known as moving pictures.

Around this time several places on Fourteenth Street, New York, showed
short subjects such as, _The Fireman's Parade in Fifth Avenue_, _Feeding the Pigeons in Central Park_ and the like. In the fall of 1903, I saw at Coney Island _The Great Train Robbery_ directed and produced by Edwin Porter. This moving picture told a story in a dramatic and suspenseful way and it gave me the impression I was seeing a stage play, I thought about it on the way home and became convinced that moving pictures were a growing entertainment business. I soon found I was not the only one who had arrived at this conclusion. Exciting stores of the dime novel type were being shown in every possible place that could be rigged up for the purpose.

About this time I was offered a job by the Shields Lantern Slide Company and a nice increase in salary. My new job turned out to be fascinating. I posed the players and photographed illustrated slides for popular songs such as, "She Might Have Seen Better Days", "Just Tell Them That You Saw Me". I operated the stereopticon magic lantern for Gus Edwards. From his vaudeville acts came Eddie Cantor, George Jessell, Groucho Marx and many others.

By the end of 1904, motion pictures had become so popular that the slide business tapered off. After two years with Shields ... as I strolled on Eighth Street my attention was caught by gold letters on a window "Sigmund Lubin, Optician and Manufacturer of Moving Pictures". Moving pictures were now magic words to me and I entered the store on impulse. I hardly anticipated that that moment would start me in an industry where I would remain the rest of my working life.¹

The New York moving picture trade world that Balshofer entered had its market place, its meeting places and networks of mechanics and entrepreneurs who knew each other. Film exchange now was on Fourteenth Street.

When Balshofer, Porter and others operated outside the patents' ring of N.P.P.D. film producers, the place to find where covert studios were located was 

---

setting up was Eberhard Schneider's shop on East Twelfth Street, a designer and maker of film perforators, printers, cameras and other gadgets and processor of 'independent' film.¹

The mechanic entrepreneurs were a craft fraternity. When Balshofer recommended to his apprentice Arthur Miller (later John Ford's cameraman) to Edwin Porter, Porter started him immediately. Balshofer introduced the same young Miller to Billy Bitzer in 1909, as "the best cameraman in the business") and Bitzer showed Balshofer a special magnifying lens he fixed in the focus tube of his camera and gave Balshofer the name of the lens shop where he could have his camera altered.²

The separation out of the role of director from the original cameraman-director function occurred as an integral of developing film practice. In the Biograph Studio under Griffith, the increase of the cameraman's work entailed development away from the static style of "same-sized figures shown in unvarying time sequence of single action,"³ and the Griffith rush for chiaroscuro lighting, gave Bitzer more to do. The work of the cameraman at Biograph in 1908 was a whole age away from what it was at the beginning of the decade. Arthur Miller (later John Ford's cameraman) observed the largely mechanical content of a cameraman's work in the typical New York roof-top studio of Edwin Porter's heyday, five years before.

"Using Cooper-Hewitt lights for photographing wasn't much of a challenge, for once you knew the amount of light needed to get the proper exposure, it was simple to place the bank of lights around the set and then photograph. There was no such thing as modelling, as the Cooper-Hewitt light was a mercury tube similar to the neon lights of today."⁴

Bitzer identified the partition of the early dual function with

---

¹ Fred Balshofer and Arthur Miller, One Reel a Week (1967), p.43.
² Op cit, p.34.
⁴ Fred Balshofer and Arthur Miller, One Reel a Week (1967), p.46.
Griffith's coming on the scene.

"Before his arrival I, as cameraman, was responsible for everything except the immediate hiring and handling of the actor. Soon it was his say whether the lights were bright enough, or if the make-up was right. I never had to bother how they looked, just so I could see their faces in my aperture. A cameraman had enough to do."

Miller recognised how distinctly Edwin Porter's outlook in 1910 marked him as belonging properly to an earlier age.

"Porter didn't choose to specialise in any one branch of picture making, be it director, cameraman or producer. He felt he had to be involved in every part of it."

"He, like Fred Balshofer, when he first started out, found it necessary to be able to perform all the duties that went into making a moving picture including the developing and printing of the film. However, the day of specialisation had arrived, and, of course, D.W. Griffith was the great example in the directing field as was Billy Bitzer as a cameraman."

Porter brought the conceptions of a mechanic to his work.

"The more I worked with Porter, the more I realised that Ed Porter was a pretty thorough mechanic and it was the mechanical aspect of film making that interested him most."

By contrast, Griffith brought to direction, from the acting profession, pre-occupation with the style of picture play dramatics and the audiences among whom the Biograph products 'toured and played'. To Bitzer, the ex-old-style cameraman-director, the ways of the touring stock - company director were unfamiliar.

"On Saturday afternoons, he sometimes asked me to go with him to test

3. Op cit, p.49.
audience reactions to our pictures in the Nickelodeons of the lower East side.\[^1\]

Karl Brown, son of touring-stock company parents a cut above Griffith, as actors, was better placed to understand the reasons.

"Griffith sought out the most unsophisticated, least theatre-wise audiences he could find ... Griffith had been an exceedingly bad actor. It followed that he could be employed only by exceedingly bad producers at an exceedingly bad salary. He travelled the length and breadth of the country, appearing in turkeys of the rankest raw melodrama. Then, by a quirk of ever-unpredictable fate, these same town-and-country yokels became the audiences upon which the nickelodeons depended for their life.

Ten years of seeing audiences of the lowest caste go wild over the crassest of raw melodrama. The hell with the subtleties of Galsworthy, Shaw or Wilde. What these horny-handed sons and daughters of toil wanted was a full-course theatrical feast of tragedy and comedy. Everything has to be spelled out in black and white, deep dyed villains and the purest possible heroes and heroines.

Griffith controlled his studio and everyone in it. There was no doubt of that. But the peanut-and-popcorn audience controlled Griffith and he lived, thought and had his being with the strictest of compliance with their unspoken wishes.\[^2\]

It is important to the central thesis of this study that it is to Karl Brown, Bitzer's young assistant (later a considerable Hollywood cameraman and director in his own right)\[^3\], that we owe the fullest appreciation of the Biograph praxis under Griffith. To Brown, Griffith's Biograph was a model of a world work brought to perfection for the job it had to do. It is a

\[^3\] Karl Brown later joined Famous Players and was the cameraman for James Cruze's *Covered Waggon* (1920), one of the largest money-making films of all time. He turned director in 1926.
view of Biograph film-making from within by an adept who valued the special skills which Griffith brought together and their place in a new system.

Of Abe Schultz, Bitzer's negative developer and his assistant: "If a genius be an infinite capacity for taking pains, then Abe Schultz was genius. He developed every foot of every scene Griffith ever shot. He would change the developer from strong to weak, from fresh to old, to whatever he felt - not knew but felt - to be the one particular treatment for any given scene. If twenty different scenes required twenty different developers, he would treat these twenty different scenes twenty different ways, if it took all day long and into the night. If the finished result fell short of what a perfect negative should be, he'd attack the problem afresh with reducers or intensifiers."

Of Joe Aller, his assistant: "Joe Aller, only a degree or two lower than the scale of genius, knew exactly what to do with those negatives. He used the standard sodas ... but with delicate judgement of a pharmacist turned doctor of medicine."

Of Sam Landers, Bitzer's camera mechanic: "He was a mechanical genius, He could do anything mechanical ... who changed the old hand-development system into a smooth, continuous production-line process, in which the film never left the drums."

Brown as an adept of the trade was sensitive to the value of the quality in support individuals of being subordinate; of knowing the director's wants intuitively; of being the director's 'other self' (which broadcasting producers insisted on in their specifications of support personnel).

When Bitzer instructed Karl Brown: "'Get up on the roof and shoot cloud today'. I went up on the roof and shot cloud. Not just any clouds. We

2. Ibid.
were doing *The Avenging Angels*, Griffith wanted billowy dramatic cloud to use as background for angels. Or cloud with long black curtains of rain ... suitable for devils and witches and imps.\(^1\) When Griffith asked: "Get me a spider weaving her web" ... and Griffith was up to his eyebrows in Edgar Allan Poe ... I knew what he meant."\(^2\)

Griffith used his cutters Rosie and Jim Smith as his other self in a dialogue in which the director's was the active voice:

"The projection room was really Griffith's cutting room. There he would sit, hour after hour, studying scenes he had run dozens of times before. Over and over endlessly. He was constantly musing aloud. "Maybe, if we took the last part of the third take and used the first part of the sixth, it would hold together better." Whispered conversation between Rose and Jimmy. "Get a bad jump -" would be the verdict.

"Then cut away and come back."

"Where to?"

"We have a shot of Crisp approaching the house. Use that. Not much. Enough to cover the jump. Ten frames."

"That'll mean double-cutting."

A shrug. "Who cares, if it works. Try it and see."\(^3\)

Rehearsal in the theatre tradition was work - the screwing up of close attention to a pitch of special rigour and intensity. Griffith's use of rehearsal in his system of film production drew in the new dimensions of film work - the properties' crew responsible for *mise-en-scène* and the photographic crew. Rehearsal foregrounded everyone's minute concerns so that all minutiae fitted to a whole that was practicable for everyone.

"In rehearsals in Griffith's case, everyone connected with production was on hand with note books and sketch pads to determine the settings, the

---

1. Ibid, p.35.
3. Ibid, p.20f.
props, the costumes, and everything else that went into the playing of the picture first to last, long shots and close-ups, reverse shots and cross-shots, the works.

It called for closest possible attention by the stage crew, from Griffith's incredible master carpenter, Frank Wortman, who could build anything to his equally capable prop man, Ralph De Lacey, to the lowliest of his second, third, fourth or fifth assistants who were really errand boys (but included Tod Browning, Eric von Stroheim and Elmer Clifton).

A simple scene would be tried a dozen ways to settle at last into the one pattern that would work for everyone concerned: camera, setting, lighting, the placing of props, everything. This persistent haggling over trifles brought perfection.

Mae Marsh, rehearsing for a picture called Apple Pie Mary played in a country kitchen. She mixed dough, rolled crusts ... A pause for discussion: should she crimp the edges with the thumbs or make ripples with a fork? Decision: thumbs. More like the pies mother used to make ... She picks up damp cloth to wipe the table where she has been working.

Interruption from De Lacey. "What do you want on that table, Mr. Griffith? Checkered tablecloth or oil cloth? 'Oil cloth, of course. Didn't you see how she wiped it'? Silent retreat by De Lacey while he resolves to be more observant in future."^1

Biograph under Griffith was United Artists writ small. It would be a mistake to see it as the one model for organising motion picture labour. There were several but the model based on a well-organised factory, brought into existence by Thomas Ince, eventually succeeded in becoming dominant in Hollywood.

In 1911, Kessel and Baumanns, the New York Motion Picture Company established Ince on an 1800 acre domain near Santa Monica and licensed him to

hire the Miller Brothers' 101 Ranch Wild West Show at 3500 dollars a week on a year's contract. The project was to exploit the scenery of Southern California, its mountains and desert landscapes and Spanish architecture and the resources of the Miller Brothers Company - cowboys, Indians, tepees, stage coaches, buffalo and long-horn cattle - to make large-scale de-luxe Westerns. The New York Motion Picture Company's project was impelled by a growing confidence in the New York market, measurable by the coming into publication of New York-based Motion Picture Story Magazine in 1911, Photo Play Magazine in 1912, Motion Picture Stories in 1913. In the years 1910-1915 the production of multiple reel films increased by the year. By April 1914 the up-market section of New York City theatres were showing largely multiple-reel films and charging one dollar admission to a film that cost fifty thousand dollars.\(^1\) Developments in the market-place were matched by a rising self-confidence among the various segments of the trade. It was the era when "actors decided they were artists, not factory hands and thanks to the bidding from the sidelines by independent producers their earnings doubled and tripled overnight."\(^2\) In 1911 New York Motion Pictures Exhibitors incorporated. In 1913 New York Cinematographers formed the Cinema Camera Club and the Photoplay Authors their league, in 1914.

The New York Motion Picture Company project for large-scale production in a single format matured amongst these circumstances. "Inceville" produced 27 double-reelers and three 3-reelers in 1912 and stabilised production at 16-20 reels a month, mostly two reelers, in 1913,\(^3\) with epic titles worthy of their scale ("War on the Plains", "Custer's Last Fight").\(^4\)

---

Janet Staiger\(^1\) shows that Ince from 1911 might have organised his labour according to theatre tradition of production or Griffith's 'group units' structure, which shot from brief outlines. "Instead he followed the lead of modern industry." Ince chose the "Frederick Winslow Taylor way" of dividing labour into functional departments, and establishing management control over conception and execution through his development of the detailed continuity scenario.

In the period of 1911-15, the growth of studio facilities and the scale of production concurrently set in train a process of segmentation of production functions. By 1961 'Inceville' was a one-half million dollar studio with a unique electrically-lit building, eight big stages, an executive building, 300 dressing rooms and 1000 employees.

The creation of these facilities went hand in hand with the creation of functional departments, a hierarchy of middle managers. George Stout became head of finance at Inceville in 1913. Richard Spencer took charge of a Scenario Department in which Spencer was responsible for story editing; and Gardiner Sullivan and a staff of six writers for scenario writing. Robert Brunton became head of an Arts Department responsible for the verisimilitude of the sets of the New York Street, the Frontier Fort, the Western Town and the three-masted 'Fremont of New York' for sea dramas.\(^2\) Charles Western became head of the Costume Department and assembled a properties collection rich in the Civil War period. A head of laboratory processing was appointed. Chief Cameraman Ray Smallwood was set over a cinematography department which went over to the use of Bell and Howell turret cameras for all productions after 1912.\(^3\)

---


The middle management department 'staff' organisation was complemented by a 'line' of eight film directors, 5 or 6 shooting simultaneously. These eight came directly under Ince as the 'Director General' and his aides.

The Company's instrument of administrative efficiency and waste control was the scenario, which by 1913 had become a continuity script. It listed all exterior and interior scenes with their place in the order of production numbered. Each scene within this schedule was outlined and all camera placings and special effects specified. The descriptions of mis-en-scene and action were detailed. The continuity was costed according to a standard accountancy format, labour costs, expendables and the number of feet of negative and positive film.

Contemporaries admired it; in Taylorite terms, "A system of every-minute efficiency". "There is not a working hour lapses in which all the various companies are not at work producing results. We failed to see actors made up and dressed for their roles loafing about the stages or locations ... or cameramen idly smoking their cigarettes, waiting for the 'next scene'."¹

Janet Wasko identified the format system of production at Inceville as one modelled on Taylorite prescriptions widely disseminated by American 'efficiency experts' and propagandists of 'Scientific Management' from 1890. Her article raises an issue pertinent to the purpose of this study as a whole: namely how completely Ince and Inceville, a showman and vaudevillian among others sprang from the vaudeville and theatrical work traditions and from the fledgling cinematic trades, had become Taylorites.

It was natural that production companies as they enlarged in the second decade, should imitate the Scientific Management practices that were widely agitated in the Progressive Era. They imitated best production systems as the Motion Picture Patents' Company (1908) imitated the corporate monopolies'

strategy of patents' pooling', when it attempted to monopolise the Nickelodeon trade. The question that is prompted is whether the formal Taylorite system that Staiger identified at Inceville, as an antecedent of the "Hollywood studio system", was one that co-existed with experiences and ideas of work relations brought in informally from other places. It is an important issue, because this study will subsequently argue that in British Broadcasting a formal Reithian system of rational corporate administration contended with an informal system in the studios, manned by theatrical people and musicians who brought to broadcasting ideas of work derived from the professions.

Implicit in this study is a contrast between the understanding of the nature of production held by the early cinema entrepreneurs and the Hollywood moguls and the administrators of British Broadcasting. The pioneers of American cinema and the heads of studios in the Hollywood era saw their commerce as one set apart from other business. The ideology of the showmen entrepreneurs of the American cinema proposed that factors other than the economic came into play in determining success in the business they were in.

The classic early histories of United States cinema represent that ideology or myth. The 'normal' business of the Edison Manufacturing Company and the Eastman Kodak Company, who stood behind the Motion Picture Patents Company's attempt to cartelise the nickelodeon trade in 1908, thought to rest their commerce on a patent's control of raw film stock and Edison machines. Carl Laemmle, leading the revolt of Independents against the 'ring', showed that leadership must go to he who could exploit, or 'show', the star appeal of Florence Lawrence.

The same contrasts between an economic view and one allowing for non-economic considerations divided Harry Warner and Edgar Bloom of Western

1. Terry Ramsay, A Million and One Nights (1926).
Benjamin Hampton, A History of the Movies (1931).
Lewis Jacobs, The Rise of the American Film (1939).
Electric in the negotiations to bring sound to cinema in 1926. Bloom wished to sell a maximum of sound equipment; Warner insisted he was in the business of showing movies.

"When all is said and done, the public are not going to the theatre to see the instrument - they are going to see and hear the performance and you have to satisfy them whether you charge ten cents or ten dollars. If the show does not satisfy, it is an assured failure. The public will only judge the Vitaphone by the performance you give them with the Vitaphone".¹

Richard Maltby developed this position to show that a view of non-economic dimension - the showmanship or creativity - of production equally possessed the moguls, stars and production personnel of Hollywood.² Maltby's interpretation illuminates the central issue of this study; the divergence in British Broadcasting between the Engineers and Administrators and those in Music and Entertainment who emphasised the unique nature of broadcasting production.

It is Maltby's argument that the Hollywood moguls of production were geographically and ideologically set apart from the exhibition and distribution arms of their parent companies in New York. The moguls were extroverts, who left their quieter relatives to manage the conventional business, while emphasising that the manufacture of individual artefacts for mass entertainment - required the elusive gifts of showmanship. The idea of the 'star' even was no more than an extension of the idea of the uniqueness of the managerial skills of Thalberg, Schenck and Darryl Zanuck. That view of the essential non-economic dimension of cinema production embraced high and low in Hollywood - moguls, stars and production staffs. Of the latter, Maltby

says, "If the professional ideologies and myths of Hollywood production personnel are examined, a similar pattern may be found: through a change in terms of reference away from the explicitly financial to non-economic areas of creativity, unique talent and specialised skills."\(^1\)

Maltby's posits 'Hollywood' as a situation in which the uniqueness of the craft of cinema production was accepted by the distribution and exhibition arms. Hollywood provides a contrast with the situation in British Broadcasting where, this study argues, production staff failed to gain acknowledgement by Engineering or Administration of the uniqueness of production crafthood.

The coming of a sense of mastery among the varied participants in all the ramified branches and formats of American broadcasting was delayed until the late thirties or forties. A national broadcasting system did not mature in the United States until the early thirties when the commercial structures of network broadcasting, sponsorship, advertising and production agencies, as well as radio manufacturing and audience rating assessments, were in place and interacting smoothly.

The National Broadcasting Company was a product of a re-accord reached between the 'telephone' interests of the Long Lines Division of A.T. & T., and the 'radio' interests of General Electric in July 1926. Under the letters of agreement A.T. & T. drew an annually re-negotiated charge on the volume of traffic through its landlines; the radio interests took the markets for station equipment and receivers; N.B.C., the profits of programmes sponsored and built by advertising agencies. The National Broadcasting Company and its two networks ('red' and 'blue') was created in September 1926. The networks that were to become the Columbia Broadcasting System within the year, began operation in competition with N.B.C. in 1927.
In 1927, N.B.C. appropriated 400,000 dollars for the building of new studios in New York, equipped with facilities for the use of fades, cross-fades and background effects. A pre-requisite of network facilities attractive to sponsors was a clear channel of transmission. The Federal Radio Act constituted that condition when it granted N.B.C. and C.B.S. rights to uninterrupted transmission in the upper (300-500 metres) band in 1927. The M.I.T. Starch Survey of 1928 provided the further assurance that over a third of American homes possessed valve receivers of sufficient strength to receive network transmissions.

---


As late as 1930, it was Cecil Lewis' experience that commercial pressures at the N.B.C. studio inhibited all use and development of these facilities. "The N.B.C. in 1930 had a 'license to print money' and had lost no time in getting on with it. Programme staff as we understood it did not exist. The programme was the business of the man who bought the time. There were a number of 'runners' who spent their days selling the idea of radio advertising to anyone who wasn't already converted and whose success and salary was measured by the sponsors they pulled in. Studios - and there were many of them - were booked from morning till night, weeks ahead. There was then no 'sustaining time' in which the broadcasting company carried the cost of the programmes themselves in order to put out something that nobody would answer. I was, I suppose, one of the first persons to face them with this problem. Here I was over from England with a mandate from the President of N.B.C. to put on radio plays. They had to do what they could, but they had no idea what a radio play was and in any case saw no reason for such an innovation when they hadn't a free studio from 6 am till midnight.

When I politely announced that I should require three studios for a production their chins dropped ... "Three studios!" It was madness. It meant the loss of thousands of dollars - 'And of course, three three-hour periods for rehearsal', I added. 'Rehearsal!' They were nonplussed. 'What d'you want to rehearse?' 'Well, the actors, you know, and balance-music, sound effects and so on.' The President had landed them with a nut, that was evident. But they were very polite. They explained that at the N.B.C. no studio was connected to any other. Each had a line direct to the transmitter. Technically it was impossible to link one studio with another, to control volume or anything like that."


In the first full year, 1927-28, that N.B.C. and C.B.S. offered their networks to advertisers, N.B.C. found thirty-nine sponsors and C.B.S. four. In the following year there were sixty-five nationally sponsored programmes on the air.¹

N.W. Ayer and Son, the New York advertising agency, which had developed, through the twenties, a staff of workers trained and experienced in radio work (themselves, the 'Ever Ready Hour', was the first commercial programme series) separated this staff from the firm's other publicity work and organised an independent Radio Department in 1928.²

When the networks were formed, almost all programmes were developed and produced by network or station. From 1928 there commenced a flight of personnel from networks and stations to higher paid positions as agency executives. Heads of advertising agency radio departments became an elite besieged by time salesmen, producers, directors and performing artists.³

In 1928 Archibald Crossley devised, and in 1929 launched, his Cooperative Analysis of Broadcasting ratings' enterprise. The Crossley Ratings were adopted by Printer's Ink as the standard for the radio advertisement trade. By 1929 33% of network programmes were produced by advertising agencies⁴ and all the forms of commercial enterprise that would dominate broadcasting in the decades to come had taken shape.

Between 1930 and 1932, competition or advertising between networks inaugurated an era of abrasive, vulgarised advertising and broke the 'price-

---

mention' barrier. In the same era the network commenced to sow seeds of new broadcasting formats in creating permanent network broadcasting staffs charged with the creation of 'sustaining programmes' to fill the unsponsored day-time hours.

In the season 1928/9, seventy per cent of the output of N.B.C.'s two networks ('red' and 'blue') was music. N.B.C. played music from morning to night and an advertiser brought a concert with his name tagged on fore and aft. The appearance on N.B.C. in August 1929 of the Amos n'Andy Show commenced a drive for the creation of variety formats. N.B.C. added the Rudee Valley Show in the same year. By 1931 Amos n'Andy had peaked. Millions stopped listening to all programmes particularly the middle upper class.

The decline of radio listening occurred concurrently with the collapse of vaudeville in the face of the coming of sound-on-film. Variety estimated that three hundred vaudevillians left the business in 1929 and several hundred others followed them in the first four months of 1930. From the agency's side it provided the opportunity to develop programmes centred on already established entertainment personalities. Eddie Cantor left the Palace Theatre Times Square in 1930, when it was fitted out for sound pictures, and opened his Chase and Sandborn Hour series, produced by J. Walker Thompson, in September 1931, offering lively music and comedy written by a staff of talented and highly paid writers. In that Autumn, the agencies unveiled a

5. Arthur F. Wertheim, Radio Comedy (1979), p.89. The most prolific writer of the 1930s was David Freeman. From 1931, for 3 years, he was the principal source of Cantor's material. At a time when a script could be purchased for 75 dollars, he was receiving 750 dollars for each Cantor programme. J. Fred MacDonald, Don't Touch that Dial (1982), p.119.
dazzling array of vaudevillian talents newly come over to broadcasting. The Marx Brothers, Ed Wynn, George Burns and Grace Allen, Jack Benny, Geo Jessel and Fred Allen all began their broadcasting careers in that season. Network radio in 1932 introduced Bing Crosby, the Boswell Sisters, Paul Robeson and Al Jolson.

The ex-vaudevillians and their staffs commenced a process of adaptation to the new media involving the use of musical and vocal interludes to divide the show into comedy segments; and within those segments, the shift from monologue to situational comedy by comedy teams involved fuller characterisation and greater use of sound effects.¹

From the network side the response to the decline of radio listening from 1931 was to create cadre of staff directors and writers "to use the wilderness soil of unsold periods to grow crops of value yet to be determined."² As opportunities for writers and others in a host of pre-network stations closed, the N.B.C. and C.B.S. projects for day-time sustaining programmes opened opportunities for the most talent, Actors from disintegrating stock companies were available at five dollars a performance. Stations like WTAM Cleveland and WWJ Detroit had through the twenties been busy dramatic centres. Their young staff writers had been employed for years turning out fifteen-eighteen dramatic scripts a week ranging from want-ads to biographies of scientists sponsored by local firms.³ "The network structure of sustaining time began to shelter a surprising range of activities, some scarcely noticed but due to grow."⁴

1. For studies of the stylistic and formal changes that accompanied the transfer of comedy from vaudeville to broadcasting, see Arthur F. Wertheim, op cit and Fred McDonald, op cit. Also Howard Fink, "The Sponsors v. the Nation's Choice" in Peter Lewis Ed. Radio Drama (1981), pp.197-203.
The first national network soaps were broadcast on N.B.C. in 1931. The Frank and Anne Hummart soap-opera factory-machine commenced its operations in 1932. On the same day of October they launched on N.B.C. 'blue' Judy and Jane (morning) and Betty and Bob (3 pm). A cycle of detective series burst into prominence in these same years. The Shadow series, Sherlock Holmes (1931), The Eno Crime Club (1931), Fu Manchu (1932) and Charlie Chan (1932) and The Lone Ranger (1932) were only the better known members of a radio genre that drew on already established pulp-fiction plots and characters. In like fashion comic strip serials were translated to network in these years; Little Orphan Annie (1935), Buck Rogers (1932), Popeye and Dick Tracey both in 1935, The March of Time began in 1931 as an extremely popular series, created weekly by the reporting staff of Time-Life magazine, with the help of radio-continuity writers who cast the material into dramatic form, and by actors (like Orson Wells) who impersonated the voices of Hitler and Stalin, Mussolini, Chamberlain, Eleanor Roosevelt, F.R.D. and George V. In the ranks of these programme teams it is possible to trace in the general literature the movements of generators or revitalisers of broadcasting formats. Such was William Spier, director of The March of Time, famous in the next decade for his work in the mystery-adventure series format. His work on Suspense between 1942 and '48 and on the Sam Spade series, 1946, suggests the way in which the forcing-house conditions of series production worked to push the development of the vehicles of the medium.

Radio Guild, the first serious drama series in 1929, and C.B.S.'s Roses and Drums' series (1924) was followed by a surge of drama development. In the mid-thirties, in conditions of affluence, C.B.S. was prompted by Irving Reiss, a studio engineer, to

fund in sustaining time Columbia Workshop (July 1936) for experiments in radio phonic drama production and drew to itself network writers, directors and studio staffs zestful for experiment. Columbia Workshop was the product equally of the rising affluence of the media in mid-decade, a renaissance of interest in exploiting the media among young acting, writing and directorial and other staffs, and the desire of the N.B.C. President William Paley and the Vice President William Lewis to make a more than fill-in use of 'green' network time.

The promotion of Arch Oboler as serious drama director in N.B.C. was the resultant of these same forces; the desire of the N.B.C. President and Vice President through Lewis Titterton, their Script Chief, to use the network's outstanding talent in sustaining time. Arch Oboler had written forty scripts before he entered N.B.C.'s service in 1933 and came under the tutelage of an established master script writer. Oboler's talents as a continuity writer were divided between contrasting types of popular shows Grand Hotel and adventure series, the long-running Rudy Vallee Show and the Edgar Bergen - Charlie McCarthy Show (Ventriloquist & Dummy). Oboler was promoted to direction of his first N.B.C. series Lights Out in direct competition with C.B.S.'s Columbia Workshop. Oboler's series commenced in 1936 in sustaining time on N.B.C. blue opposite, Sunday Jack Benny Show on N.B.C. red. The same presidential strategy, to channel resources and creative talent into sustaining time, stood behind the opportunity given Norman Corwen to experiment with poetic radio drama in Words Without Music in 1937 and Pursuit of Happiness.

---

1. Willis Cooper, described by Oboler in interview as "one of the innovative geniuses" of radio production. Cited in Erik Barnouw, The Golden Web (1968), p.72.

2. For which he wrote the nine-minute 'Adam and Eve' episode for Mae West "Take me out a this dismal dump and give me a chance to develop my personality ... the snake 'ill take the rap". See J. Fred MacDonald, Don't Touch That Dial (1979), p.106.

in 1939, which introduced Kurt Weil opera, Danny Kaye and Woody Guthrie to broadcasting.¹

Network news operations, like the work of radio dramatists and the radio poetry and Federal Theatre arts' producers, was also a long-time marginal activity. Broadcasting in the mid-thirties showed a power to unite variety talent and the high-powered writing teams that sponsors' revenue supported. From those resources the networks fashioned 'entertainment' content that was distinct from the 'news' content of the press. In the late thirties the clash of society and Fascist regimes in Spain and Germany's aggression beyond its frontiers, gave the network the opportunity to deploy its other resource - the skills of its repertorial staffs, long incubated in sustaining time - to report direct from foreign capital cities and war zones.

Hans Kaltenborn had commenced his career as a news commentator while still editor of the Brooklyn Eagle.² In 1930 he joined C.B.S. as a news analyst and for six years gave two broadcasts a week in sustaining time for fifty dollars a programme, paying his own travel and living expenses. In 1937, still at his own expense, he began broadcasts direct from Spain. Kaltenborn and N.B.C.'s 'European' staff emerged from sustaining time in the Munich crisis of September 1938, when they took charge of 147 pick-ups from Kaltenborn's series of interviews with the six heads of state.


² David G. Clark, "H.V. Kaltenborn's First Year On The Air", Journalism Quarterly (Summer 1965), pp.373-81.
Studies of the United States' broadcasting oligopolies of the nineteen thirties and forties show that artists, directors and support staffs, irrespective whether they fell under the aegis of agencies or networks, pushed ahead with the filling-out of a 'full line' of broadcasting programme formats. The drama of Kaltenborn's perpetual motion for N.B.C. over the locks of Panama or the Battle of Irun,\(^1\) the demonstration by Jack Benny of the way of radio comedy, the productions by Reis, Spier, Oboler, Corwen, Welles of drama, poetry and the 'Depression arts' for broadcasting, were all equally creative enactments through the new medium. The significance of their work, according to the terms of reference of this study, was not whether it was done in sponsored or unsponsored time, but that it was recognised by the public, by critics and by the broadcasting management as having pushed forward the frontiers of mastery over the medium.

The rise in British broadcasting of a sense of a broadcasting-bred mastery of the medium, depended on the same filling-out of a full-line of instruments of expression in the medium Variety, Documentary Drama and joint BBC- and - United States network coverage of global war, were all forms which achieved recognition of their mastery, in the eyes of the public, critics and management, in the forties.\(^2\)

---


2. Asa Briggs drew attention to producers, critics, management and public as the key groups whose relationships must preoccupy any study of historical change in broadcasting. "The great themes of broadcasting history can be understood only if the attitudes and approaches of producers are understood - and the relationships between producers, programme planners and controllers, critics and the public." "BBC producers in the thirties were not always able to discover the right set of relationships with planners and controllers, critics and the public. The controllers seemed to be too distant and to be operating at a quite different level; the critics seemed to be less interested in BBC programmes than in theatre productions, films or concerts; and the public included millions of listeners who did not seek to discriminate or judge." Asa Briggs, *The Golden Age of Broadcasting, The History of Broadcasting in the United Kingdom,* Vol.2 (1965), pp.57 and 61.
Recognition of the specificity and the singularity of broadcasting as a new species of collective work, depended too on acceptance of the cooperative independence of artists, of frontmen, and carriers of arcane 'broadcasting' skills behind the scenes. The nature of this new culture of work, and the obstacles to its recognition and acceptance in 'The Temple of Arts and Memoranda - Writing of Broadcasting House', is the subject of this study. In the conditions of United States commercial broadcasting, the recognition and acceptance of an unprecedented new body of collective work, depended less on the power of producers and support personnel to convince the hierarchy, than on the power of their joint work in network programmes to attract attention enough to cross or blur the line of division between network and sponsored programmes. Sponsored programmes, it was understood, owed their success to sponsors' economic power to bring to broadcasting entertainment talents raised outside of broadcasting. It followed that successes achieved by staffs drawn from the network ranks, derived from the operation of non-economic factors - the industry's achievement of 'maturity', or power to generate and value its own array of peculiar skills and cooperative relationships.

The line of division between network staffs and sponsored staffs in American broadcasting was approximately the same line of division which separated the Hollywood studios' 'sustaining' work of the 'B' - movie, or formula picture, production system, from the 'A' features' production system. It is recognised that the conditions of high budgets and time schedules gave a cohort of 'B' movie producers and staffs a training in the mastery of the essentials of cinematic production. In the 'B' movie work world, direct impact on the box-office was disregarded. What mattered paramountly

2. The French 'New Wave' critics and directors focussed attention on the 'B' movie directors' accomplishment of an unadorned, fine-honed 'economy' of craftmanship.
in that world was the non-economic factor of the appreciation by peers of esoteric professional skills. The 'B' movie world was a forcing-house of craft consciousness.¹

In American-sponsored broadcasting, as in Hollywood 'A' features, new ideas were tested in the 'real' world of commercial competition. If ideas were successful or otherwise, there was an immediate feedback in terms of audiences and sales. In the conditions of unsponsored production the non-economic factor of craft-pride worked to the same end: to impel experiment and a process of fine-tuning, or winnowing-out, of effective practice.

"There was a general impetus in all branches of the new medium towards innovation. There was a camaraderie among its young practitioners, a common feeling of adventure, an impulse to invent or borrow new techniques."²

It is as hard to estimate the degree of interchange between the Hollywood 'A' and 'B' systems of production as it is to trace the measure of cross-fertilisation between American broadcasting's sustaining and advertising branches.

Erik Barnouw, the historian of American broadcasting has postulated 'two worlds'. During the thirties: "The sustaining programme world was impatient with formula, zestful for experiment. This world had shown surprisingly little relationship with commercial programme activities. Its production used the same studios, were served by the same engineers, and to some extent called on the same actors. But the writers and directors tended to be different.

Those in the commercial programme world lived under an advertising agency hierarchy, those in the sustaining programme world under a network hierarchy. There was some interaction and crossing over, often for personal financial

---

1. I am indebted obliquely to insights provided by I.C. Jarvie, Towards A Sociology of the Cinema (1970), p.73ff, particularly Table 2, p.55.
reasons. But during 1936-38 the groups lived largely separate lives. They passed each other on network corridors but had little reason for contact.

To commercial directors, sustaining people were a species of dependent relatives living on marginal pay. To the sustaining people, the commercial people were not free souls.¹

Barnouw's sharp dichotomy seems not unchallengeable because the various conceivable channels of exchange of ideas and techniques are hard to be certain about. Zestful young support staffs and producers, if they were anything like their British counterparts, learned from listening to others' programmes as well as from work on their own programmes. They listened and borrowed across the board of programmes, from whatever quarter seemed to them to have valuable goods on offer.

If the careers of men of talent, who rose in the ranks of the sustaining programmes, are representative, their careers show a relative ease of movement between the two worlds. It is difficult for Barnouw, or others, to summarise the detailed movements of hundreds of freelance and staff writers who moved between the worlds - to establish the volume of interchange. The forty-five leading sound-effects men named by Frank Buxton and Bill Owen, part of the larger section unionised as the American Guild of Radio Announcers and Reporters, would have been individuals who gained experience on both sides of the frontier.²

Throughout the mid-thirties the techniques and formats of radio broadcasting were in process of being rapidly created. The commercialism of the one system overlaid a common interest in developing the skills and the fine qualities of cooperative interdependence - between writers, artists, directors and support staffs - which perfection of aesthetic effects required. The tendency of the directors and writers in the two systems to be different

persons, represented only differences in the 'visible' apexes of two triangles. By contrast, behind the scenes, necessarily hidden from public view, the middle hinterland and bases - of studio equipment, engineers, support writers and support staffs were identical or commingled. The common necessity of grappling with the problems of formal development in a new medium, and of interchanging the same middle and base support staffs and equipment, was the stuff of one broadcasting craft, not two. As Howard Fink observed: "The organisation of programme and production activities at the networks and the agencies, responded to the prolific demands of daily radio, which necessitated the hiring of staff production—directors. These took on the responsibilities of a number of different programmes at the hierarchies bidding. It was the same for staff writers, who were assigned everything, from the most commercial to the most esoteric of programmes at the same time. Even the writers and directors best known for their serious experimental drama, in so far as they were frequently on staff at a network, often worked on popular radio shows. Simply put, the two streams shared the same writers and directors as well as technical staff. It is hardly surprising, therefore, to discover that there was a fruitful cross fertilisation between the two streams."

If Fink is accurate then production staff, from apex to base, moved readily not only between the commercial and network systems but with equal ease between the work in popular and serious formats.
The gramophone differs from broadcasting and cinema in that it can never be said that a record, at any given moment, is being listened to by a large mass audience.

"The record, in contrast to the other mass media, can only be institutionalised with the help of another medium. Only through close association with the radio has it been possible for the record to become a socio-cultural institution. With regard to its production, record manufacturing has almost from the beginning been a branch of the electronics industry. Records reach the public not only by means of the radio, but also through retail shops and innumerable clubs which ensure their distribution. Thus it can be said that the record is economically and technologically dependent on the permanent support of other mass media."¹

Edison's phonograph patent was an incident in the drive to pre-empt the field of telephony patents, undertaken by inventors and their backers in the eighteen-seventies. Elisha Grey of Western Electric filed a patent for a telephone mechanism on the same day that Alexander Bell filed his telephone patent. In the course of the year following, Edison designed the telephone 'repeater', a method of voice recording on a moving strip of metal foil. It was created for the telephone on the analogy of the telegram - a means of putting a spoken message on telephone without holding the author of the message from going about his business.²

The gramophone record, like the moving picture, had to be taken away from its inventors by impresarios and commercial men before it became a medium of art;³ but its progress as a socio-cultural institution remained

dependent on the surges of new technology with which the electronics industry equipped it. It was research at the American Telegraph and Telephone's Bell Laboratory, under Joseph Maxfield and Henry Harrison (commenced 1919), which brought the era of 'acoustical' or sound-powered-needle recording to an end in 1924, and inaugurated electrical recording and reproduction.\(^2\)

The history of the gramophone from the marketing of Edison's improved wax-cylinder phonograph in 1888 until the middle of the first decade of the twentieth century, was shaped by the conjunction of two broad currents of development. Those years saw the creation of a forceful new commerce. The Columbia Phonograph Company, Washington D.C., one of the thirty subsidiaries of the National Phonograph Company (incorporated in 1887 and bearing distribution rights for Edison's machine) began offering the phonograph for coin-in-the-slot operation in phonograph parlours. Between 1895 and 1901, the United States Gramophone Company (became Victor Gramophone Company, 1901), carried forward the development of the spring-motored 'His Master's Voice' gramophone and its machine-stamped Shellac discs as a cheap durable home instrument.\(^3\)

The current of technical developments and their commercial exploitation in the United States joined forces in the early years of the new century with a socio-cultural shift, in Europe, away from musical performance in the home, mainly on the piano, towards a broader-based musical appreciation of ensemble and orchestral works. That shift of taste was pre-figured in England by the rapid rise of piano sales in the final decades of the nineteenth century.\(^4\)

---

2. J.P. Maxfield, The Voice, Its Production and Reproduction (1933) and the significance attached to the work of Maxfield and Harrison by Oliver Reed and Walter Welch, From Tin Foil to Stereo (1976).
4. In the decade 1886-96 the sales of German pianos mainly in Britain, rose from £74,000 to £1,054,000 and by 1912 to £2,314,000, E.D. Mackerness, A Social History of English Music (1964), p.221.
the growth of audiences in the metropolitan and provincial cities for cheap orchestral concerts, beginning at the turn of the century, and the considerable vogue for the pianola in the years before World War One.

E.S. Votey patented the player-piano in New York in 1897. In 1899 the Aeolian Company opened a shop in Regents Street and one in New Bond Street ('Aeolian Hall') and a factory in Hayes, Middlesex, later the home of the Gramophone Company. The pianola manufacturers preceded the gramophone companies in 'recording' programmes given by well-known virtuosi, which were transcribed to master rolls from which copies were multiplied. By the early years of the first decade, the possessor of a pianola could play the whole of Chopin, the complete works of Brahms and all the Beethoven sonatas. Arrangements of symphonies and concertos could be placed on the music roll just as easily as works originally written for the piano.

"The pianola represented an intermediate stage between performance 'in the flesh' and wholly mechanical reproduction."

The conjunction of the Columbia Phonographic Company's and Victor Gramophone's promotion of the gramophone, and of the stamped disc, and new 'non-performing' audiences for orchestral music in Europe, and Britain particularly generated the idea of the gramophone as an art medium. In the United States, the companies first discovered a popular market defined by the coin-in-the-slot bonanza of the eighteen nineties. The development of a cheap home instrument only realised the further possibilities of a consumer goods market: without bringing into view the prospect of the gramophone as a specialised instrument of enlarged musical appreciation.

The commercial companies in the United States' cultural environment accepted the technical status quo - the original narrow 'voice' frequency band. The Columbia Company took the fraction of the tonal spectrum, which Edison and contemporary inventors supplied, and filled it with music best

fitted to that frequency range. By 1890, Columbia had signed an exclusive contract with the U.S. Marine Band under its conductor, John Sousa.

When the American Gramophone Company established the British Gramophone Company (1898) to sell its gramophone in Europe, Fred Gaisberg, its Philadelphian accompanist and talent scout, grappled with the problem of equipping the record with a musical content appropriate to its new setting. The licensees of the Gramophone Company in St. Petersburg, Hanover, London, Paris and Milan, and independent imitators, defined as the priority of success, in establishing a gramophone-disc commerce, that its promoters should identify a gramophone-music staple that would have the wide appeal in European centres that Sousa's marches had on the American West coast.

Pathe Freres marketed copies of the Edison disc in 1894 and made groping attempts to find subjects that would fit the medium and the market. The Anglian-Italian Commerce Company recorded the stars of La Scala in 1897. Enrico Caruso began his recording career in Italy in 1896, for Pathe Freres in Paris 1898-1901, in Genoa for Zanophon in 1902. In the same year Gaisberg made his first recordings for the British Gramophone Company - of the Hotel Cecil and Hotel Trocadero bands.

In Russia the Gramophone Company had its first considerable financial success, and a record processing plant was set up in Riga in 1900. By that year there were gramophone shops in every Russian city. The owner of a lordly establishment on the Nevsky Prospect implored the Gramophone Company to produce records of the lead singers of the Imperial Opera - Feodor Chaliapin and his wife - to sell de-luxe editions, specially red-labelled. The success of the Russian red labels prompted the Company to extend the services into Western Europe. Gaisberg commenced systematic talent-spotting and recording to fill out the red label line, which took him to Paris,

1. Fred W. Gaisberg, *Music on Record* (1947)
Madrid, Milan, Leipzig, Vienna and Budapest. In March 1902 he recorded five arias by Carouso at the Hotel Milano. The masters were sent to Hanover for pressing and were at once a success.¹

That series of events convinced the British Gramophone Company that in opera stars it had found its European record staple, and issued its first red-seal catalogue - all opera singers with the exception of the violinist, Jan Kubelik. In 1903-4, the American parent company, Victor Gramophone, began manufacture of the red-seal records for release on the American market.

Until that time, artists had been paid flat or one-time fees for their studio work. In January 1904 the twenty-eight year old Carouso, carried to celebrity by his red-seal records, gave his first New York performance and was signed up under exclusive contract by Victor, and the Company went over to a policy of royalty payments by which artists were paid a percentage of the money made on each copy of his record sold.²

What Florence Lawrence, the Biograph Girl, did for the moving picture when Carl Laemmle made her a screen star in 1911, Carouso did for lateral-needle-cut Victor disc in 1902.³ A British contemporary wrote of the Carouso breakthrough on disc:

"If I were asked to say what was the cause of the present dominance of the needle-cut disc, I should be tempted to reply 'Carouso'. Of course, the improvement in recording with the sinuous track was steady if slow, and the Gramophone Company, the leading exponent of the needle-cut was helped enormously by the popularity of their world-famed trade-mark of the Fox terrier listening to his master's voice. Even today there are many people under the impression that

1. The British Record. The Gramophone Record Industry's Services to the Nation from 1898 to the Present (1959). Published by the British Phonograph Committee.
3. By 1905 Victor was selling 12 million dollars of records and spending 1½ million on advertising. The British Record, p.20.
the only record worth listening to is one of Caruso. With his glorious voice he was the first singer to adapt himself to the gramophone; and so far as musical people dimly apprehended that there might be possibilities in this uncouth invention it was Caruso who pierced the veil of their foggy imagination."^1

From 1905 the aria performed by a stable of leading opera stars, exclusively contracted by the parent American Victor Gramophone Company, dominated the United States record market. Victor filled out their initial line-up of Russian and Italian opera stars with Lilli Lehman, John McCormack, Melba, the lead singers of the Metropolitan Opera Company and Adelina Patti. The coming into dominance of the opera star in the first decade was, however, as much a function of the frequency limits of the medium^2 as an effect of the thrust of taste and fashion.

"The first instrument to be recorded in the new century was the human voice. Its range of frequencies fell within the compass of the first recording apparatus ... Only full even voices of sustained power could be used and all nuances of such as pianissimo effects were omitted."^3

In the United States the opera-star format had power of appeal enough to carry it up-market.^4 In Europe, the higher level of music culture constituted a greater obstacle to acceptance of the gramophone record as a serious musical medium. The threshold to be crossed to acceptance of the


2. "At its best the acoustic recording process was limited to a range of 168-2000 cycles i.e. from E below middle C to three octaves above middle C (as compared to a range of 20-20,000 cycles audible in the concert hall and this did not augur well for an expansive or vivid kind of sound. But it was recognisable as the sound of an orchestra; it was music not tooting; and it gave pleasure." Roland Gelatt, The Fabulous Phonograph (1977), p.204.

3. Fred W. Gaisberg, Music on Record (1947), pp.78, 82.

gramophone as a component of musical culture, was in Europe the recording of unabbreviated symphonic movements. Max Chop, German composer, Journalist and Critic to the weekly, Die Phonographische Zeitschrift, made it clear in early 1909 that only its becoming a carrier of symphonic music, would open the middle-class market of Germany to the gramophone record.

"Compared to the plethora of vocal selections, instrumental works occupy a relatively small part of the repertoire. There are plenty of so-called 'orchestral recordings' but by brass bands. The symphony orchestra is rarely in evidence; yet it is, after all, the only instrumental body, to be considered for really valuable literature and high artistic quality.

The release of the entire Third Leonore Overture on four sides a few months ago seemed like Redemption itself ... But how rarely does this happen! And if it does, in transcription for brass band. Why do we not have any of the preludes to Wagner's music dramas? Where are movements from the symphonies of our immortal masters?"  

Chop discriminated finely between the shortcomings of gramophony that were effects of contemporary technical restraints and those which were effects of the management of the gramophone companies by non-artists. What the gramophone companies' products showed transparently, and fatally to critics and potential buyers alike, was that production policies in the companies were in the hands of those whose musical culture was unequal to the music culture of their target audiences.

"The original orchestration should be employed as far as the characteristics of the recording diaphragm and the sound box permit. It is true that double basses and cellos must be discarded and replaced by lower woodwinds. This is but yielding to necessity; and though it entails some coarsening of the melodic line, the total sound pattern is not too much altered. On the other hand arbitrary replacement of the higher strings

(violins) by high pitched winds (flutes, clarinets, trumpets) is definitely objectionable. Such transcriptions are entirely immusical. They prove that the company making such recordings lacks artistic understanding. .... Such policies perhaps bring an initial profit, but they will embarrass their perpetrators in the end, when a gradually awakened public begins to recognise the artistic impossibility of such manipulations. That serious critics are repelled goes without saying.\textsuperscript{1}

The building of a serious gramophone-listening culture depended on the presence of an established or rising orchestral-music audience; on the building-up of self-confidence in the commercial companies; on the formation of technical and artistic ambition within the industry itself; and on the recognition by audiences of a new use for the indefinitely repeatable property of the gramophone record as a means (alternative to individual performance) of musical self-improvement.

Germany, with its high level of serious musicality - fostered by the dense distribution of orchestras in Berlin, state capitals and metropolitan cities, and by the vigour of its tradition of Hausmusik\textsuperscript{2}, was a dauntingly resistant territory for those seeking to create a market for abbreviated orchestral works adapted to the narrow spectrum of acoustic recording. England, by contrast, with its rising audiences for orchestral music - reflected in the commencement of the Queen's Hall Promenade Seasons in 1895, and the launch of the London Symphony Orchestra and Beecham's New Orchestra in the first decade of the century - offered the companies audiences relatively low in orchestral-music literacy and eager for self-improvement. English audiences had proved themselves in the late decades of the nineteenth century a thriving market for German pianos and a boom market between 1899 and World War One for American-made pianolas.\textsuperscript{2} England, by the beginning

1. Ibid.
of the second decade, was a peculiarly auspicious market for those seeking to begin a commerce that would at once break "the tyranny of the piano" and provide orchestral renditions in the home in however attenuated form.

The coming of abbreviated orchestral and chamber music works on record occurred in England, not as the transfer of established tastes to record, but concurrently with the rise of audiences for new symphony orchestras and a market for the pianola. Both the pianola and the gramophone were expensive hand-made goods sold to a musician-nurtured middle-class audience seeking self-improvement.¹ The boom in pianola sales and their supercession by a growth of sales of orchestral music on record, beginning around 1914,² were functions of a movement of middle-class taste. The period from 1900 to the First World War was predominantly the stage of the singer.³ The staples of the English trade were the recordings of Caruso, Melba, Tetrazzini, Patti, Paderewski; many hundreds of thousands of records of brass bands; and a broad miscellaneous category of "light orchestral pieces, music hall celebrities, banjo solos and sentimental songs appealing to the unsophisticated."⁴

The English recording companies' commencement of recording of 'cut' symphonies was delayed until the early years of the second decade. When it did begin, the new-ground-breaking recording venture occurred in conjunction with Beecham's New Symphony Orchestra, not five years old and struggling for existence.

¹ See C.E.M. Joad writing of the place of the pianola in his life: "I have no qualifications for writing about music proper. I can't play any instrument and I can't read a score ... I am not interested in pianists and the technique of piano playing." C.E.M. Joad, "The Pleasures of the Pianola" in "The Pleasures of Being Oneself" (1951, p.151

² "The rise of the gramophone corresponded with the decline of the pianola... By 1924 wireless was already under way, and it was the radio that finally killed the pianola as a musical instrument," C.E.M. Joad (1951), pp.154, 155.

³ Fred Gaisberg, Music on Record (1947, p.78.

⁴ Joe Batten, Joe Batten's Book (1956), p.56.
The momentum which carried forward the gramophone to reproduction of full-scale symphonic work involving internationally known orchestras was supplied equally by companies who dared release abbreviated masterpieces onto the English market; and companies who dared offer nothing but uncut symphonies in Germany. The parameters of possibilities of serious music on gramophone, once defined by the build-up of an Anglo-German 'library' of classical records, brought behind it the thrust of The Gramophone (1923) as the forum and lobbying instrument of the new musical interests. The task The Gramophone performed for symphonic and chamber music on record, what The Melody Maker (1926) did for the interests of 'dance music' shortly after electrical recording extended the available tonal spectrum in 1924-5.

It was the German Odeon Company which made the first venture into large-scale recording; significantly through its subsidiary in the English market where it was less likely to be greeted with critical scorn. It produced Tchaikovsky's Nut Cracker Suite on four double-sided discs in 1909 and Mendelssohn's incidental music to the Midsummer Night's Dream in 1910.¹

The ventures in the early second decade by the major companies were impelled partly by the security provided by the vigour of their older commerce and by competitive rivalry for critical acclaim. Columbia scored an early commercial success with an abbreviated classic when it issued Schubert's Unfinished Symphony in 1911. By the end of that year Columbia plunged into a bold programme of orchestral recording, spread over two years, which figured Landon Ronald and ensembles drawn from the New Symphony Orchestra.²

2. November 1911 The Scherzo from Mendelssohn's Midsummer Night's Dream
   Mozart The Marriage of Figaro Overture
   Sibelius' Finlandia (a cut version)
   1912 Beethoven's Leonore Overture No. 3 (3 sides)
   Grieg's Peer Gynt Suite (4 sides)
   Schubert's Unfinished (4 sides)
   1913 Themes and Variations for Tchaikovsky's Suite No.3 (3 sides)
   Grieg's Lyric Suite (4 sides)
   Wagner Prelude to Die Meistersinger (2 sides)
   Wagner Tannhauser Overture (2 sides)

Competition between the majors in England moved to a higher plane in Germany, where the venture capitalist Lindström brought three German independents (Odeon, Beka and Favorite) under his control and launched two complete Beethoven Symphonies in eight- and ten-sided editions in 1913, greeted as "not a Beethoven ... trimmed and clipped but a genuine Beethoven in his regular symphonic vestments played by a regular symphony orchestra ... an event which opens many new perspectives."¹

An age of orchestral music on record opened in 1914, when the Gramophone's German subsidiary recorded an uncut version of Beethoven's Fifth Symphony on four double-sides by the Berlin Philharmonic Orchestra under Nikish; as the age of the singer commenced with the recording of five arias by Caruso in 1902.

The Army's provision of Decca gramophones at base camps, the rapid growth of wages and salaries and the absence of rationing and price control on leisure commodities gave the gramophone companies in World War One greatly augmented markets² - for American dance records, popular songs and Columbia's new format of 'original cast' recordings. The cinema, theatres, music halls, orchestra music and opera performances - the latter propelled by the initiative of Thomas Beecham - all benefitted from the increased wartime demand. The gramophone companies gathered markets created by other media. The war-time West End revues, starting with Irving Berlin's ragtime 'Watch Your Step', opened a goldmine for Columbia's original cast series. Columbia followed up Thomas Beecham's and Henry Wood's success, in attracting soldiers on leave and young women in government offices to their concerts, with exclusive contracts, and issued classical recordings compressed into a double-sided mould.

In 1915 Beecham recorded the Magic Flute Overture, dances from Prince

Igor; and the second and third movements of Tchaikovsky's *Pathetique*, Stravinsky's *Firebird* suite and Weber's *Oberon* overture. Wood made his record debut with the prelude to Act III of *Lohengrin*, the Scherzo movement from Tchaikovsky's Fourth Symphony, orchestrations of Rachmaninoff's Prelude in C-sharp minor and Percy Granger's *Shepherd's Hey*; in 1916 Richard Strauss' *Till Eulenspiegel*, the Prelude and *Liebenstod* from *Tristan*, the Tannhauser Overture, Tchaikovsky's *Capriccio Italian*.

Stimulated by the enterprise of Columbia under Louis Sterling, Gramophone HMV brought back Landon Ronald with the Royal Albert Orchestra, and re-activated their programme of orchestral recording. In 1916, HMV, beaten by Columbia for the services of Beecham and Wood, signed Elgar and Edward German to conduct a series of recordings of their own works.

By the end of the war classical music on record was commercially on a par with the old-style opera celebrity discs; acoustically they were good enough to give moderate satisfaction. As the gramophone record defined itself as a medium of art, the companies came under attack for their musical vulgarisation and 'commercialism'. Joe Batten recalled that criticism of

1. The trade magazine, *Sound Wave*, 1916. "Orchestral records have interested the gramophone public ... sales are the proof ... these records have achieved phenomenal popularity" cited by Roland Gelatt (1977), p.198.
2. Sterling, a Lower East Side New Yorker, joined Columbia's English branch in 1909 as Managing Director. He was the force behind Columbia's pre-war programme of classical recording, the commencement of 'original cast' recordings, the signing of Beecham and Wood in 1915 and the flyer in chamber music recording in 1916.
4. The 'commercial' British Broadcasting Company in 1923 found itself assailed by the same critics for the same reasons, but the initiator of *The Gramophone* found Reith, Edward Lewis of HMV and Louis Sterling of Columbia all equally supportive of his project. Compton Mackenzie came away from his discussion with Reith "convinced that his broadcasting policy was going to make the gramophone and wireless to a large extent a mutual help to one another. I came away determined to spur the recording companies into a bolder policy over good music; Mr. John Reith was equally determined to pay no attention to the quacking of Fleet Street about the miseries of chamber music and Bach cantatas being allowed a place in the programmes of the BBC against the aims of Fleet Street to give the public what the public wanted."

the companies for artistic insensibility commenced three years before the foundation of The Gramophone. "In 1920 Columbia released an abridged version of the Eroica Symphony. Previously such cutting would have been ignored; now the critics were seething in their denunciation. This was perhaps the first indication that the gramophone was being regarded seriously by serious musicians. Columbia accepted the challenge and decided to experiment to see whether the public would buy complete recordings. They did.

... From 1920 onwards, the companies realised that there was a sale, even if limited, for serious music and the classical repertoire was rapidly expanded."

The creation of a serious music gramophone audience depended in England on a rising audience for orchestral music and the companies exploitation of tastes created by other media - the symphony orchestra and the pianola. It depended, too, on the formation of technical and artistic ambition within the companies.

In the course of the second decade acoustical recording engineers solved the outstanding problems that confronted attempts to record stringed instruments. Engineers extended the tonal spectrum to substantiate the 'ghostly presence' of violin and bass strings by innovations at various points along the recording and reproduction chain - by improving the sensibility of the recording diaphragm, by refining the wax and improving the galvanoplastic process of converting the wax impression into a metal matrix. The companies final achievement, in their push to give orchestral and chamber strings a

---

place on acoustically produced records, came with the Columbia New Process disc¹ in the year before Western Electric leased their electrical recording patents to the companies.²

The quality of acoustical recording in the second decade was thrust forward at another level by the formation of a craft of studio production.

---

1. Compton MacKenzie appreciated the happy coincidence between the foundation of The Gramophone and the boost which the New Columbia Process gave to the quality of chamber music on record. "In 1923, there came an event of outstanding importance in the development of the gramophone ... However much one might criticise the tone of the Columbia New Process records the absence of the scratch was bound to incline the ear in their favour, particularly in chamber music, when for instance, compensation was found for the loss of tone in the emotional playing of the Lener Quartet. I began to find it irritating to pass from a scratchless Mozart quartet to a scratchy one. It was all right so long as one played Columbia chamber music one day and the chamber music of other companies the next. But that with the repertory then available was not always convenient." Compton MacKenzie "The Gramophone. Its Past: Its Present: Its Future" Proceedings of the Musical Association, Fifty-First Session, 1924-25, 21st April 1925, p.107.

2. "Acoustically recorded sound had reached the limit of progress. The top frequencies were triple high C, 2088 vibrations per second and the low remained at E, 164 vibrations per second. Voices and instruments, especially stringed instruments were confined rigidly within these boundaries, although the average human ear perceived from 30 to 15000 vibrations per second and musical sounds range from 60 to 8,000 vibrations. Electrical recording encompassed this and more. A whisper fifty feet away, reflected sound, and even the atmosphere of a concert hall would be recorded - things hitherto unbelievable." F.W. Gaisberg, Music on Record (1947), p.86.
involving recorders, engineers and musicians. The choice of the number, the size and the design of horns, required to maximise the weaker instrumental sounds aimed at the diaphragm, was critical. The positioning of 30 to 40 players to achieve an equitable sound balance - the horn players and bassoonists with their backs to the recordist-conductor, seeing him through angled mirrors - was another category of determining condition. Recorders distributed players bizarrely to magnify or diminish their force-trombonists on high platforms, oboeists on low stools; and attached horn-like contraptions to violins to amplify and direct their sound. Re-orchestration to accommodate violins and violas with their resonating chambers removed, and the substitution of bassoons and contrabassoons for cellos and basses, were further strategies of the recorder's craft. Responsibility devolved on the players themselves to 'bring out' their passages in the ensemble - after hearing a wax replay - by standing up and leaning into the horn.

1. It is an observation relevant to the thesis of this work, that the craft of acoustic recording was overlaid, if not outmoded, by the coming of electric recording in 1925 as surely as the craft of silent cinema was by the coming of sound in the same period. Acoustic recording techniques were personal and subjective: recorders used their favourite 'sound boxes' - one for each sort of assignment, piano, voice, orchestra etc. They developed a sixth sense. 1925 concluded a first era of studio recording work: "There were many technical secrets in recording and matrix-making which were known only to me. I was under contract to my Company from 1898 to 1925, when my day of glory departed with the invention of electrical recording." Cited by Jerrold N. Moore, A Voice in Time (1976), p.174.

However, allowing a measure of discontinuity between the acoustic and electrical recording eras, both John Calshaw (Decca) and Peter Burkowitz (Polgram) acknowledged that Gaisberg constituted the embryonic type of the modern 'recording producer' in whose hands "the artist's performance stopped being random and was put under guidance and control." The Gaisberg teamwork of producer, artist and recording Engineer "may be regarded as the root of the later standard model."


The motives that carried recording managers to attempt ambitious recording projects, were the same as those which persuaded company directors to back their plans: aspirations to bring the gramophone into the orbit of high art and to score competitive triumphs over rival recording managers and companies. Joe Batten, recently demobbed and taken on by the Edison Bell Company, took up the offer to record Elgar's *Dream of Gerontius* on the Velvet Face label in 1920, for the opportunity it provided to achieve recognition in the eyes of Elgar and to display the surpassing technical skill, which would establish his equality among Fred Gaisberg and Arthur Brooks and Ray Longley of Columbia, his recording manager peers in the small world of gramophones.

"Elgar had discussed with Freddy Gaisberg the possibility of a complete recording of *The Dream of Gerontius*, but Gaisberg had shaken his head regretfully and said that the difficulties were insuperable, the resources of the recording studio were not yet adequate for such an undertaking. I listened to this story with interest. To record *Gerontius!* The idea fascinated and was haunting. I longed to do it, to record such music would be a labour of love, an act of homage to a great composer. And apart from the aesthetic motives another voice whispered to me that if it could be done, what a feather it would be to me and how the Edison Bell Company would crow over HMV to accomplish a recording which they had declared to be impossible.

My enthusiasm reached a height that would not be denied, I resolved to make the attempt ... Now came the cruel task of cutting a score in which  

1. In 1920, "the gramophone was becoming an influence in the musical culture of the country. The musical worth of records was being taken seriously in the press by competent critics. It was an amazing change, and I was soon made aware that my occupation had emerged from suspicious obscurity to one of respected toleration. Artists hitherto superior to the blandishments of recording managers now came to me eager for contracts ... When I reflected on my beginnings, my lack of early education, my mentors, the textbooks and scores laboriously assimilated in reference libraries, I was astounded at myself."  

every bar seemed indispensable and impossible to sacrifice ... But it had to be done, otherwise my directors would never have been convinced that what I had in mind was a saleable proposition... It must be remembered that albums of long works were then a rarity, buyers of records having so far shown small interest in such expensive luxuries. Besides the score, the limitations of pre-electrical recording also demanded a drastic curtailment of orchestra and singers. Instead of the usual compliment of forty to fifty strings, I had to content myself with nine. A choir which in public performance consists of anything from sixty to three hundred voices had to be cut to eight; these I selected from picked artists. Another perplexity was the Grand Organ, an instrument which never yet had been recorded effectively ... the bass concertina made a convincing substitute.

I gathered my orchestra of twenty-four, choir of eight and three soloists somehow in a satisfactory, if crowded, position around three small recording horns, greatly cramped for space in a recording studio whose dimensions were thirty feet by eight. For a week we went at it hard, encountering and disposing of difficulties as they arose. 1

The thrust of artistic ambition within the recording companies was strengthened in the post-war years, when the companies brought into their structures staff won over to the real possibility of a life-like reproduction of full orchestras and chamber ensembles. In 1919 HMV set up its Educational Department and Columbia followed HMV's example soon after. In so doing, the record companies incorporated the outlook and some of the personnel of the 'Appreciation Movement' 2 which grew concurrently with the rise of the new orchestras in England and the growth in popularity of the pianola.

The movement originated in the United States where its leading figure, Dr. Frances Clark, became head of a newly-formed educational department at

---

Victor Phonograph Company in 1911. In England, the Music Teachers' Association adopted "appreciation" education as an aim in 1908. Its apostles were actuated by the desire to resist "the commercialisation of music" by rallying musicians at large to present the very best examples of their art to the widest possible audience.\(^1\) The coming into prominence of the gramophone as a serious music instrument in the war years and the inauguration of broadcasting soon after, prompted appreciationists to counter the harmful effects of mass media in the hands of commercial men by bringing pressure to bear on the mass media themselves. The Gramophone journal, therefore, became the first major ally of the appreciation movement enthusiasts.\(^2\)

The Educational Department of HMV under Walter Yeomans promoted the use of gramophones for appreciation education in schools and colleges.

---

2. (a) "My interest in the gramophone led me into founding a monthly review that might serve as a concentration point for intelligent opinions in the gramophone world and replace the attacks of individual letters by a steady bombardment of united opinion in order to obtain the good music that we wanted from the gramophone." Compton Mackenzie, "The Gramophone. Its Past: Its Present: Its Future", April 1925 Proceedings of the Musical Association Fifty-First Session, 1924-25, p.106.

(b) The Gramophone appreciated the political economy of HMV & Columbia which its lobbies on those companies must take account. "It would have been easy for the great companies to concentrate wholly on the easy money. That they did not do so, is to their great credit. The Gramophone was prodding, protesting and nagging all the time but never forgot the nature of the problem nor the economic facts of life." The Gramophone Jubilee Book 1923-73 (1973), p.54.

(c) While the memories of its early insecurity were still fresh, The Gramophone expressed bitterness at the failure of the musical establishment to give its lobbyists its support. In a policy document, Christopher Stone (from 1926, The Gramophone's man in the Broadcasting Company) wrote: "Though the gramophone trade gave us full support, the musical profession never lifted a finger to help us ... You might suppose that the musical profession would have welcomed our efforts, recommended our records to pupils for study, used them for lectures, put them in libraries. Not a bit of it ... The whole enterprise was kept going by the loyalty of the handful of enthusiasts concerned with it." An Address by Christopher Stone, London Editor of The Gramophone to the Incorporated Society of Musicians, February 1930. THE GRAMOPHONE Jubilee Book, 1923-73 (1973), p.83.
Percy Scholes wrote the department's propagandist pamphlet, *How To Listen To The Gramophone* in 1919. Yeomans, Scholes, Alec Robertson and Percy Latham (all on the staff of *The Gramophone* or closely associated with it) wrote explanatory notes; Robertson and others tramped the country giving lectures and 'gramophone recitals'.

"The department was based on the pattern of Victor Talking Machine Company of America and aimed at showing by illustrated lectures in schools of all types and to the general public, the benefits and pleasures that could be had from the proper use of the gramophone in school and home. My colleague, Mrs. Leigh Henry and I tramped up and down the British Isles preaching the gospel while Walter Yeomans, Principal of the department, directed our efforts."^1

The Gramophone founding membership included many whose interests spanned the new commercial enterprises and the multiple regenerative music movements of the early twentieth century. Landon Ronald joined the Gramophone Company in 1901 as conductor, music adviser and gramophone ambassador. He became a principal in Beecham's New Orchestra and returned to HMV studios as conductor of their programme of orchestral records in 1912. Ernest Newman, music critic of the *Sunday Times*, was a proponent of the pianola,^2 and the first critic to give prominence in his column to serious music on gramophone records. Professor of Music Hugh Allen, at Oxford, and W.G. Whittaker, at Newcastle, were leaders of the Bach revival who saw the possibilities and value to their cause of getting choral music on record. Walter Cobbett, a successful businessman, devoted his wealth to the generation of a chamber music culture in England, and promoted the issue of subscription chamber music records through *The Gramophone's National Gramophonic Society*.^3

---

Cobbett's promotional activity for chamber music on record through *The Gramophone* and the NGS was replicated by enthusiasts for Gregorian Chant, church and secular music, organ music and contemporary music.¹

Percy Scholes, an annotated-notes writer for the Promenade Concerts and for pianola rolls,² the historian of the Appreciation Movement,³ the author of HMV's *How To Listen To The Gramophone* (1919), editor of the first *Oxford Companion to Music* and Radio Times' first music critic, was a figure who united in his person involvement in all the new musical media and the major music-revitalising movements of his age.⁴

When Compton MacKenzie stumbled into sudden consciousness of the possibilities of gramophone journalism in February 1921, he found a network of interrelations between music critics of the *Telegraph* (Robin Legge), the *Observer* (Percy Scholes), music reviewers of the trade magazines (*The Sound Wave* and *The Talking Machine News*) and staff of the HMV Educational Department, already in existence. MacKenzie wrote of the like-minded fraternity of gramophone idealists which rallied to his proposal for a promotional organ for orchestral and chamber music on record in 1923.

"I was unaware of the existence of a large number of enthusiasts forever in search of (gramophone) perfectability. I paid a visit to town and in conversation with Mr. Robin Legge found another human being who believed in the gramophone. He suggested I should write a column for his musical page in the *Daily Telegraph* and I set loose in print my penned up first impressions."⁵

"It was published in September (1922) and I was astonished at the

---

2. The development of the art of annotated-programme-notes writing for popular audiences was an activity high on the list of priorities of the appreciation movement.
correspondence evoked by that naive article. One letter from Percy Scholes, which began "At last!" ought to have given me particular pleasure but the extent of my ignorance at that date was such that I had not heard of Percy Scholes, and I was completely unaware of the fight he had been putting up for some time to obtain some recognition of the potentiality of the gramophone from intelligent musicians. Another letter came from Archibald Marshall who was writing about the gramophone for the Morning Post ... As a result of our combined enthusiasm for the gramophone a book of gramophone programmes, called Gramophone Nights* was published in November 1923\(^1\).

MacKenzie could read not note of music and, like C.E.M. Joad and the readership of The Gramophone at large,\(^2\) had come to an appreciation of music by way of the player-piano. MacKenzie described 'naively' - in a way that certainly many of his readers could understand - how his discovery of the Vocalion Gramophone, set him free from the restraints of the mechanical organette and brought within his reach the pleasures of chamber music.

"In February 1921, while I was walking down Bond Street about six o'clock ... I found that I was passing the Aeolian Hall and decided to go in and enquire about an instrument that many years before had given me my first

---

* "In the Autumn of 1923, Archibald Marshall and I published a volume of 31 programmes on the gramophone, each consisting of a dozen items which meant that less than 400 discs represented practically all the worthwhile chamber and orchestral music and instrumental solos in the recording companies catalogue. Add to these some 70 to 80 vocal discs of the finest quality." Sir Compton MacKenzie in The Industry of Human Happiness, A Book of Commemoration by the International Federation of the Phonographic Industry (1959), p.12.


2. "The Gramophone ... had a wide influence and the taste of its editors was reflected by its readers ... Compton MacKenzie wrote entrancingly of the charms of chamber music (without) the professional critics' cliches and mannerisms", Joe Batten, Joe Batten's Book (1956), p.64.

"It was not the purpose of our magazine (The Gramophone) to appeal to the learned and to compete in any way with the few good music journals, but rather to give palatable guidance ... devoid of a plethora of technical terms to the ordinary gramophone listener." Alec Robertson, "Reviewing the Records" THE GRAMOPHONE Jubilee Book, 1923-73 (1973), p.20f.
real enjoyment of music. This was the mechanical organette known as an Aeolian ...

The catalogue showed that all the good music was no longer in circulation ... where were the symphonies which twenty years before I had pedalled through for hours at a time every night? The company offered ... a Vocalion Gramophone ... the next step was a pessimistic examination of the catalogue of available music. To my surprise and pleasure I found that I could obtain abbreviated versions of Schumann's Piano Quintet, of a Mozart Quartet, of Schubert's B minor Trio, of a Haydn Quartet, one or two orchestral works of some interest. It was when the instrument arrived and I put on the first movement of the Schumann Quintet that I realised with a shock as sharp and as sudden as the spiritual upheaval known as conversion that the gramophone could do something of which I had never dreamed that it was capable. In 1908 my family possessed a cabinet HMV which played tolerably well as it then seemed ... the half dozen or so records of Caruso ...

Now fourteen years later, I heard an utterly different quality of reproduction ... I discovered the Flonzaley Quartet records published by HMV. I accumulated a certain number of orchestral snippets and actually the whole of Beethoven's Fifth Symphony which for all the atrocious recording of the horns, for all the vile scratch that nearly drowned the Andante, was still wonderfully conducted by Nikisch and wonderfully played by the Berlin Philharmonic Orchestra."

The gramophone brought symphonic and chamber music appreciation within the reach of MacKenzie's middle-class generation and released them from the restraints imposed by the piano and the automated piano.

"The effect of the gramophone cannot fail to be unimaginably great. It has already killed the tyranny of the piano, and I cannot but feel a

beautiful justice in its outstanding failure to reproduce adequately the instrument that has done so much to hinder the development of music. For years uneducated musical taste has been allowed to suppose that enjoyment of the piano and enjoyment of music were synonymous. For years every note of music had had to be translated into terms of the piano ... It is because I believe in the existence of thousands nay millions of people, who do not know their own capacity for enjoying and appreciating music that I believe in the power of the gramophone."

The Gramophone brought together several forces acting hitherto independently: newspaper music critics, the 'serious music'—on—gramophone—entrepreneurship of the companies themselves and gramophone listeners already became a popular culture.

Mackenzie's journalistic venture was prompted by Robin Legge and drew behind it the active support of Marshall and Scholes. The Gramophone received gratuitously the services of HMV's trade reviewers — Peter Latham and Alec Robertson — writing under sobriquets until they joined the journal's permanent staff. The publicity director "thought HMV would favour the idea of something that aspired to take the gramophone seriously," and Yeoman's advocacy led to Mackenzie's lunch at Hayes with Alfred Clark, HMV's American Managing Director. "Although he thought my plan a bubble blown by an amateur ... he promised three pages a month of advertisement for a year — two pages for HMV and one for their popular-priced Zonophone records — at seven guineas each." The other companies, Columbia, Velvet Face, Parlo Phone, Brunswick and Edison, followed HMV's lead in guaranteeing generous advertising revenue in the launch-year.

1. Ibid, p.108.
4. Loc. cit.
As Aeolian Hall served in earlier decades as a rendezvous and exchange for pianola enthusiasts, so the Gramophone Exchange, also on New Bond Street, served as a meeting place for "gramophiliacs": the nodal point of a popular culture which adopted The Gramophone as its very own institution.

"The first number established that The Gramophone was going to be a success. I and other gramophone enthusiasts whom I met at the Gramophone Exchange, were bowled over by it. It was what we wanted, it was too good to be true and we awaited with optimistic hopes the reaction of the gramophone companies towards it. As for myself, my ambition after reading Number One from cover to cover, was to contribute an article to its pages. An accommodation address had been hired in London, through its letter box poured an ever increasing stream of envelopes containing subscriptions.¹

The Gramophone found an assured market within a month² and within but a year institutionalised its readership as a chamber-music-on-gramophone market in the National Gramophonic Subscription Society.

"My ambition is to incorporate enthusiasts for good music on the gramophone in a society which will aim at achieving for gramophone music what such societies as the Medici have done for the reproduction of paintings and for the printed book. In order to obtain the best music for the gramophone it is only necessary to persuade the recording companies that there is an articulate body of potential buyers of records clamouring for the best and willing to pay for it ... If I receive 500 postcards I will take the next step, which will be to start the society and give it a name."³

². The first, priced 6d, sold under the 6000 printed. The second issue of 300 copies sold out. After June 1923 the circulation never fell below 5000 and reached 10,000 a month by 1925; 80,000 by 1959. Compton Mackenzie, in The Industry of Human Happiness published by The International Federation of The Phonographic Industry (1959), p.12.
The gramophone companies' alertness and receptivity to the changing records' market, and their recognition of The Gramophone as a constituent of the organisation of the market, was demonstrated in the speed with which the companies came round to competing with each other on the issue of uncut symphonies and concertos, even before the NGS plan was implemented¹ and in HMV's incorporation of the NGS' function in their "society system" recording of lesser known works from 1931.²

The dance-music-on-records' market provides a contrast with the case of serious music. Dance music on record established itself as the staple of the American trade from the beginning of the second decade³ and was consolidated by the increases in wages and salaries in the years of World War One. Jack Hilton and Henry Hall described the 'dance craze' mediated by the big hotels and the new provincial town palais, in the post-war prosperity years in Birmingham and in Manchester, in the cotton boom of the early twenties. Nineteen-twenty-three and twenty-four was the period when dance steps grew 'quicker and more jerky' - the years of the Jog Trot, the Missouri Walk and the Shimmy, followed by the Charleston and the Black Bottom.⁴ The opportunities then opened up, moved Payne, Hall and others into their careers of dance band promotion.

The popularisation of American dances was an effect of the diffusion of American dance records and of the enterprise of hoteliers and of Mitchel and Booker, the Hammersmith Palais de Danse management, in opening a chain of provincial dance halls modelled on the earlier skating rink chains and their promotion of tours by American bands known from their records. In 1923,

¹. Loc. cit. p.4. The NGS was founded in 1924 and confined itself to issues which the companies regarded as bad speculations.
². The British Record, The Gramophone Record Industries Services to the Nation from 1898 to the Present (1959), p.31.
under Mitchel and Booker's tour arrangements, Paul Whiteman provided a
generation of aspirant band organisers with the model of 'symphonic jazz'
orchestrated for a 40 piece orchestra: \(^1\) the perfected vehicle of big
auditorium dance music and a format from which race rhythms were excised.

In Manchester Arthur Towle completed his round of amalgamations of
LMS hotels in 1924 and opened his Gleneagles, Perthshire, as a 'first
release' hotel for American dances, with the first provincial outside
broadcast of dance music under Henry Hall's direction.\(^2\) The hotels, Savoy,
Cecil, Mayfair and Gleneagles, recommended themselves, in the period in which
broadcasting was in formation, as the media through which to build the
requisite 'big name' bands to serve as audience pullers for the provincial
palais and C.B. Cochram's theatre presentations. The transitional media
of the hotels and the new broadcasting and recording intersected when - as a
result of the Gleneagles broadcast - Hall made a recording with Columbia;
followed by a series of broadcasts from the Midland Hotel, Manchester, which
brought him a 'valuable contract' with the new Decca Records Company and his
first hit record.\(^3\)

The project to make a recording staple of dance music differed sharply
from the movement to put the repertoire of orchestral and chamber music on
record. European music was a defined corpus with its own authoritative
criteria and long established scholarship; while American music was a music-
in-the-making, a constituent of the cultural division in the United States of
the twenties, between a nativist and an emergent metropolitan tradition.

In the United States of the twenties, "a white man called Whiteman became

1. "It was about this time (April 1923) that Paul Whiteman came to England
and made an impressive debut with his show Round in 60 at the London
Hippodrome. Here I thought was a real show band. Whiteman didn't just
play; he presented his band as a stage entertainment. I have never
forgotten the deep impression which that difference made on me. I decided
that as soon as ever I had the chance I would feature my band that way.
The formula, as I watched Whiteman at the Hippodrome, and then at the
Grafton Galleries, seemed to me so exactly right and I studied the
reactions of the dancers; they, too, welcomed the innovation."
3. Ibid, p.79
the leading exponent of the black man's music."¹ The new order of dance
band leaders and the recording of broadcasting media seeking a popular
audience in Britain were similarly exercised to "synthesise a 'European'
approach to jazz"². The project undertaken by British band leaders and the
new musical media was to define a middle-ground of music of 'universal appeal'
that combined melodic qualities (for listening) with the rhythms required for
dancing.

Batten described "Geraldo's Concert Orchestra's position in the musical
arena" as one defined by the ideal of achieving not a straight ensemble
nor a dance band but a combination selected for its ability to play a
programme of music that would have universal appeal. How far he has
succeeded is evident from his frequent appearances over the air, at all the
swell affairs at the Albert Hall and such-like super shows admirably suited
as shop windows for himself and his music, both immaculate.³

In the late twenties the rising dance bands occupied a competitive
musical arena in which the rivals struggled to achieve a formula of universal
appeal.⁴

"In 1928-29 - we were all dance bands; playing for dancing in hotels
was our first commitment. Recordings in the main, were a second string to
our fiddle: a very useful and remunerative fiddle, but secondary. The ideal

¹. Burl Noggle, 'Configurations of the Twenties' in William L. Cartwright
and R.L. Watson (eds.) The Re-Interpretation of American History and
Culture (1973).
⁴. "To some extent my own style lay between the dance idioms of Paul
Whiteman and light orchestral music. While I was still experimenting
on it, Mr. Voss of Liverpool's Voss Garages came up to me in the Adelphi
one evening and whispered in my ear that I should keep my eye on a young
man with a new very good band at the Majestic Hotel, St. Anne's-on-Sea -
Gerald Bright - Geraldo to you. Our mutual friend, Mr. Voss, must have
whispered much the same thing about Henry Hall to Geraldo, so for
thirty years we have kept a sharp eye on each other!" Henry Hall, Here's To The Next Time (1955), p.68.
we all aimed at was to create a band which combined the two functions of being pleasant to dance to and pleasant to listen to. It was never easy to succeed in both.

A general opinion of the time, for instance, was that Jack Payne's combination was the best all-round broadcasting orchestra but not the best dancing band. By that was meant that he was more concerned with broadcasting a performance that was entertaining than one to which listeners would dance. He excelled in the picturesque descriptiveness of the novel orchestration he used. Ambrose on the other hand, was considered by many to have the best band for dancing, though again the entertainment value was high. Playing at the Mayfair Hotel his orchestrations had to be rhythmical and immaculate. Jack Hilton was leading the field in a different way still - on the music halls, with his unique presentations of popular dance music ... he was setting the pattern of the 'show band' which was a development of the dance band to listen to."¹

The commercial bands of 1928-29 were in quest of the media via between two traditions:

"They were ... above all employing first-class arrangers. It is, of course, these orchestrations which give a band its particular quality ... With fragments of improvisation or of syncopated elaboration, the players themselves could make it into 'hot' music. Without such freedom ... the dance band lost its savour - in a word popular at the time, its 'pep' ... By the judicious use of accent, by cross currents of counterpoint, for instance, in 'hot' style upon saxophone and trumpet ... you could make it enjoyable for listeners and dancers. It was necessary to strike a happy medium between the tune unadorned and music so 'hot' that the 'effects' submerged the melody ..."

¹. Henry Hall, Here's to the Next Time (1955), p.75f.
It was partly with this in mind that I made a re-organisation of my band in 1929. I had to cater for the new tendency in Jazz music, which was away from the more strident Jazz and towards a sweeter tone. A smooth harmonic, quiet sound was desired, which after the 'Jazz' was almost "well bred".1

'Dance music' as a new staple of recording awaited the articulation of a distinct syncopated 'non-race' jazz form, the establishment of palais and the instrumenting of broadcasting as a means of organising a mass market for a continuous turnover of rapidly sold hits. Nineteen-twenty-six to thirty-two was the formative period of a structure of several components. That creative era coincided with the transition to electrical recording. It commenced with the second Paul Whiteman tour (1926), and included the coming into effect of Melody Maker (founded 1926) as the authoritative critic of band leaders' stage and record performances in 1929, the formation of Decca Records with its Woolworths' market in the same year, and the consolidation of Electrical and Musical Industries in March 1931. The appointment of Henry Hall as the official BBC Dance Orchestra from a field which included the orchestras of Jack Payne, Jack Hylton, of Ciso's, the Prince's Restaurant, the Piccadilly Hotel, the Carlton Hotel and the Mayfair Hotel signalled the triumph of a Whitemanesque 'dance music' as the dominant format of popular radio music and the beginning of a golden age of dance band recording.

In 1929 Melody Maker was taken over by Odhams Press and joined the Odham Group, comprising John Bull, People, Sporting Life and Ideal Home.

Jim Godbolt recently mapped the institutions that sustained the counter-culture of jazz between 1933 and 41, with an admirable mixture of analysis and feeling for his subject.

1. Ibid, p.75f.
The international structure of the record industry ensured the release of vast numbers of jazz recordings throughout the thirties. Recording companies - HMV, Parlophone, Decca and Crown Records (released only through Woolworths) - stopped to pick up a profitable minority market.

Jazz audiences were cut off from access to live performance and record-dependent; and encyclopaedic collector-critics more important than musicians. The jazz fraternity was held together in the thirties by a discographic journalism produced from "drawing rooms and 'dens'" until the Jazz Sociological Society's (1941) labours gave its culture a context in American society and economy.

Its practitioners, among the musicians of Archer Street, were confined to unpaid performances in Soho's race clubs until the BBC acknowledged the existence of jazz sufficiently to present a weekly half-hour Radio Rhythm Club in 1940.¹

In the first half of the twentieth century the purely distributive aspect of music - involving technicians as well as musicians - took on a new significance. In that period the means for disseminating music and for placing musical talent at the disposal of the public altered considerably.¹

A first phase of that history, in England and the U.S.A., was occupied with the building of orchestras adequate to the task of interpreting music of the era of Beethoven, Haydn and Mozart to new metropolitan-city audiences. The initial phase of orchestral-music history in the twentieth century was followed by a second, which posed the problem of overcoming the aversion of audiences - only recently won over to classical and nineteenth century music - to music of their own day. That task was made difficult by the very virtuosity of new orchestras in the performance of the classical repertoire; and the difficulty was compounded by the readiness of commercial recording companies to serve the established tastes of audiences raised by those same orchestras. That dominant structure was contested by composers attracted by opportunities of livelihood and contact with audiences in the supply of incidental and functional music for broadcasting and cinema; and by programme planners in broadcasting, inspired by the opportunity to diversify long stretches of programme hours.

Grant and Hettinger at the end of the inter-war period provided a well documented study of the action of major orchestras and recording companies in the U.S.A. in compressing the serious music repertoire and creating a relative closure of entry to new works.² The work of establishing the 16

---

2. Margaret Grant & Herman S. Hettinger, America's Symphony Orchestras (1940), Chapters 1 and 2.
major orchestras in the U.S. was achieved between 1880 and 1933:¹ five were in existence before the turn of the century, a further six had their origins in the first two decades and the remaining five in the late twenties and early thirties. The expansion of the number of major orchestras was accompanied by expansion also of the number of performances. In 1914, the then nine major orchestras gave an average 47 concerts; by 1937 the average increased to 72. In the latter year, the orchestras gave between them 1,300 performances at which the total attendance was about 2,750,000.

In the repertoire of music performed in 1880, Beethoven ranked first and represented one quarter of the music; followed by Wagner, Berlioz, Schumann, Liszt, Mozart, Schubert, Mendelssohn and Brahms. In 1920 Beethoven continued in a class of his own, but represented only one-eighth of the concert repertoire, though in absolute terms (the number of concerts having increased), his music was performed more widely than ever before.² In 1937 Beethoven’s supremacy remained unchallenged. Although his music represented

1. New York Philharmonic¹ 1842
   Symphony Society of New York¹ 1878
   St. Louis Symphony Orchestra 1880
   Boston Symphony Orchestra 1881
   Chicago Symphony Orchestra 1891
   Cincinnatti Symphony Orchestra 1895
   Philadelphia Symphony Orchestra 1900
   Minneapolis Symphony Orchestra 1903
   San Francisco Symphony Orchestra 1909
   Cleveland Orchestra 1918
   Detroit Symphony Orchestra 1919
   Philharmonic Orchestra of Los Angeles 1919
   Pittsburg Symphony Orchestra 1926
   Rochester Civic Philharmonic Orchestra 1929
   Indianapolis Symphony Orchestra 1930
   National Symphony Orchestra, Washington D.C. 1931
   Kansas City Philharmonic Orchestra 1933


2. Beethoven’s relative decline was due to the growing popularity of an increasing number of composers, among whom the most important were Tchaikovsky, Brahms, Dvorak, Rachmaninoff, Strauss, Bach, Sibelius, Debussy, Elgar, Mahler and Ravel.
only ten per cent of the total repertoire, it equalled the combined total of ten of the most prolific of the 'late modern' composers.\(^1\) Music mediated through the concert hall was made further available by recording companies. Of the ten million records produced in 1938 by RCA Victor alone, about three million were recordings of serious music.\(^2\)

In England, the task of creating larger and more permanent orchestras composed of professionals and of sustaining longer seasons with fuller repertoires, extended over the first half of the twentieth century. English orchestral players, for most of that period, were largely the products of wind bands and touring opera companies supplemented by an increasing minority of products of academic musical education. Practically all musicians suffered a compulsory 'rest' period in the summer.\(^3\) Until the BBC founded its orchestra on a permanent basis in 1930, no symphony orchestra engaged players on an annual basis, except the Bournemouth Municipal Orchestra.\(^4\) In that period, orchestras of symphonic status were brought together as required. The Royal Philharmonic Orchestra played eight concerts a year, the Liverpool Philharmonic, twelve, the Halle thirty-five. Beecham's London Philharmonic Orchestra in its hey-day in the nineteen-thirties had annually ninety engagements; that number including the long season at Covent Garden.

Until Newman and Wood instituted the English Composers' Night in the Promenade series, the composers of the first generation of the English music renaissance (Delius, Elgar and Hubert Parry) were restricted to orchestras

\(^1\) E.g. Prokofieff, Rachmaninoff, Ravel, Schoenburg, Stravinsky.
\(^2\) However this number represented about half the dollar value of records produced. Grant & Hettinger (1940), pp.52, 275.
\(^3\) In 1929, Edwin Evans estimated on the basis of union statistics that cinemas were providing between three quarters and four-fifths of the paid musical employment in Britain. Edwin Evans, Music and Letters, May 1929.
brought together at provincial festivals. While an English orchestra music establishment was in the making, conductors as well as composers were forced into dependence on the same impermanent, partly-amateur orchestral resources. Wood commenced his working life in various church organist positions and gained conductorial experience with touring opera companies, choral and orchestral festivals and the largely amateur Nottingham Symphony Orchestra, which he founded.

Robert Newman's ambition in founding the Promenade series in 1895 was to 'educate a new public'. That educational ambition posed the problem, for performers and audiences alike, of 'catching up' with the music of the nineteenth century. Newman and Wood's stand, in 1904, against the players' custom of sending deputies to rehearsals, when rewarding festival engagements were available, symbolised their determination to raise the standard of orchestral performance. The objective of closing the gap between audiences and the music of the classical and nineteenth century eras was carried forward by the phased programme-building strategy (extending over several decades) of 'sandwiching' better music in programmes, predominantly light in character, in the early days and subsequently instituting 'serious nights', to focus on the developmental character of the corpus of works of individual or related composers.

1. E.g. the first performances of orchestral works by Elgar and Hubert Parry at the Sheffield Festival of 1902. By contrast, Vaughan Williams a member of the second generation of English composers, was, before World War One, well advanced to becoming the Proms' own composer. By the mid-twenties, Henry Wood could claim to have given first-performances of every one of his orchestral works. David Cox, The Henry Wood Proms (1980), pp.43f and 89.


3. David Cox described the dual purpose of the Proms as, 'the creation of a public for classical and modern music; and the building-up of an orchestra which would not have to depend largely on musicians from other countries, but would train British players to achieve a high standard'. David Cox, The Henry Wood Proms (1980), p.31f.
The close approximation between the largely backward-looking Proms concerts repertoire in the twentieth century and the general configuration of the repertoires of the major American orchestras (exposed by Grant and Hettinger) is striking. The general trend in the early years of the Proms was towards a redress of the balance between light and serious music, in favour of the latter. A Monday 'Wagner Night' and a Friday 'Beethoven Night' were established in the second concert series of 1896; but whereas Beethoven became a sell-out from the start, audience taste for Wagner took several years to develop. Early audiences showed a preference for single items rather than a composer's work as a whole. By 1897 audiences made known their liking for Rossini's William Tell, Mendelssohn's Violin Concerto, Wagner's Siegfried and The Valkyries, Schubert's 'Unfinished', Beethoven's Fifth, Tchaikovsky's Nutcracker Suite; and these were constantly repeated.

The years following the Boer War were years of measured programme innovation; Sibelius was introduced tentatively in 1901; Friday became a more broadly classical night (a combination of Beethoven and Mozart) in 1902; and Tuesday became a Schubert and Brahms night in that season. From 1902, Wood pursued more decidedly, though still with caution, a policy of encouraging native composers. By 1905 the serious ingredients increased in proportion though the balance continued to favour the light and popular - accordingly Monday was Wagner Night and Friday was Classical Night, Wednesday was Tchaikovsky, Tuesday and Thursday were popular classical nights and Saturday was popular.

The period that followed, from 1906 to 1913, was one in which the Proms widened the classical category, achieved popularity for contemporary English composers, and ran trial performances of avant-garde music. In 1906

1. In his cross-cultural study of the orchestra, Percy Young wrote: "It has taken a good deal of the twentieth century to come to terms with the music of the nineteenth - which is the one reason (among others) why so much of the music of that era is to be found in present-day programmes ..." Percy M. Young (1965), p.257.
Bach's Brandenburgs and orchestral suites became part of the series and there were performances of two of Sibelius' Symphonies. In 1907, nights when English composers predominated, attracted large audiences for the first time. By 1908 Beethoven's symphonies and concertos were presented in chronological order to disclose the development of his art.

From 1909, in response to a now demonstrated audience taste for English music, Wood increased the number of performances of the works of younger contemporary composers - Vaughan Williams, Bax, Coleridge-Taylor, Eric Coates and Havergal Brian. By 1911, the Friday classical programme was a 'sold-out' night. Nineteen-twelve and nineteen-thirteen were years when the Proms' organisers gained confidence enough to venture first-performances of avant garde works. In 1912, three years after its composition in Vienna, the Proms included Schoenberg's 'Five Pieces' experiment in dissonance and, in the face of audience hissing in that season, re-performed Five Pieces the next year along with Stravinsky's Firebird Suite.

The decade and a half of movement in which the Proms brought their audiences to terms with nineteenth century music was followed by a period of stasis in which a widening gap opened between an established concert culture and contemporary and avant garde music.

"The programmes of the Promenades concerts for the years following the first war reveal little that was strikingly contemporary, let alone avant garde."

David Cox's survey of the Proms programmes through the inter-war years and beyond revealed activity that was movement on a constant plane rather than ascent to new thresholds. The chronological format of presentation, developed before the war for the classical composers, was applied to Wagner's works in 1920, and the policy of encouraging English composers was extended to younger aspirants. The war programme sustained its power

of attraction without advancing the frontier of taste. Houses for the 1922 series were "more packed than ever before" but as happened a decade earlier, the works of Stravinsky and now the youngest generation of Italian composers and the dissonant suite of Milhaud, were hissed. By 1926, "Wagner and the classics were the strongest attraction" and programmes reached back to recover Bach and Handel rather than forward to experiment with new music. In 1929 "the pattern was the same as before but with Tchaikovsky intruding on Tuesday's Hadyn and Mozart". In 1932 "the concerts followed the familiar pattern". The programmes of 1933 "followed the well-established patterns in which the outstanding novelty was the work of Liszt". 1934 "was the most successful season so far. Besides the usual Wagner, Bach, Beethoven, Brahms and Mozart, there were concerts devoted to Tchaikovsky, Delius, Strauss, Sibelius and Vaughan Williams". In 1934 "the normal fare continued as usual". The striking feature of 1937 was "The inclusion of all seven symphonies of Sibelius, Beethoven and Mozart. Concerts were always filled to capacity and concerts devoted to Elgar and Vaughan Williams drew large houses".

The structure that worked to confine audiences to the Proms programme format of the second decade of the century, comprised as much the advent of single-channel broadcasting in the third decade as it did the setting aside "the rules of harmony, rhythmic phrase and melodic construction" by avant garde composers in the same period. The Broadcasting Company, in 1923, appointed Percy Pitt, a prominent Proms' personality, as its first Director of Music, and recruited the personnel of the London Wireless Orchestra from the ranks of the London concerts' players. The Corporation took over the management of the Proms in 1927 and, with it, the idea of doing for its national audience continuously throughout the year, what the Proms did for the London

1. Aaron Copland, Our New Music (1941), p.116
audience for ten weeks only. Henry Wood welcomed the transfer of the management of the Proms from the Chappel and Co. to the Broadcasting Company in terms that were Reithian.

"With the wholehearted support of the wonderful medium of broadcasting, I feel that I am at last on the threshold of realising my life-long ambition of truly democratising the message of music, and making its beneficent effect universal ... I am quite convinced that not only in music, but generally, the medium of broadcasting, as utilised and developed in this country, is one of the few elements ordinarily associated with the progress of civilisation which I can heartily endorse". ¹

When the Queens Hall Orchestra merged with the London Wireless Orchestra in 1930 to become the 'BBC Symphony Orchestra', its orchestral performance and audience-building purposes were incorporated in the larger broadcasting service. The separation-off of orchestral performance under the Music Department and programme-building under the overall service planners only functionalised aims previously united in the persons of Robert Newman and Henry Wood.²

---

2. David Cox expressed the functional division in different terms. "One of the problems of planning in the BBC is that the professional departments, including music, which propose and supply the programmes, are subject always to the control, tastes and wishes of the overall planners of the various broadcasting services (Home Service, Light Programme and Third Programme - as they became in 1946). A lot of mutual understanding is needed and this is not always easily found. A service planner is in a position to accept or reject the professional advice offered to him; and often a person in a powerful position who is not a musician may make musical judgements in terms of his own generalised knowledge and the needs of the broadcasting system as he sees them." David Cox, The Henry Wood Proms (1980), p.139.

That these were the functions divided between Wood and Newman is conceded in occasional remarks by David Cox. "Wood always maintained that the public knows and must be given - what it wants. For himself, he would have had festivals devoted entirely to new works - works which would represent the ideas and feelings of the time (c.1900). But he knew the public far too well to carry this out; rather he would have two classical works, for example, with a modern work in between." David Cox (1980), p.42.

In another place, Cox identified Wood as the contemporary orchestral conductor and Newman the service-planner. Thus: "There was the inevitable cornet solo, which was to be a regular feature for the next five years. Wood did not want it; but Newman was aware of its drawing power. The programmes of the season as a whole were designed by Wood with close scrutiny from Newman who was constantly assessing the audience appeal of each item." David Cox (1980), p.28.
Broadcasting Corporation the audience-building purpose contended with the progressive-musicianly one so long as the Corporation was without a specialist music channel—the Third.

Mass communication was basic to the Proms' concerts from the beginning and the Proms' 'democratisation of good music' policy became the BBC music policy from 1930. In the post-war years, before the inauguration of the Third Programme in 1946, progressive-musicianly interests, represented by Constant Lambert, made the Proms' programmes 'ever more symphonic and advanced' in character. It was then, appropriately, the Senior Controller, Basis Nicholls, a broadcasting pioneer, who invoked the established 'middlebrow' tradition of single-channel public service music broadcasting to counter the entry of increasing numbers of works of 'major calibre' into the Proms programmes. In an internal memorandum he reminded the Music Department of the tenets of Proms-BBC music policy: "To provide popular programmes of good music designed to attract new listeners and new concert-goers, and lead them on to an appreciation of the classics of the orchestral repertoire."¹

The gap that opened between orchestral music audiences and the work of contemporary composers after 1918, was as much an effect of the spate of formal composition experiment in the twenties as of the restriction of national broadcasting to a single channel of distribution in the next two and a half decades. The system of music distribution changed in 1946 with the addition of a radio programme devoted entirely to 'cultural' transmissions.

"The Third Programme was a significant item in the social history of our music, because it at once sharpened the distinctions between highbrow, lowbrow and middlebrow; it also further increased the scope of music broadcasting in this country by making timetables more flexible and by broadening the repertoire of works performed."²

The Third broke the old restraints and opened the way for a re-groupment of new energies around a specialised music channel. Within four years of its inauguration, the Head of the Third Programme felt free to reflect the relay of new works on offer in the 1950 Proms, as adding nothing to the broad array of new works already made available through his own service. Two years later the Music Department became a Music Division in its own right with its own Controller.

The separation of Music from the Entertainment Division opened the way for a new type of music broadcasting administrator. R.J.F. Howgill, the first Controller of Music was an original Corporation man cast in the mould of an administrator of a national broadcasting service. His successor, William Glock (1959), was a student under Artur Schnabel in Berlin, a professional pianist, a long time newspaper music critic, editor of the avant garde music magazine *Score* and founder of the Dartington Hall Music Summer School. Clock's mission was a cultural one and he brought into the BBC in his wake others who were like-minded: his aim was the integration of the music of our time as a natural part of the concert and broadcasting life of the country, closing the gap that had become very evident between the tastes of the concert-going (and radio listening) public and the work of the most influential composers of the twentieth century.

The failure of contemporary British composers to give serious attention to the broadcasting medium was frequently referred to by BBC support personnel in the course of their attempts to raise discussion of the problems of studio production. American composers, by contrast, showed a readiness

---

1. Stephen Plaistow, Chairman of the British section of the International Society for Contemporary Music; Alexander Goehr, son of Walter Goehr, a composer with a non-English background; Leo Black, with contemporary music connections through the world of publishing; Hans Keller, Austrian born, an authority on the music and theories of Schoenberg.

to grapple with opportunities made available by the existence of alternative 'red' and 'blue' networks on NBC and CBC and Hollywood's need for a new sort of 'functional' music behind dialogue. The contrast of approach between British and American composers in the nineteen-thirties is made plain in the difference between Constant Lambert's study of Music in Decline¹ and Aaron Copland's New Music.²

Lambert in England represented the opportunities of cinema and broadcasting in the form of theoretical speculations; Copland in America wrote from the experience of having grappled with those opportunities abundantly in reality. Lambert dwelt long on the distinction of Hindemith's Gebrauchsmusik or utility music³ and "music written by composers whose individualism links them with the great composers of the past and whose work, being the result of spiritual concentration, requires at least a modicum of this concentration from the listener."⁴

Copland wrote sensitively of his six weeks' work with movieola, stop watch and cue sheet on his commission for the film score for Of Mice and Men. "I looked at long stretches of film before the music had been added and I got the impression that music is like a small flame put under the screen to help warm it."⁵ "The most mysterious problem is how to supply the right sort of music behind dialogue ... since it is music behind, or underneath the word, the audience is not really going to hear it ... yet it undoubtedly works on the subconscious mind ... To write music that must be inexpressive is not easy for composers who tend to be as expressive as possible."⁶

---

2. Aaron Copland, Our New Music (1941) a collection of Copland's essays written between 1927 and 1940.
6. Op cit, pp.263-5 passim
Lambert, lacking Copland's experience with 'unwarmed' film wrote, "Music qua music must take a subordinate place in such an entertainment. The production of a suitable aural background and the juxtaposition of realistic sound and speech calls for a selective rather than a purely creative artist."\(^1\)

Lambert took issue with Hindemith: "Hindemith calls himself a craftsman ... and has said that a composer should never write unless he is acquainted with the demand for his work. The times of composing for one's own satisfaction are gone for ever."\(^2\)

"Hindemith is mistaken when he imagines that the writing of music is governed by the laws of supply and demand. There is no regular demand for musical material as there is for musical material or boxes of matches; there is only a demand for something that creates its own demand - a good piece of music in fact."\(^3\) Copland was Hindemithian, "The movies need music and need it badly. By itself the screen is a pretty cold proposition" - but Hollywood needed Coplands not Lamberts. "Essentially there is nothing about the movie medium to rule out any composer with a dramatic imagination. But the man who insists on complete self-expression had better stay at home and write symphonies. He will never be happy in Hollywood."\(^4\)

The concert orchestra occupied a fixed and indispensable position in Lambert's musical universe.

"While the wireless unlike the gramophone offers opportunities for the production of new works, it is necessary to point out that no musical work can make its reputation by radio performance alone. In spite of the wider dissemination of the gramophone and radio the composer is still ultimately dependent on the reclame provided by an actual concert performance."\(^5\)

1. Constant Lambert (1933), p.221
5. Constant Lambert (1933), p.222
Copland by contrast saw his sources of inspiration and the reclame of New Music as effects of new audiences. In an autobiographical essay he described his break from dependence on the concert culture in the early thirties (1930-35):

"During these years I began to feel an increasing dissatisfaction with the relations of the music-loving public and the living composer. The old "special" public of the modern music concerts had fallen away, and the conventional concert public continued apathetic or indifferent to anything but the established classics. It seemed to me that we composers were in danger of working in a vacuum. Moreover, an entirely new public for music had grown up around the radio and phonograph. It made no sense to ignore them and to continue writing as if they did not exist. I felt that it was worth the effort to see if I couldn't say what I had to say in the simplest possible terms.

My most recent works, in their separate ways, embody this tendency toward an imposed simplicity. _El Salon Mexico_ is an orchestral work based on Mexican tunes; _The Second Hurricane_ is an opera for school children of high-school age to perform; _Music for Radio_ was written on a commission from the Columbia Broadcasting Company especially for performance on the air; _Billy the Kid_ is a ballet written for the Ballet Caravan, which utilises simply cowboy songs as melodic material; _The City, Of Mice and Men_ and _Our Town_ are scores for films.

In an era when British broadcasting staff found composers and performers insensitive to the problem of production in the newer media, Copland was at home with the movieola and the click track and took sides on the issue of division of labour in the dubbing room - in a way which 'Music Balance and Control' staff at Broadcasting House would have identified with:

---

1. Aaron Copland (1941), p.228f.
"From the composer's standpoint, the important person in the dubbing room is the man who sits at the controls. It is he who decides how loud or soft the music will be at any given moment, and therefore it is he who can make or ruin everything by the merest touch on the dials. But surprisingly, in every studio these controls are in the hands of a sound engineer. What I don't understand is why a musician has not been called in for this purpose. It would never occur to me to call in an engineer to tune my piano. Surely only a musician can be sensitive to the subtle effects of musical sound, particularly when mixed with other sounds. A Toscanini would be none too good for such a job - certainly a sound expert is not qualified."¹

Copland in the United States in the early thirties faced circumstances of closure of entry of contemporary music to the concert hall and of abundant demand for functional music: he could not afford to turn down the purely utilitarian openings confronting him. In consequence, Copland saw not music in decline but the decline of the orchestra. His became a perspective which saw the radio, the phonograph and the movies as the agency of changed relations between composers and audiences on the scale of the change of relations between writers and readers that followed the invention of machine-printing.

"In one very important respect music is directly born out of exterior circumstances. All musical histories show that composers shape their music ... according to musical needs created by historical events. Historical change brings on new functional needs for music and it is these needs which alter the course of music. ... An entirely new public is listening to music. This is not a concert-going public ... The introduction of these new means for reproducing music is comparable in importance to the invention of the printing press. The spread of good music among millions

¹. Aaron Copland (1941), p.271.
of new listeners is certain to have as a profound an effect on composers as the spread of literacy had upon writers.¹

At the very juncture when musical support personnel in British broadcasting were deploring the failure of composers to theorise and respond to the new circumstances of music production, the young Benjamin Britten was emerging as a composer in the Copland mould. Britten began his career as a composer of incidental music when he came to public notice in the 1930s as a producer of large quantities of music for the GPO Film Unit and for Auden's and Louis MacNiece's radio pieces.

If Britten became a representative new composer of the Copland type, the social historian Eric Mackerness, twenty five years on, observed also the coming in England of a Copland-type new audience of musical connoisseurs and non-executant amateurs: "The fact is that the typical amateur audience these days is not a pianist, a violinist, a cellist or a choir member: he is an ardent enthusiast of the long-playing record or the tape-recorder. And the range of music now available on disc records and tape is so vast that a young person's reluctance to embark on an exacting course of music study can be understood.²

When Mackerness took stock of the effects of the radio, the gramophone and the sound cinema, his vision was an extension of the Copland perspective into his own day. "Enough incidental music of high quality comes on the air each week to permit at least one modest speculation. A very high percentage of the listening and viewing public is never likely to see the inside of a concert hall or to gain first-hand experience of music-making. At the same time it is hearing perforce musical textures of considerable subtlety ... For although the matter could never be put to an adequate test, it is conceivable that a 'musical-appreciation' movement is being brought

¹. Aaron Copland (1941), p.234ff.
about by means which were undreamt of at an earlier stage. The
'complicated apparatus of amusement' has, as it were, placed in the
composer's hands an instrument for influencing taste from within: and it
may not be too rash to surmise that as a result of social situations which
we have witnessed over the last twenty-five years the musical consciousness
of the English people is slowly being broadened and intensified. If this
should happen to be the case, it may well restore the confidence of those
who fear a decline in the standard of English musical culture.\(^1\)

\(^1\) Eric Mackerness (1964), p.288f.
THE 'DISTRIBUTION' OF DRAMA IN ENGLAND, 1889 TO MID-TWENTIETH CENTURY

The Proms initiated the building of an audience for the classical nineteenth century orchestral repertoire in Edwardian London and supplied the BBC with the personnel and ideas of a 'good music' broadcasting service. What Newman and Wood did for the orchestral repertoire, Shaw and Barker - Vedrenne and the repertory theatre movement did for a drama repertoire. The nascent London and provincial small theatres' movement provided the personnel and inspiration for drama broadcasting from 1923.

New media defined the horizons of "New Music" because they gave composers new functions and an understanding of their changed relations with their audience. Analogously, original writers and adapters confronted formal problems in writing for broadcasting. By providing writers with abundant opportunities for experiment in their early careers, broadcasting brought into existence a sui-generis 'radio literature' and effected an 'influence of radio on theatre'.

Broadcasting in 1923 received its design for a wireless-drama project, in part from a drama profession revitalised in the two decades before broadcasting and the creation of a distribution net of small-theatre outlets in provincial cities in the same period. It was the 'new audiences' for a revitalised 'non-commercial' theatre and the silent cinema in its creative period, which supplied broadcasting with the paradigms of a radio-drama audience - until the standardising and cheapening of the Philco valve receiver in the early thirties impelled the BBC to build apparatus of empirical audience survey.


2. In part also from the example of an art of motion picture mime, sprung into perfection of form out of a new technology in the very years that witnessed the launch of broadcasting.

Commercial entertainment became big business in the West End in the last two decades of the nineteenth century. Ernest Short has described the building of Super Music Halls and the coming into existence of the Stoll Theatres and Moss Empire chains in the golden age of the Palaces of Variety (1885-1914).\(^1\) In the period from 1880. impresarios, of the George Edwardes-Gaiety type, filled their outsize stages (in theatres having quadrupled seating space) with lavish musical and scenic spectacles. The long-run 'Girl' series of musical comedies in the early nineties, called for greatly increased expenditure on international stars, specially commissioned scores and lyrics, enlarged and rehabilitated chorus lines, extended rehearsal hours and specialist theatre design and lighting staffs. To recoup such vaulted overheads of successful launches of new musicals in the West End, they distributed the 'original shows' through touring companies sent out to the provinces, and to all parts of the Empire, South Africa and Australia in particular;\(^2\) and sought to enforce their property in the copyright of sheet music sales.\(^3\)

The West End Palaces of Variety and the actor-manager system of long-running 'safe-bet' straight-play productions provided for one section of a middle-class audience while neglecting the other. This 'other' section was composed of members of the traditional middle-class, who had developed a dislike of bourgeois society, or some other form of dissidence (including a large bloc of emancipated middle-class women), and a body of more recent

---

2. 'There could be as many as 250 (touring companies) on the road at any one time with carbon-copied West End successes'. I.C. Trewin, *The Edwardian Theatre* (1976), p.5.
self-made professionals. Recruits from this heterogeneous second section became the agents - as writers, producers, players and critics - of a revitalised theatrical profession and lobbyists for an endowed repertory theatre; and constituted the members of London subscription theatre clubs and the repertory theatres of the provincial cities.  

The economics of commercial theatre confined West End theatres at the turn of the century to long runs; the basic requisite of those who sought to renew the theatrical culture was to produce lots of plays. The creation of a net of 'non-commercial' outlets was achieved between 1889 and 1914. The short-lived Independent Theatre suggested the viability of minority subscription theatres as an outlet for new plays in 1891. A series of false starts by imitative ventures thereafter sustained a controversy between two partisan orders of press critics, bringing publicity behind a project which brought a substantial subscription audience together with aspirant professionals and a section of the London theatrical management drama drawn

---

1. "The members of what Webb and Shaw called the 'nouvelle couche sociale', the 'intellectual proletariat', 'the literary proletariat', 'the black-coated' or 'professional proletariat' ... Independent women earning their livelihood as teachers, typists and writers; self-made newspaper men and writers; self-made civil servants, political functionaries and itinerant lecturers; clerks and professional men ... These were the 'new women' and the 'new men' rising through the interstices of the traditional social and economic structure of Victorian Britain or anticipating a new structure'. E.J. Hobsbawm, 'The Fabians Reconsidered' in Labouring Men (1964), p.257f.

2. These social elements are richly documented in Rex Pogson, Miss Horniman and the Gaiety Theatre (1935) and Grace Wyndham Goldie, The Liverpool Repertory Theatre (1935).

Woodfield set the formative period of a new theatrical culture in England between these dates because 1889 was the year in which A Doll's House was given its first (private) performance in London. Its performance made Ibsen the subject of violent controversy and stimulated a spate of publications of his works. 1914 was the year in which Ghosts - the play around which the struggle to establish a beachhead for the new drama centred - was first licensed and performed publicly in England.
by interest in the future possibilities of avant-garde experiments.\(^1\)

The Stage Society of 1897 drew the co-operation of actors interested in renewing their art through Sunday performances in new roles; and of theatre managers interested in test runs of a body of new plays. Those who benefitted most were the dramatists 'of the great unacted variety' who received first or early performances of their works.\(^2\) The Stage Society defined a repertoire and assembled the necessary resources of new acting and production talent; the rival orders of critics provided advanced publicity for the launch of the new drama at the Royal Court Theatre under the Barker-\`edrenne management in the seasons of '04-07. The success of the first Sunday coterie theatre stimulated the creation of a swarm of outpost theatres in London in the years before and following World War One.\(^3\) The vigorous critical debate that accompanied Stage Society and Royal Court productions gave repertory theatres and their audiences in provincial cities\(^4\) an identity as constituents of a new cultural movement. The success of the

---


2. Chief amongst these were Bernard Shaw, Gilbert Murray, Somerset Maugham, Yeats, Masefield, Arnold Bennett, Stanley Houghton and George Moore. Amongst continental dramatists given first performances in England by the Stage Society were Chekhov, Strindberg, Hauptmann, Benevente Maetterlink.

   Their works received the same ceremonies of first-night celebrations given West End productions and as an effect of the furious controversy among London critics, provincial and foreign newspapers provided full-length reviews.

3. Namely: Mermaid Society (1903)
   New Stage Club (1905)
   The Pioneers (1905)
   English Drama Society (1905)
   Play Actors Society (1909)
   New Players Society (1911)
   Adelphi Society (1941)

4. Abbey Theatre Company (1904)
   Manchester Repertory Company (1907)
   Scottish Playgoers Society (1909)
   Liverpool Repertory Company (1911)
   Birmingham Repertory Company (1912)
coterie theatre, its promotion of new writers, players and directors, and its rapidly achieved enlightenment of audiences, inspired the Drama Department in the Broadcasting Company to originate a 'wireless drama' in 1924; and the London Film Society to screen 'the great unscreened' Russian, German and French silents and to canvas projects for a non-commercial art-cinema in England in 1925.¹

Producers trained in the new theatrical culture were peculiarly fitted to the task of creating a wireless drama because its original mission was to grapple with the interpretation of brand new and long-forgotten canons of drama, where the problems of giving unfamiliar conventions effect, were acute. That design entailed teamwork or collective growth of understanding of the conventions involved. The quality that suited new drama producers to the task of originating wireless drama - in which engineers and other support personnel were involved - was the gestalt conception of stage managing, under which the contributions of everyone, from the leading lady to the lowest-paid sceneshifter, (and later broadcasting sound effects and sound-mixing staff) were understood as organic developments that came together into a whole slowly under the producer's guidance.²

The new theatrical profession was equipped with critics who assimilated drama as a proper subject of Higher Criticism.³ Along with critics who brought a higher critical attitude to plays and to the art of acting, the new drama required 'an intellectual audience': "a new audience whose members would come to the theatre ... as participants in a creative process prepared to think about and interpret what they saw on the stage."⁴

---

1. E.g. Ivor Montague, Asquith, Basil Dean and Grierson were members.
2. This formulation of the ensemble style of stage management is indebted to James Woodfield's attempt to distinguish the features that set productions at the Royal Court apart from productions elsewhere in London in the years '04-07. James Woodfield (1984), p.80ff.
The value of a serious critical perspective on broadcasting history from the standpoint of its client cultures rather than the vantage point of the Corporation itself (1) was suggested by the work of the 'Radio Literature Conference, 1977' (2). The sources of this renewal of interest in radio drama in the late "seventies - following a period when the fall of radio broadcasting to the 'Ghengis Khan of Shepherd's Bush - television" (3) was assumed - is itself a complex matter.

That new departures were meditated by the organisers (4) is signified in the subject title, though the focus of the speakers remained largely the work of particular writers. The conference disclosed the absence of a "comprehensive critical history of radio drama" - one that might treat British radio drama as other than "a simple offshoot of the theatre play" (5). The insights generated by the conference drew Peter Lewis to open a more systematic discussion within "the terms of reference of the cultural historian and the theorist concerned with phenomena rather than of the literary critic concerned with aesthetic discrimination." (6)

(1) Asa Briggs was largely dependent on the BBC Written Archive for the material of his History of Broadcasting in the United Kingdom and for the Drama Department's output in particular on the retrospective appraisal of the Corporation's own Head of Department Val Gielgud, in his British Radio Drama 1922-56 (1957)


(4) The conference was "the brainchild of writer, novelist and critic" Ian Rodger. See Ian Rodger, Radio Drama (1982).

(5) Peter Lewis became co-organiser in the months preceding the conference.

(5) "In contrast with the way things developed in Germany, Where the Horspiel could at an early date free itself from its connections with the theatre the English radio play remained for a longer period in close alliance with stage performance." Horst Priessnitz, "Problems and Characteristics of British Radio Drama" in Papers of The Radio Literature Conference, 1977 (ed. 1982) p. 50.

The purpose of *Radio Drama* was to re-open discussion of "the whole range of radio drama", but to do so from standpoints different from those of Gielgud's *British Radio Drama* (1): "From several different viewpoints: the BBC producer, the radio writer, the professional reviewer, the literary critic, the cultural historian and the sociologist of mass communication." (2)

Horst Priessnitz from the perspective of the *Horspiel* saw that the British Radio Drama Department's being tied so long to the role of "National Repertory Theatre of the Air", stood at the root of the indefinite status of the radio play in Britain. (3) Lewis from the standpoint of his own discipline attributed the failure of the British radio play to emerge as an independent critical phenomenon to the historical circumstances that the manifestly 'spoken' artifacts of radio drama (and drama as a whole), were assimilated to literary criticism (4)

The will of the 'radio literature' students is to reconstitute the history of radio drawn as a mass-media art form calling for the same multiplicity of approaches that compose the compass of cinema studies.

(1) It is important to notice that R.E. Jeffrey, the first Drama Director, was 'a man of the theatre'; and the second Director and author of the definite history of British Radio Drama 1922-56 (1957) was a cadet of distinguished theatrical dynasty. On the other hand, the originator of radio drama, Cecil Lewis, a central figure in this study, stood quite outside this tradition.


Broadcasting originated and developed in an environment of specialised cultural elites. The world of classical music was initially the most important in defining and realising the possibilities of the broadcasting medium. Subsequently, other specialisms such as Religion, Education, Variety, Sport and finally News and Current Affairs were incorporated. The London broadcasting station under Marconi and the Company was a body under the aegis of engineers with the head of the Marconi's Publicity Office (Burrows) playing a subsidiary role as director of 'broadcasting'. An influential minority among the musical entrepreneurs, critics and leaders of corporate music bodies in Britain showed interest in the technical facility of broadcasting. This was as much a result of changes in the world of music as it was of the intrinsic capability of the new technical facility, but the coincidence of the two were extremely influential for the development of broadcast music.

We have chosen to look very broadly at the currents of change and ideas affecting the world of music in the post-war years in order to provide some measure of the will of the various music interests to exploit the possibilities of the new medium. The will of the individual cultural specialisms towards integration with broadcasting varied according to the complexity of circumstances in which they found themselves. It could be argued, for example, that the political bodies of this period found the daily newspapers (in an era of great growth and development of the press) a relatively adequate means of reaching their audience. In contrast, musicians, for reasons set out below, found the concert hall a failing means of reaching a national audience.

The progressive tradition of popularising "good" music and post-war circumstances in the concert halls combined to push musicians towards a full and rounded accommodation with the broadcasting organisation. Initially,
the Balance and Control Section was important as a strategic device which eased the accommodation between an organisation of electrical engineers and a cultural group which had misgivings about the effects of the mechanisation of its art.

Musicians and Broadcasting

The Company became buoyant in its first five years because of the thrust supplied by music interests who quickly saw in broadcasting an opportunity to extend their audiences. The Broadcasting Company was the beneficiary of a movement in classical music which began before broadcasting commenced. The foundation of the Promenade Concerts in 1895 marked the origins of a movement to popularise 'good' music and raise the standard of orchestral performance. The movement introduced the 'sandwiching' of new works by English and foreign composers among more familiar works and the effort to replace the deputising system by permanent all-the-year orchestras. It anticipated the classical music programme-building policy of the Company and its decision, from the inauguration of the Music Department, not to allow deputising but to contract orchestral players only on a part- or full-time basis.

The links between the movement to popularise classical music through low-price concerts and annotated programmes and the broadcasting of 'good' music were both institutional and personal. What Robert Newman and Henry Wood did to establish new audiences for orchestral music, Percy Pitt, in alliance first with Hans Richter and later with Thomas Beecham, did for opera. Pitt became Musical Director at Covent Garden in 1907. In association with Richter, he was responsible for the first production of The Ring. He served in the same capacity for Beecham's Opera Company 1915-1916 and for its successor, the BNOC. With Beecham's Orchestra he was involved through the

---

war years in "almost non-stop opera seasons", mainly in West End theatres to audiences of soldiers on leave, and girl clerks from government offices. Opera re-opened after the war to a public newly educated to opera.¹

B.N.O.C., directed by Pitt, was the only entirely new opera initiative between the liquidation of the Beecham Company in September 1920 and the first complete opera broadcast in 1923. Pitt's Company opened in February 1922 at Bradford and went on to further seasons in Edinburgh and Liverpool. But attendances did not rise for B.N.O.C. performances at Covent Garden. Pitt and his orchestra, impressed by the boom opera-years of the war and their post-war experience of opera publics in provincial cities were confident of the existence of a national audience for opera. They were looking for the right means to reach it.

Developments in the gramophone field had already indicated that here recording was a new supplementary if not direct channel of musical communication. The editor and critics of the Musical Times were well placed throughout this period to take a broad view of the movement to popularise 'good' music and to see early the opportunities of the "new musical media",² gramophone, cinema and broadcasting. It is significant that when the Gramophone Company (H.M.V.) in the wake of the wartime boom in gramophone records, opened their Education Department in 1919 to promote the acceptance of the gramophone as a means of musical education, the Gramophone Company commissioned Percy Scholes of Musical Times to write a propagandist handbook.³ Scholes, it seems, was peculiarly sensitive to the place of new media in the task of widening the audience for music. He recognised the propagandist role of annotated programmes and instructional handbooks and "missionary societies of music" in any movement that sought to enlarge and improve

---

audiences for music. He was already convinced of the importance of the gramophone as a new musical medium, so it is not surprising that he became the first music critic of the Broadcasting Company on 16.6.1923. Two years later he followed up his handbook Listening to Music via the gramophone with Everybody's Guide to Broadcast Music. With so early an involvement in the organised propaganda for 'good' music, it is not surprising that he saw the inauguration of The Radio Times, "a weekly journal largely devoted to music" with a popular readership, as "something that the most ardent and sanguine worker for music of the beginning of the century never expected to live to see".

What institutional opposition there was to broadcasting music came not from artists or orchestral members but from musical agents and concert hall owners, such as Chappell and Co., and Powell and Holt Ltd. Chappell were the lessees of the Queen's Hall, and Powell and Holt the agents of the L.S.O. William Boosey of Chappell and Co., and Managing Director of the Queen's Hall, refused to allow artists under his control to accept broadcasting engagements. Harold Holt advised and represented Melba in her refusal to let her performance of June 1923 be broadcast. Powell suggested to the

2. P.A. Scholes, Everybody's Guide to Broadcast Music (1925), a title enlarged as "including a simple description of the various forms of music, and of the orchestra, a short account of the history of music, some advice on the enjoyment of broadcast opera (with a list of published libretti) and a discussion of what constitutes good music and a good musical performance."
directorate of the L.S.O. that the engagement of conductors, who also broadcast, would lower receipts from the Orchestra's concerts. The Directors replied that "the public would always prefer the atmosphere and the live element of the concert room and that in their opinion broadcasts would create a keener desire on the part of the public to hear the music at first hand." In the context of these pressures, the London Symphony Orchestra took its first steps along the new path of broadcasting and recording. By the beginning of the autumn-winter season 1920/21, the orchestra was losing money heavily. In September, the orchestra concluded its first three-year contract with Columbia. That post-war period gave the orchestra a formative experience of the new music market place. In the summer of 1922, United Artists hired Covent Garden as a first-release movie house and the orchestra members became pit-players for screenings of Douglas Fairbank's Three Musketeers. The L.S.O. gave broadcast performances as early as February 1924 and a forward company of six players of the L.S.O. performed as a broadcasting ensemble at least as early as September 1923. It seems that orchestral members were not to be resisted in their readiness to make use of the new means of communication. As Captain Fraser put it to the Crawford Committee three years later, "Mr. Boosey states that he does not allow them (his artists) to broadcast, but the fact remains that most of them do so regularly."

This coincidence between a down-turn in the concert-music market and the incorporation of the broadcasting company was marked by the crossing over to broadcasting of Percy Pitt and the B.N.O.C. Percy Scholes, as the editor of Musical Times, quickly recognised that the Broadcasting Company was the Gramophone Company opportunity writ large. Filson Young, another

1. H. Foss and N. Goodwin.
journalist-musician influential in the foundation of music-broadcasting, credited Pitt with the achievement of convincing the musicians of the potential of broadcasting. From his long experience of entrepreneurship in concert music, Pitt was able to convince them that the coming of broadcasting had created a new market for music and that co-operation with broadcasting did not mean any loss of control over the quality of the musical product.¹

Provincial musicians outside Pitt's orbit of influence also took advantage of the opportunities of the new medium.² Dan Godfrey, the son

---

¹ "... it was Pitt ... in the most exciting period of the musical history of broadcasting in England (from 1923) ... who managed gradually to win the world of virtuosi to the microphone, from which they had hitherto unanimously recoiled. It was not until he had done this that broadcasting began to be taken seriously both on artistic and economic grounds." Filson Young, Shall I Listen Studies in the Adventure of Broadcasting (1933), p.76.

"He put broadcasting on the musical map and raised the dissemination of music by his means from being part of a miscellaneous entertainment to a policy and a great educative movement in art ... Everyone trusted him; ... he acquired a position of authority with regard to operatic work that not even a genius like Sir Thomas Beecham had achieved ... So working in the background in the difficult world of stars and prima donnas, he was content to take an inconspicuous place so far as the public was concerned. But on the other side of the fireproof doors, he was the man who never failed. The work of Sir Thomas Beecham and of Covent Garden could not have been done so well without him." Filson Young's obituary on Percy Pitt, Radio Times, 9.12.32, p.748.

² That there were other worlds beyond London and even the big cities is attested by the career of D. Godfrey (1868-1939). " ... one who was not a 'great' conductor and yet accomplished much for music in this country." P.A. Scholes, The Mirror of Music, The Music Times (1947), Vol.1, p.386f. "Bournemouth has engaged Mr. Dan Godfrey Jun. as municipal music director and will spend £500 on a band. 1895 ... the prospectus of winter Concerts ... It is proposed to augment the existing string orchestra at the Winter Gardens to thirty-one and give a series of high-class orchestral Concerts during the forthcoming season ... Beethoven, Schuman, Mendelssohn." Musical Times, March 1894. Of a dinner given to Dan Godfrey in London by "an influential gathering of musicians", "well-known musicians from all parts of the Kingdom," Sir Alex Mackenzie "... recalled when there were only three orchestras in the country ... Bournemouth was the first provincial town orchestra-During 18 years Sir Dan Godfrey achieved a record only equalled at the Crystal Palace; he had given no fewer than 965 classical concerts. We heard brought forward the chief productions of Britain ..." Musical Times, June 1911.
of Sir Dan Godfrey, leader and conductor of the Bournemouth Symphony Orchestra, became Manchester Station Director, and converted Halle members, including their leader, T.H. Morrison, to music broadcasting during the course of 1923.1

C.A. Lewis urged musicians to see their engagements to broadcast as part of a shift towards music-making on a new basis. Putting the point materially, he wrote, "... don't forget that we (the Broadcasting Company) are the biggest concert organisation in the country. Perhaps we may be a sideline to you now, but - who knows - we may be bread and butter to you later."2 Lewis saw broadcasting as a major and not just a supplementary channel of musical communication.

The Quality of Broadcast Music: early twenties to nineteen-thirty

The integration of the concert musicians into the structure of broadcasting entailed 'accommodations' by both sides. On the musicians' side, accommodation was predicated on the existence of progressive elements who recognised the rise of new audiences and who had, before the coming of broadcasting, explored new ways of reaching them. On the broadcasting side, accommodation required that the quality of music through microphone and receiver should bear comparison with what was achieved via the gramophone, and that the Company should organise the supply of music on the scale that broadcasting required.

In 1920 and 1921 there were several ventures, some individual and some organised, in music broadcasting. There were 'concerts' from the Nederlandsche Radio-Industry of The Hague and gramophone recitals by

---

1. A further example: "In conformity with a decision that each station should possess a separate director of music, the Company appointed Mr. Braithwaite from the musical department of H.Q. as Musical Director at Cardiff. Mr. Braithwaite had a distinguished musical career, being the youngest Wagnerian conductor, having conducted this composer's operas for the O'Hara Opera Co., at the age of 23. Mr. Braithwaite has also been conductor of the Carl Rosa Opera Co., and sub-conductor of the B.N.O.C." Arthur Burrows, The Story of Broadcasting (1924), p.157.

The enthusiastic use of the air for 'tests' involving gramophone records and requests for 'repeats' gave rise to a fear at the Post Office that the grant of a broadcasting franchise to a commercial company would licence the use of the air as a medium for entertainment rather than as a utility. The response of Burrows, with his journalistic and public relations background and training, was quite otherwise. To Burrows, the spontaneous use of the air by telephony buffs as a medium of musical entertainment at once defined the needs of the public and the path along which broadcasting must travel.

The start of regular broadcasting was accompanied in May 1922 by a shift of Marconi research away from telephoned speech and audibility over great distances towards a total system for the better reproduction of the higher musical frequencies involving changes of wavelength and the adaptation and re-design of the circuit and microphone. The focus of attention of Burrows and the engineers at the Marconi station in the second half of 1922 was on the faithfulness with which the system reproduced particular musical instruments or voices. The engineers' log and Burrows' letters of report to Head Office, revealed that certain musical instruments showed up the limitations of the broadcasting technology. In October, the engineers' commentary on programmes noted that listening to the piano over the air was like sitting right under a very tinny instrument. This was to become a commonplace observation. At the end of the year, Burrows' comment that the wireless piano had "all the tinny effects long associated with it."
The high frequencies of the violin gave rise to similar distortions. Referring to the combination of a Dickens' reading and a violin recital that made up a demonstration programme from Bristol, Burrows recorded soberly: "While the speech quality was such that every word could be understood, the quality of musical reproduction was not good." Marconi 'demonstrations' showed as convincingly to opinion leaders as they did to Arthur Burrows and the Marconi engineers that the wireless had not yet arrived at a point at which it could give pleasure to musically-minded listeners. The editor of Musical Times wrote of a violin transmission that, "to say that I heard a violin solo would be to state the case feebly. The sound magnified and brassy rather than stringy, bored its way into my skull in a manner suggestive of a surgical operation." After hearing the violin via the wireless, the editor of Musical Times advised his readers that they might write off wireless as a serious medium for musical communication for several years to come. This made the task of the research arms of the big electrical firms urgent. By the autumn of the year, changes in wavelength and adaptations of the circuit had been made. These narrowed down the search for the obstacle to music broadcasting to "the present system of microphones." To the three big electricals already committed to funding a broadcasting venture from resale of sets to specialised music publics in London, and in the Midland and Northern cities, the perfection of a music microphone became a condition of success. Burrows and his staff, their time divided between their publicity work and the new technical venture, were prey to fears that they had over-committed themselves to broadcasting.

and that they ran the risk of having "burned their boats."\(^1\)

It is clear that all three companies gave research priority to solving the technical problems of music-broadcasting. Metro-Vickers devoted their resources with the assistance of the National Physical Laboratory to the development of a microphone employing the selenium cell as an amplifying principle. The obstacle to the broadcasting of music of a pleasing rather than a novelty kind was broken, when the Western Electric Company opened a rival London station on the 8th November, 1922, and introduced the American stretched steel diaphragm microphone. With that key instrument, Western Electric took the lead in the competition for a London audience. It was remembered as an occasion when "further interest was given to broadcasting in the London area by the appearance on the ether almost nightly of a second London station ... and it was soon obvious that in the broadcasting of certain musical sounds it had some advantage over its rivals." It could, Burrows went on to say, "receive the highest notes of a soprano without causing any blurring."\(^2\)

For Burrows, privately anxious that he had over-committed himself to his Company's London venture, this was an under estimation of the importance of early November as a time when music-broadcasting broke out of an impasse. The stretched steel diaphragm microphone removed those limitations on violin- and piano-broadcasting, which 2L0 had demonstrated nightly for some months, and which had repelled the editor of *Musical Times.* Western Electric's

---

1. That Burrows saw the future of his new career hanging in the balance of the development of more efficient music reproduction is suggested in the attention his letters to Head Office give to this issue, as "I am most nervous that this question of transmitting quality (of music) shall be handled as quickly as possible." Burrows to Col. Simpson, 30.6.22. Marconi Co. Archive.

Burrows referred once but briefly to his anxiety during the first six months following the opening of the London Station, when a breakthrough to music broadcasting was in sight, but still unachieved, when he wrote: "We in London well remember, too, that as no permanent appointments had been made, and we had no desire to burn our boats, the broadcasting duties were carried out for some six weeks in addition to our ordinary office routine." *The Story of Broadcasting* (1924), p.69.

breakthrough in the London wireless-music market assured Western Electric's place as the third of the Big Three in the Broadcasting Company. To Burrows, the next few weeks of Western Electric's music broadcast must have been reassuring. Western Electric's microphone patents, available to the prospective Company, brought a London music-listening audience, which had for some months evaded 2LO, effectively within the new Broadcasting Company's reach. The Western Electric microphone was seen by those who had staked their careers on the Marconi broadcasting venture, as the stimulus which would boost the sale of sets.

Evidence that Burrows was not alone in appreciating that the prospect for music broadcasting had widened with the coming of the new microphone, comes from Peter Eckersley. Eckersley, the first Chief Engineer of the Company, recollected that when Reith welcomed him on to the staff in February 1923, he did so with an anxious first question: "Is it true that the Western Electric microphones are better than the ones we are using at the 2LO studios?"^1

The breakthrough was demonstrated with striking clarity with the broadcasts of the B.N.O.C. operas from Covent Garden in January-February 1923. We earlier recalled Eckersley's sense of the miraculous on hearing his first opera broadcast via headphones. The Western Electric technicians themselves were uncertain of the outcome. As Cecil Lewis recalled: "the technicians were unsure how a microphone would transmit on a big stage like that at Covent Garden, where the singers would be at times 40 or 50 feet from the footlights."^2 There is no record of Percy Pitt having heard the opera broadcast. Burrows was out of London, at a provincial station and missed it. But the sense of having achieved with the opera relay something more than had been dreamed of, is captured in Lewis's account: "I well remember the occasion ... We all assembled in a little room on the top floor

---

2. C.A. Lewis, Broadcasting From Within (1924), p.32.
of Marconi House, where a loudspeaker stood on the table. Suddenly, with a
loud click, it was thrown into circuit, and a confused babel of noises was
let loose. At first indistinguishable, it soon became apparent that we
were hearing the talk and rustling of programmes in the auditorium. Finally,
there was a burst of clapping, which died down to dead silence, and was
followed by two sharp raps; a second later the huge orchestra had leaped into
its stride, swelled up to a great crash of brass and cymbals, which could be
heard all down the corridor at Marconi House.

Our excitement was immense. The broadcasting of opera was an assured
success: that could be said after listening for a few moments. The sound
of the great orchestra contrasted so forcibly with our little band of seven
in the studio that it came as a revelation of what the future of broadcasting
might be.¹

Lewis's sense that the interests of electrical engineers, musicians and
the organisers of a new industry had merged in a single event, was confirmed
by that same editor of Musical Times, Percy Scholes, who only months before
had written off the merger of music and electrical science as years away:
"I sat by a friend's fireside and heard two acts of Aida and a couple of La
Bohème with Melba bringing down the house, and I am convinced that the
invention which a year ago seemed like a futile toy, is about to create
something like a revolution in the musical world."²

The coming of the music microphone in 1923, marked the beginning of the
interweaving of the history of wireless-engineering and music. The
broadcasting of grand opera free of imperfections that had marred previous
music transmissions, set the process firmly in motion. The decline of the
B.N.O.C.'s fortunes and the birth of the Broadcasting Company accompanied by
nightly demonstrations of the quality of the Western Electric microphone, was
a fortuitous conjunction. B.N.O.C.'s attempt to re-establish contact with

¹. C.A. Lewis, Broadcasting From Within (1924), p.32.
their war-time promenade or popular audiences through Covent Garden and the provincial concert halls system had failed, but new opportunities now opened up through the microphone. The event vindicated the wisdom of Burrows and others in their early commitment to the broadcasting venture. Almost literally overnight, Pitt, the leading opera entrepreneur, threw in his lot with the engineers and organisers of broadcasting. The institution of a Balance and Control Section three years later was part of the same process. The music microphone allowed the discovery that "acoustic conditions in the immediate vicinity of the microphone were just as important for faithful reproduction as perfection in the electrical circuits of the broadcasting system."¹ Acoustical conditions became of crucial importance to the microphone engineer because the microphone, unlike the ears of the musically trained listener, was unable to reject the distortion caused by concert hall conditions.² The Company engineers soon widened their area of interest to include Sabine's investigations into the properties of halls which sounded right to the musical ear.³ They became committed to the idea that the progress of their profession must involve the development of a practice which combined engineering measurement with musical judgement. The engineers recognised that their work covered more than the microphone and needed to include as well the acoustic of the concert hall and the selective ear of the trained musician. This meant the engineers came to favour the institutionalisation of "the opinion of musicians qualified to give their

opinion from a musical point of view,"\(^1\) as the standard through which engineers setting up of a Balance and Control Section followed naturally as a body of music-engineering theory matured. Acoustics at this time was an inexact science. The engineers followed in the tradition of Sabine in taking, as their standard of reference for their investigations, the opinion of a section of trained musicians.\(^2\) Engineers recognised that the Western Electric microphone was the first music-microphone because the specialised music public said so. Subsequently, faced by the problem of determining the characteristics of good music chambers, the engineers heeded that first lesson and opted for an organisation of musicians specialising in wireless-music-listening as the standard of reference for engineering research.\(^3\)

The setting up of a Balance and Control Section was a consequence of the interweaving of engineering and the classical music culture in the broadcasting organisation. The development of music-engineering theory meant the engineers supported the new Section. The formation of the B & C

---


2. "... a special section of the BBC staffed by musicians who had some technical knowledge ... A member of the section has to rehearse the orchestra and judge the 'balance' in the reproduced sound. In my day the balancer listed to headphones. The players were moved about until the resulting sound in the headphones was, in the judgement of the balance expert, satisfactory." P.P. Eckersley, The Power Behind the Microphone (1941), p.111.

"They are, primarily, musicians, but know enough of the engineering side to appreciate the technical limitations of the equipment ... Microphones, amplifiers, transmitters and telephone lines are not yet perfect, and the musician has of necessity to model his arrangements to compensate, if possible, for the difficulties which the engineer has not yet been able to overcome ...", BBC Year Book ( ), p.928, p.312f.

3. Cf. "It is difficult enough matter to measure the characteristics of a microphone, to find out how it deals with the various musical frequencies in the conversion from sound into electrical energy. It is a much more difficult matter to obtain any definite information on the effect of environment - of studio or hall - or musical broadcast transmission ... So far results have been judged mainly by ear (the musician's) without any adequate scientific conception of what they represent." BBC Handbook 1928, p.207.
Section staffed by musicians, played a crucial role in bringing the world of classical music round to an accommodation with an organisation hitherto dominated by electrical engineers. The engineers were assisted in the making of this accommodation by the research tradition inaugurated by Sabine in his work with musicians in the years before broadcasting began. In a parallel way, musicians were assisted towards accommodation with the new organisation by a movement in the world of music which had its beginning at the turn of the century and which had long sought ways of generating English composition and of communicating a wider repertoire of continental music, past and contemporary, to new and more extensive audiences.

The opposition to music-broadcasting continued from the London concert-giving organisations, Messrs. Chappell and the Trustees of the Central Hall, Westminster. They feared that the wireless would displace the concert-hall as the principal music medium. The opposition of the concert hall organisations served as a forum for those who were apprehensive that the interests of music were about to pass into the hands of a commercial or state monopoly dominated by electrical engineers and administrators whose values were not musical. William Boosey, the managing director of Chappells, indicated his fears of the consequences of the domination of engineers in the new organisation when he wrote: "Mechanical music and music broadcasts are revolutionaries ... Music must not, shall not, be all mechanical."¹

To counter such charges, the new organisation, the Broadcasting Company, was ready to take on the role of heir to the leadership of "the democratic movement in Music". The seven years between 1923 and 1930 was the period during which the Company groped its way to an accommodation with the world of music with first the coming of the music-microphone and the departmentalisation of Music under Pitt, then the formation of the BBC Symphony Orchestra in August 1930 at the end of this period. In 1927, the first year of the Corporation's existence, Messrs. Chappell surrendered their control of the

¹ William Boosey, Fifty Years of Music (1931), p.195.
stronghold of the Queen's Hall and their responsibility of the Promenade Concerts there, an event of considerable symbolic importance.

During those years, the broadcasting organisation's conscientious discharge of its role as the great power and patron of the world of music stilled the fears expressed by Boosey and others that the interests of the high-class music culture were about to pass into insensitive hands. Throughout, the Company and Corporation treated the musical establishment with the respect which such an establishment felt it deserved. The establishment of a Balance and Control Section was an important mark of that respect. Broadcasters accepted the unique importance of the musicians' skills and expertise and created the Section to allow musicians to control the quality of their finished product. It was, as we shall see, an arrangement which became unstable as broadcasters acquired greater self-confidence and organisation, and began to question the economy of balance and control, but initially it played an important part in convincing musicians that broadcasting would treat them with seriousness, respect and even deference. Musicians also feared that broadcast music or the mechanical reproduction of sound would degrade, not educate, the ears of new audiences for whom the wireless was the only medium of music. As we shall see, this fear was shared not only by critics of the BBC like Boosey, but also those like Filson Young who saw potential in the new medium.

It is a measure of the progress made by the BBC in stilling such fears that by the end of the Savoy Hill era, so unlikely a person as William Boosey dared to anticipate a regeneration of music in a new setting. In the Epilogue to his Fifty Years of Music in 1931, he coupled with a reference to the revolution that overturned the world of music in his life time, an acknowledgement that bold spirits had already commenced the work of reconstruction in a new age. He wrote: "In the world of music all the old landmarks have been obliterated. Everything is in the melting pot. There will be many surprises; none of us can tell what the outcome of it all
will be. There will be many disappointments; there may be some successes. We shall not live to see the outcome of these tremendous changes. My own mind is perfectly clear on one point. It is for the younger generation to entirely reconstruct the world of music.\(^1\)

The Music Balance and Control Section constituted the key response to musicianly fears that insensitive engineers backed by the monopoly powers of the Corporation, would mechanise all music. The solution provided by this institutional device was theorised by progressive music critics, in particular Filson Young, who was prepared to rush musicians into finding common ground between the music and the engineering cultures. Sabine had showed engineers a way of working with musicians. Filson Young (journalist, composer and friend of Percy Pitt) performed the same service in reverse. He suggested to musicians a way of bringing the musicians' interest into an adaptive experimental relationship with engineering research and development.\(^2\)

The Role of the Music Critics: early twenties to nineteen-thirty

Two journalist musicians had a particularly important influence on the development of music broadcasting. One, Percy Scholes, the editor of the Musical Times and later music critic of the Observer, made influential comments from outside the organisation. As he became convinced of broadcasting's potential, he was prepared to help the new company make its way in the world of classical music, and later he became music critic for the corporation. An example of this sponsorship is the role which Scholes played in bringing together the BBC and Robert Newman, the founder of the Promenade Concerts, when Chappell's ability to sustain them became uncertain. This

involved secret diplomacy. It was not until 1946 that Percy Scholes felt free to speak of his role in arranging a meeting between Robert Newman and John Reith in 1927. Chappell's ability to continue the Promenade series was in doubt and at that point the Corporation was barely capable of taking on the series. Feelings ran so high that a meeting of the founder of the Proms and the head of the new concern might have been read as insulting to the original trustees. "At this date there can, perhaps, without indiscretion, be mentioned facts that have not previously been made public or even briefly alluded to. The late Robert Newman had some time before confided to the present writer (then Music Critic of the Observer and the BBC) his wish that this solution could be brought about, the difficulty at that time lying in the Messrs. Chappell's antagonism to the BBC. A meeting was suggested between Newman and the Director of the BBC, Mr. Reith; but Newman declared that he could not even risk being seen to enter the BBC premises. A private meeting was arranged between the parties at the writer's (Percy Scholes') flat. Nothing came immediately of this, but soon after Newman's decease, the negotiations which he had been urging were taken up again and came to a happy fruition. His life-work was saved."^1

The other critic who was more closely associated with the Company at an earlier date was Filson Young. He was part of "the great educative movement" in music^2 to extend the audience for classical music and particularly influential in seeing how broadcasting could contribute to it.

In his evidence to the Crawford Committee in January 1926, Filson Young revealed himself as a musician of the new generation who accepted that the old forms of music practice offered no guidance in the new technical, social and economic conditions of the post-war period. Young saw the new generation of musicians confronted with the task of reconstructing music practice in a way which took account of engineering practice. Young's re-orientation

---

towards the technical ran parallel with West's and Eckersley's orientation towards Sabine's interest in acoustical research with musicians. The convergence of the two approaches, constituted the starting point of a science of music-broadcasting, concerned with the faithful reproduction of music through the broadcasting chain.¹

West described music-engineering as the science of endowing transmissions from studios with "just that remarkable effect which will compel listeners to be enthusiastic and enable them to receive real pleasure from items which when transmitted ordinarily (from the studios) would make little appeal to them."² Later a similar convergence was to recur when the interaction between engineering and the new sound drama led to the theorising of broadcast drama. These re-orientations and interactions by musicians, dramatists and engineers within the broadcasting organisation were institutionalised in the new practices of Balance and Control and Sound Effects.

In a challenging paragraph in his evidence to the Crawford Committee, Filson Young set out the radical tasks facing musicians and broadcasting. "The BBC has, therefore, not sufficiently recognised, that this business of conveying ... entertainment to an audience of invisible millions is an entirely new thing, requiring a new technique, both in the performers, and in many cases in the thing performed."³ He set out for the Committee his credentials to be considered a broadcast-music critic. His qualifications to be considered an authority on broadcast-music were "that I studied music professionally as a composer and writer, and have throughout my life been deeply interested in its technical performance; that I have written and published music as well as writing about it as a critic ... (that) for the

1. BBC Handbook 1929, p.301. See also Chapter 6, "Improving the Sound" in P.P. Eckersley, The Power Behind the Microphone (1941).
past two years I have closely studied broadcasting by listening almost daily to it." Further, he made it his business to familiarise himself with those engineering developments with which the future of music engineering must henceforth be interlinked. "I have been in close touch with those in technical charge of broadcasting, and have made many experiments."¹

Filson Young's thesis was that the broadcasting organisation's ambition to communicate the full repertoire of classical music surpassed what the existing technology was capable of.

"With regard to music, I think it will not be denied that all the BBC has aimed at has been to take musical performance as it exists already in the concert rooms ... and, by means of the microphone, transmit it to as many people as possible. Now, in my opinion, that policy can only have a very limited scope. Here we are on technical ground...".

The technical condition that set a limit to music broadcasting practice was the incapability of the microphone and the receiving apparatus, at its early stage of development, to reproduce the musical inheritance accurately.

"The inescapable fact is that some instruments are suitable for reproduction and some are not. But the music that we like to listen to, and that sounds well before it is transmitted, is composed of the sounds made by all the instruments including those which are unsuitable for broadcasting ... At present the BBC broadcasts every kind of music and every kind of instrument, irrespective of whether it is suitable or not."

If music were broadcast before improvements in music-engineering, it might threaten musical culture and the aural cultivation of the new music audience of millions. The danger of this practice was that "the whole broadcasting system becomes a system not of elevation and education but of degradation." In other words, "... the degradation of people's ears will go on if they get accustomed to hearing loudspeakers instead of orchestras."²

2. Filson Young's Written Submission. Quotes from paras. 4, 6, 8 and 10, BBC Archive Acc.44182 or R4/2/3/6.
For Filson Young the central concern of the broadcast-music critic was to ensure the transmission to the new wireless audiences of the high aural culture of the concert hall unimpaired. Filson Young's charge that the company was "feeding the microphone with (musical) substance it cannot stomach" was the basis of his claim that it should entrust its musical conscience to Percy Scholes and himself. Young argued that the BBC had not sufficiently recognised that "conveying music to an audience of invisible millions requires a new technique in the performers or in the thing performed." He saw it as his task to make good that failure of musical imagination. Young's interest extended along the entire broadcasting chain not merely the section under the broadcasters' control.

Though the receiving apparatus was just as much an instrument of music culture as the microphone, the commercial set manufacturers employed no music critic. In his oral evidence, Young made clear his views that the receiver manufacturers could be relied on only to supply the lowest standard of sets that the market would bear. To Young, who saw the possibilities of wireless as an instrument to extend and deepen musical education, the subjugation of innovative and sensitive engineering to commercial interests was the worst of all possible new worlds. The Committee asked him whether the receiver manufacturers might not be expected to play a part in the great task of conveying the musical cultural inheritance to the millions. Filson Young replied, "I am afraid that waiting for the manufacturer to improve his instrument is not enough for me. The manufacturer has not improved his instrument really as much as he might have improved it, because he is satisfied with the low standard which people accept for music, and all he cares about is to sell his instrument; as long as they are good enough for people to buy, they are good enough for me and you."  

1. P.P. Eckersley's summation of Young's theory in his comments for Crawford. BBC Archive Acc.44182, R4/2/3/6
Young saw his role as critic as the imaginative construction of a music-practice that fitted the change from a setting in which the music culture was mediated via the concert hall to one in which the main medium was the microphone and the receiver. The broadcast-critic was to institutionalise a wholly new and necessary dimension in the organisation of cultural-engineering. In this system, the artists should be more powerful than the engineers and executives. Filson Young's proposal was to strengthen artistic authority at the point of production. Those in charge of mediating the old arts in a new setting would have to learn to take account of the same broadcasting factors as Filson Young had done: the level of technical development (the engineer's interest) and the level of education of "the vast invisible audience" (the executives' interest). Filson Young rounded off his written submission by advocating that, "As an organisation ... the BBC should be simplified, and its artistic policy controlled more by artists and less by boards and committees. Otherwise, with its ultimate control freed from all commercial interests, I think it should be allowed to continue its monopoly and be encouraged to develop broadcasting as a separate art..."\(^1\)

Filson Young developed this argument at the oral hearing. His concern was not whether the Broadcasting Authority should be a government body or a public corporation but with "the artistic direction of broadcasting in whomsoever's hands that broadcasting is. It comes then to the personality\(^2\) of those artistically responsible for broadcasting." In his view, that personality should be artistic in its values rather than technical or bureaucratic.

In the space of three years between the first Covent Garden relays and the hearing of the Crawford Committee at which Filson Young appeared, wireless telegraphy changed from a technical facility to an instrument of culture.

---

1. Filson Young's Written Evidence, para.17, BBC Written Archive Acc.44182 or R4/2/3/6.
2. My underlining.
This altered, for better or worse, the parameters of the music culture's relationship with the larger society. Both Boosey and Filson Young held that it was of vital interest to the musical community to "recognise the fact that the microphone and receiver constitute an instrument in themselves on which the music is performed to the public." Acting on this principle, Young argued that the musicians should be concerned with more than the microphone and the signal available in the monitoring booth in the studio, but what is heard at the telephone end "... the real direction and supervision of musical broadcast should take into account and judge only by what is heard by the receiver. The musical director should not concern himself with what is heard in the studio, but only with what is heard on the telephone."2

The novelty of this approach was his concern with the technical and organisational aspects of the broadcasting system. Young's judgement was that, "in the present stage to which wireless receiving apparatus has attained, the effect produced by a large orchestra cannot be reproduced by a Loud Speaker in an ordinary sitting-room. What is reproduced is an imitation of it, a sketch of it, it may be a caricature of it, in any case, a miniature of it." The reason was the "the receiving apparatus is selective: ... therefore the components or wireless instruments - the diaphragm, and telephone, and loudspeakers, the transformers used in the process of amplifying, are selectors, so to speak of, certain frequencies to which they are more sensitive than others: when these frequencies appear they tend to reproduce them readily; to others they are hardly sensitive at all."5

1. Filson Young's Written Evidence, para.9, BBC Written Archive, Acc.44182 or R4/2/3/6.
2. My underlining. Written Evidence, para.10 - ditto -
3. " " " para.5 "
4. " " " para.6 "
5. Filson Young's Written Evidence, para.10, BBC Written Archive, Acc.44182 or R4/2/3/6.
Young detailed the problem of reproduction through the broadcasting system. (As we shall see the knowledge he represented to the Committee as revelatory, was already commonplace among those closely associated with studio work and the subject of efforts to establish a 'microphone and studio technique') Looking from end to end of the broadcasting chain, he wrote: "It is a matter of frequencies. The receiving apparatus may be represented as a narrow tunnel or grill through which the multitude of sounds entering into the microphone have to emerge. These frequencies are physically filling the hall in which they are produced; they have all to be crowded into the narrow passage represented by the diaphragm of a loud-speaker before they can produce the waves which your ear receives. In this crowding through there is inevitable jostling. Small high sounds slip through readily; large deep sounds do not get through at all. The music of an organ, which contains the highest as well as the lowest sounds, cannot be reproduced in a loud-speaker otherwise than as a grinding, snarling, caricature of the middle tones of the organ. There is no dispute about this. The tones of the flute or the violin come through very easily and well; what you hear from the loud-speaker is very like the sound that went into the microphone."¹

What Young disclosed to the Committee was that the production of music through the broadcasting system must, of necessity, be a studied artificial system. "A good instance of this is the drum. The drum as heard in the orchestra gives a tuned note of a definite pitch which can be easily subordinated to all other sounds however soft. In the wireless telephone a tap on a drum produces a loud crash without pitch or tone, which drowns all other sounds going on at the same time. If, however, the note of the proper pitch were touched pizzicato on the violoncello, the effect as heard in the wireless telephone would be identical with that heard in the concert room.

¹. Filson Young's Written Evidence to the Crawford Committee, Paper 26, para.5, File 'Crawford Committee' Acc.44182, R4/2/3/6 BBC Written Archive.
when the drum was struck. In other words to get the true effect of a drum
in a wireless transmission you must use something else.\(^1\)

Young brought into view the implications of this discovery for the music
world at large. "If Wagner had been scoring "The Meistersingers" for
transmission through the microphone, he would not have written it as he did ...
as he wrote it to sound in the theatre."\(^2\) (This primary condition of
communication through the new musical media was one which dance band composers
took to heart and classical musicians largely ignored. Composers scored dance
music in the thirties to sound - on radio and records rather than in dance
halls.\(^3\)

Young concluded that if, as he believed, the idea of completely faithful
reproduction was still far distant, then there was a place on the musician's
side for a phased translation of the corpus of the musical inheritance to the
new medium. This would take account of, and match, the music performed to
the method of reproduction employed. His analysis required that "all music
performed by broadcasting should be specially chosen, arranged and performed,
with a view to its suitability for the particular method which is being
employed."\(^4\) To achieve the phased translation of the musical culture to the
wireless medium meant broadening the scope of the original engineering
organisation. His favoured solution was "the re-scoring ... of a large

\(^1\) Filson Young's Written Evidence to the Crawford Committee, para.10,

\(^2\) Transcript of Filson Young's Oral Evidence Before the Crawford Committee,
BBC Written Archive.

\(^3\) A writer in the BBC Handbook, 1929 expected that, "As broadcasting goes
on, the technique of special composition for wireless will be explored
Ten years later, Harvey wrote under the title "Wireless Transmission of
Music (the mystery of 'Balance and Control' explained)".
"It is strange that so few of the big names among living musicians have
been keen to get down to the brass tacks (of wireless transmission).
Few listeners have heard of Balance and Control as part of the processes
of broadcasting, and a still smaller number know anything about it."
The Musical Times, June 1938, p.416.
portion of orchestral music, with a view to its transmission by wireless ..."
As he admitted, this "involves the permanent employment of a staff of
抄写员."  

Young's pivotal turn was towards seeing broadcast music as music
obtained from the broadcasting instrument rather than from the musical
instrument. Following the analysis, he proposed a staff of scorists who
would feed the broadcasting system only that which it could stomach. The
proposal was a device to avoid Boosey's nightmare of "mechanical music".
The Chief Engineer's response to the Committee on the matter of Young's
proposal was that musicians' scrupulosity would impose severe restraints on
engineering experimentation and progress. Eckersley accepted that the
Company was a music-broadcasting organisation, but more important it was a
research and development organisation for music engineering. "We suggest,"
Eckersley argued, "that this policy may result in a false satisfaction upon
the part of those responsible for reproduction and that development towards
what all visualise as the ideal (i.e. perfect transmission and reproduction)
will be retarded."  

He also pointed out that it was not practical to employ
a taskforce of musicians to rescore "30,000 hours of transmissions of music
a year." Many years later, Eckersley was prepared to single out Filson
Young as "the only one of us who could truly be described as having the
cultural outlook."  

This may be taken as an indication that Filson Young
impressed research engineers as one who saw the cultural possibilities of
broadcasting, the more so as Eckersley himself had a highly hopeful view of
the Company's cultural potential. In the same paragraph in which he paid
tribute to Filson Young, he recognised that "The Company undoubtedly saw
itself as a cultural force ... The unfortunate thing was that the idea of
becoming a cultural force was so uncultured." Filson Young was the exception.

1. Filson Young's Written Evidence, para. 11, BBC Written Archive,
Acc.44182 or R4/2/3/6.
2. Eckersley's Comments on Evidence, Mr. Filson Young, BBC Written
Archive, Acc.44182 or R4/2/3/6.
The crux of this story is that broadcasting brought together in one organisation the very different interests of engineers and men of critical artistic outlook. Peter Eckersley expressed his sense of the variety of interests that met around the issue of sound reproduction, when he wrote, "I doubt if anything is more fascinating to a technician than working on sound reproduction. (And) a lot of people with good ears and an interest in music ... have found the problem of the loudspeaker absorbing. So many interests are involved, music, acoustics, valves, acute hearing; even theories about art, distortion and what reproduction really means."\(^1\)

Eckersley described Young as being the only one of his contemporaries with 'the cultural outlook', meaning that Young, seeking the function of a broadcasting critic, argued that research into the aesthetic properties of the new invention should complement engineering research.\(^2\) Simply, Young set himself to listen to perceive the possibilities of broadcasting as those of an earlier age might have looked to perceive the possibilities of moving pictures.

In an article in the Radio Times in the summer of 1924 Young wrote of his brief collaboration with H.J. Round, the Chief Research Engineer of the Marconi Company.\(^3\) The circumstances disclosed how little listeners could rely on engineers to supply the criteria of right listening experience.

He described the exchange that occurred between himself, "a layman in electricity and an expert in music" working from his listening experience, and the research engineer.

---

1. Peter Eckersley "Improving The Sound", Chap.6 in The Power Behind the Microphone (1941), p.104.

2. Charles Morgan developed that argument in the BBC Yearbook, 1930 when the coming of television was in prospect "To obtain by scientific investigation a new power over nature is not itself a benefit; it does not become a benefit until man ... has learned to use it rightly. The mechanical apparatus of entertainment has recently been greatly multiplied. Into that field have entered the gramophone, the silent screen, the talking screen and hesitatingly as yet television. A new problem has arisen. What is the right use of these inventions? ... And, commerce being what commerce is, what hope is there that the practice of these inventions will, in fact, be governed by justice and reason?" Charles Morgan, "The Future of Entertainment" BBC Yearbook 1930, p.41.

"Receiving local broadcasting (from) the London Station to the best possible advantage ... I became ... more and more conscious of the caricature of musical tone that sometimes comes through my loudspeaker ... In an article for the Times,* I made some elementary analysis of this distortion from my own point of view ... It produced a fairy godfather in the person of a famous broadcasting engineer who arrived with valves, batteries and apparatus which he assured me would be a revelation."

Young continued: "When we had spent the evening getting a taxi cabful of apparatus connected up, I did hear musical tone through the telephones with a truth and purity I have not experienced before or since. Through the loudspeaker the effect produced was, however, very little different from that produced by my own amplifier."

"At the end of a week's experiment I discovered that I could hear the local London Station at just about loudspeaker strength in a small room using all five valves and five batteries, my studio having the appearance of an electrician's workshop."

"Then my friend wrote to me and said that I should get better results with a single-valve set using reaction and he sent one."

The interpretation Young made of that exchange, was that the axis of technical development was by no means identical with the path taken by the listener groping pragmatically for improved listening. "With the help of my eminent friend, I have to some extent solved the problem of purity of tone; but to get it with anything like sufficient effect ... I should want to use at least one more valve. It takes about half an hour to hook up this set, and when it is done my study looks like a signal box."

However enlightening, several weeks of following the orientation of the engineer had not helped to bring the desideratum of the listener into focus.

* Untraced as yet, but presumably appearing in the Spring of 1924.
"What I want is truthful broadcast reception and not partial training as an electrical engineer."

In fact, Young was never disposed to look to inventors to provide the prescriptions for making art out of the machines they invented. He was conditioned to see the coming of art from the broadcasting machine prefigured in the history of cinema. Like others of his generation, he understood that the coming of art from the motion camera waited on its shift out of the hands of low entertainers into the hands of artists. In Young's reading of cinema history, the making of art from new age machines was the work of artists not engineers.¹

"I am old enough to have seen the very early development of the cinema and to have seen the head of my own horse thrown on a screen in an early bioscope reproduction of the entry of Lord Roberts into Bloemfontein: an inch more and I should have been in it myself. I have lived through the time when one went every now and then, as a kind of joke to a cinema in the hope of seeing Charlie Chaplin, or to witnessing people throwing lumps of dough at each other, or motor cars running up and down the walls of houses. I have seen the silent film developed from that stage to a degree of beauty and artistic achievement, represented by such a film as Way Down East (1920).²"

In his article, Young represented the task confronting the listening critic as the articulation and synthesis of experience available to everyone. "The writer's function is not ... to express feelings and ideas which he alone can experience (but) to give voice and expression to the ideas of his less articulate brethren." His article contained a sketch of a method of research into listening, intended to provide guidelines for the artistic development of broadcasting. It was introspective and quite dissimilar from the empirical

---

1. Young wrote: "It is for the world of art to use and develop this new technique and produce a new art from it." Filson Young, Shall I Listen (1933), p.4f.
2. Filson Young, Shall I Listen (1933), p.132f.
method of listener research in which individual BBC executives began to show an interest in the late thirties.¹

Young wrote that his first response to broadcasting was a blend of "enthusiasm for a new toy" and imaginative projection, or "realisation of the possibilities inherent in a new power" - a new power making as striking an appeal to the ear as moving pictures had done to the eye. This combination of openness to new experience and analytic and synthetic formulation, he adopted as a method of enquiry. His account of his 'experiments' was a record of a critical listener's power to discriminate between the uses of art machines beyond their limitations and their uses according to 'true theory'.

Charles Morgan gave Young's perspective greater clarity at the end of the decade, when television was in prospect. He wrote then of the established art machines: "The film ... and the wireless, each - and this is of the utmost importance in aesthetic theory - has powers and limitations peculiar to itself ... All depends on (how well) those who control the different departments of entertainment (film, wireless, television) learn and accept their aesthetic limitations. True theory asserts itself sooner or later ... in face of every stupidity ... We can afford to wait using our own methods of criticism, abstaining from the cinema or turning off the wireless when those in control step beyond their own aesthetic province."²

His experiences were identically the experiences of other listeners. "The process of disillusion (with novelty) subtle and very gradual but unmistakeable" he shared with all others. He differed from them, in that, "I got through my stages more rapidly than most people," because of a determination to "grapple with and conquer" his listening experience. For Young, his researches were a means to short-circuit the way to true

¹. Interest in this type of research commenced at the BBC in 1936 and centred on the persons of Stephen Tallents, ex-Empire Marketing and R.J.E. Silvey of the London Press Exchange, the latter appointed in September 1936.


broadcasting-experience by consulting and analysing every variety of listening experience as it occurred. With the developments of cinema between the years of Bloemfontein and the release of Way Down East before him, Young assumed that artistic men using his method might have short-circuited the way between watching moving pictures on a mutoscope and seeing them projected in darkness and filling a large screen.

Young recounted his experiments: "I had begun with a crystal set. I had it in the house for one day and one day only ... I resolved there and then to extend the benefits of broadcasting to various other parts of my house by extension telephone leads ... using a two-valve receiver as a source."

He progressed from radiating mutoscope-like headphones to all parts of the house to a desire to project sound. In his words, "The next stage ... represented in my case by weariness of sitting with telephones over my ears and a desire for a loudspeaker."

"Using a one-valve receiver ... receiving local broadcasting at the London Station to the best possible advantage, I (became) less than ever inclined to submit to the burden of the ear-phones (but) more and more conscious of the caricature of musical tone that came from my loudspeaker."

In a search for sound projection on a panoramic scale, "I read that, at Wembley, the whole of the grounds were to be flooded with music by means of broadcasting, and I thought it a fine idea. When I got there I ... became aware that the air was filled with a faint snarling proceeding from many points unlocated ... until on some alpine railway or merry roundabout, I saw the gaping orifices of the Wembley loudspeakers ... to call this 'flooding with music' is nonsense."

Young found himself encountering for the second time in his lifetime, the beginnings of a new art coming from machines. Accordingly, he saw the

microphone inventors like Round, manufacturers of improved receivers, the
developers of amplification systems at Wembley, the promoters of studio and
acoustic design, as handing down unconnected possibilities merely. The
task of men of critical artistic outlook was to construct an image of true
or residual broadcasting experience from the unformulated experiences
provided by engineers. As he wrote: "Whatever happens I must go on with it
(the task of grappling with listening experience) and tread the path of
broadcasting, keeping a respectful distance, and limping along in the wake
of the (engineering) pioneers."

In the concluding paragraph, he expressed his refinement of his
experiences. It was a compound of a quality of sound received via headphones
from a crystal; of the uncaricatured tone obtained from Round's valve; of
volume enough to give the 'flooding with music' effect.

"I want to get back to the bell-like tones that I heard the first day
that I listened in on my crystal set and I want them loud enough to fill the
room with sounds that are reasonably free from distortion."

There is no evidence of Filson Young's involvement with the executives
or engineers of the Company instrumental in establishing the Balance and
Control Staff in the New Year of 1926. He made a real contribution to its
establishment, nonetheless. Filson Young's initiative helped the
specialisation of labour in the studio by strengthening his own and
Eckersley's sense "of that development to what all\(^1\) visualise as the ideal
of perfect transmission and reproduction."

Filson Young's interest contributed to the theory and ideology of
music-engineering rather than its technics. He was a musician sufficiently
engaged with the technical setting of the music problem to appreciate that
the goal of the broadcasting engineers was not mechanical music but a new
science and profession of music-engineering. His deep engagement with the

\(^1\) My underlining.
problem of music reproduction provided engineers with a point of reference to allow Sabine's approach of engineering research in collaboration with musicians to become a live relationship in the Broadcasting Company. As a consequence, the sound balance and control section, when it came, was recognised on the music side, not as a music-protectionist device but more an instrument for sound-improvement that showed engineers' commitment to faithful sound reproduction.

As we shall presently show, interest in setting up a new studio section was not confined to engineers and musicians. The setting up of a new section was also indebted to the interest of the Programme Organiser in making studio practice more systematic. But Filson Young's two-year dialogue with research engineers contributed to the origination of a sound balance and control section in a less direct way. It is worth remembering that the milieu of early broadcasting assisted the making of such accommodation and mergers of interest. We have surveyed the events that gave such as Burrows, Eckersley and Lewis the sense of ever-breaking new ground and abandoning old positions. It would be reasonable to conclude that the musician's readiness to settle for improvement rather than protection, was conditioned by contact with these individuals, themselves vividly impressed with the possibilities and consequences of unleashing Symphony music into the homes of millions. All shared the same experience of continually meeting new problems and finding new solutions.

"In the world of music all the old landmarks have been obliterated. Everything is in the melting pot. There will be many surprises; none of us can tell what the outcome of it all will be. There will be many disappointments; there may be some successes. We shall not live to see the outcome of these tremendous changes. My own mind is perfectly clear on one point. It is for the younger generation to entirely reconstruct the world of music."¹

¹ Wm. Boosey, Fifty Years of Music (1931), 'Epilogue', p.195.
The Different Responses of Music and Drama to the Opportunities of Broadcasting, early twenties to nineteen-thirty: musicians' intractability and drama people's experimentalism

It was the action or reaction of two distinct groups which gave rise to the creation of studio sections, new divisions of labour, both in the areas of music-broadcasting and radio-drama.

One group can be identified as originating among progressives outside broadcasting, responding to movements already afoot in the worlds of music and drama. The other group stemmed from within broadcasting. This latter originated among those charged with programme organisation or development.

We saw earlier that Filson Young, Percy Scholes and the opera pioneer, Percy Pitt, were associated with a broad movement which sought at once to introduce a 'new music' to enlarge and 'democratise' the concert audience. Both Young and Scholes grappled with the new means, initially mechanical, (the pianola and the gramophone), and ultimately electrical, for mediating music to wider audiences.

The other group came from within broadcasting. It originated in L. Stanton-Jefferies. Faced by diminishing hopes of a career as an orchestral conductor, Jefferies saw 'balancing and controlling' as the opening-up of a new craft or art, called into being by the necessities of music production in a broadcasting organisation.

In the field of drama, the forces that gave rise to the establishment of a new order of support personnel (here we are concerned with the Drama Sounds Effects Section) were similarly divided between those originating in a broad movement outside drama and those arising within broadcasting.

As the Newman-Wood concerts marked the point of departure of a broad movement of adaptation and change in the world of music, so the Barker-Vedrenne years saw the beginning of a movement to revitalise the theatre. The Royal Court productions of Ibsen and Shaw introduced ensemble-acting and a new drama in the 1904-7 seasons. Miss Horniman's Manchester Theatre carried the movement further afield a few years later. When Nigel Playfair brought actors from the 'non-commercial theatre to the Savoy Hill No.1 studio
for productions in a voice-only medium, it marked the extension of the patronage of the new drama movement to yet another experimental theatre. Playfair's series of productions were, therefore, in their way, as important in the launching of radio-drama as Pitt's transfer of the resources of BNOC to the Broadcasting Company, was to the establishment of the Music Department.

The movement from within broadcasting for wireless-drama was, like that for specialised music production or 'balance and controlling', a response to a series of basic studio and studio equipment developments which revealed a new order of possibilities and restraints. The disability of the medium, for those who grappled with the production of plays intended for the theatre, was the massive one of its "blindness". Its possibilities were constituted from the aural experiences supplied by microphones, amplifiers and variable acoustics.

Those in daily close contact with the medium, perceived, at least as early as 1924, that electrically-produced sound - the combination of dialogue and manufactured or naturally-occurring sound - was a magical, inspirational, new dramatic 'stuff'. Cecil Lewis went a step further to claim it was the stuff of a new dramatic art.

Lewis' claim in Broadcasting From Within for the forthcoming of a new art of microphone drama, received support from two outside conditions. The difference between Lewis' high claim for the creative status of his field of activity and Jefferies' readiness to settle (ultimately) for a craft of music re-production is accounted for by the action in Lewis' favour of these two outside circumstances. Firstly, the approximate accord between the interest of non-commercial theatre in London in a theatre of 'voice out of a bare stage' and experimentation at 2L0 with voice out of a blind stage. Lewis' position was further privileged by the contingent circumstance that picture plays, coming from the movie-camera, achieved critical acceptance in London in the years (from 1924) in which Lewis made his claim for a future for sound - plays coming from the microphone.
The difference between the response of the Broadcasting Company to the circumstances of music, and the circumstances of drama within their organisation, can be accounted for partly in terms of the different views or approaches taken by the critical musical-, drama- and cinema-minded circles outside. In July 1924, the Company made what one might call a maximal response to the circumstances of drama, by creating a Drama Department together with a Sounds Effects Section, charged with the task of creating a new art. In 1926, the Company made the minimal response of establishing a Music Balance and Control Section, a support arm, charged with the lesser task of reproducing an old art via an unfamiliar medium. The difference between, in the one case, the perception of a task requiring a theoretical and artistic input befitting the formation of a new art; and in the other case, the perception of a need for a merely executive input, reflect (again in part) the views of cultural leaders in the society at large. The drama- and cinema-minded elites, were disposed to see the possibilities of a wireless art sui generis; the music elite were disposed to ignore the ambiguities of such terms as reproduction and fidelity and distortion.

The balance of power and influence, as between critical individuals outside broadcasting and those within, in bringing the Music Balance and Control Section and the Drama Department (and its Sound Effects) into existence, is hard to determine. Filson Young's proposal to the Crawford Committee for the re-scoring of music for broadcasting,¹ was in the event, set aside in favour of the inside initiative for a balance and control section coming from Jefferies and given support by Lewis and Reith.² Lewis ascribed a nominal influence only to such as Filson Young and Pitt.

"These people were advisers. I mean Reith saw quite clearly that it

1. Filson Young's Written Evidence to the Crawford Committee which made this proposal was dated 11th December, 1925.
2. Reith wrote to Major Binyon, the Company Director 23. 1225 "I am making arrangements that will leave less of the balance of programmes question to chance, although as you know there is a method to some extent already". Major Binyon's Papers, File 3a September-December, 1925 Co. 62/6 Acc.44159/1.
would be a good thing to get people with good big names in, as part of the BBC. Somebody whom they could refer to as an adviser on our staff and therefore gives certain weight to our opinions, our attitudes and it helped to influence public opinion because ... they were public figures to some extent ... They didn't make any impact, because they didn't know anything about it really, they couldn't deal with the programmes ad hoc because they didn't have any knowledge." "What could they know technically about the conditions in the studio, about the conditions of timing, about the conditions of balance, of how much you have to have?"¹

Lewis accorded Nigel Playfair, as we shall see, a greater impact in that he produced a dozen Shakespeare plays beginning in 1923. Even that estimate swelled Playfair's big-name value rather more than his contribution to production method. "Playfair ... after all was a well-known figure ... so he was able to get together ... a cast."²

Whatever the balance of power, as between outside and inside groups, in the shaping of the broadcasting organisation, certainly the inside ones were relatively independent. The insider's influence took off and spiralled from daily life in the intense forcing-house conditions of the broadcasting organisation. Jefferies and Lewis, who took initiatives within broadcasting, were moved to imaginative response by daily first-hand experiences that were the stuff of the working life of those using new engineering instruments to make programmes. The method and institutions which Lewis and Jefferies proposed in their memoranda of 1924 and 1925 were syntheses of experiences shared by others close at hand, by Burrows, by P.P. Eckersley and other engineers. Lewis' and Jefferies' ideas and proposals exercised their influence on those about them in the studio, because they drew on experiences that were a part of everyone's daily life. Lewis' and Jefferies'

¹ The underlining is mine. Cecil Lewis' BBC Oral History Unit Interview Transcript, pp.48 & 38 BBC Sound Archives document. Cited with the permission of Cecil Lewis.

² Cecil Lewis, BBC Oral History Unit Interview Transcript, p.18, BBC Sound Archives.
formulations from every day experience spiralled upwards and brought under their influence even those distant from the studio but still part of the new organisation, like Reith himself.

However, the responses, whether coming from programme producers on the studio floor, or from critical circles outside, were responses to a third relatively independent force - to wave upon wave of microphone, amplifier, studio and acoustical improvements pushed out by engineers. Harry Ellingham characterised this engineering dynamic, when he wrote, of the Company years, "The difficulties of smooth transmission were then great, but the first group of engineers (now known as "the old gang") lacked nothing of resource, determination and brains. Month by month improvements came along, new gadgets, different microphones, new meters, but the perfection of the circuits and loudspeakers made the question of balance and control more serious and attention to it more urgent."\(^1\) At the same time, as we will show in the remainder of this section and in the subsequent chapters, the engineering efforts to perfect means of uniting sounds picked up from several microphones, both pushed new instruments into use in the drama studio, and were pulled on and urged forward by those, like Cecil Lewis, who took them up and used them. In this field, Lewis was the central figure. He wrote: "I personally was greatly excited by the possibilities of radio drama and with the help of engineers developed (the technique) by which sound from different studios could be brought in and blended, music, artists sound effects, into a single transmission."\(^2\)

---

The Company's Response to the Problems of Music Broadcasting 1922-26

Rudimentary and informal methods of 'balancing and controlling' musical transmissions had been employed from the very earliest days of broadcasting. In early 1926, Stanton Jefferies, previously the Marconi Company's music director, was seconded to balance and control duties. Rex Haworth, an ex-Maintenance Engineer from a theatrical family background, became Jefferies' assistant. Until that time, Haworth, having shown a special interest in the work, had had his duties so arranged that he could attend drama rehearsals.

The establishment of a Balance and Control Section followed upon a long phase in which maintenance engineers and announcers, those regularly and continuously in contact with the microphone, had become routinely aware that the place of origination and the positions of sound sources, critically affected the reproduction of instruments and voices. On the eve of the establishment of the new section, Reith wrote, "Although there is a method to some extent already ... I am making arrangements that will leave less of the balance of programmes question to chance."¹

The decision to formalise the existing method was a product of a complex of developing external and internal circumstances which came together at this time. It was the product, partly, of concern about the quality of the broadcasting service, which exercised the Crawford Committee between July 1925 and the following March.² The Balance and Control Section was conceived in the course of the Crawford Committee. Its birth coincided with the grant of the Corporation's first Charter in December 1926.³ The character of the new

³. 30.12.1926.
division was consistent with the conception of the role of broadcasting put effectively to the Crawford by constructive music critics.\(^1\) As we have seen, Percy Scholes, the BBC's first Music Critic was one of these.\(^2\) Scholes followed up an earlier prediction that broadcasting would treble or quadruple the audience for music\(^3\) with the broader view that radio in England had ceased to be a scientific curiosity and become an instrument of culture.\(^4\)

Similarly, Filson Young, from his position as a member of the Music Advisory Committee, said that the first requirement, of an organisation become a powerful cultural force, was that it should come under the influence of artists.

Scholes' estimate of a three years' lead taken by the United Kingdom over the United States in the use of broadcasting, reflected his sense of efforts made since 1922 to extend the concert resources of the nation to wider audiences. A project to integrate the older cultural elites and potentially wider audiences was well under way by 1925. In the Spring of 1923, following the post-war slump in opera attendances, "the principals of the British National Opera Company met and threw in their lot with the BBC."\(^5\) It marked the first transfer of concert-giving resources to broadcasting.

As Lewis puts it, it showed "a faith in the power of broadcasting to

4. On the basis of his tour of American Stations, Scholes drew a contrast between American and British attitudes to broadcasting. "The present attitude of the average American is very much that of the average Briton of three years ago. Radio in America is still a scientific toy. Every boy owns a set ... The value of intelligent use of the Radio as a means of musical culture is, therefore, not only unrecognised as yet, but such use is at present, from lack of information, almost impossible." Percy Scholes' Written Evidence to the Crawford Committee. "Remarks upon the Present Practice and Relative Success of Broadcasting in Britain and the U.S. as a Result of Observations in Both Countries." Crawford Committee, 1925 Unnumbered Papers 1925/6 R4/2/5 Acc.44193. BBC Written Archives, Caversham.
5. Arthur Burrows The Story of Broadcasting (1924), p.84
popularise opera."¹

In effect, the interval between the commencement of broadcasting from Marconi House and the Crawford enquiry, marked the beginnings of a general re-grouping of London orchestral resources under a new patron. Those beginnings culminated in the formation of the BBC Symphony Orchestra and the giving of its first concert at the Queens Hall, in 1930.

The confined space of the first studio (20' x 20'), atop the General Electric Building in Kingsway, limited the numbers of players making up ensembles to about six or seven: "the programmes in the (2L0) studio were, from an orchestral point of view, extremely limited".² After the move to Number 3 Studio, Savoy Hill,³ in May 1923, the nucleus of eight or nine regular players increased to eighteen.⁴ By the end of the year, Lewis could speak of studio orchestras varying in numbers between 15 and 35.⁵ sufficient to justify the use of the title 'London Wireless Orchestra'.⁶ Increased studio space made possible Pitt's first studio symphony concert in June and his production of a major opera in November "with an orchestra of 40-odd, chorus of about the same number and cast."⁷

Developments in studio orchestral productions were accompanied by the growing willingness of London orchestras to give performance to subscription audiences at concerts organised and relayed by the new broadcasting patron. Stanton Jefferies conducted a symphony concert series with the LSO at the Central Hall, Westminster, beginning in February 1924.⁸ Lewis expressed

---

2. BBC Year Book, 1930 D.H. Clarke "The Old BBC" p.156.
3. The First Studio at Savoy Hill, but situtioned on the third floor.
8. BBC Year Book, 1930, p.144.
from the Company's side, the sense of the possibilities, inextricably personal and corporate, felt on these occasions when established cultural institutions and the new broadcasting organisation joined forces in a common project. "I remember things like the first set of symphony concerts in the Central Hall ... the great excitement we had and Stanton Jefferies who was conducting this series with the LSO. And he was a young man with no experience and wanting to make his reputation as a conductor with this wonderful opportunity to conduct a big and well-known orchestra."\(^1\)

D.H. Clarke saw the summer of that year as the moment when the concert orchestras moved to become co-ordinates or satellites of the broadcasting power. "Negotiations entered into during the summer with various great concert societies were brought to a successful conclusion in the autumn. The Programmes (of the Winter 1924/5) included regularly the concerts of the Halle, relayed from Manchester, of the Scottish Orchestral and Choral Union, from Glasgow, the City of Birmingham Symphony Orchestra, the Liverpool Philharmonic Society, and the Belfast Philharmonic Society from the Ulster Hall."\(^2\)

At the end of 1924 and extending into the Spring of 1925 - the year in which Scholes and Young acknowledged broadcasting as fast becoming a musical Great Power - the Company arranged a series of International Symphony Orchestra concerts at Covent Garden with the London Wireless Orchestra "augmented to eighty by players from other leading London orchestras." The panel of conductors included the names of Pierre Monteaux, Ernest Ansermet and Bruno Walter. Broadcasting's powers of cultural leadership were further demonstrated in that these concerts "were the first the BBC undertook with the policy of giving in addition to works regularly included in concert programmes, performances of works which ordinarily were not often heard."\(^3\)

---

1. Transcript of Cecil Lewis' BBC Oral History Unit Interview, p.29. BBC Sound Archives.
3. BBC Year Book, 1930, p.171f.
Such undertakings demonstrated the broadcaster's power to carry the works of major orchestras and avant-garde composers to wider audiences. Broadcasters showed their will to give the lead to a reform movement by concert giving on a large scale and by the building of a permanent orchestra according to best practices.

The appointment of leaders of the London music world as directors - Percy Pitt in 1923, Adrian Boult in 1930 - formed part of a policy to incorporate the persons and the values of the music elite in broadcasting organisation. This general re-grouping and assimilation of music interests further included the issue to instrumentalists, in August 1924, of lengthy contracts at good salaries with no deputies allowed except in special circumstances. The 'No Deputies' Rule was a condition sought after by the founders of orchestras, from Newman to Beecham, with only mixed success. "This no - deputy provision was a new institution so far as a permanent orchestra in London was concerned and its effect on performances was decidedly marked." The re-grouping of music interests around the new medium was matched by developments of equal moment within broadcasting. The paper-thin stretched steel diaphragm microphone used for the Magic Flute broadcast, January 8th, 1923 was "eminently suited to broadcasting and without a rival (in this country) ... It was free from resonance up to a frequency of 2800 beats per second, which meant it would receive the highest notes of a soprano without causing any blurring." The stretched-steel microphone, evolved in the U.S. for long-distance telephony, was available only under licence from the patentees, Western Electric, part of the Bell group. In the short period between the launch of the Broadcasting Company and the move to Savoy Hill,

4. 14th November, 1922.
in May 1923, H.J. Round, Chief Research Engineer of the Marconi Company, "Taking a war-time invention by Mr. Sykes, developed an electro-magnetic microphone, which not only gave faithful reproduction throughout all musical frequencies, but was free from hiss when currents coming from it were highly magnified."\(^1\) "It was the first step forward, releasing us from the telephone operator's technique which glued us to a 'mouthpiece'."\(^2\) The Sykes-Round moving coil microphone came into use at Savoy Hill in May 1923\(^3\) and became the standard equipment in all BBC Stations.\(^4\) Lewis remembered the advent of the instrument which re-orientated studio practice. "One day, I remember it very clearly, the Chief Engineer of the Marconi Company ... came into the studio one afternoon with a thing that looked like a pound jam jar ... only it was pretty well solid iron. We said, 'What the hell have you got there?' And he said, 'Oh, this is a new microphone, you haven't got to speak into it, you can just talk anywhere and it will pick it up.'"\(^5\)

Reith, in his Christmas '25 letter to Binyon, spoke of the projected Balance and Control Section as a formalisation of a method existing to some extent already. What the advent of the Round microphone involved was a modification and extension of an earlier set of production practices. Stanton Jefferies referred to methods of balancing voices and piano already well-established before the end of the first year of broadcasting and two full years before Reith's letter: "... due to experiments carried out in the very early days, we arrived at the more or less cut-and-dried plan on which we now work."\(^6\)

Round's microphone, and later West's work on the use of multiple

---

5. Cecil Lewis BBC Oral History Unit Interview Transcript, p.9.
microphones and variable acoustic, were remembered as important points of
cross-over or progression from old to new sets of studio practice, or
'technique'. These were remarkable moments in a broad and continuous
process of change in the studios - kept on the move as much by Lewis' and
Jefferies' thrust for improved programmes, the subject of this section, as
by Round or West's gradual technical improvements and memorable breakthroughs.

Lewis described the earliest 2LO studio (November 1922 to May 1923):-
"The studio was hung with several black vulcanite telephone mouthpieces on
strings, each carefully fitted to face the instrumentalists of our five-piece 'orchestra'."¹ "The first microphones were just the ordinary Peel-
Connor type carbon granule telephone. As far as I remember we had six,
suspended from the roof, stands, piano lid etc."²

Burrows explained the constraints and the practices that became standard:
"For effective speech, the telephone had to be held anything from 3 inches to
one foot from the speaker. As no two voices are alike in strength it became
necessary to make special tests beforehand (in order to find) the ideal
distance at which to work."³

Duets were initially technically impossible⁴ but became practicable early.⁵ Strategies were improvised to bring volatile conditions under a measured
control. "Microphones were prone to 'blasting' ... meaning that a loud note
split up into noise as distinct from music. Blasting was guarded against
and to some degree overcome, by what was then known as microphone technique.
Artists were instructed to turn and to twist one way or another, to sing to
the roof, the floor, or even into a curtain on certain notes and words,
instead of directly into the microphone."⁶

5. See half-plate showing Olive Stingess and John Huntingdon singing into
separate microphones BBC Year Book, 1930, p.161 and BBC Year Book, 1929,
p.305.
6. Harry Ellingham 'Wireless Transmission of Music', Musical Times,
May 1938, p.338.
The alternative to distancing the sound from the microphone or damping the sound was to vary the circuits or change the microphone to suit the sound: "When an instrumental combination was employed, the balance between the various instruments or sets of instruments, was obtained by distributing to each set a microphone and varying the sensitivity."¹ "A battery of several microphones (was) used, each one being suitable for a certain range of sound frequencies, so that in combination all tones of equal intensity produced currents of equal strength."²

---

1. BBC Year Book, 1930, pp. 157 & 159.  
Marconi's research team set studio production free from the need to 'glue' voices and instruments to individual telephone mouthpieces and brought into sharper focus the problem of balance. As the BBC Yearbook, 1930, put it, the Round-Sykes instrument opened the way to "the present practice of placing the different instruments at suitable distances from one common microphone."^1

The combination, at Savoy Hill after May '23, of the moving-coil microphone and accommodation for eighteen- to thirty-five-piece orchestras, pushed executives to grapple with the problem of balance on an enlarged scale: the problem of arranging increased numbers of variables into harmonious wholes.

Between the first studio symphony performance in June and the first complete opera performance in November '23, Stanton Jefferies set out 'the more or less cut and dried plan' of balancing music production through the new microphone. He described the method of 'putting through' a concert involving a piano and thirty-one players using in all twelve different types of instruments. The plan represented the extension of principles worked out for singer and piano combinations in the earliest days. Accordingly, low-frequency sounds were placed nearer, and high-frequency sounds further, from the microphone: "instruments having specially piercing qualities, such as the trumpet, trombones, flutes, picolos and oboes, are placed well to the rear; those having low vibrations - such as drums, double bass, bassoon - are nearer to the microphone.

Owing to the stringent tone of the oboe as compared with the clarinet, the latter is given priority of place (nearer). The French horns being of a more mellow character than the trombone are nearer."^2

In this, Stanton Jefferies' first statement on the balance and control issue, he drew a distinction which became later a recurrent issue of contention.

---

1. BBC Yearbook, 1930, p.159
between an economising hierarchy and musicianly balance and control men. Jefferies qualified his reference to a 'more or less cut-and-dried plan' with the observation that no such plan could be strictly mechanical, taking account only of the frequency range of different instruments. The balancer's function was to reconstruct the composer's music from the microphone sounds produced by instrumentalists and singers. Jefferies struggled to present a view of the microphone as a musician's instrument rather than a device to be used according to the cut-and-dried prescriptions of engineers. In this first sketch of his thoughts, he opted for 'experiment' as a less radical alternative to 'performance' as a description of the balancer's use of the microphone.¹

"The position of a player before a microphone often depends upon the tone quality that he produces. One does not realise until experiments have been carried out, the difference of intensity between, say, one oboe player and another, and we often find it necessary when we have a newcomer to the orchestra, to move his position accordingly. This is done during the progress of transmission."

"The position of a singer (in relation to the microphone) depends upon the type of song that is being sung, and the intensity of the artist's voice. Here again we can only get perfection by experiment."²

Jefferies wrote in the midst of the enthusiasm that greeted the new microphone, but new possibilities served only to make restraints more visible and pressing. Filson Young in his evidence to Crawford in 1926, brought into view a whole dimension of difficulty: microphones were incapable of reproducing certain frequencies, bass notes in particular.³ Burrows

¹ In his memorandum of 1924, Jefferies was to write "In many ways I would rather conduct than balance and control a performance", see below. Lance Sloveking in 1933 was less tentative in his claim that the Radio Drama Producer, in his use of the Drama Control Panel (a device for combining speech, crowd noise, sounds effects, music) was playing an instrument.


revealed that those within broadcasting became acutely aware of that problem three years earlier.

"Whilst the orchestra contains all the usual instruments, there are no bass viols. Instead ... facing the microphone is a cross between bagpipes and two short bamboo poles. This, a contrafagotto ... a woodwind instrument capable of producing similar effects to those sounds usually created by the double bass. Stations find that they cannot give a satisfactory radiation of the double bass."¹ Lewis confirmed Burrows' reference to the limited frequency range of the microphone and extended it to include tonalities.

"Certain forms of vibrations can hardly be transmitted at all, such as bass drums, or low organ notes, also, there is a lack of the bright tone colour (mostly overtones and harmonics) which cannot be got 'over' as yet."²

Another source revealed the frequent chopping and changing of instruments which executives behind the scenes resorted to, to circumvent this problem.

"In 1923, a mustel organ took the place of the woodwind instruments and horns. Later in the same year, the organ was replaced by a single woodwind and two horns, together with a contra-bassoon (it being found that the string bass did not broadcast effectively."³

Two quotations will illustrate how fully performance for the microphone had become a culture of its own by 1928. Of 'wireless piano technique':

"One technical point is worth mentioning. The piano never sustains notes at level intensity. Immediately after the note has been struck the tone drops to about half strength, and gradually tails off to nothing. This is not very noticeable in a concert hall, but the microphone never being deceived transmits exactly what it gets from the piano. The result is that the pedal, if continued through different harmonies, does not add enough tone to enrich

². Cecil Lewis, Broadcasting From Within (1924), p.47.
³. BBC Handbook, 1929, p.144.
the general effect, but sustains enough notes to confuse the sound thoroughly; consequently those works which depend on sustained pedal effects for their proper interpretation are least suitable for broadcasting.¹

Of 'Soprano Singing for Wireless' Vivienne Chatterton wrote: "Naturally no two voices are the same, but, as a general rule, a soprano should stand about six feet from the microphone, and sing slightly across rather than directly into the machine, and for every rising phrase from E flat taken more than mezzo-forte, should step back a further two feet. Certain songs lend themselves to what is called 'intimate broadcasting' - that is, singing quite close to the microphone and never raising the tone above a "mezzo-voice".² (e.g. radio "crooning").

Jefferies' thoughts of 1923 were ahead of their time. Reith's decision to replace the method 'existing in some degree already' with a Balance and Control Section, was taken two years later. In the interval between those dates, the developing work of 'balance and control' remained divided between the engineer exercising 'control' from his station in the Control Room and the announcer responsible for 'balance' in the studio.

"At one moment the microphone (the single Round-Sykes magnetophone) may be concerned with delicate passages which are little more than a musical whisper; at the next it may be subjected to the rattle of drums, the clashing of cymbals and the unrestrained fortissimo of a large choir ... The controlling engineer, therefore, sits with his right hand on a control (resistance)."

'Control' and 'balance' were cognate functions: "He (the controlling engineer) is helped by a careful placing of artists and instruments and by experience gained in rehearsals."³

Balance was a constituent of the announcer's work routine "Do not imagine that the announcer has a simple task ... The band comes into the studio, take their places ... The announcer leaves the room and listens to them (via headphones) in a room nearby; he detects that the balance is a little incorrect, the flutes or the violins are preponderating. This must be put right before the next item ... The microphone position has to be changed."¹ By the time of Reith's correspondence with the Company Director, Major Binyon, the announcer's task, with the 'balance' responsibility included, could be complex to a fault. Writing to Binyon to explain and to pardon the 'drowning' of every other instrument by the piano, in a late-night transmission from the Carlton, Reith said, "re. the dance items on Sunday night. The (preceding) programme finished five minutes early and the announcer, thinking that the rest of it would be more or less similar to what had been going on, kept the microphones in circuit. I believe he was nearly distracted when he heard the two items that came across."²

Our focus here has centred on the working out of the studio-production implications of the Round-Stykes microphone. Ellingham, a balance and control man with experience going back to the twenties, identified a dynamic spiral set up by an ad hoc series of engineering improvements, which pushed the balance and control function into a position of salience in the organisation.

"The first group of BBC engineers (now known as the 'old gang') lacked nothing of resource, determination and brains. Month by month improvements came along, new gadgets, different microphones, new meters; but the perfecting of the circuits and loudspeakers made the question of balance and control more serious and attention to it more urgent."³

The search for the methods and organisation of a microphone and studio

technique took place in a broad environment (the combination of circumstances and problems involved in the work of broadcasting) which pushed those within broadcasting to regard their shared attitudes and outlook as the materials of a distinct craft or profession. Lewis' title, Broadcasting From Within, encapsulated his perspective on broadcasting as an enclave, a situation without precedent, demanding its own practices, organisation and ideas of work.

A sense of a distinctive new profession in-the-making (best expressed by Lewis, but very evidently present also in Burrows' The Story of Broadcasting and in Reith's Broadcasting Over Britain) arose from constraints arising from studio and O.B. production (the problem of translation); from programme-building (the problem of selection); and from pressures to fill the expanding programme hours (the problem of logistics). A further condition contributing to a sense of distinctiveness of the broadcasting activity, was the experience in Music and Drama (shared later though to a lesser degree, by variety and Talks) of being a new cultural force confronted by resistance, individual and organised, to broadcasting's requirements for change and accommodation.

A.G.D. West, the Broadcasting Company's Chief Research Engineer, expressed the translational problem from an engineering point of view, when he drew attention to the difference between binaural communication in concert halls and theatres where audiences both hear and see performances; and communication via the microphone.

"The two ears, with the aid of the eyes, can, by a certain amount of selection and concentration adjust themselves to give satisfactory hearing in halls which give very considerable distortion to sounds proceeding from the platform or stage to any part of the auditorium. The binaural effect assists greatly in this respect. The ears, in fact, will take what they want, reject - up to a certain degree - what they don't want and pass on the 'purified' result to the brain.

The broadcasting engineer has to make things right for the microphone, which, being a mechanical instrument without power of selection or conscience,
simply takes what is given to it and passes it on without improvement, probably spoils it just a little, however good an instrument it may be."¹

Lewis was only the first of many to express the difficulty of translating plays written for the visible theatre to the 'blind' medium of broadcasting, "Dramatic presentations have been partially successful but none entirely so, because they have been written originally for quite a form of presentation."²

Lewis simplified and reduced the general translational problem from a programme production point of view, to "getting all an artist has, into the microphone." In a section headed "Broadcasting Artistes, Please Note!" he brought it to the attention of artists generally that, the entire activity of the studio centred on translating live artistic performance for the microphone.

"The Announcer (who) put you in a certain position relative to the microphone, - the Engineer controlling you (are) doing (their) best to get all you have into the microphone."³

Lewis also made clear that his understanding of the translational problem went beyond that of conveying studied individual or collective artistry and included the translation of the 'atmospheres' of locations: the stuff of programme illusion or identity. The work of the broadcast-producer, distinct from the work of the constituent artist(s), consisted in getting into the microphone a programme-illusion.

"The ghostliest of ghost stories told in the studio with the lights out does not thrill the listener ... It is nothing to create a studio atmosphere. The programme had got to get into the home atmosphere."⁴

"If the programme were in a hall, the atmosphere would be created almost

1. A.G.D. West 'A Tour Around Savoy Hill' Wireless World 9.2.27, p.155. "It is only just beginning to be realised how much audiences at concerts listen with their eyes." 'Piano Technique for Wireless' BBC Handbook,1929, p.169.
at once because the people are ready for what they are going to hear."¹

It is easy to overlook that for contemporaries the success of P.P. Eckersley's broadcasts from Writtle and the success of afternoon Children's Hour and the first opera broadcast, was not their engineering nor artistic achievement but that they conveyed the atmospheres of unseen occasions. In Lewis' history of broadcasting, the success of Eckersley at Writtle was to constitute the form of a successful programme series for others, like himself, to grasp and study.² "The Writtle Station began operations in February 1921 and discontinued early in 1923 when broadcasting had been finally launched. It was a notable year's work with far reaching consequences. The memories of the Writtle half-hour concerts linger pleasantly with all of us who used to listen ... Eckersley's cheery voice, his fund of wit, and his never failing inspiration, made these transmissions very worthy forerunners to our present programmes.

Writtle was not just half an hour's first-class amusement, it was a birthplace of brainwaves! The first wireless play - a scene from Cyrano de Bergerac was performed, among many other diverting things, and the first wireless humorist of Emma Toc proclaimed himself ahead of the times. I believe he was right."³ What stamped Writtle as a 'broadcasting' station and its weekly test transmission as a 'programme' was the programme-cachet, or personality, of the Eckersley half-hour.

"Often a one-man show, Writtle established an individuality all its own which will ever remain a pleasant memory to its broadcast audience. Its

³. The first transmission given by the Marconi Scientific Instrument Co., from their Writtle Station took place on 14 February 1922, and consisted of half an hour's transmission of vocal and gramophone selections. Similar concerts were transmitted every Tuesday consisting of gramophone records and sometimes of vocal and instrumental items, the programmes being arranged, announced and largely contributed by Captain Eckersley, the engineer in charge of the station. The last concert was given on January 9th 1923. H.M. Dowsett Wireless Telephony and Broadcasting, Vol.1 (1925), pp. 58 & 60.
burlesque entertainments, its parodies of grand opera, its announcements which were never dull, the lighthearted spirit which pervaded the whole proceedings and which got across the ether were all features admirably suited to the art in its then immature style."  

In accounting for the phenomena of Children's Hour's success, he identified "The atmosphere, where one can be foolish without being called a fool, where a good story, a jolly song or wholesome 'back-chat' are taken on their face value - this is the atmosphere of the children's hour."  

In Lewis' parlances, "programme" was synonymous with 'atmosphere; and the essence of programme-production was the making of atmospheres: "The programme-builder sets out to produce an atmosphere."  

The supreme obstacle for Lewis, the Deputy Programme Organiser in 1923 was the absence of an understood translational method of getting atmosphere in the microphone. "Let us admit the limits of the broadcasting medium. It will always leave much to be desired, chiefly because atmosphere cannot be transmitted. The magic second when the conductor's baton holds the orchestra and the audience in expectant suspense, the sight of forty fiddle bows moving in unison over some grand sweeping melody ... Broadcasting cannot reproduce these. Some time will elapse before it can."  

For Burrows and Lewis, the programme organisers, the problem of selection in programme building competed with the problem of translation as a measure of the novelty of the demands made by 'broadcasting'. Lewis wrote: "Broadcasting appeals to a range of publics well nigh inconceivable. From palace to slum people are listening." Burrows echoed him: "The provision

5. Op cit, p.47.
of nightly entertainment for something approaching a million homes ranging from the palace to the humblest cottage, is not a simple matter ... In a single stratum of society there is a large variety of tastes. Even in the average family will be found a wide divergence of interest."¹

"In the majority of homes, where the headphone is of necessity the most popular, it is unfair to expect the whole family to sit silent throughout the entire evening listening to a programme in which each item bears a close relation to the preceding one. Again there is much to be said for the artist who insists that the full beauty of the best work cannot be appreciated by the performance of snippets amidst other items of a totally different character."

As a consequence: "We wrestle with the subtle question whether our programmes should be of the scrapbook (miscellaneous) character or possess continuity (cultural continuity)."²

"The greatest difficulty broadcasting has to deal with is the satisfying of a vast audience of innumerable tastes with a single concert. It is impossible."³ Lewis bothered not to unravel Burrows' knotty problem but cut through it by looking to technological development to supply a solution. Lewis went on to envisage five services: one devoted to general news and advertisement, one to political news and the proceedings of both Houses, a channel for education and dance music, a fourth for music hall and a fifth for concert-music.⁴

Lewis encapsulated his view of the logistical problem in an image of the microphone as a twentieth-century monster: "A most terrible and insatiable monster! The most voracious creature ever created by man which clamours daily to be fed. At first it was satisfied with simple fare and

2. Op cit, p.113f.
a little of it but ... its appetite not only grew in the amount it wished to
devour, but also became fastidious in the extreme as to the quality of the
repast set before it."¹

"Reflect," he wrote, "on the organisation required to produce 64 concerts
a week."² He pointed to the (now, easy-to-overlook) disproportion in 1923
between the sudden mass demand for popular music broadcasting and the meagreness
of existing sources of supply.

"The present number of concerts given by the BBC totals over 17,500 hours
of transmission yearly - an average of six hours per day, of which 4 hours
is devoted to musical programmes. Any one who can fill these programmes with
popular music every night is welcome to come and try. It doesn't exist.
Broadcasting, therefore, if only on account of the number of concerts it
gives, is bound to do a lot of good music."³

Such circumstances formed part of a general shift from a theatre mode
of entertainment production and distribution to a broadcasting entertainment
economy.⁴ Of the contrast between the old economy of popular music and the
new, he wrote:

"A musical comedy needs enormous rehearsal and teamwork to procure a
good performance. Most theatres rehearse a month or six weeks before they
produce a performance - this single performance, once produced, may last for
months. We have to give a new show every night. If we concentrated all

² Op cit, p.115.
³ Op cit, p.51.
⁴ "Orchestras at every station varying in numbers from 15 to 35, each
man being paid around £5 a week without rehearsals - all these added
together total out to about £2,000 a week or £104,000 a year! ... This figure may be doubled and trebled in the years to come when more
stations and more relay stations have been created, when the standard
of our programme has been raised still further and a still larger
number of programmes are being transmitted." Cecil Lewis,
our energies on one concert for 6 weeks what would happen to the programmes in the meanwhile? ¹

Again, of the particular shift from the economy of theatre drama to the economy of broadcast drama: "As wireless drama ... develops immense time, money and energy will be spent on rehearsal for a single performance.

In the theatre these things are justified, since the theatre plays to a new audience every night; (but) the wireless play, once performed has finished its run." ²

The common experience of those within broadcasting of facing the resistance of established cultural interests was matched by their encounter with similar problems in attempting to reproduce and meet the mass demands for the various arts through a broadcasting organisation. Broadcasting staff collectively, came to see themselves as embarked on a singular new-age enterprise, one set apart from earlier institutions of entertainment production and distribution. Those working in the organisation were united in their conviction that the new mediating activity involved constraints and conditions of work that had no analogue in the pre-existing entertainment industry. They understood their work situation as one from which must arise unparalleled practices and a new outlook and professionalism. One cannot fail to be impressed by the consistency of the effort running through Lewis' Broadcasting From Within, Burrows' The Story of Broadcasting, Reith's Broadcast Over Britain and numerous articles appearing in Radio Times and the Yearbooks of the period, addressed to the task of distinguishing the novel conditions governing work at Savoy Hill.

What this body of writing has in common is a sense that broadcasting work or 'technique' existed in fluid rather than crystallised forms and broadcasting organisation was a matter of experimental adjustment to 'un-understood' demands. ³

3. cf Cecil Lewis "acoustic was completely un-understood" BBC Oral History Unit Interview Transcript. BBC Sound Archives.
Long after the event, Lewis wrote: "We, the young band of pioneers at
the start of broadcasting did not think ourselves as scientists. Yet
scientists we were, scientists in a new 'discipline' ... Naturally such an
idea never occurred to us and we should have repudiated it as ludicrous.
We were simply doing a marvellous job and utterly wrapped up in the best
way of doing it."¹

Lewis' long-afterthought was a present one in Burrows' Story of
Broadcasting. Even as they did it, Burrows represented the work of the
pioneers as experimental.

"I propose to indicate in detail ... the routine employed at the moment
of writing. I say deliberately "at the moment" because in work like this
which is without precedent ... the organisation is continually undergoing
revision. All that we are still doing is necessarily in the nature of an
experiment ... it must be so - until such time as experience has given us a
definite solution of our peculiar difficulties."²

Even at the time, Lewis said that the Company created its practices and
organisation to meet situational demands found out empirically. The existing
institutions of broadcasting were the product of a search for the practicable
ways of work of a new occupational world.

"No other organisation attempts to put out the same quantity of
performances as we do. I believe it has been hinted in the past, by
interested and disinterested parties, that we know nothing about entertainment
or what the public wants. I believe that the greatest entertainment expert
in the country had he been in our position, would have developed in just the
way we have done - because there is no other way to develop. I do not pretend
for a moment that all the avenues have been explored; they have not, but
everything has been touched on."³

Elsewhere in the same text, he accused hostile critics of framing their charges *unempirically*, without knowledge of the conditions of existence of broadcasting.

"Their knowledge of the conditions under which it (the broadcasting service) is carried on, is insufficient to enable them to frame practicable suggestions."^1

Lewis understood that the same pragmatism that shaped the forms of programming, governed also the making of production technique. Lewis distinguished between those *really* within broadcasting, having close contact with the microphone and having a robust sense of its demands and 'advisers' brought in by Reith, lacking knowledge got from work in the studios. "Reith really was responsible (for creating Advisory Committees). We must have authorities. He must have top people in, names in, so that he could say well this must be alright because Mr. Snooks says so ... and Mr. Snooks is the director of music at the Royal Academy of Music or whatever...

And you know we didn't give a damn about this, because most of these people knew nothing whatever about broadcasting. What could they know technically about conditions in the studio, about the conditions of timing, about the conditions of balance of how much you have to have ..."^2

Advisers and those outside the organisation generally could make no practical criticism because they lacked executive knowledge. Their inability to deal with programmes in terms of conditions in the studio meant that they remained powerless to effect institutional reform.

"Grossmith (Drama), Calthrop (Variety), Filson Young ... They didn't make any impact because they didn't know anything about it really, they couldn't deal with programmes *ad hoc* because they hadn't got the knowledge."^3

---

2. Cecil Lewis, BBC Oral History Unit Interview Transcript p.38. BBC Sound Archive.
Those within broadcasting shared a sense of inhabiting a singular occupational world set apart from all other art or entertainment worlds. That sense of singularity and apartness was fed by experience of a novel array of problems within the organisation and encounter with resistance on the part of all existing cultural interests outside.

Broadcasters understood themselves charged with building up organisation for an entirely new system of production for which only very partial solutions were available in the accumulated experience of industry,¹ and that in the new-age industries of the cinema and the gramophone. That perspective on the singularity of the broadcasting undertaking led the broadcasting staff in this early period, to accept in a specially wholehearted way, an organic theory of the nature of organisation building. It became a little-spoken-of assumption among the Company executives that with no prescriptions for broadcasting organisation to be found on the outside, they must take the patterns already actually emerging in day-to-day operations within broadcasting as their guide.

Being without outside analogues, Company executives acted on the view that they must rely upon their own discernment of the patterns of doing and interrelating as they emerged in everyday work. Speaking of the early undifferentiated task of programme-planning and programme-production, Lewis said: "It was a free-for-all for anybody to suggest anything they could come up with. After all we had to make the programmes ... you've got to feed this tiger ... you've got to feed it every day ... So everybody who had a good idea ... who spoke well and had a good presence, all that sort of thing, was welcome."²

Lewis described the traverse from this early flurry of ad hoc programme making to a next stage of ideas of the form of music-for-broadcasting or the form of talks-for-broadcasting. What he suggested, was the elevation of the

². Cecil Lewis, BBC Oral History Unit Interview Transcript BBC Sound Archives, p.15.
best what was done to the status of prescribed practice.

"The (requirement for) policy didn't begin to hit us ... until a bit later. It began (by our trying to) shape the general idea we wanted music to go into ... the developments in discussion and so on, all of which began to emerge as we began to get more of the technique of the thing into our heads."¹

To Lewis, at the time, the progression was a simple and natural one of formulating prescriptions from a body of work experience, though he interpreted it as something different fifty years later. From that later vantage point, it was clear that they (executives) gave their efforts to creating a system of broadcasting production.

"... scientists we were, scientists in a new discipline ... Naturally such an idea never occurred to us. We were simply doing a marvellous new job and utterly wrapped up in the best way of doing it."²

What is evident in the three books written in the second year of broadcasting, and in Lewis' more particularly, was that their authors being conscious of their position in an industry 'ahead of its time' (and being young) were stimulated by, and sensitive of, a need to recognise emerging functions early and to institute new activities and systems of co-operation.

Lewis and L. Stanton Jefferies were both positioned at the very centre of that array of novel and intriguing problems set out above. Their central place in programme-planning and production and performance when these were undifferentiated functions, explains (in part at least) why they were the prominent agents articulating a need for a Balance and Control Staff and for remodelling the studio physically and organisationally.

---

1. Cecil Lewis, BBC Oral History Unit Interview Transcript
   BBC Sound Archives, p.15.

Lewis and Jefferies were the active agents and promoters of the scheme for a Balance and Control Staff which would incorporate those functions hitherto divided between the announcer and the controlling-engineer.

Lewis was the deputy Programme Organiser. Jefferies, Royal College of Music graduate and ex-naval telegraphist, was appointed from the ranks of the Marconi sales department in 1922 to the post of Music Director of the Marconi London Station. As we saw in Lewis' memories of the Central Hall Concert broadcasts, Jefferies had ambitions to be an orchestral conductor. After the appointments of Dan Godfrey as the full-time conductor of the Wireless Orchestra in May and of Percy Pitt, the ex B.N.O.C. conductor as the first Director of Music in November 1924, Jefferies' aspiration for a place as a prominent musician in the organisation was beginning to appear an ambition manqué. The decline of Jefferies' hopes in this direction, helps to explain why he put his energies so completely, in the mid-twenties, into studying and promoting the case for a balance and control division.

Some descriptions from Lewis' account of circumstances at Savoy Hill in 1923 and the place of Lewis and Jefferies in those circumstances leads naturally into an understanding of their perception of an evolving situation. The extent to which the whole undivided broadcasting activity was laid open to view is revealed in Lewis' picture of Jefferies at work upon programme-building during the hours before the station went out on the air in the morning.

"The Marconi House studio ... was a small room about 20' square. A few chairs, a grand piano, a worn-out leather settee ... completed the

---

1. Of the edging out of Stanton Jefferies from his post as Musical Director and later from his position as first Head of Balance and Control (he resigned from the BBC in 1936; re-entered the Corporation after World War Two), Lewis said: "He was a charming chap and ambitious to be a conductor, but he wasn't a ball of fire. Other people came along and pushed him aside and pushed a bit of his job off him and he hadn't the guts to stand up and say, no. This is mine and you can't have it. This sort of thing went on ... it was a necessary part of the way it was." Cecil Lewis, BBC Oral History Unit Interviews Transcript, p.46 BBC Sound Archives.
furniture, with the exception of a small desk at which Jefferies compiled his programmes ... There were also two telephones both of which had a perfect mania for ringing and a typist who clicked away cheerfully morning, noon and night ...

There were four microphones in the studio and ... the engineers positively could not leave them alone. They hung them here and then there. And more than this, they insisted on silence in the room while they were doing it...

This was not his only trouble either. There is another class of creature ... equally necessary to broadcasting ... the artiste ... Three days a week they came at the rate of fifty per day to have their accomplishments tested. There was no waiting room in which they could sit, so they were to be found crowded into the studio waiting their turn.

... You can imagine the state of the room! A dozen or more artistes waiting audition, half a dozen engineers playing with microphones, two screaming telephones, a typewriter, and amid all this Jefferies, single-handed attending to everyone and producing at the end of the day a three-hour musical programme..."¹

In this cameo, we are privileged to see Jefferies at work shortly after the coming of Percy Pitt, when Jefferies took charge, under the Music Controller, of "the more detailed arrangements of the musical policy of the programmes."² The path open to him henceforth was approximately one of adjustment to the 'comparative failure' of Robert Faulkner's 'Hollywood Studio Musician'. Jefferies scaled down his solo career aspiration and moved into the large organisational field of the Broadcasting Company. He turned "from the unattainable towards a new, if lesser, career terrain."³

A later snapshot provided by Lewis, shows Jefferies 'going commercial' or 'scaling down', making the hard passage for the standards that his training at the Royal College of Music prepared him for. It showed at once Lewis' and Jefferies' appreciation of what was required of men working in a mass media organisation.

"It is one of the prerogatives of musicians to look upon themselves as out of the common herd ... But in broadcasting, music has to be treated with daily on a commercial footing; it has to be reduced to its elements, sorted into groups and classes - "popular", "symphonic", "highbrow" etc. ... just as in a library there are sections ... But to the musician as to the writer, this is not the criterion by which he judges. There is good or bad music ... It is after all, a concession, to our own foibles and lack of musical taste that has caused us to appreciate the 'selection' and 'pot pourri'. It must, therefore, be an effort for one who is truly musical to look at things from this point of view.

Mr. Jefferies has taken the bull by the horns and plunged into it. He tries to keep an evening now and then for what he calls 'decent stuff', but the rest of the time you would imagine him to be a devotee of the musical comedy or the dance."¹

It is worth pausing to see how completely such attitudes had become part of the occupational culture of those working in the Variety and Light Music field of the BBC. Of S. Kneale Kelley, a well established LSO member, ex-director of the Ramsgate Municipal Orchestra who joined the Company in the Marconi House days and became a leader of the early London Wireless Orchestra and later conductor of the Theatre Orchestra,² Leonard Henry, a Music Hall comedian recalled: "S. Kneale Kelley, who used to control the section of the Theatre Orchestra which plays during the variety hours ... I could forgive

such a person for thinking comic music a bit below his dignity ... not bothering much. Not so Kneale!

He took endless trouble with both music and effects to get the best out of them. Once I was supposed to be playing a tune on the aerial at Daventry. Kneale Kelley experimented with all sorts of combinations until he found that if a violin note two octaves higher than the 'cello was plucked at the same time, it gave just that tinny effect that one would expect from an aerial wire.\(^1\)

Jefferies' passage was to a new profession - that of support musicianship in a novel music-producing organisation - as Faulkner's subjects passed from orchestral work to backing-musicianship in the complex recording-company setting. Jefferies' vantage point gave him the view that regular music broadcasting to new audiences required the adoption of unprecedented attitudes to music production. That view required not only the setting aside of simple distinctions between good and bad music, but a total revision of the instruments, of the physical accommodation, and of the co-operative relations between performers, engineers and support musicians, required by a shift from production of music in concert halls to production of music in a broadcasting organisation.

In Broadcasting From Within, drafted in 1923, Lewis showed that he was aware of the problem posed by engineers mediating high-quality music to concert trained audiences:

"The microphone is a most particular gentleman ... If you shout at him or make too much noise for his liking, he won't say anything to you - not a word. He will simply stare stolidly in front of him as before, but all the time he will be swearing away like fun ("blasting" we call it) to the millions of people listening to what he says.

1. Leonard Henry, My Laugh Story (c.1950), p.36f. and "Another great pair of pianists are Harry Papper and Doris Arnold ... they study my music and try to look like Thomas Beecham." p.35.
To keep a watch on this very disagreeable trait in his character is the job of the amplifier engineer, and he can hardly leave it for a second.

If a speaker is too weak he has to "put him up a bit", if he is too strong he has to "cut him down a bit".

The engineer's idea, as you can see, is to have music or a voice which is giving his set a good modulation all the time. But, unfortunately, in nearly every piece of music, and in most dramatic works there are loud and soft passages.

The tendency of the engineer controlling is to bring all the weak passages "up" and cut all the strong passages "down". This would give quite colourless and erroneous impression to the listener of the idea which any tune was to convey. It would all be on the level ...

It will be seen that the amplifier engineer has a ticklish job. When big operas or dramatic recitals are being given in the studio, he sits with his hands on the controls and the score or book in front of him. From previous rehearsals he knows exactly when the loud or soft passages will occur and controls accordingly." Lewis concluded his passage on the problem of the amplifying engineer by underscoring the power exercised by this figure over the quality of the output: "On the results of his efforts the whole performance depends for its success." 1

The passage shows that the problem of modulation or 'control' already loomed large in Lewis' mind; while 'balance' the position of instruments and performers in relation to the microphone, was an unformulated practice in the announcer's over-busy routine, as witnessed earlier. 2

2. The sense of urgency centred on control rather more than on balance: "We began very early on to have arguments with the engineers not about balance so much which was already something which was quite important but about the cutting down of the volume of control or the transmitter. We said no engineer should be allowed to touch this, this is a matter for a musician. A musician can read the score, he knows when the crescendo is coming before the crescendo comes. He cuts down the volume so that when the big crescendo comes, it doesn't go over the top. But the engineer doesn't read the score, doesn't know when its coming and when it goes over the top, he just cuts it off ... In those days it was really a very important point." Cecil Lewis, BBC Oral History Unit Interview Transcript, p.39. BBC Sound Archives.
Jefferies' revolutionary proposal that a new studio suite should separately house the different sides of the new activity (performers, engineers and balance and control men) owed much to his experience of the concourse at Marconi 2L0 and to his closeness to practical developments at Savoy Hill from May '23. C.A. Lewis as Programme Organiser and a daily performer on the Children's Hour, shared the same experience of being at the heart of the broadcasting activity as Jefferies, the Music Director and 'Uncle Jeff' of the same children's programme. This common vantage point gave them a common perspective.

This view from the point whence the work of engineers, performers and programme builders intersected, was the source of a series of proposals about the re-design of studios and studio apparatus, made by Jefferies in 1925 and strongly endorsed by Lewis. Re-organisation of studio practice, became an increasingly impelling problem from shortly after the move to the Savoy Hill premises (May 1923), when the Company opened its drive for 'simultaneous broadcasting' or the relaying of programmes originating in London to the regional stations. From that time regional stations were connected into a network of land lines at the rate of about one new station a month. By the end of 1924, improvements had been made to the trunk-line telephone wires, the better to carry transmissions of speech and music. After engineers affected improvements in the technical field, Lewis perforce, as Programme Organiser, turned his attention to the 'bottleneck' of the amplifying engineer at the point of origin in the studio.

The centrality of the problem of the amplifying engineer may be understood by considering it in the context of Lewis' urgent need to round off the combined Engineering and Programme-Organising effort to bring high quality programmes to a national audience before the Crawford Committee commenced its sitting in Autumn 1925. With these, then future, developments in mind, Lewis, in August '23 promised regional station directors that simultaneous broadcasting, the networking of London programmes, would bring
their audiences stars of international standing. The promise had been kept and in addition landlines had been improved, but the lag in the organisation of the amplifying engineer's work was undoing the progress achieved in other quarters.

The matter was a crucial one at this point in time to both the Chief Engineer and the Programme Organiser. In a memorandum to the Chief Engineer, not his first on the subject, Lewis revealed the loss of quality that followed when one brought performers of international repute to a system modulated by engineers. The evidence here, and in the book earlier, was that erratic modulation was not uncommon. However, the programme on this occasion, was a recital by an internationally known singer, going out to a national audience. Rosing's performance had been rendered ludicrous: "What I ... notice(d) on listening carefully on the loudspeaker was that in a soft passage the control was brought up, then a forte note was taken on. The control was immediately rushed down to zero and then brought up again until it just did not blast (this on a long sustained note). The result was almost ludicrous, since everyone knows that a singer taking a top note keeps the volume of sound more or less steady, either increasing or decreasing it according to the demands of the song, but no singer ever wobbles from forte to mezzo-forte, which was the effect that was given by the control last night."

Lewis described the detectable 'fingering' motions of the engineer at the controls, "the small movements he made did not seem to be justified by the music that was being played and they did alter the volume slightly". He distinguished between, "The ordinary orchestral or ballad concerts" and those "which warranted special treatment, chamber music concerts, art songs, recitals, when the whole value of what was being broadcast depends on slight

---

nuances and shades of colour". He might have added that it was from cases like the Rosing recital that Percy Scholes or Filson Young would form the judgements they delivered before Crawford.

From this memorandum, it is clear that the Programme Organiser saw the engineer-amplifier as holding up the efforts made in other quarters to raise the quality of programmes.

"It is simply that the man on the amplifier is the bottleneck of the whole transmission and no matter what is done in the studio, he can make or mar it."

In Lewis' mind the die was already cast for an executive and physical re-organisation which would comprise a musician-amplifier listening off studio through a loudspeaker.

"It all comes back to the question of who should control. A person, for instance, who is acquainted with the songs being sung would know exactly when to be prepared to modify the strength and would, therefore, get a better effect than a man who is not a musician ... who cannot possibly know what is coming next and consequently makes the controls jumpy.

I also think that controlling on telephones does not reveal the difference in the volume so clearly as a loudspeaker."1

Lewis added that this tendency to "finger the controls" did not apply to all engineers. "I do not think all engineers do this, but one particular man (whose name I forget) has the trick". The man in question was the young Maintenance Engineer, Rex Haworth, recently transferred from the Bournemouth Station (from a theatrical background, 'always flirting with drama producers')2 who was to become the first balance and control staff under Jefferies. Around this time (mid 1924), Haworth's shifts were altered to allow him to attend morning rehearsals and evening performances.

2. Letter received from Cecil Bottle, ex-engineer.
The crucial step towards setting up a new department occurred in the exchange between Lewis and the Chief Engineer more than a year later over the matter of Jefferies' 'Report of Control and Balance of Musical Programmes', when the Crawford Committee had already commenced its work. What Lewis' covering memorandum, the Report and P.P. Eckersley's dissenting marginal comments on the Report collectively revealed, was a phase of Company development in which priority of attention passed from the technical possibilities of music broadcasting to the quality of music reproduction.

Lewis' memorandum and Jefferies' were of one mind in seeking to define a broadcasting studio technique. Jefferies' document was a distillation of practices of controlling and balancing (by Jefferies and Haworth) which had become routine on occasions of 'programmes warranting special treatment'. Those practices, we may guess, became more studied in the period that elapsed between Lewis' memorandum on the Rosing performance (7.8.24) and Jefferies' Report submitted in December 1925.

Lewis' memorandum covering the Report to the Chief Engineer, referred to its proposals as 'revolutionary', but added that the matter demanded 'some re-organisation on these lines'. Undoubtedly Jefferies' proposals were radical. They asked for the separate housing of a new functionary, a 'Controller', in a sound-proof ventilated box in the studio; listening via a loudspeaker unit, seated at a purpose-built 'modulating table' and linked by a system of signal lights with the engineer in the Control Room and the announcer in the studio.

Jefferies' plan was for a system of co-operation that required the removal of the new musician-controller from the Engineers' Control Room to a special place in the studio. The change would give the new controller an equality with the Announcer in the presentation of programmes. It would make for better co-ordination between the various partners in the production and transmission of broadcasting - performer, announcer, the new functionary and the engineer.
This recommendation pivoted on the use of coded signal lights indicating 'fade-in', 'fade-out' and 'announced and ready for performance'. It is possible to see the coded signal lights as part of the evolution away from the studio practice of '23, with its intervals for changes of items, within programmes, towards smoother flowing programmes.

The Programme Organiser's substantial support for the changes and the Chief Engineer's resistance to them, provides an insight on a moment in Company history, when concern to establish the conditions of better broadcasting challenged the earlier pre-occupation with technical possibilities and the dominance of engineers. Lewis and Jefferies were the bearers of this new view (as were it soon appeared was the recently appointed Head of Drama). At the same time, the Company had reached a point when the content of what it would broadcast to the national audience was the issue which pre-occupied its constructive critics before Crawford. Balance and Control, therefore, arose from a conjunction of internal and external developments: the one current began among those directly perceiving the opportunities and the pressures of broadcasting, the other ran from the Committee on broadcasting of 1925-6.

The Chief Engineer's dissenting marginal comments form a counterpoint to Jefferies' proposals. When Jefferies asked for a studio cubicle and a purpose-designed modulating-table his premise was the radical one that the controller's work was a specialised sub-division of a total performance - and - presentation task. The input of the new support musicians should have an equality with the inputs of the Engineer, the Programme-Builder, the Announcer, the Performer and the Conductor. Jefferies claimed that there was, "as much specialisation in balancing and controlling as in any other department of the Company and the expert should be consulted on all possible occasions." In conformity with this view of the functional equality of all

parties, he made an uncompromising claim for parity between the new and the old in broadcasting.

"Some of my suggestions on first reading may seem unnecessary, but it should be realised that it is essential to the standard of the performance that the "controller" is made as comfortable as possible. No pains are spared to make the artists happy in the studios, and in my opinion as much attention should be given to "the other end", as controlling is both nervy and tiring work. (In many ways I would rather conduct than 'control' a performance)"

On the one side he claimed parity with the artists even superiority over the conductor and on the other side set the support-musician or Balance and Controller apart from the Engineer-Controller in the Control Room.

"It is impossible to control a programme artistically and musically when there may be another programme taking place in the Control Room ... Executive instructions and the usual conversations regarding technical matters are always taking place with obvious distraction to the Controller." The old order had turned upside down since the Marconi House days of 1922-3, when it was the engineers shifting their microphones about and tapping them, who insisted on silence in the room.

Jefferies' reference to the distracting brouhaha of the Engineers brought the comment from Eckersley: "It has been stopped. No one ever wanted it stopped". Alongside the recommendation for a modulating table in a cubicle linked by green signal light to the Engineer, which Lewis endorsed with the comment, 'At least one'; Eckersley scrawled, 'Nonsense!'

Jefferies throughout, stressed the long periods of sustained close-

2. L.S. Jefferies, "Report of Control and Balance of Musical Programmes' in File 'Staff Departmental Balance and Control, 1924-33 Acc.76 BBC Written Archive.
listening that would be required of his 'Controller': "Earphones are tedious and trying to wear them are apt to give one a headache when worn for long periods. I recommend, therefore, a loudspeaker being installed in a box instead of earphones."\(^1\)

Eckersley's comment, "Quite impractical. No engineer ever complains," provides a measure of the distance separating the Engineering view from the Broadcasting view articulated by Lewis and Jefferies.

Occupying the centre of these exchanges were two sketches: one from Lewis' hand and the other from Jefferies, showing a modulating desk, which would allow the Controller to operate a spoked galvanometer knob with one hand, while turning the leaves of a musical score with the other. Jefferies specified besides, a ledge to prevent the score sliding off and non-reflecting surfaces. Both asked for a chair with padded arm rests and a shaded light. The specifications were presented by both Lewis and Jefferies as a mould taken from a set of operations and needs found out by practice. A paragraph from Lewis' note expressed his sense of the extent to which, in the space of less than three years an understanding of the basic activities and needs of broadcasting had risen out of possibilities opened by engineers:

"I am sure that when Round originally defined the amplifier, he had not visualised the long spells that people would have to do on it: he was thinking purely of the technical possibilities of the amplifier as such and not of the personal element which now enters into it so strongly."\(^2\)

Jefferies in the first half of his Report on the Control and Balance of Musical Programmes argued that a musician Controller housed in a sound-proofed cubicle working with functionally designed equipment, should be instituted as a specialised job. Control, however, represented only half of the function.

---


that Jefferies had in mind for the new department. He made the case that though the Control and Balance of a programme was sometimes work for more than one person, the two activities were necessarily coupled and interdependent and properly the work of a single new segment of staff.

The demands created by simultaneous broadcasting, Post Office improvements to landlines and the anticipated special focus of Crawford on the quality of programmes, made control a priority for the Company. Balance (or the position of microphones according to their characteristics and the frequencies and tonalities of sounds) had a history reaching back to the very earliest days of broadcasting, as already indicated. Balance was an accepted part of studio technique. By 1923, it was, says Lewis, in his Oral History Interview: "already something that was important". As the number of variety instrumentalists in ensembles grew and as studios and studio equipment, 'balance' became a more critical and self-conscious practice.

What Jefferies' Report revealed, however, was that the Control problem associated with the reproduction of international musical performers for "simultaneous broadcasting" was complemented by Balance problems that arose from the increased demand for the networking of 'outside broadcasts' from opera houses and theatres. Both simultaneous broadcasting and outside broadcasting, sprang into life in the interval between the first (Sykes, 1923) and the second (Crawford, 1925) committees of enquiry on broadcasting. Both practices were such recent developments that Crawford found it necessary to include definitions of 'simultaneous broadcasting' and 'outside broadcasting' in the report of his Committee.

As in the first section of his Report, devoted to Control, Jefferies formulated a Balance practice which drew on several years' experience of the studio reproduction problem. The growing importance of orchestral and theatre OBs in the project to raise the standards of programmes, added real urgency to Jefferies' case for the inclusion of 'balance' as the second and complementary element in the work of a new specialised studio staff.
He advised that "an opera or musical work, of this description, should always be balanced at rehearsal." He pointed to the gap opened between the studied technique evolved for OBs originating in London, and that which was standard in the work of provincial stations. "The Theatre Broadcasts in the provinces are not at all satisfactory, the balance between the stage and orchestra in many cases is indifferent." He presented the area of microphone placing as one of evolving technique in which the London station could point to definite stages of advance. He included a sketch, the crystallisation of an effort to establish best methods for theatre broadcasts. It advised the drawing of a distinction between stage and orchestra microphones and allocated two microphones to each level. Experimentation in the alignment of microphones formed part of the content of Balance work at rehearsals.

"The orchestral microphones should be moved at tests until suitable positions are found to balance the orchestra ... It should then be possible to ... balance both orchestra and stage against each other."

The backwardness of provincial OBs, he attributed to the provinces' failure to recognise the need to employ combinations of microphones at both levels and to understand the proper content of a Balancer's duties at rehearsal.

"It is, I presume, due to lack of testing, and the fact that only one or two microphones are in use." The Report claimed that a new body of activities, 'The Control and Balance of Musical Programmes' should be instituted, occupying a distinct segment of a circle of broadcasting professions. Control exercised by a musician in a cubicle, using the modulating equipment, had recently become

an acknowledged need. Balancing was already a well-established studio practice. The proposed new section was the natural agency for systematising the more complex microphone-placing task posed by the increasing number of special broadcasts from theatres and other OB sources.

The Report made two points. Firstly, the number of topline outside broadcasts covered by the London Station, gave London command over superior technique. The second point was a more radical one. The report presented the balance and control activities, not as an adjunct to the microphone, not as a body of routines to assist re-production, but as a properly part of the performance. Jefferies' claim was that the new work should be given priority with performance by allowing balance and control staff the full number of hours of rehearsals allowed the conductor, instrumentalists and artists.

Jefferies endowed his projected new department with wide powers over the depth and breadth of its involvement in the creation of programmes. He recommended that the Head of the new department should have, "discretion over what performances need his attention. He should be informed of all rehearsals taking place."

The argument for balance and control staff as a party in performance rather than support personnel, had as its source the established perceptions and ideas of musicians about music. It was to the musicians' craft that Jefferies turned for the ideology of the new occupation.

Jefferies' theorisation of balance and control function, drew on the performing musicians' view that music in performance is a structure that changes through rehearsals and varies from performance to performance.

"An artist never sings at the same intensity at one time as another. Invariably both artist and orchestra sing and play respectively with greater intensity, having more confidence after rehearsal."¹

¹ L.S. Jefferies, "Report of Control and Balance of Musical Programmes".
The musicians' perspective on Balance and Control work was articulated many times over by the musicians who followed in Jefferies' footsteps. The studio support-musician's sense of the individuality of every performance and of the close accord between his perception of his own 'performance' and the performance of the artist, was never more vividly expressed than by Harry Ellingham, shortly after his retirement.

"Solo piano transmissions might appear to be the easiest task of all, whereas some of my late colleagues consider it the most difficult ... I have often fiddled about with the microphone by moving it about inches in every direction for, perhaps, twenty minutes, until at last the desired result arrived like the sun breaking through the clouds, and to the great relief of the pianist. The size and make of the piano, the individual touch of pianists from the delicate playing of Cecil Dickinson to the pugilistic down-jabs of the heavy-fisted ones, make a standard position for piano balance impossible."¹

On this condition of the individuality of artists and the infinite variation of music in performance, Jefferies grounded his case for the constant attendance of a new department on all music. The view he made central was that it was in the nature of music in performance to vary within wide margins of tolerance. It was the task of the department at rehearsal to establish the tolerance within which a dynamic musical structure might require adjustments to be made to control, and to the balance between the various microphones. In accordance with this view, the reproduction or the creation-of-music-through-the-broadcasting-system, could not be reduced to set manoeuvres or floor-marked microphone positions. The purpose of rehearsals for the Balance and Control staff was identical with the purpose of rehearsal for performing musicians; to effect an approximate or rough

orchestration of sounds which peak or come to perfection at the final performance.

"I recommend that as many items be balanced at rehearsals as possible, though it should be realised that only a general balance can be effected, otherwise it would be possible to actually set out controls at certain points throughout items."

Jefferies' proposed department incorporated a musicians' view of the organisation proper to the problem of the production of music within a broadcasting system. In so being, it was an extension of Filson Young's plea before Crawford that it was indispensable in a cultural organisation that its affairs should be in the hands of 'artists'. That Jefferies should have so perceived the problem and fashioned such an organisation receives support from Robert Faulkner's thesis that creative artists entering industries devoted to mass culture, shape their new careers and roles according to models drawn from their original occupations.¹

When Jefferies turned briefly to the problem of reproducing drama (R.E. Jeffrey, the first Head of Drama, with ideas of the special importance of studio-produced sound in the production of radio drama was appointed July 1924) he was consistent in insisting that the nature of the dramatic structure should be allowed to dictate the movements that were necessary to reproduce it through the microphones. The new organisation should sub-divide and specialise in response to the needs of the different cultural forms.

He objected to the way the Control organisation was being framed.

¹ "Occupational members also bring experience, identities and perspectives with them from other settings. They hold ideas and values which are derived from previous occupations; they carry understandings with them from other stages of their career. The expectations, wants and tensions people bring to their work should be treated as major variables when we look at how they view their present jobs. The meaning man finds in his work and the problems that are part of his cognitive perspective are anchored not only in the technical and social organisation of work but also in his prior career experiences."
"I understand that already there have been arrangements made whereby Mr. Howarth is responsible for the control of musical and dramatic works; this is wrong - I consider that the dramatic side should have their separate controller unless music plays an important part in the production, but an ordinary drama alone should be controlled by its expert.

There is as much specialisation in balancing and controlling as in any other department of the Company, and the expert should be consulted on all possible occasions."
CHAPTER TWO

DRAMA BROADCASTING

The Interests Involved in the Drama-Broadcasting Project of the Early Twenties: the avant-garde and the cinema-broadcasting parallel, producers and the reconstruction of production, engineers and the development of means of sound control

As Filson Young defined the problem from the music side of accommodating music to the broadcasting medium so Cecil Lewis defined the problem of accommodating drama to broadcasting. Young from his new office as a wireless-music critic saw it as his function to take account of the technical constraints of the new medium and of the will of engineers in a new field to perfect the quality of music transmission to a national audience. In a like way C.A. Lewis in his office as Programme Organiser saw both the restraints that made reproduction of traditional drama practice over the air difficult, and the opportunities opened up for a radical new form of dramatic expression using sound only. On the music side, the need to adjust the current and achieve a balance among the sound sources prompted the formation of a section of musicians able to take account of the limitations of the apparatus. In the field of a dramatised communication via the microphone, the need for a system of sound-management which took account of the need for a higher order of precision and control when addressing the ear alone, prompted the specialisation of a Sound Effects Section. The contrast between the task of adapting the music practice of the ages to a new musical medium and the task of inventing the conventions of a new expressive art illuminate the polar extremes of the process of accommodating the cultures of a society to a new mode of communication.

The differences between the two studio sections in their respective departmental hierarchies, the one in Music and the other in Drama, reflect the relationships existing between the Music Department and the concert-music world and the Drama Department and the larger field of drama outside broadcasting. The music Balance and Control Section occupied a position of potential power between the broadcasting organisation and the world of music. The Balance and Control Section served in effect as the incorporated conscience of the musical community listening at the listening-end of the engineers' system. Sound Effects was, by contrast, a staff brought into existence by, and wholly
dependent upon, an avant-garde of wireless-drama producers relatively isolated from the world of drama performed in theatres.

The Head of Balance and Control was the ex-first director of wireless music, a trained musician competent on occasion to instruct Filson Young in the content of balance and control practice and confident enough to claim parity of function with the conductor of the orchestra. In a sense, the institutionalisation of Balance and Control as a permanent studio organisation, built the wireless music critic's function into the operation of music-broadcasting. The role of Balance and Control was, therefore, from the start, both a strategic and highly ambiguous one. Balance and Control was strategically placed in that it stood, at the intersection between the engineers, the performers and the specialised music public, as a body giving executive effect to musical opinion. By contrast, Sound Effects in Drama was wholly the creation of the practice and theory of the originators of a new art. The position of Sounds Effects' staff, as the dependents of the producers, was imprinted in their origins. In the earliest days, they were recruited from the wings of West End theatres. In the years of the Corporation, a new cadre of Sounds Effects Staff became known as Sounds Effects 'boys' because of the practice of recruiting from ranks of liftboys and recent school-leavers about the offices.

For the purpose of exposition, the evolution of microphone drama may be represented as the interplay of three currents of activity: the first was the interest shown by an avant-garde in what was heard over the microphone as a resource of a radically new mode of expression of their own time.

The first comprised efforts of the Company programme organisers to express a direction-giving parallel between the history of the cinema industry and the conditions of their own industry. According to this theory, the interplay of engineering and stylistic invention placed in the hands of the newest communication industry, instruments of expression that would render it independent of older arts and sources of entertainment supply.
The ideal of a new means of artistic communication formed from the fusion of engineering and stylistic invention was the more powerful and determining because it arose from the shared everyday experience of members of an organisation which made engineers and artists peculiarly interdependent. Secondly, during the years of the Company, engineers pressed forward with improvements which gave centralised and imperceptible command over combinations of microphones. Engineers worked with a general sense that apparatus giving greater control over the combination of sound-sources opened the way to programmes of a new order of complexity. The engineers were kept to their course by the obvious use of what they were doing in programmes going on daily around them.

The second current of activity included also the efforts of drama producers to divide the labour and build the organisation of production in a new dramatic medium. The needs of a dramatic art that would create and sustain illusion through the ear alone, forced drama producers to conceive of the studio as a wholly artificial sound-reproducing or sound-faking system. Drama producers saw it as their task to create de novo, means for the production and management of voices and incidental sound of a standard of precision and control that would make a voice-and-sounds-only drama affective. It was Drama producers, listening at the listening-end who first learned that theirs was, totally, a sound effects art and trained a staff of boys to conceive of sound as only that which was heard 'blind' over headphones. The production and management of actors for the new drama raised no formal problem only the practical one of a greatly increased demand for rehearsal time.¹

¹ See Arthur Burrows (1924), p.95.
Engineers worked to provide producers with adequate means of control and blend multiple sound sources. The project to build a sounds-effects drama therefore included the aesthetic task of substituting sound conventions for the visual conventions (of movement, grouping and theatre design); and the organisational task of training and integrating a Sounds Effects Section into a new production practice. Its novelty was its contribution of the practice of rehearsing the use of voice and sound effects to a new pitch of perfection and timing and the building of a system of management and control over a suite of sound studios perfected by engineers.

The Commercial Theatres' Embargo on Theatre Broadcasts and the Origins of the Project to Create a Broadcast-Drama Technique

The origins of the idea of drama produced specifically for broadcasting are well documented. Val Gielgud wrote: "I have it on the considerable authority of Lord Reith himself that it is to Cecil Lewis that primary credit should be given for the first impulse towards the broadcasting of drama ... The mainspring of the whole enterprise would seem to have lain in the hands of Cecil Lewis ... who was always keenly interested in the theatre and things theatrical."¹ Lewis as Deputy Organiser of Programmes of a broadcasting company formed to sell sets had an interest in providing listening matter for as wide a range of public as possible. As he wrote: "Having made wireless potentially possible to a much larger number of people, the next thing is to discover something, or a combination of things, that is going to interest them sufficiently to install receiving sets."²

Burrows, Eckersley, Jefferies and Lewis were all employees of commercial companies and accepted expansion of sales of receivers as a primary duty of their office.³ Burrows was sensitive from the start to the commercial nature

---

R.E. Jeffrey's rapid promotion first from the Glasgow station to directorship of the new Aberdeen station and then to leadership of the new London Drama Department followed a series of commercial successes which began with "gripping public imagination" in Glasgow with a studio production of 'Rob Roy'. His promotion to London followed from his demonstration of an ability to repeat that success at the Aberdeen station, in a way which "Wrang the shekels out of Aberdonian pockets and resulted in the ubiquitous installation of costly receiving sets." Comments by other contemporaries attested to the importance of commercial considerations in establishing new forms of programme content. Dowsett, writing a technical study of wireless telegraphy and broadcasting in 1923, rounded off his comment on the demonstration value of the first opera series with the observation that the "revelation of the possibilities of this new form of entertainment was immediately reflected throughout the country by a large increase in the sale of receivers and a generally expressed desire by the listening-in public for opera transmissions to be incorporated whenever possible in broadcasting programmes." For how long the sale of sets served as a measure in promoting entertainment forms to a place in the programme schedule, is hard to determine. However it seems to have been taken as a natural part of the Programme Organiser's duties to chair the meetings of the Sales Managers Advisory Committee which brought to the attention of the Company, relationships between seasonal programme schedules and seasonal

1. "If ... say once a month it would be possible for country houses and other places simply equipped to hear well-known singers ... I'm sure there would be an instant and most marked demand for apparatus." Burrows of Marconi News and Publicity Office to N.W. Allen, Marconi Joint General Manager 31.1.22 Marconi Archive.


3. C.A. Lewis, Broadcasting From Within (1924), p.168f. Mungo Murray Dewar supplied the detail that at the end of 1923 there were 37,484 houses in Aberdeen and 8,800 Aberdonians had taken out Wireless Licences. In the first year of Broadcasting - "Some Interesting Items" C57 Compilations File 20644 (formerly 924) typescript of M.M. Dewar, 1963. BBC Written Archive.

movements in receiver-set sales in the regions.  

The first broadcast of grand opera in January 1923 was followed by nightly opera broadcasts until the end of the season a fortnight later. This first large-scale demonstration of wireless-entertainment possibilities prompted a surge of expression of public demand. In Arthur Burrows words, "The novelty of opera by wireless produced a great sensation and within a few days suggestions, not altogether uninspired, were received from various quarters for the broadcasting of other performances in the great London halls and theatres." The lesson was not wasted on the Programme Organiser. Between February and April, the Company experimented with excerpts from seven theatre performances. The upsurge of public demand for wireless entertainment that followed, spread alarm among theatre managers. In May 1923 the theatre world placed an embargo on wireless relays from their stages. As Burrows put it: "Suddenly there came a complete reversal of policy on the part of the theatre managers. Instead of advances being made to us for the broadcasting of plays, it was publicly announced that the Theatrical Managers Association and other kindred organisations had decided that none of the plays

---

1. The Sales Managers' Advisory Committee first met 9.1.24, see: "Advisory Committee: Manchester Station Sales 'Managers' Committee Minutes, 1924-26" BBC Written Archive Caversham. Also Asa Briggs, The History of Broadcasting (1961), Vol.1, p.246.


   Feb. 12, 1923, Cinderella excerpt, from Hippodrome.
   Feb. 23, Act I, Last Waltz from Gaiety.
   March 6, Act II, Last Waltz from Gaiety.
   March 16, Excerpts from 'Lady of the Rose', Daly's.
   March 21, Excerpts from 'Battling Butler', Adelphi.
   March 29, Excerpts from 'Marriage by Instalment', Ambassador.
   April 7, Excerpts from 'Robin Hood', London Pavilion.
   July 12, 'Oliver Cromwell' from His Majesty's.
   Aug. 23, 'Magic' from Everyman's Theatre.
   Also see C.A. Lewis, Broadcasting From Within (1924), p.37.

4. Board Minutes 13th June 1923, BBC Written Archives.
produced by their members should be broadcast either from London or from the Provincial stations.\textsuperscript{1}

It seems likely that members of the broadcasting organisation came round quickly to regarding the theatrical embargo not as a final obstacle but as a stimulus to the development of a drama practice adapted to wireless conditions. The experiments in relaying from theatre stages in the period between February and April, "a mere sort of keyhole listening, eavesdropping at the theatre,"\textsuperscript{2} did not repeat the success achieved by opera relays. It would seem that the experimental broadcasts from theatres, revealed the shortcomings rather than the promise of theatre relays. Cecil Lewis probably expressed the Company's considered assessment of the spring experiments, when he wrote, less than 9 months later, "Very few plays in the field of legitimate drama could be transmitted at all, since the players very rarely speak straight into the microphone (a very necessary consideration) and are at constant varying distances from it. For purely technical reasons, therefore, so far as legitimate drama goes, we can surely do better in our studios where conditions are all adapted and adaptable to our own medium."\textsuperscript{3} Lewis, as we have said, was the originator and therefore a partisan of a project to develop an \textit{in camera} mode of drama production. Burrows, however, was in accord with Lewis in seeing virtue in the necessity of doing what drama they could from their own studios. The Theatrical Managers' section, he wrote, "Compelled the British Broadcasting Company to seek its own means of providing dramatic performances by wireless. It hastened the development of a new technique."\textsuperscript{4}

\begin{itemize}
\item \textsuperscript{1} A.R. Burrows, \textit{The Story of Broadcasting} (1924), p.81.
\item \textsuperscript{3} C.A. Lewis, \textit{op cit}, p.85.
\item \textsuperscript{4} A.R. Burrows, \textit{op cit}, p.81.
\end{itemize}
The acceptance by Lewis and Burrows (and as we shall presently show, by Reith also) that the way ahead lay in the creation of a new art from the resources of electrical reproduction, is the theme of this study. The unity among the broadcasters (meaning the major divisions of the Broadcasting Company's staff) arose from a dynamic of interaction between engineering and stylistic innovators. We have already seen that the condition of a growth of a music-engineering vocation among the engineers of the Company was the readiness of such as Round, West and Eckersley to take the aesthetic criteria of the musician's ear as the rubric of a sound-engineering profession which would entertain and please. The values of new engineering, the values of art, the values of executive priority were all equally involved in Reith's exhortation to the Engineer and Programme Organisers "to go out into the music field and show them what we can do."¹ Reith's instruction was the outcome of a complex of circumstances - the common ideals constituted from the interaction of progressive electrical engineer, musicians and the pressing need of the Company executive to broadcast orchestral music programmes.

Lewis' announcement following the London Theatres' embargo on broadcasting: "We shall now develop our own dramatic technique, and perform plays of all kinds in our own studio,"² replicated Reith's call to go out into the music field. The state of affairs confronting Lewis in his project for a broadcast drama, was analogous to the state of affairs facing those who sought to make the Broadcasting Company a concert music medium. The project for a drama of the air comprised similar and corresponding elements i.e. innovative engineers interested in the science of sound effects, projectors and constructors of an aesthetic of sound effects like Lewis' and an avant-garde element for whom broadcasting studio work provided supplementary income or scope for experiment.

2. Cecil A. Lewis 13.6.23 BBC Written Archive.
Within the Company, the interchange among all these groups, engineers, projectors of a new art and executives committed to serving audiences, created an expansive dynamic. Programme organisers and others listening over headphones, discovered in voice and sounds effects a new dramatic medium. Engineers discovered in drama production in the Company's own studios a technological frontier on which to develop the means of control over the variables of sound production. Executives - who from May 1923 saw the way of 'outside broadcasting' from theatres, blocked by a coalition of theatre interests\(^1\) - saw in the common acceptance by Programme Organisers and Engineers and by an avant-garde of the project for in camera "productions", the beginning of a synthesis that might rival the 'technique' of cinema.

The recognition of incidental-sound as a resource of expressive communication can be followed in the impressions of the listeners-in to early locational broadcasts. Dowsett, the engineer, wrote that the impression conveyed to the listener-in of a performance in the Covent Garden auditorium was of "the life of the theatre, the applause."\(^2\) Lewis recorded the Covent Garden event as a first experience of being able to 'read' a sound text or a sound context. When the loudspeaker "at Marconi House was thrown into circuit a confused babel of noise was let loose. At first indistinguishable, it soon became apparent that we were hearing the talk and rustling of programmes in the auditorium. Finally there was a burst of clapping, which died down to a dead silence and was followed by two sharp raps."\(^3\)

A novelist writing in the Radio Times in the same year found that the excitement of listening-in on Election Night came from the intermingling of the events of the election drama and the actuality sound collected around the outside broadcast point, "Take an Election Night, Could anything be

---

1. Board Minutes 13.6.23 BBC Written Archive.
2. H.M. Dowsett, Vol.1, p.64.
3. C.A. Lewis (1924), p.32.
more exciting than listening to the returns. One put on the earphones. There were interludes of music, intermingled with hilarious noises of revellers at the Savoy (Hotel). To me the contrast was (between) - the grave and the gay, the momentous and the irresponsible.\(^1\) In the next year, a writer in the *Radio Times* went further, developing such statements of first impressions of listening-in into an argument that the inspirational stuff of broadcasting was less the performance sound and more the incidental sound. "As you sit in your comfortable room listening with either the aid of telephones or loudspeaker to a wireless transmission from a theatre, you hear perfectly the dialogue, the songs from the stage and the music from the orchestra. You hear, too, the laughter with which the audience greets a spoken jest or some amusing piece of 'business'. At the end of a song comes a burst of applause and at both the beginning of an act and after the curtain has fallen, the confused babel that comes from the conversation of the audience is plainly audible with now and then a remark - its author little knowing that millions of people will hear it - clear and distinct above the confused background, or the cries of sellers of programmes and chocolates ..."\(^2\)

Such a catalogue of impressions of sounds effects, in the early years of broadcasting, conforms with what Harold Hauser (speaking of the primitive beginnings of cinema) called "the state of paradisian childhood ... repeated as often as new arts arise."\(^3\) As this study will show, the elements of a sound-only drama were perceived in the primary listening-in experience, as readily by listeners and engineers as by the early experimenters like Lewis. They discovered in locational sounds (heard mostly via "ear telephones") the possibility of a new language, the stuff of a new art. Hauser said of the settings of new arts at their primitive-beginnings' points, "There is a natural unproblematical relation between its (the art's) content and its means of

---

expression (in this case the connection between sounds and intended dramatic effect sensed by listeners to be either 'got right', or aborted at the production end), that is to say there is a direct path leading from subject matter to form." In Hauser's usage, when broadcast drama was at its beginnings, in the twenties, it was a 'popular art', the rules of necessary connection between sounds and their aesthetic effects were peculiarly opaque, intuitable, laid open to the direct perception of listeners, engineers and producers.

One may see in a publicity event for the new radio drama, held at the Bournemouth Station in 1925, a demonstration of that inclusiveness or unproblematicity that Hauser associated with young art. It was interest in the "sounds-effects" phenomenon that made the Joint Producers to the Bournemouth Station, wish to share with listeners, their understanding of the premise of wireless-drama. The Radio Times reported that the Bournemouth Station was to "hold a review to explain about the production and blending of effects and sounds and the various stages of progress with this side of radio drama. Judging from letters received, listeners take a great interest in the various "sounds" used in the dramatic entertainments and consequently a talk about them should be of interest. Illustration from various sketches and (sound) "pictures" will be given. The programme and talk will be arranged and conducted by William Keene and George Stone, the Joint Producers."

The years in which the producers could share their perceptions of the elements of a new aesthetic were also the years in which the Chief Engineer and the Head of Engineering Research could make contributions to the creation of a radio drama that were as valuable as those made by avant-garde producers.

It was Eckersley, the engineer, who defined "outside Broadcasts", not as relays of performances but as "the collection of sounds from places other than studios." It was the Chief Engineer, who commenced the period of

1. Radio Times 8.5.25, p.313.
child's play with locational sound when he combined actors and sound collected at Covent Garden in 1923: "An experiment was made in providing a natural background of sound to a specially written episode. For this purpose, a fancy dress ball at Covent Garden was chosen. A box was taken at the theatre, and a mock proposal was broadcast from the box, with all the sounds of revelry in the background. The little episode, especially written by Captain Eckersley, was successful."¹

The distinction between a dramatic-aesthetic contribution and a research-and-development one in this setting, was a shaded rather than contrasting one. The development of studio equipment that anticipated the needs of drama required in A.G.D. West and his assistants as much a sense of the possibilities of microphone drama as Eckersley showed in the design of his play.²

It was Eckersley, after a meeting between theatrical interests and Company executives, which centred on the effects of broadcasting on the theatre box office, who set aside the matter of whether there were to be relays of parts of West End plays, to consider the implications of broadcasting for a new aesthetic of drama. It was at once an early attempt at an appreciation of the symbolic value of locational sound, and a clear expression of belief that the path of its development as a communication art, must be an interactive one between engineering and stylistic innovators.

"... I have a theory that the question concerns really the technical as well as the "artistic" side ...

The background (sound) is the thing and as the technical side advances, more and more shall we be able to fake backgrounds. The story writer for the broadcast must, I think, keep us engineers busy. Scene 8 is the home of the dandy, and one must hear the creak of the trouser-press and the clank

². See ref. to West in Val Gielgud British Radio Drama 1922-56 (1957), p.22f.
of the manicure-set. The villain dashes away by the Scotch express. Our microphone must hang in the rheumy echoing vault of a main terminus. Love in a cottage will be indicated by tinkling of washing up, the squalls of the babies and the heavy tramp of the rent collector, mixed with the drip of the rain pouring through the roof into a tin bath. Background is the thing!

... if I have indicated ... that we (engineers) do realise that we must apply the art to suggest backgrounds to the happenings we attempt to portray and if at last it is realised that only now is technology advanced enough to make this possible, I shall not have written in vain.

Remember that we are only a year old and that both experience and suitable apparatus take time and experience to accumulate and that the art can only grow as technology advances.

... Our aim, then, is to introduce by way of new applications of technology a new art, but art must ever wait on the advances of technical method."^1

Three months later, Eckersley gave some hint of the experience the previous year provided of the way that interaction carried practice forward to new thresholds.2 "On May 8th, 1923, we opened a new studio at Savoy Hill ... we installed a new amplifier. On April 1st 1924, that amplifier is no longer

1. P.P. Eckersley "Broadcasting and Realism" Radio Times 4.1.24, p.44.
2. Eckersley was not on his own in observing that a stylistic-engineering interaction stood at the centre of broadcasting change in these years. Eckersley, in 1924, turned to the time taken for the slow build-up of experience of Programme needs and the time taken to perfect new apparatus to explain the gap between programme needs and engineering innovation. The Head of Engineering Research, looking back over the previous three years, in 1927, suggested that engineering research had opened up paths of development that were still unexplored by drama producers. "During the last three years or so the development of studio technique ... has kept well in time, and in many cases gone well ahead of the requirements of the programme producers."
in commission; a new system, a new apparatus and a new era begins ... a far more comprehensive system built up on the experience of a year and the ever-growing needs of the programmes.¹

He read in the new apparatus of multiple sound sources and the capabilities of blending them, the form of the future play and a new stylistic era.

"In the Control Room ... on the input side, the input of the amplifier may be switched to Big Ben, or any other place in London ... We have seventy-five lines terminating in a big frame which stands on the wall, and any one of these lines may be selected.

... effects can be superimposed on a studio broadcast.

Undoubtedly the future play will rely more and more upon properly introduced background, and rather than take your actors to the beach that the sound of real waves may paint the artistic sound drop-scene to their play, the actors will play in the studio, unmindful of a background introduced by engineers ..."²

It is hard for us to appreciate the aesthetic appeal which the resources of seamless switching or amalgamation of sound sources, gave contemporaries of the early electrical age. Whether it was the listeners' appreciation of the sounds of Election Night at the Savoy or Eckersley's of the resources of the panel, the appeal of fluency and movement in the deployment of sound was the same.

Eckersley conveyed his sense of the dramatic potential of the Amplification and Control Panel at Savoy Hill, "where jacks or holes terminate wires leading to Number One studio, another to Number Two studio, another to Big Ben, another to the Savoy!"³ Sieveking's "stuff of radio" in 1933⁴

---

was the stuff of Eckersley's inspiration in 1925, "Thus see the simplicity:
We have finished our studio transmission and wish to go over to the Savoy ...
Quickly the engineer changes a plug from the studio hole to the Savoy hole ...
As the Control Room Engineer plugs up, his 'B' amplifier is at zero, and only
faintly can the sounds be heard. Gently he raises the amplification and
from the far distance come the Savoy Bands. But a moment before we were at
the studio: now we are dancing - and all by the shifting one small plug."¹

The circle of broadcasters saw the rise of cinema as an event in which
film-makers and audiences made reciprocal advances in the development of a new
medium of communication. Questions of the differences of the two media
turned on the appeal of the one to the eye and the other to the ear. The
question was whether 'narrative sound-pictures'² might prove the equal, as a
capital resource, of moving pictures.

Lewis started from the premise that sound "is at least arguably as
important to the human being as sight and just as effective a medium for
registering the ebb and flow of the emotion ... Thus it would appear there is
just as large a future for the broadcast play ... as there is for the cinema
play."³

The question of the properties of the elemental resource of broadcasting
prompted the first form of audience research. The Drama Director of
Manchester in the month of the first broadcast-play put the root-faculty
of radio drama, "the power of 'seeing through the sense of hearing'" to the
test: "How many listeners have considered the great advancement which has
been made in the powers of 'seeing through the sense of hearing' since
broadcasting began?

¹. P.P. Eckersley, Radio Times 20.2.25, p.409.
². C.A. Lewis (1924), p.121f.
³. C.A. Lewis, op cit, p.120.
Two or three weeks ago, I determined to satisfy myself on this point. I took a blind man to a particularly heavy drama which depended solely upon action throughout. Afterwards he could tell me the whole play, and he went so far as to describe certain dramatic actions which he had "seen" and compared with what I saw myself, little had been lost.\(^1\)

Burrows followed Smythe's example by enquiring whether "the sense of hearing is as easily deceived as the sense of smell?" and proposed an experiment: "A portable wireless station might travel around London to various localities having distinctive noises, the listeners being invited to state where the transmitter happened to be at certain specified times during the evening."\(^2\)

Lewis searched for a setting at the listening-end that would cultivate sounds - illusions: "A listener must deliberately set out to put himself in tune with the transmitting station just as much as his set. The programme-builder has set out to produce an atmosphere ... He, (the listener) must help the illusion ... in his own home by switching out the lights and letting himself step into the mood that is being presented to him."\(^3\)

A.P. Herbert identified a difference he saw between the audience for the stage and the audience for the wireless, "I do not mean any casual difference of class ... but the permanent difference that the stage - author is addressing himself to a crowd and the wireless author to an individual. The man in his parlour with the 'phones clamped on his head is not in the position of a man reading a book."\(^4\)

---

2. A. Burrows op cit, p.83.
3. C.A. Lewis op cit, p.118; Val Gielgud credited Reith himself with the first appreciation ... that Drama needed more than all else the active co-operation of the listener - the darkened room in which to listen" British Radio Drama 1922-56 (1957), p.18.
Some early producers saw themselves equipped with unprecedented powers to draw listeners into worlds of illusion. Audiences listening over headphones became disengaged, autistically so, from their surroundings: "A little girl, listening through headphones, suddenly put them down and went to the outer door of the house and looked out into the night. When she returned with a puzzled look on her face, her mother asked her what was the matter. She replied that she thought that it was raining hard. - She had heard it over the phones and went out to verify it. It was not raining outside. It was the background to a radio play which she had heard."¹ The seeming restraint of communication via a single sense revealed itself not as a loss but as a possible inestimable gain.

"The use of the single sense of hearing for radio reception makes for intensity. Concentration is possible in the highest degree. The multiple sense-reception of the stage-play tends to diffuse interest ... Listening to a radio-play strengthens the imagination of the listener - deepends his powers of concentration and widens his emotional and intellectual sympathies. The listener to the radio play gives so much ... his enjoyment and appreciation is intensified."²

"The wireless," said Charles Morgan, "has the peculiar power to create in its audience an extraordinary imaginary perceptiveness which springs from, and is the compensation of blindness."³

A writer in 1928 saw the story of the cinema's rise, from incidents or particles of action to the art of Griffith, repeated in broadcasting. He looked back to the child's play with "portable wireless stations" as the first steps taken by an audience that had since mastered the grammar of the sounds effects art.

¹. Gordon Lea, Radio Drama (1926), p.73.
². Op cit, p.70.
³. BBC Year Book, 1930, p.42.
"... those who listen have by now absorbed something of the conventions of the Broadcast stage ... when the BBC adds ... sounds suggestive of scene and action, the listener finds little difficulty in re-creating for himself King's Cross Station, Portsmouth Dockyard, the mid-Atlantic or the bottom of a coal-pit. ... Little of this would be possible, however, if it were not for the fact that the listener has during these three years developed his "listening sense" ... By now he is as experienced in the conventions of the wireless play as the most hardened dramatist is in the case of the stage plays."¹

The Blending of the Conceptions of Avant-garde, producers and engineers in the idea of drama-broadcasting in the early twenties

The broadcasters took their directing ideals from the parallel they saw between the future of broadcasting drama and an industry that rose from interaction between photographic/electrical engineers, directors who invented means of expression and audiences who learned to read moving picture texts. It was as easy, for such as Eckersley, Burrows and Lewis to imagine a broadcasting art come from the Marconi Company as a cinema art come from the Edison Company.²

It was a first premise of those developing an arm of the Marconi Company that their activities were framed by science and engineering. Engineers stood at the centre of the broadcasting stage at the Marconi Cinematograph Theatre but increasingly shared conditions with artists.³ Engineers

¹. BBC Handbook 1928, p.115f.
². No more difficult than for a graduate of the Royal College of Music to become Musical Director of the Marconi Company. See "I went one afternoon to the small demonstration cinema at the top of Marconi House, where the concerts were held ... So there I was, Musical Director of the Marconi Company in 1922 ... Rather an extraordinary situation, to be a musical director of a wireless company. However, that was my title." L. Stanton Jefferies "Soap Box Days" The Popular Wireless Weekly 5.10.1935, p.83.
³. Cecil Lewis, op cit, pp.29f.
continued to share with artists at Savoy Hill.\(^1\) When Burrows characterised a new art that would splice a drama-studio microphone with a locational sound source and vary the balance between sound and dialogue, he conceded a large share of aesthetic decision-making to engineers. He shared with Eckersley a strong sense that the development of the art would occur along with a development of the engineering base.

He wrote of the future broadcast play, "The performances will remain in the studio but the engineers will go to the coast and place a second microphone within sound of the waves, of the pierrots and such other noises as contribute to the conventional holiday. The piecing together of the dialogue and the natural setting would be the work of a control engineer, sitting in the studio anteroom. By the use of levers controlling resistances he would cause the sound of the sea to become prominent or fade into the background according to the requirements of the situation."\(^2\)

Lewis, who had been present when the Western Electric microphone "loosed" opera about Marconi House, shared the faith of other pioneers that art could come from engineering.\(^3\) It was, however, Lewis quite the brightest on the programme side\(^4\) and the developer of the prototype of every programme,\(^5\) who

---


2. A.R. Burrows (1924), p.82.

3. a) C.A. Lewis (1924), p.32f. b) Looking back on the pioneering years, Lewis traced the ideals directing the development of radio-drama practice, one-sidedly, to the stylistic innovators. "It took two years before the continued growth and interest in radio drama justified the installation of the Drama Control Panel in Savoy Hill. It was the product of belief in the future of radio drama from the programme side, and much ingenuity and clever designing from the engineers". C.A. Lewis 'Producing a Radio Play - Then and Now' Radio Times, Vol.XLI 3.11.33, p.32.


5. "There was hardly a programme he did not initiate - the public symphony concerts, radio drama, the debates, the 'echo-room', and accurate list of similar technical trick's including the multi-studio dramatic control panel! to bring variety into the radio medium" Jack Payne Here's To The Time (1947), p.35.
did most (perhaps with Eckersley) to promote the notion of drama broadcasting as a possible independent entertainment industry like the cinema.

"This (Drama) side of our programmes ... will come into greater prominence ... In narrative sound-pictures ... a great field lies open, as it did in the case of the cinema, waiting to be explored."^1

"This radio drama is certain to develop whatever any theatrical interest may try to do to prevent it."^2 This new medium for entertainment and amusement carries its own technique and will develop its own line dramatically in just the same way that the marionette and the cinema have distinct and different means of expression in their particular media ... There is just as large a future for the broadcast play that is heard and not seen as there is for the cinema play that is seen but not heard."^3

Eckersley showed that the analogy with the cinema was a force giving precise directions to the microphone and studio equipment research effort in 1924: "The methods of operation have largely improved during the year (1924) and such things as the fade-in and fade-out, the dissolving view where one sound picture merges into another, were if not thought of, at any rate impossible owing to insufficient apparatus during 1923."^4

Lewis, in his book published in January, showed that he at least fixed on cinematography as the paradigm of a "microphone technique" during 1923, when he wrote: "the microphone will become just as important an instrument, as much to be studied and convenienced as the camera and cinematograph are today."^5

---

3. Op cit, p.120.
5. C.A. Lewis, op cit, p.129.
Richard Hughes first spoke over 2LO in the winter of 1922-23. The production of his play, the first written for radio, took place in the month that saw the publication of Lewis' Broadcasting From Within. It is worth citing his memory of the ideal of the future broadcast-play which possessed him and others of his contemporaries. "I was 22 when I was given (quite by chance) the opportunity of writing the first play ever written for broadcasting in England or any other country - Frankly, I over-estimated the importance of the occasion. I saw myself as a pioneer of a new form of art, something which had never been done in the world before. Perhaps I was deceived by false analogy with the motion picture, where sight and movement without sound certainly seemed to have developed a totally new technique of expression. Surely the radio play - sound without sight - was the motion picture's missing half? Something, then, potentially just as different from the other techniques."¹

A.P. Herbert was present on the same occasion. He recorded his impressions of a circle of broadcasters pre-occupied with the formal problems of their art. "I was present at the first presentation of wireless "plays" ... A new movement ... will always tend to borrow from other fields ... forgetting the points of difference ... Thus the film world for years ... knew very well that screen-acting and stage-acting were different ... The Broadcasters have learned their lesson quicker for there are signs that they realise that in their case, too, the points of difference between a stage-play and a wireless

entertainment are more important than the points of resemblance.\(^1\)

Over the years of the Company and well beyond, a wireless-play ideal premised upon "audible atmosphere"\(^2\) or "sound-scenery"\(^3\) became a formula articulated in two full-length books\(^4\) and traceable in Radio Times and Handbook articles. Burrows defined the wireless plays of the future as "having as their setting the actual sounds occurring in everyday life in such a place as may be chosen for the play in question."\(^5\)

---

   cf "The mechanical apparatus of entertainment has recently been greatly amplified. In the field of drama, the theatre once stood alone. Now into that field have entered the gramophone, the silent screen, the talking screen, the wireless and, hesitatingly as yet, television ... what is the nature of the illusion proper to each?"

   The theatre, the film and on occasion, the wireless, all pretend to create dramatic illusion; each has some quality in common with the others; but each - and this is of the first importance in aesthetic theory - has powers and limitations peculiar to itself. The illusion of the theatre ... is limited by being tied to the area of the stage ... The films have a power to give a visual illusion of fantasy and mental states ... and have the limitation that the more they use their new power of dialogue the more they must sacrifice that magic fluidity ... The wireless having the limitation that it strikes its audience blind, has the peculiar power to create in that audience an extraordinary imaginative perceptiveness which springs from, and is the compensation of blindness.

   All that future depends now upon the speed with which those who control the different departments of entertainment learn and accept their aesthetic limitations and powers. True theory asserts itself soon or late. Charles Morgan "The Future of Entertainment: Stage, Screen, Wireless, Television" BBC Yearbook, 1930, p.41.

2. Frank Shaw, 'Secrets of the Radio Drama' Radio Times 2.4.26, p.60.


4. a) Gordon Lea, Radio Drama (1926) in Chapter 7 "Sound Effects" distinguished between 'the play itself' and subordinate matter of "sound-effects background ... and atmosphere ... out of artistically controlled microphones".

   "Gordon Lea" was the Newcastle drama director. The volume was Foreworded by R.E. Jeffrey and recommended by Reith in a memorandum to all Station Directors dated 20.12.26 in 'Drama Dept.' Acc.44986 BBC Written Archive, Caversham.

   b) Lance Sieveking, The Stuff of Drama (1933) identified the elemental material as sound effects. See pp.25, 64, 73.

5. A.R. Burrows, \textit{op cit}, p.82.
Lewis expressed the same motif only more concisely, as "a background of sound ... out of which voices speak." A striking and consistent indebtedness to the original analogy runs through a long line of encapsulations of the same idea. Lewis spoke of his co-production with Jeffery, in 1925, as an attempt, "to throw a series of progressive mind pictures into the microphone." In 1926, Jeffrey said, "A radio play should present to the mind of the listener a continuous and ever-changing series of pictures ... given to those who listen, mind-pictures painted by sound." Frank Shaw, one of the pioneer radio playwrights said, "The radio drama must depend for its success on its audible atmosphere at least as much as on its story and dialogue. Instead of writing stage directions ... an actor must be heard to move, either through dialogue or sound effect."

Tyrone Guthrie writing in the wake of "the revolution ... when hitherto silent films began suddenly to talk," represented the difficulties of a decade of stylistic innovation in the new media, in which the artist's grasp on the means of his art was shaken by wave on wave of technical advance. "Today's methods are obsolete tomorrow - yesterday's methods are dead as the dodo. This perpetual seethe and surge of technical novelty does not make for the creation of masterpieces. Nothing has yet emerged that could possibly be regarded as a broadcast classic; and nothing classical can possibly be achieved until the technique of this new art becomes a little more stabilised, and that will only happen when the present impetus of mechanical invention is exhausted."

1. C.A. Lewis (1924), p.121: C. Lewis on his production of Karol Kapek's Reason's Universal Robots in May 1926. "The play will open with a picture in sound and rhythm (composed by V. Hely-Hutchinson) of the great Robot Factory where Human automatons are turned out at the rate of ten thousand a day". Cecil Lewis, "A Note on the Play" Radio Times 20.5.27, p.355.
Guthrie, however, remained, like Lewis, Burrows, Eckersley, West and others before him (and Sieveking after him), convinced that his generation were making new departures in the arts with the instruments of their times. He continued: "In the meantime, more profitable than prediction, one can contemplate the phenomena before us, the broadcast plays, the talking films; one can analyse their composition, criticise their merits, deplore their vulgarity, but above all realise they are the drama of the day. More and more is economic pressure going to relegate the theatre proper to select corners of the wealthiest metropolitan cities, more and more is mechanical perfection of reproduction going to strengthen the position of the broadcasters and the film people. The films we recognise; we have at last after thirty years admitted them to be a force. But it is only beginning to dawn on us that broadcasting must now be reckoned with as well. A few of the more go-ahead weekly papers are beginning to publish condescending, ill-informed, little snippets of discussion and criticism. A few cranks and freaks perceive and are interested in the possibilities of this new medium. But the world at large is blind and deaf. But broadcasting is bigger than the public, bigger than the BBC ... it is a spontaneous expression of present-day civilisation that, like Topsy, has just growed."\(^1\)

The emphasis of the Department at its point of origin (August 1924) was, however, very much upon its technical resource, that is to say, upon reproduced sounds. During the second half of 1924 "a new type of programme began to be developed ... With descriptive narrative, dialogues and episodes with sound effects and music, the listener was taken through historic events

---

and strange lands with a realism that was quite extraordinary."\(^1\) The first annual report of the Drama Department listed a number of special programmes initiated, undertaken and actually written in the Departments.\(^2\) These like "Pictures From the Past (Historical)", "Harvest Home (Pastoral)" and "One Hundred Years of Railways" were sui-generis exercises around fragments of naturally occurring microphone-sound.

They followed the trail blazed by Eckersley with his Marriage Proposal among sounds collected at Covent Garden. The special productions conformed with Lewis' ideal: "a drama given in a series of sound-pictures, taking scenes set in the traffic of London, in the shops of some great mechanical factory, by the side of an old mill wheel, a busy railway station, or a musical evening, at some fashionable "at home" ... A play depending largely for its effect on the realism of the varying atmospheres produced by the noises transmitted."\(^3\)

Those programmes initiated and undertaken by the department drawing on its own resources, show that it went outside the realm of theatre conventions of entertainment and amusement with experiments in the use of sound effects.

"Next Saturday, June 27th from 8 - 8.30 the microphone will add to its experience by taking sound from the pit of the Nunnery Colliery, nr. Sheffield. It will be placed in the Park Gate seam, 750 feet below ground and one mile from the pit shaft. The manager for the mine will explain the various noises, which will include the coal cutter, shot-borer, explosion of shot, fall of coal, filling of tubs, noises of trains and signalling apparatus of the cages."\(^4\)

"The coalmine broadcast will convey the atmosphere and dangers of the

\(^1\) BBC Handbook, 1930, p.168.
\(^2\) See document "Dramatic Department: Stocktaking" 10.9.25 in which Jeffery took stock of one year's work. File 'Drama' Acc.44986 BBC Written Archive, Caversham.
\(^3\) C.A. Lewis (1924), p.121f.
\(^4\) Radio Times, 18.6.25, p.580.
pit as well as some of the lighter side of the miners' life."¹

The Leeds-Bradford relay station had already shown the way with a yet more outre coal-mine entertainment, that of Friday, 28.11.24, when,
"Mr. George Lister, a Leeds comedian and Whitwood Collieries Silver Prize Band performed the programme ... this novel entertainment is by permission of Messrs. Henry Briggs, Son & Co.Ltd., Whitwood Collieries, Normanton ... 1500 feet below the surface."²

Other entertainments in this same vein were attempted. "It has been found that noises taken from the footplate of an express locomotive travelling at full speed ... are so loud as to drown any superimposed conversation and are indeed hardly recognisable ... Experiments are continuing, however, and a broadcast of considerable novelty is likely to be evolved. If the locomotive footplate suggestion proves impracticable, attempts will be made from a guards van immediately behind the engine. A broadcast of this kind requires a wireless link from the train."³

Yet further productions of 'audible atmospheres' followed: 30.6.25 Broadcast of the Scotch Express leaving King's Cross and from the Scotch Express at 7 mph;⁴ 10.7.25 Broadcasts from the Pavilion, Carnoustie, near Dundee endeavoured to impart the atmosphere of a seaside town;⁵ 17.9.25 Broadcast from the Newspaper Machine Rooms, Carmelite House; 1.10.25 Broadcast from Nottingham Goose Fair; 3.3.26 Broadcast from a film studio, the production of 'Whirlpool' at Gaumont Studios; 30.4.26 Broadcast of sounds of the sea from the shore at Plymouth. Cecil Lewis remained faithful to sound-montage genre. In 1928 he wrote, "What an entertainment could be built around Venice, Paris, Rome or Madrid! Such programmes mean the absorption

1. Radio Times 5.6.25, p.484.
4. This reference and others obtained from BBC Handbook 1930, p.194ff.
of the subject and, which is more important, the ability to select the striking views which illuminate it and are suitable to the microphone."¹

The degree to which the Drama Department was conceived, cast and functioned in this way, as much as a Productions R and D Section as a Programme Department was expressed by D.H. Clarke at the time. He pinpointed May 1925 as the beginnings of "the first considerable result of the Drama Section." It was a pay-off, "a raising of the standard", came from the establishment of a Radio Repertory Company² (the equivalent of Music's "London Wireless Orchestra") and "the result of enormous research which in a few cases was carried out on matter actually broadcast."³

The degree of consensus among engineers and non-engineers and significant listeners around the project for microphone production that would rival the moving pictures' art is impressive. Within the Company accord about Drama as an experimental and developmental department reached right up the hierarchy to include Basil Nicolls and even Reith himself.

In the foundation year of Drama (July 1924), the definitions of radio drama employed by Cecil Lewis, in Broadcasting From Within in January and by Reith in Broadcast Over Britain in September were nationally identical. Lewis in his synthesis, headed a "A New Art", wrote: "There is no doubt that this new medium for entertainment and amusement carries its own technique and will develop on its own line dramatically ... (as a) distinct and different means of expression."⁴ Reith's vision in "Radio Drama" in

---

2. "A nucleus of experienced players was collected, resulting in the formation (in May 1925) of the London Repertory Players". D.H. Clarke, "The Old BBC" BBC Yearbook, 1930, p.169f.
3. D.H. Clarke, "Programme Developments" covering the period from the start of the Company until April 1926. See File "Policy, Sound Broadcasting, 1926", p.3, R34/874/1, Acc.44874/1, BBC Written Archive.
Broadcasting Over Britain, was as nearly identical as any statement using different words might be. He wrote: "Radio Drama can be developed independently, and it is a separate art in itself ... It is a speciality requiring its own technique."\(^1\) Lewis characterised the new drama as "sounds out of which voices speak"; Reith's rendition of this idea was, "Voices of actors in a city studio superimposed on the actual sounds of the circumstances and surroundings in which they are supposed to be acting."

There is evidence as late as 1927 that the idea of a specialised in-camera technique, ('faked' and hidden from view) had not weakened its hold. In an internal memorandum, Basil Nicholls, the Administrative Controller, rounded on Jeffrey's proposal for an "Outside Drama Studio ... for listening and visible audiences,"\(^2\) as involving the abandonment of all idea of a separate broadcast technique ... (and) merely leading us back to the theatre."\(^3\)

The consensus around the idea of a separate broadcasting technique developed from two bases in common experience.\(^4\) Firstly, the basis in microphone sound: the discovery made by all those closely associated with the microphone that locational or manufactured sounds heard in the microphone, could be strongly expressive art (Hauser's paradisian-unproblematic art). As we have said, it was a shared perception of an art form of microphone sounds that

---

2. Jeffrey's undated proposal headed 'The Drama Studio' in File "Drama Dept. 431" Acc.44986 BBC Written Archive.
3. Basil Nicholls 'The Drama Studio dated 18.4.27 in File 'Drama Dept. 431' BBC Written Archive. The dictum of Cf Reith "The more a play ... be appreciated by studio visitors watching it, the less effective it must be for the listeners outside" in a memorandum by Reith to Station Directors, 20.12.26, File 'Drama Dept. File 431' Acc.44986 BBC Written Archive.
4. One cannot deny that public relations' purposes informed these books by Broadcasting Company staff in 1924 and statements about the future of the wireless play in the Radio Times about that time. However as well as serving an obvious public relations purpose, the ideas of an indigenous radio art were also syntheses of the experiences and conceptions of those within broadcasting.
allowed Lewis 'of the world' to join forces with Jeffrey 'of the theatre'.\(^1\)

It was that same direct perception that moved Eckersley to make his own experiment with a marriage proposal at Covent Garden and to attempt a synthesis of the microphone art which paralleled Lewis.

The other ground of consensus was the nature of the broadcasting organisation itself. The profound change in mental perspective associated with the passage from a wireless telegraphy threshold in the history of radio to an understanding of a broadcasting 'function', we discussed elsewhere. In terms of organisation the era of broadcasting brought about the incorporation of an original electrical engineering "Research and Development" organisation with non-engineer Programme Organisers, producers and increasing numbers of artists. It was a situation not merely of juxtaposition, but a merger of interests, where the opportunities or imperatives of broadcasting made engineers, artists and others interdependent.

During this early period, broadcasting-studio R & D was 'kept on course' by broadcasting activities going on every day in the same building. It followed that the evolution of radio-drama practice was conceived in terms of a joint development of the apparatus of the "broadcasting chain" (the design of everything from microphone, amplifier, studio, producer's silence cabinet and listening-end receiver) together with the new "sounds" art. When Reith defined "Radio Drama", he distinguished between the formulated art of music and the unformulated radio-drama. The old art required operational organisation but the new, as much as the science and technology of electrics, was an artefact requiring experimental and developmental organisation. Thus "the form of music for broadcasting is the same, but

\(^1\) Gielgud drew that distinction. Jeffrey, the first Head of Productions, like Howard Rose, the first Producer, had come from a theatrical background. Lewis, a war-time pilot with a passion for Chinese art had only an interest in all things theatrical according to Gielgud.
drama (as the entire engineering system) requires thought and investigation to assist it.\(^1\)

Accordingly, Radio Drama, was conceived of as properly the subject of an R & D project; as much so as the sound-reproducing system it was part of. As the Radio Times said of the Drama Department at the time of its formation, it was "a special department for the investigation of microphone effects and for the development of a special Radio Technique for plays, just as some years ago it was made amply clear that a special technique was made necessary for the cinema."\(^2\)

---

Earlier we examined the ideas that joined programme organisers and engineers
in an enterprise to discover and develop a microphone art in the new techniques.
One may say that the Eckersley-Lewis part-technics, part-theatre, cinema-like
synthesis gave the wireless-drama project in the engineering organisation, its
directing rationale. The other half of the Drama Department's history was
formed by events which brought that quasi- R & D project into the orbit of the
London art-theatre world, and gave it its public.

An earlier study showed the broadcast-music practice as the resultant of an
accord struck within the Company, and a movement coming from the concert-music
culture to re-construct itself in a world in which old landmarks were disappearing.
In that context, the Balance and Control Section gave an assurance to musicians
that the Broadcasting Company was an organisation under the control of artists.
The Balance and Control Section was an important institution assisting towards
concordance between the older music world of concert-hall interests and the newer
one in which broadcasting was a major power.

Drama Productions, also, was the resultant of two forces: one coming from
within, from the interaction of engineers and programme organisers; and an
outside force, the growth and development of a London art-theatre movement
seeking to differentiate itself from the commercial theatre of the West End.
The commercial theatre's boycott of broadcasting in April 1923, coincided
with the period of birth and vigorous growth of "the other theatre", the
inter-war 'Sunday'-or coterie-theatres' - movement. As the Music Department
was given buoyancy in 1923 by the transfer to broadcasting of the National
Opera Company's resources and ideals, so, too, the Drama Department's
origination, was aided by developments in the outside theatre world.

1. See Norman Marshall, The Other Theatre (1947), Marshall used this title
to distinguish, what are more often referred to as "the non-commercial
theatres" or "the pioneer theatres". Foreword, p.5.
launch of wireless drama benefitted in a like way from a surge of growth of small experimental theatres in the London suburbs in the early twenties. The commercial theatres' boycott of the London Station helped the leaders of the small theatres' movement to see 2L0 rather as another struggling experimental theatre. The stamp of approval given by the avant-garde leaders and the resources they made available to the wireless-drama at Savoy Hill, at the time of its launch, were important in making the venture possible and in bringing it its first audience.

In these formative years, Productions achieved its duality of structure, sometimes pursuing the engineering 'cinema' goal of the fullest use of the technical resources of the medium and sometimes the theatrical goal, the values of dramatic form and construction. As Balance and Control in Music so Microphone and Sounds Effects staff occupied the intersection between art and technics in the drama field.

Looking to the end or beyond the period of our special study of drama: in Productions, the new division of labour, the facility of making, collecting and splicing sounds (the Drama Control Panel, of 1927 partly mechanised this function) became a matter of dispute between artists seeking a new method of production akin to the cinema and artists who continued to look to the method of the theatre for their model. Looking to the closure of the period of our special study of development in broadcasting music, in a like way: a line of division and conflict - between technics and art in the new studio practice - opened between engineers and musicians of Balance and Control.

In Broadcast Drama or Productions, the line of division ran between technically-minded producers seeking an art of their time (Lewis, Jeffrey and Lance Sieveking) and those working closer to another tradition (Howard Rose, Val Gielgud and L. Du Garde Peach). In the Music Department, the rationale of Balance and Control became the issue of conflict from 1929 and

---

the end of L. Stanton Jefferies' first BBC career in 1936, its cost.

In Drama, the period 1929-33 opened with the substitution of Gielgud for Jeffrey (the latter being thought then, 'not the right man as head of the Productions Department') and the beginning of a shift away from the tradition of those favouring maximum exploitation of technical resources. Sieveking produced "Carnival, The Life of Man From the Cradle to the Grave", in 1929. The Yearbook interpreted the production ("of this example of this type of play"): "the high-watermark of radio dramatic production"; but made the balance between the ('cinematic' and theatre) traditional level, "On the other hand, in Ingredient X, L. Du Garde Peach's production reached what is probably its highest level in the historyof broadcast drama, and an author was found with an uncanny sense of the appropriate balance of writing for the microphone."  

In the subsequent three years, the Sieveking genre went into eclipse and the Peach-type of production rose. Sieveking's enthusiasm for the possibilities of the Studio Drama Control Panel made his name a byeword for 'complexity' of production and for extravagant use of studios and staff resources. In 1933, the special Productions' Research Section (of which Sieveking had been the original member) was wound up and Sieveking transferred

1. Typescript in File 'Entertainment. Drama Department, 1924-48' Acc.44986, BBC Written Archive.
2. 'Broadcast Plays' BBC Yearbook, 1930, p.74.
3. BBC Yearbook, 1930, p.77.
4. The period of 1929-33 was one of momentous change - the beginning of the golden age of the sound cinema, the completion of the Abbey Road sound recording studios (1931) the incorporation of EMI (1933), the transfer of broadcasting to Broadcasting House (1932), the first coming into prospect of a television service (1930) and the coming on to the air of Radio Luxembourg (1933). These developments weakened the idea of the singularity of sound broadcasting and gave greater effect to the notion of mass entertainment.
to Programme work, following an ultimatum given Gielgud by Reith.¹

In 1933, the early bright hopes that the wireless sound-play would compete for popularity with the cinema picture-play, had receded.

"It is probably true that the radio play pure and simple, must always lack something, because the average person has been taught to think of drama largely in terms of sight."²

In 1934, Sieveking published, The Stuff of Radio, the classic celebration of the radiophonie play and singled out for special criticism, L. Du Garde Peach, the craftsman who had "written more radio-plays than anyone else in England."³ In the Yearbook of that same year, Gielgud interpreted the Festival of Radio Drama series of 1933, as a celebration of the end of an era of experimentation in production technique.

"This was a series of revivals of twelve English plays specifically written for the microphone between 1924 and 1933, and covering, therefore, the whole range of development of the broadcast play beginning with Mr. Hughes' first experiment in this new art form with 'Danger' ... The object was in some ways to celebrate the first ten years of radio drama and also to mark the end of one definite stage in the broadcast play's history. More and more

---

¹ In a memorandum to his staff in 1948, Gielgud made a reference to years between 1929 and '33 when Sieveking was most active. These years taught that "the content of plays must not be sacrificed to mere technical ingenuity. The effect of the invention of the original dramatic control panel, and the technique of using multiple as opposed to single studios, was monstrously to overweight interest in machinery as against product. Plays were both written and accepted because of the opportunities they gave for production virtuosity. Producers concentrated their efforts upon knobs and switches, upon artificial echo and original sequences in sound, rather than upon the more prosaic handling of actors and the intelligent speaking of their lines. It is easy to speak too harshly of this phase ... The cost may have been excessive in listener good will ..."

Typescript "Considerations Relevant to Broadcasting Drama, based on experiences in the years 1929-48" "Drama Department 431" Acc.44986. BBC Written Archive.


³ L. Du Garde Peach, Radio Plays (c.1933), p.12.
it would seem that the era of experimentation in production technique is giving way to an intensified search for more satisfactory content of plays to be broadcast. This does not mean that the Production Department is either finally satisfied with its technical achievements, or that its production experiments will lapse; but a certain standard of reasonable professional competence in production can now be claimed, and there is a definite and valuable tendency to concentrate more upon what is broadcast and perhaps a trifle less on the method of broadcasting it ... It is towards better and better plays and towards a greater sympathy with, and a fuller knowledge of, the requirements of the listening audience\(^{1}\) that the efforts of broadcast producers have now to be directed...\(^{2}\)

---

1. The inauguration of Listener Research was delayed until the appointments of Tallents (1936) and Silvey (1937), but Gielgud (Drama) and Siepmann (Adult Education) were proponents of organised study of audience reactions as early as 1930. In an article reviewing the year's work, Gielgud coupled a reference to the small consideration given to the popular audience with a reference to the over-consideration Sieveking gave the Control Panel.

Of the absence of machinery of audience-survey:
"Those responsible for the policy of broadcasting of plays have not always been perfectly clear in their own minds as to what their objective should be. For this they cannot always be blamed, as so far no machinery exists for establishing a really satisfactory record of the reaction of the listening public to any programme item that is broadcast, nor is it yet apparent how such machinery can be satisfactorily established."

Of the over-consideration of the machinery of production:
"The radio play will not be rendered more popular to the ears of the listening public by conducting propaganda to prove that the dramatic-control panel is as exciting as the conning tower of HMS Hood or as difficult to play as the mightiest Wurlitzer."

2. Val Gielgud, "Considerations Relevant to Broadcasting Drama, based on experiences in the years 1929-48", Typescript in File "Drama Department, 431", Acc.44986, BBC Written Archive.
The months between the coming into effect of the West End Theatres' embargo in April and the end of the year contained the formative period of the ideal and practice of wireless drama. The publication in Broadcasting From Within of Lewis' synthesis of a "sounds ... out of which voices speak" wireless-drama,¹ Eckersley's announcement of "a new art by way of new applications of technology,"² and productions by Nigel Playfair³ and Lewis Casson-Thorndike⁴ were events which marked the birth of a new broadcasting culture in the early spring of 1924.

The 2L0 stage, abandoned by the West End Theatres, became at once drawn into the orbit of a Sunday or matinee theatre land, a loosely organised structure lying between the West End and the "Outer-Circle Ventures"⁵. It was formed of a congeries of producing societies serving the needs of actors, playwrights and budding producers.

In the hurried rehearsals and one-off performances of the Sunday and matinee's theatres world, all three groups found opportunities to experiment and develop their arts. The withdrawal of the commercial theatres' cooperation with 2L0 opened to the avant-garde a further stage whereon producers and actors with a special interest in a 'theatre of voice' could overlap and interpenetrate an organisation beginningly aware of the resources of microphone sound.

Lewis, "who had more than a normal share of creative imagination in his make-up"⁶ stood at the intersection of these two structures, from April to January 1924. It is possible to glimpse in his experiences in this period, the stages in his progress to a synthesis of a new drama, part voice-theatre and part microphone-sounds.

---

4. 19.2.24 and 1.4.24.
5. Term from J.C. Trewin, Gay Twenties (1958), p.95.
The close-knittedness of the "other theatre" culture, which gained a foothing in the new organisation in these months, is impressive. The British Empire Shakespeare Society, which performed Shakespeare matinees monthly at the Haymarket, made itself available for evening performances over the air. It was a body composed of members intimately associated with the progressive movement in the theatre. Acton Bond, an associate and kindred spirit of William Poel\(^1\), one of Henry Irving's Lyceum Company and an original member of the committee of the Shakespeare Memorial Theatre, was the Society's honorary director.\(^2\) The Empire Shakespeare Society like other producing societies, drew on the ranks of professional actors seeking to revitalise their acting and producing talents. Howard Rose, whose acting career went back to the pre-war years of Miss Horniman's Manchester 'Gaiety' was perhaps a typical Bond recruit. From acting and production experience for Bond through 2L0, he became the Company's first drama producer (July 1925).

In the same months, Lewis, drawing on the same avant-garde network, obtained the services of Kathleen Nesbitt\(^3\)(concurrently playing the leading role in Flecker's Hassan at His Majesty's) as sometimes actress, sometimes producer.\(^4\)

Drawing mainly from Bond's Society, the Company broadcast the Trial Scene from The Merchant of Venice on April 23; other excerpts from The Merry Wives and from Henry VIII, followed. The transfer of operations from Marconi House to the larger studio at Savoy Hill in May, made full-length productions possible. On May 28th, Lewis and Kathleen Nesbitt jointly produced Twelfth

---

Night at almost full-length. In June, the same combination produced The Merchant of Venice and in the next month Romeo and Juliet and Midsummer Night's Dream.

During these months, Lewis was exercised by the problems of production of the two orders of resource on which the wireless-drama drew, i.e. actors' voices and sounds effects. In the Shakespeare productions, Lewis and Nesbitt faced the problem of cutting the play to the condition of continuous blind production over the air "so that it can be presented as a consecutive whole in under two hours." Lewis learned that production of voice must be via headphones for its heard qualities: "That the voices should contrast is essential. The choice of voices is a thing in its infancy." Production of voice via headphones was ever a rawly new symbolic resource, because heard 'blind' and because heard mechanically. Jeffrey wrote in that year, "Positions of artistes and microphone are also most important. It is useless, if after selecting a certain type of light voice to illustrate a weak character, we place him close to the microphone. This will probably cause him to "come through" much stronger than the triumphant hero, who has been carefully kept well back to avoid possible 'blasting'."

Sound heard over headphones was as much a new resource as voice heard over 'phones: sound-rehearsals were as much a necessity as voice rehearsals. "The voices-off", knockings, bells, fights etc. (are all) rehearsed as far as

---

1. With Ben Webster, Gerald Lawrence, Lawrence Manray, George Hayes, Kathleen Nesbitt. File 'Drama Dept.' Acc.44986, BBC Written Archive, Caversham.
possible, though I should be the first to admit that we are leagues from perfection." Lewis was properly sensitive to the primitiveness of the means of management of the sound stage. Sound effects was a threshold which awaited the development of a whole science of sound management and control. Sound-symbols possessed unanticipated affective power, but the means of achieving and controlling them were gross and only stumbled upon by strokes of good luck after time-consuming trials of alternatives. "Shylock dropping the scales in the trial scene was done by letting a heavy iron chain with one inch links fall into a paint-pot! People said it was realistic! When he sharpened the knife, the noise was done with two angle irons, which were slowly scraped across each other."¹

For Lewis, listening on headphones, voice heard blind and the production of sound for the microphone was a baffling experience set apart from anything offered by the theatre or the cinema. Such experience in the studio, coupled with opportunities of hearing occasional theatre relays (one in July, two in August)² brought Lewis to the view that while there was everything to learn about production for the microphone, the conditions of the visible theatre could not be made over to the needs broadcast drama.

"Little of a theatre atmosphere can be put over by wireless. Very few plays in the field of legitimate drama could be transmitted, since the players rarely speak into the microphone and are at constantly varying distances. For technical reasons, therefore, so far as drama goes, we can surely do better in our own studio where conditions are all adapted or adaptable to our medium."³

Milton Rosmer's production of Gertrude Jennings' Five Birds in a Cage

---

3. C.A. Lewis (1924, p.85f.
in November, showed how wireless drama evolved by combining the resources of the actors' "matinee theatre" and the broadcasters' growing understanding of their own medium. Milton Rosmer was a professional whose career, like Howard Rose's, reached back to pre-war years as principal actor and tour manager of Miss Horniman's Manchester Gaiety. In the year in which he first acted and produced at 2LO, he appeared concurrently in six parts at three West End theatres.\(^1\) The broadcasters' progress in knowledge of their medium showed in the selection of "Five Birds", "built on a situation following a breakdown in a tube lift"\(^2\) allowing play with echo effects and scope for using sound to indicate movement.\(^3\)

Lewis' reflections on the nature of the new art were already in the printer's hands by November. In that month Rosmer's production, according to Lewis' formula of a drama of "sounds out of which voices speak", established the conditions on which the productions of Nigel Playfair and Casson-Thorndike would build in the New Year. In the choice of the echoey lift-shaft location for Rosmer's November production, it is possible to see the antecedent of that mine-shaft setting that became the locus of Hughes' Comedy of Danger in January.

Nigel Playfair's mid-January production of four 20-minute plays and Casson-Thorndike's productions in February and April marked the coming on to the wireless stage of the two figures, each in their way leaders of the actors' theatre world.

---

   N.B. This sequence of full employment ended the month before his 2LO production Who Was Who In The Theatre.


3. Val Gielgud observed that "Magic" of August was marred at the point of selection as an O.B. subject: "because the first and most essential dramatic climax of that piece is one essentially visual." British Radio Drama (1957), p.20.
The Company first approached Playfair in the winter of 1922-23. Playfair and his theatre were just such a new phenomenon as the London 2L0 Station itself: the manager-producer of the new model suburban theatre of West London, the Lyric Hammersmith. Playfair opened his theatre in the first post-war year with a children's Christmas programme and followed it with "The Younger Generation" and "Abraham Lincoln". Success followed upon success, his crowning achievement being his revival of "The Beggar's Opera" in the summer of 1920 for a run of 1,500 performances over three years, ending in the month before his productions for 2L0. Playfair's discovery at Hammersmith, was the lower middle class audience of the vast residential neighbourhoods of Kensington and Chelsea, and Chiswick and Bayswater. His audiences were new: "a section not the one usually cared for ... who are not, in fact, playgoers by habit at all, or in the accepted meaning of the term." It was the section to whom those like the programme organisers gave credit for the emergence of "wireless in modern life": "The lower middle class upon whose houses I see those poles with their attachments of wire." As Richard Hughes appreciated, Playfair, "an innovator with a flair for popularity was surely the man to make success of producing modern plays in a new medium."

Grace Wyndham Goldie summarised those features of Playfair's career which appealed as much to the directors of the Liverpool Repertory Company, (when they sought an audience-pulling producer) as they did to the Programme Organiser of 2L0 seeking to mobilise audiences for wireless drama.

2. Ibid p.118f. cf. p.101f "... the large popular audiences which then began to throng to the Lyric" (for The Beggar's Opera).
5. "In 1921 he was one of the most outstanding figures in the London Theatre. He had drawn all fashionable London to the back streets of Hammersmith to see Abraham Lincoln and The Beggars' Opera, the one an historical piece about the American Civil War without a love interest, the other a little known eighteenth century musical play. And yet both had been tremendously successful. He had then, apparently, a talent for staging good and unusual material and making it pay." Grace Wyndham Goldie, The Liverpool Repertory Theatre 1911-1935 (1935), p.127.
Despite their differences, Playfair and the Casson-Thorndikes were the bearers of the ideas of the turn of the century, to renew and develop the theatrical culture in association with a new art public. Casson met William Poel at the time of his re-discovery of the play Everyman, soon after Poel's foundation of the Elizabethian Stage Society (1895). The path of Casson's career led from Poel to Poel's disciple, Granville-Barker. Lewis Casson was a member of the cast of the epoch-making Barker-Vendrenne season at the Royal Court from 1904-07 and of the less successful venture at the Savoy in the season that followed. As a central figure in that movement, he was the natural candidate at Granville-Barker's death for the task of writing the Dictionary of National Biography entry. After the premature closure of the productions at the Savoy season, Casson was drawn to attempt at Miss Horniman's Manchester Theatre what Barker had accomplished at the Court.

Like Casson's, Playfair's roots in the theatre went back to the generative beginnings of the repertory theatre movement at the turn of the century. He toured with Benson's company in the West Indies, as did Sybil Thorndike with Greet's Company in the American Mid-West and the West Coast in the same period. He too appeared in Barker's season at the Royal Court and in the season that followed at the Savoy. He saw himself as drawing on ideas of the theatre given expression by Granville-Barker; but while Barker, Shaw and Casson preached the Fabian way of a state-subsidised National Theatre, Playfair chose the self-help way of the actors' own Stage Society.

3. A subscription theatre originally founded in 1899 for productions of "the great unacted variety" before audiences drawn from "the London intelligentsia". Successful mainly because of "the co-operation of members of the stage profession." Amalgamated with The Three Hundred Club in 1926; its last production, 1940. Its important result was the stimulation of other groups with similar aims, e.g.s. Mermaid Society 1903, the New Stage Club 1905, Play Actors' Society 1907, Pioneer Players 1911, Adelphi Play Society 1912, Manchester Playgoers' Society 1906, Liverpool Repertory Theatre 1911, Birmingham Repertory Theatre 1912. The Stage Society introduced to London the work of Shaw, Ibsen, Strindberg, Gorky, Wedekind, Pirandello. See James Woodfield, English Theatre In Transition, 1881-1914 (1984), Ch.3 "The Stage Society" pp.55-73.
"I was a member of its original committee and was present at its first exciting performance, which may be said to have founded a school of thought in regard to the theatre."¹ From its opening in 1918, the Lyric Theatre was the engine behind the Stage Society and its post-war successors; from the first productions by Allan Wade and Norman Wilkinson for the Phoenix Society (founded 1919)² to the productions of Kathleen Nesbitt and Cecil Lewis for 2L0.

"The Phoenix Society practically started at the Lyric. All its early productions were staged there; and many other producing societies too, such as the Stage Society and The Three Hundred Club. I have always welcomed these visitors."³ That is to say, what Playfair did for 2L0 with his production of January 1924 he had done several times before, in launching other "other theatres". "Of the first production of The Three Hundred Club ... I produced it myself, _The Discovery_ by Sheridan's mother."⁴

Through his connection with the Play Actors' Society⁵ he put the young Thorndike into a part in a Sunday theatre production that caught the eye of Bernard Shaw.⁶ It was Playfair who brought the Pormadoc Players to London in the winter of 1923-24 and "got (his) fellow directors to offer the Players free use of our theatre for a series of matinees".⁷ It was Geoffrey Whitworth, the founder of The Three Hundred Club (founded 1923) also of Playfair's circle, who helped the Players to find their feet in London. It was Playfair who persuaded the Players' leader, Richard Hughes, on the evening of Friday, January 11th, to write the first wireless play for production over 2L0 on the following Tuesday.

---

5. Founded 1907. See Norman Marshall _The Other Theatre_ (42), p.81.
"It so happened I was dining with Playfair that night. Hospitably he had offered his theatre for a brief London appearance to a small company of Welsh players, I was interested in. (I was 23 at the time and this was my first appearance as an actor-manager) So we met to discuss the forthcoming visit, but somehow soon got to talking about this new business of broadcasting and he told me his programme for Tuesday was still undecided. "Broadcasting is a new kind of entertainment altogether," he said. "Really what it wants is new stuff - stuff specially written for it" ... As if he read my thoughts, he cocked his eye at me and said, "Pity I didn't think of it in time to get you to write something! But I've promised to give them the final programme tomorrow. Cast's engaged and so on."  

It was the modus operandi of the culture of the Other Theatre that gave 2L0 drama its resources in those days. It mattered little to Kathleen Nesbitt, to Milton Rosmer, to Nigel Playfair, to the Casson Thorndikes whether the subject was the bright young actor-manager from Portmadoc or the young Programme Organiser from Savoy Hill. Rose, as in the manner of this culture of short-lived associations, began his career in broadcasting with "Oh, all right - until you get started."  

Cecil Lewis was well aware of the importance of Playfair as an avant-garde chieftain. Playfair's support for the 2L0 experiment and his position in the avant-garde cousinhood gave drama-broadcasting its indispensable first resources. In identically the same way, Percy Pitt's support and seal of approval, brought 2L0 both the performers and audience of opera-broadcasting. In the launch of 2L0 drama "There was the influence of Nigel Playfair, who was after all, a well-known figure in the theatre and lots of artists would do quite a lot for him personally, so he was able to get together quite a good cast. And so he did these really excellent plays very early on."  

3. Cecil Lewis, BBC Oral History Unit Interview Transcript, p.18, BBC Sound Archive.
The movement, of which Playfair and the Casson-Thorndikes were initiates, had as its core the Poel-Barker method of production, a formula expressed by Casson as "continuity of action on an apron stage, the full text spoken with great beauty and a new swiftness."^1

The power generated by ensemble playing communicated direct to the audience via an apron stage was the core of the new practice. When we read of contemporaries' responses to the ensemble method of Stanislavsky, the method of the Abbey Theatre and the method which formed the basis of the Royal Court productions - in which actors played and spoke to each other and not to the audience and actually listened to each other speaking - we sense the power of the new playing. Of the directness of the delivery of that power to audiences via Poel's apron stage, one of the originals of that movement wrote, "The more I see, the more I am convinced that their method (the Elizabethan Society) is not only the right method for that particular sort of play but that any play performed on a platform amidst the audience gets closer home to its hearers than when it is presented as a picture framed by a proscenium."^3

The same experiences directed the Casson-Thorndikes into a life-long cultivation of the resource of voice. "We have always been much more interested in the human voice (than in appeals to the eye through decor, grouping and movement) ... I worry about the intonation and the phrasing of the speech - actually making the play live through the human voice."^4

To the theatre progressives of 1923-24, the fascination of exercises in microphone-drama lay in the experience that the illusion-creating powers of voice, when mediated by the Poel-type stage, were given yet greater affective

---

qualities when delivered direct to the listener, listening via headphones.

One contemporary saw the apron-stage's facility for foregrounding those qualities of speech as surpassed only by the amplifying power of the microphone. In the Gate Theatre, Covent Garden, the actor, "With his voice could get over to the audience subtle variation of tone usually only possible in a studio."\(^1\)

The new playing allowed the small theatres to make the utmost of their conditions: "Playfair's method was to accept the presence of the audience, to make them a partner in the play and to establish a feeling of intimacy between the stage and auditorium. It was a method of production ideally suited to the Lyric with its small, friendly auditorium."\(^2\)

A.P. Herbert was present at the first presentation of wireless plays by Nigel Playfair. In his appreciation of that production over wireless, he drew a distinction between the marvels of illusion of a theatre of voice communicated from a bare stage directed to the listener's ear, and the new Eckersley-Lewis school of theatre which produced voice out of a "proscenium" of sounds. In his article "The Power of Words" he wrote: "In the production of Mr. Hughes mine-play immense trouble was taken to represent realistically by the reproduction of various noises, the approach and development of the disaster - the explosion, the rushing of flood water, the hammering of picks and so forth. It was done as well as it could be, but it was not, I thought, the most successful part of the production, far more effective were the words of the author, the voices of the actors, the silences, the whispers. And I fancy the general effect would have been no less powerful if the noises had been omitted."\(^3\)

He advocated that the method of production via the microphone should follow the model of the theatre of voice that used the apron stage.

---

2. Op cit, p.41.
"Anyone who saw The Way of the World at the Lyric, Hammersmith, will realise what I mean by the importance of words". He advised Richard Hughes and the wireless dramatists that were to follow his example, to consider that the power of appeal of the new medium lay in unadorned voice: "the only force at his command, the power of words, that he will be able to grip and hold the solitary man with the phones upon his head as if that man were sitting in a theatre with a crowd."\(^1\) In the same month someone put the avant-garde's view of wireless drama as an actor's (rather than a technician's or director's) medium: "Broadcast plays have in their words alone the essential stuff of broadcasting." To 2L0, it mattered not that someone should see the way ahead for wireless productions as via theatre prescriptions rather than cinematic form; only that the coterie-theatres had put productions on the road and brought it a London following.

While some appeared to proselytise a view of wireless drama as a logical extension of the "theatre of voice out of a bare stage", the cinema-broadcasting parallel was the dominant paradigm of thought about wireless drama, whether by actors or Company people. Drinkwater\(^2\) viewed cinema and broadcasting as "the two machines" and saw the course of development of the new media of mechanical expression in historical perspective. The gramophone and the wireless were stages in an R & D movement, directed by aesthetic ideals. "The gramophone, apart from mechanical defects, had theoretically the same capacity as wireless; but in practice, it is already plain that the newer invention can do everything that the older one attempted."\(^3\)

The reason why such as Drinkwater, Playfair and the Casson-Thorndikes were drawn into easy and natural creative involvement with the latest of the

---

1. *"An Aid to Drama" by A Playwright, Radio Times 1.8.24, p.242.
quasi-dramatic arts that flourished around them are to be sought in the history of the progressive theatre movement from which they emerged. The cinema was as much an alternative, or 'other theatre' as the matinee and art-theatre culture in which Playfair and others were involved. When Playfair acquired the lease of the Lyric Opera House, Hammersmith, he went over the head of a film company. The purpose Playfair had for a theatre "which had been Lily Langtry's" differed as much from music hall purpose as from the conversion-to-cinema purpose, which competitors proposed. When the subscription audiences of the Phoenix Society deserted to the newer Film Society in 1926, it was less a 'snob rush' and more a confirmation of competition between the cinema-theatre and the 'other theatre' of which Playfair was the triumphant leader just after the war.

The period which saw the founding of Poel's Elizabethan Stage Society, Barker's success in London and Miss Horniman's theatre in Manchester was also the heroic age of cinema. The years which saw the evolution of ensemble-theatre-acting were the years, too, when methods of cinema acting defined themselves. For such as Playfair, sorties across the frontiers of the two theatrical arts revealed others equally involved in making new theatrical codes; and cinema experience, it seems, had in some cases entered into and supported their endeavours. For stylistic innovators like Playfair and the Casson-Thorndikes, cinema-acting and the new theatre-acting were not rivals but kindred arts that had grown up together. The sorties of powerful theatrical innovators into the broadcasting studios was not an accident, but an example of their eclecticism. The argument is that the parallel perceived between the evolution of cinema-drama and a rising wireless-drama, which exercised such influence on the Company people, was of a sort to appeal to theatre progressives who understood that their efforts to develop a

1. N. Playfair, Hammersmith Hoy (1930), p. 188f.
theatre of unadorned voice and efforts to develop acting for the screen ran parallel. That is to say, the idea of the immanence of a cinema-like art in broadcasting received important support in these early years from leading persons from the world of art theatre. It is difficult to say whether it was Playfair or Lewis who did more in the winter 1923-24, to develop the idea of the wireless-play. In a remarkable interview, Playfair drew on memories going back a generation to shape a perspective on the path forward to a 'broadcast entertainment' comparable with cinema entertainment.

"I remember once going with the late Henry Irving to act in one of Mason's plays. It was acted just as in the theatre, but it was a failure. It was absolutely reproduced as on the stage. This was the first idea of using the theatre, with its subjects as actors, for the purposes of cinema.

It took the cinema some time to give good entertainment. They could not reproduce the old stage methods, and stage situations. They had to produce their own technique, their own actors and actresses and their own plays! In the case of broadcasting, I'm convinced that something similar will happen. It may be that broadcasting will indeed not want to use the theatre in a year or so; certainly they will want to use theatre people, actors and actresses, producers and ideas from people closely associated with the theatre craft. But I believe that, ultimately, they will want to do all their entertainments themselves. I cannot believe that the greatest future of wireless telephony lies in the broadcasting of things direct from the theatre.

From my own experience, I am convinced that I could give a far better performance in the broadcasting studio than I could in my theatre for broadcasting purposes. I should most certainly have to cut a great deal and alter much of a stage play to make it what I consider a more or less perfect

broadcast entertainment.

I think that the time will come when the British Broadcasting Company will set about making its own company of players in its own studio and with its own producer.

All plays that are broadcast should receive special adaptation for that purpose. Everything ultimately should be considered from a broadcasting point of view, and all the stage directions will have to be done most deftly. A new craft will be developed and new methods evolved to make things much less dull through the medium of broadcasting.

Looking into the future, I believe there is a wonderful opportunity for playwrights and others who will direct their abilities to the production of material specially suitable for broadcasting. The cinema produced a special type of author and actor - a special type of artiste - similarly do I believe that broadcasting will develop a new type of craft, and in this respect the public will be fortunate.¹

It was partly Playfair's experience in early cinema which accounts for the difference between his forthright rejection of, and Lewis' timid acceptance of, the hessian-draped studio handed up by engineers. Playfair rejected No.3 Studio, prompted by his craft sense of the basics of dramatic speech and by experience of the "total un-understanding" that envelops practitioners of a new media at its beginnings, "I think I mentioned earlier the awful acoustic of our first studio with all that damped walls. As soon as Nigel Playfair heard the quality of speech, he said, this is impossible we must have some speech with life in it, with some echo in it, let's get out of this studio into the corridor and so it happened that the studio had a big wide corridor outside it, and we played the entire Hamlet and the entire As You Like It, in the corridor outside the studio, wheeling out the

microphones from the damped bit into the better acoustic of the plastered walls and open windows of the corridor so that was how drama started."¹

A.P. Herbert, dramatist, friend and neighbour of Playfair at Hammersmith² had been present at Playfair's production for wireless in January. He shared with Playfair the perspective which saw the future of broadcasting already mapped out in the history of cinema and saw that the quick young men at Savoy Hill had learned to take their directions from that map.

"Thus, for more years than one would have believed possible, the film world ... knew that screen-acting and stage-acting were different things ... They have learned their lesson now. The Broadcasters, I fancy, have learned it quicker, for there are signs that they realise that in their case, too, the points of difference between a stage-play and a wireless entertainment are, more important than the points of resemblance."³

The reason why the leaders of the theatre avant-garde brought their talent and authority to 2LO lay in the premises of their movement. Sybil Thorndike was the child of a movement which rejected the long-run theatre. Her dictum: "Never loiter in a part. Act everything and often,"⁴ was the craft ideal of the theatre world of the one-off 'Sunday' productions and the short-run coterie-theatre productions. She had lived her formative years in a world of a constant succession of new acting styles - of the ways of projecting Everyman touring Middle and Western Coast America with Greet,⁵ the methods of Candida and St. Joan from the theatre of Shaw,⁶ the style of

¹ Cecil Lewis, BBC Oral History Unit Interview Transcript, p.18. BBC Sound Archive.
⁵ Eliz. Sprigge, Sybil Thorndike Casson (1971), Chap.3.
Grand Guignol\textsuperscript{1} and the style of the Great Greeks learned from Gilbert Murray\textsuperscript{2}. It was the very practice of theatre invented by Thorndike and her contemporaries of the Poel-Barker \textit{avant-garde} that impelled Thorndike's perpetual movement through parts in West End Theatre and the matinee underworld and sometimes outwards to the territories of the kindred arts of cinema and broadcasting.

From his side, Lewis expressed his understanding that it was the requirement of the development of their craft that drew particularly the most forward acting talent to experiment with the microphone. "We got a good class of actor and actress to take part, because in a curious way although nobody quite knew the way broadcasting was going, artists were interested enough to give their services relatively cheaply because firstly they were interested in the novelty, they wanted to see what it was like to stand in front of a microphone and pretend to be acting and they weren't. To do everything with their voices. All this sort of thing was interesting to them. They saw new techniques developing here and so without much difficulty, we got together quite good casts."\textsuperscript{3}

In the manner of her world, Sybil Thorndike, during the all-but-two years run of the Grand Guignol series at the Little Theatre, September 1920-June 1922, acted twenty-five parts in matinee theatre. "During the Guignol run, she would go now and again to refresh herself with remote classical parts on Sunday nights at such theatres as the Lyric Hammersmith, a stage on which some of the producing societies experimental and otherwise - they had now begun to swarm - found urbane hospitality."\textsuperscript{4} The reason why such a representative figure of the matinee cultures sought experience in film

\begin{enumerate}
\item \textit{Op cit}, p.85f.
\item Cecil Lewis, BBC Oral History Unit Interview Transcript p.18, BBC Sound Archive.
\item J.C. Trewin, \textit{The Gay Twenties} (1958), p.21
\end{enumerate}
studios, in the second of her Grand Guignol years, was the same that turned her to wireless drama in 1924. Of this earlier spate of experiments in film-acting she said:

"I did a series of short films - tense moments from great plays. The first was Moth and Rust in 1921, Lady Deadlock in Bleakhouse and Jane Shore, the mistress of Edward IV and Esmeralda in The Hunchback of Notre Dame. Then I did Mrs. Garland in Old Curiosity Shop and a whole heap of other famous people - I can't remember them all - twelve altogether."

It was from developments at the limits of the acting art that the reward came: "Of course I was interested in a new form of acting. Being a real theatre woman I'm apt to make it all larger than life and in a film you must be infinitely smaller than life. I find them very frustrating. But they are very, very good for me, because they keep me quiet and make me underdo everything."¹

Following her performance in Euripides Medea for wireless in 1925, she explained her experiment in broadcasting again in terms of the value of stylistic renewal and innovation obtained from exchange between the acting styles of differing traditions and between the acting-practice of kindred media. As an actress who had grown up with the change to the ensemble method of acting and had come to know the intimacy with the audience which the apron stage gave, she knew something of the adaptation of methods to new media. To a stylistic innovator like Thorndike, the opportunity to speak directly via headphones to a listening audience revealed a task of medium research and development and audience research and development. As others of her generation, she thought always of a change of a medium as a coupled-change, occurring both at the acting-end and the audience-end, involving the artist in developing the resource of voice heard in a new way and the audience in developing new aural sensitivity: "I believe that the

drama has in broadcasting, a new means of expressing itself. With radio
audiences in mind I believe that the drama will gain immeasurably in that
broadcasting is re-creating in us (the audience) the art of listening. Its
appeal to me lies largely in the limitations it imposes on my art and in
the adaptability it demands of me as an actress. I foresee that broadcasting
will inculcate (among actors) a wider general interest in diction.1

The Contrast Between the Experience of the Balance and Control (Music)
and the Sounds Effects (Drama) Sections

The premise of Drama's foundation was the conjunction of the resource
of new electric instruments with the avant-garde idea of an art for its
time.2 The task for producers was to rehearse voices and sounds to a pitch
that would meet the needs of a listening-only audience. For engineers,
the task was to create the means to combine multiple sounds sources fluently.

The Music Department owed its existence to the Company's search for a
concordat with the world of music. The institutionalisation of the Music
Balance and Control Section as a power within, or alongside, the engineering
system, was an important part of this strategy. Music Balance and Control
emerged largely from the executive's will to formally accommodate a music
interest in the organisation of music reproduction. That is to say, Balance
and Control came into the world not entirely without a rationale, but without
a rationale broadly-based, or in accord with, the experiences and goals of the
major sectional interests of the Company.

By contrast, the rationale of the Drama Sound Effects Section was formed
as part of that joint engineering and avant-garde project to originate and

---

1 (a) Sybil Thorndike "Where Radio Drama Excels" Radio Times 3.7.25, p.49f.
(b) It is important to bear in mind something of the contemporary supposition
of the active character of the Coterie Theatre subscription audiences
of the day. "The serious seekers after drama of a high order ... are
the few, who are themselves almost artists in sensibility and
appreciation, if not in execution." Drama BBC Handbook, 1929, p.14

theorise the new order of 'productions' practice. The Sounds Effects Section was given life, in November 1924, as part of the grander design for the Company's own art form by a coalition of its main interests. Sound Effects received its rationale from that movement's ideology. In theorising their practice, the producers of microphone art stressed the special dexterity and knowledge of production required to create sounds effects and to in-put them into 'productions', in a way that sustained dramatic sound-illusion.

Music Balance and Control's reason for existence was formal and contingent on the Company's need to meet the damaging charge that reproduced music was 'mechanical'. Drama Sounds Effects derived from the project (which attracted the allegiance of the three main sectional interests of the Company) to create its very own art form. Sounds Effects could rely on the developing theory and practice of the engineering-stylistic microphone-drama movement to justify its experiments.

1. The Sounds Effects Section has a complex history of its own. At 2LO the re-production of 'noises-off through the microphone, proved a 'baffling' problem ('we could make nothing sound as it was meant to sound'). This obstacle hugely inflated rehearsal hours. (Rehearsal for the first Greek play at the Glasgow Station, May 1924, absorbed 120 hours.)

In January 1924, Nigel Playfair and Richard Hughes met these problems by employing first cinema-exhibitors' effects. "In those days, the grander movie houses employed an 'effects man', who wound a wind machine and accompanied the galloping cowboy with clashing coconut shells. Someone ran round and enlisted the effects man from a cinema in the Strand, wind machine and all."

From that time forward, Van Dam, Manager of the Tivoli, provided 3 men to work effects for 2LO. When R.E. Jeffrey arrived as Head of Drama in July 1924, Arthur Whitman became his 'accomplice' in effects experiments and was taken on permanent staff, 17.1.24. A second effects assistant helped out from December 1924 and became permanent, January 1926.

The perfection of the Drama Control Panel in 1927 hastened a re-formation of effects. The original theatre men departed. The establishment of a Revue and Vaudeville Section pushed forward this evolution, which brought in Saunders-Jacobs, a musician and Brian Itchie a schoolteacher and 3 recent school-leavers in 1929.

The establishment of Variety in 1933; the shift to the use of batteries of gramophone turntables for 'gram effects' to supplement 'spot effects' and the great expansion in the volume of light entertainment, accounts for a surge of development that made Variety Effects the fastest growing support section 1933.35.
Music Balance and Control, living always in the shadow of the new dramatic art, suffered the massive disability of appearing to call for developmental resources, (understandable where art was in-the-making, as in microphone-drama sphere, but not where music was music). It was one thing to experiment under the aegis of 'new art'; pretentious, where producers of music themselves eschewed all claims to the newness of what they were doing.

Drama or Productions, from its inception, was a vehicle or instrument of stylistic-engineering research and development, in an age in which the research arms of the great electric companies, from A.T. & T. and General Electric downwards, saw themselves carrying their companies forward into non-utilities' areas. From 1924 until the end of the decade, when Lewis ceased to be a full-time member of staff and the department received a new director (1929), Drama operated as a research venture.

Sounds Effects formed part of the design for a broadcasting art sui-generis. The grand design included firstly, sound and voice heard blind and conceived as a new dramatic stuff; secondly, a system of electrical and acoustical control (i.e. a microphone and studio system); and thirdly, an evolving body of ideas or criteria for a new drama. The rehearsal of sound

---

1. This statement is influenced by Arthur Stinchcombe's observation on the correlation between the time in history that a particular type of organisation originates and the structure of these organisations. The mid 1920's was the period of origination and growth of research and developmental laboratories.

See also Arthur Stinchcombe 'Social Structure and Organisations' in James C. March (ed.), Handbook of Organisations (1965), p.143;


and voice, the system of sound reproduction and control, and the production of plays that vindicated the gospel of a drama of the day (independent of the theatre) are those areas in which the effort to create the practice, theory and artefacts of a broadcasting art can be traced. 'Sounds Effects', 'Microphone and Studio Technique' and 'Drama Created Specifically for Broadcasting' became the banners under which the spokesmen of a new art advertised the novelty and the progress of their undertaking in the propagandist works of 1924, in the pages of Radio Times, and in the Year Books of the Corporation.

In what follows, we wish to show the degree of consistency that unites the efforts of engineers to perfect the apparatus and the efforts of producers to rehearse voice and sound, and of critics to perceive the forward march of the new art in a series of 'landmark' productions.

The difference between the position of the new Music Balance and Control division of labour and the Sounds Effects grade was that the latter was part of an endeavour which united the interests of engineers, artists and executives. Unlike Sounds Effects, Balance and Control lacked bases of support among engineers and artists as an integral part of a new art. Consequently, those occasions in later years, when the Balance and Control officials advanced claims for additional resources, generated crises of institutional identity. At those junctures, Engineering and Music failed to provide the affirmation or endorsement of the Balance and Control function as the members of that section understood and performed it. Balance and Control's dilemma was that its sphere was the changes wrought on musical performances by mechanical reproduction; changes which performing musicians in a pre-recording era did not hear, which specialist listeners thought "debasing" and which non-specialist listeners thought inconsequential. That is to say that, while Sound Effects formed an element in the synthesis of a
new art created by artists and engineers, Balance and Control by musicians was an institution intended only to offset an as yet imperfect system of reproduction.

The first staff of the Company were at once the bearers of a sense of the marginality of their position and of the unrealised potentiality of electric-wave communication. Eckersley had ventured forth into broadcasting from the firm ground of Marconi radio telegraphy research. Burrows felt that he was burning his boats in leaving Marconi publicity. Lewis, as a Royal Flying Corps officer and a post-war Metro-Vickers test pilot was a non-technician inhabiting the worlds of aviation and wireless communication. For such a company, an attempt to establish an identity and define axes of advance for the new enterprise was a natural reflex.

The working out of that reflex is shown in the publication of three attempted projections or syntheses of the implications of the microphone sender and receiver system in the first eighteen months of the Company's life.

The argument here is that the first works on broadcasting, those of 1924, Lewis' Broadcasting From Within, Burrows' The Story of Broadcasting, and Reith's Broadcast Over Britain, reflected the need of the Company to challenge the art publics that restricted them and to express and advertise the special character of the new organisation. Facing a potential audience of art publics resistant or hostile (or pronounced so by their leaders) to broadcasting, it is not surprising that the possibility of discovering in the new technology, the power and resource of a genuine broadcasting art, peculiarly its own, proved attractive. Further, it is possible to see that project for a technical-artistic collaborative art, offered a way forward,

1. Lewis was a Royal Flying Corps Pilot in World War One. Within a fortnight of being demobilised, Lewis joined the staff of Vickers Ltd., and was assigned to assist the development of a commercial air service, initially in England. In April 1920, he was sent to Peking to inaugurate a Peking to Shanghai air-service. Cecil Lewis, Don't Look Back (1974), p.41f.
around which artists and engineers (the organisation's leading interests) could unite.

That environment of a singular, new, electrical medium of communication, and the perception of the potential audience as a plurality of art publics, determined the Drama Department's development, in the twenties, as an art-organisation devoted to exploiting technical resources to the full. By the end of the twenties, the singularity of radio-wave communication was modified by the coming of other modes of electrical communication - by electrically-recorded records, the sound-on-film movie and television. In the late twenties attention shifted from the singularity of the individual medium to competition between the media. Accordingly, perception of audiences in terms of art and art publics changed to a perception of the task of broadcasting in the terms of the entertainment of a mass audience.¹

1. On July 14th 1930, Lance Sieveking produced the first play for television at Logie Baird's building in Long Acre. By 1934, Sieveking (Lewis' successor as maker and propagandist of wireless drama), saw the fate awaiting the pure radio drama in the late thirties, prefigured in the fate of the silent cinema following the coming of sound in the late twenties.

"It is more than likely that this present decade will be the only decade which will know the radio-plays, that strange curiosity which appeals to the ear alone, just as the three preceding decades may be the only ones to know the silent film." Lance Sieveking, The Stuff of Radio (1934), p.28.

"The mechanical apparatus of entertainment has recently been greatly multiplied. In the field of drama, the artist once stood alone. Now into that field have entered the gramophone, the silent screen, the talking screen, the wireless and hesitatingly as yet, television. A new problem has arisen. What is the right use of these inventions? What is their aesthetic relation to one another and to the theatre? ... Television being as yet in its infancy, mutual relations of existing methods of entertainment are of present concern." It is significant that Charles Morgan in 1930 in conditions of 'multiplied' media could cite it as a commonplace perception that the audience for wireless drama must remain a minority one.

"It is fairly clear that, until it is reinforced by television, the scope for the wireless as a vehicle for drama, as drama is now understood, must be a narrow one."
The Working Out by Engineers and Drama People of a Method of Using Electrical Gear to Produce Precise and Calculated Effects on Listeners, 1923-28

The dominance of the idea of the Drama Department as an organisation to assist the development of technical and stylistic artefacts, was natural to an enterprise where engineers' and artists' work overlapped in an era when audiences were conceived of as specialist art publics. In the era of a competitive mass media, priority shifted from the cultivation of collaboration between artists and engineers to the search for cost-effectiveness by an economising managerial hierarchy.

The end of the first period of the Drama Department's history was marked by "The decision at the end of 1928 that Mr. Jeffrey was not the right man for the job."¹

Jeffrey became head of a newly-formed Productions Research Section in January 1929. His departure signalled the beginning of a change from the early emphasis on the full utilisation of technical resources and on the creation of plays specifically for the medium.² It marked the beginning of a transfer of emphasis away from experiments in the use of effects and towards a fuller use of narrative. The re-orientation was directed by "The belief that the machinery of productions was little more than a necessary evil; that the audience was more interested in what plays had to say than in the methods of their production; and that the radio-play is a method of story telling, and the whole business of production must be subservient to the effective telling of the story."³

Val Gielgud, whose words these are, became the new director of

---

2. "I think ... that with R.E. Jeffrey's resignation from the Productions Department, what may be called the First Phase of British radio dramatic history came to an end." Val Gielgud, British Radio Drama 1922-56 (1957), p.24f.
Productions. Jeffrey was appointed Head of the newly formed Productions Research Section. The marginalisation, or the removal of the programme research function to a point outside the Department, in 1929, represented the beginning eclipse of a certain ideal of art organisation. This change spread over the next four years. The new Director himself saw this period as one in which the balance between two dramatic traditions tilted. He wrote: "I learned between the years 1929 and 1933 ... that the content of plays must not be sacrificed to mere technical ingenuity. The effect both on producers and writers of the invention of the original dramatic control panel, and the technique of using multiple studios, was ... to overweight interest in machinery. This phase was, I think, inevitable considering that drama was being presented in terms of an exciting new medium and under hands for the

Jeffrey's colleagues in the Productions Research Section were Sieveking, Mary Hope Allen (ex-Children's Hour; later original member of Features under Gilliam, 1936), E.J. King-Bull (Announcer from Presentation), E.A.F. Harding (pioneer of features as Director of Programmes, Northern Region. Late 'thirties, co-director of BBC Training School), J.E.C. McConnell (transferred from Cardiff Station where he showed special interest in light-music reproduction. Revue Section from 1930).

Of the Productions Research project, Gielgud wrote:

"This assignment ... failed to work ... in an organisation which had hardened into a provider of programmes for mass entertainment. Gear, studios, artists, programme time were all needed desperately for the output of normal production routine ... Research individuals were not well regarded by colleagues who envied their freedom from the tyranny of the stop-watch ... The situation might be defined as one in which a laboratory staff existed, while the laboratory did not ... At such an irregular state of affairs - hideously untidy from the administrative point of view - official eyebrows began to be raised ... On Jeffrey's resignation, Sir John Reith sent for me and delivered an ultimatum: research must become an integral part of Productions, for which I must take responsibility, or it would disappear."

British Radio Drama 1922-56 (1957), p.27.
most part of young enthusiasts inevitably fascinated by machinery in a mechanical age.\textsuperscript{1}

The years after 1929 saw a decisive shift in Drama from the organisational goals of an engineering-stylistic research project to those of a department of supply of narrative product.\textsuperscript{2} The period was also the one which saw the rise to power, in the Corporation, of the strategies and structure of corporate management.\textsuperscript{3} The year that saw the demise of Productions Research and the transfer of Lance Sieveking to straight production was also the year of the big Re-Organisation Scheme. The 1st October 1933 saw the coming into effect of a thorough-going re-organisation of the

---


Gielgud's comment referred particularly to the activities and ideas of Lancelot Sieveking. It applied with equal force to the pre-Gielgudian era as a whole. Cecil Lewis, the early aviator and broadcaster was the very type of the artist fascinated by machinery in a mechanical age. See Cecil Lewis' reference to his "basic 'scientific attitude'," which he traced to his solid grounding in science and mechanics at Oundle.

"But they (my parents) must have already noticed ... my avid interest in everything that was in those days called 'scientific' ... I had already developed a passion for anything to do with aeroplanes. So he (my father) announced that he was sending me to Oundle ... Oundle was at the time the only 'modern' school where the labs and workshops were given pride of place ... New science blocks were completed before I left ... The curriculum was wide. Not only physics and chemistry, long periods in the labs and workshops, mathematics, optics, mechanical drawing ... To Oundle I owe a basic scientific attitude to life."


cf. Lance Sieveking. In 1928 Lance Sieveking wrote and produced Kaleidoscope I "to write for the microphone and produce before it ... was as exciting and marvellous a business as I had ever known since the time when years earlier, Graham White had taught me to fly." Lance Sieveking, The Stuff of Radio (1934), p.16.

2. Lance Sieveking writing at the end of the period, identified non-narrative genre of 'arranged sounds' as 'the stuff of radio', 'the radio of radio': "The radio-play ... is an arrangement of sounds, which has a theme but no plot. If it has a plot it is a play ... I have called it (arranged sounds) "the stuff of radio to differentiate it from all those other vast fields of art and activity which are not peculiarly the stuff of radio."


Corporation according to the ideas of scientific work, or organisation, study. It resulted in the separation of the "creative" work process from the 'controlling' or channelling of resources through the organisation.

The coming into effect of economising managerialist ideals of organisation occurred along with the substitution of the goals of mass communication and the values of entertainment for the goals and values of "art for its time" and enlarged art publics. The argument is that there was an earlier era dominated by the interconnection between new art and the technology of its time. But the coming into dominance of that ideal in the Broadcasting Company years, was favoured by historical circumstances - the conjunction of the notion that new art would come from the microphone as it had from the movie camera and a golden age of coterie or salles d'avant garde theatre in London. That historical conjunction underpinned the broadly-shared perception that the microphone would bring forth a new art and broadcasting miraculously enlarged audiences for that art.

It is important to notice that attempts to give the cinema the status of an art, occurred in London in the same period in which Lewis and others sought to theorise an art of the microphone. Both projects drew on the ideas of the Stage Society and the repertory movement.

Playfair carried the Stage Society idea to the Lyric Theatre and to 2L0. The formation of the London Film Society too, was prompted at its beginnings by the example of the same society. The fellow Cambridge students, Ivor Montagu and Hugh Miller founded the Film Society in 1925, "for films no one in England would ever see otherwise, just as there's a Stage Society." The project for a repertory cinema took-off in the mid-twenties in association with the beginning of film criticisms in the 'serious' daily papers and the publication in London of books focussing on the artistic nature of film, viz. The Art of the Moving Image.

---

Broadcasting gained support from constructive critics and innovative producers - from Filson Young, Percy Scholes, Lewis, Richard Hughes, A.E.F. Harding, Mary Hope Allen and Sieveking, and had *Radio Times* as its weekly forum. Some idea of the 'serious public' backing the Film Society is conveyed by the names of its founding members, Maynard Keynes, H.G. Wells and Bernard Shaw, and its younger members, viz. Montague (critic and director), Iris Barry and Walter Mycroft (film critics), Anthony Asquith (director), Adrian Brunel (director), Basil Wright, Arthur Elton, Stuart Legg (all fresh out of Cambridge) and John Grierson. The Film Society had as its forum, the first critical film magazine, *Close-Up* (1927-33).

As Lewis and his Company promoted the art of productions, so Montague and his company promoted the art of the silent film and later the sound documentary. Grierson, from his base as Director of the Empire Marketing Board Film Unit (from 1929) and the Post Office Film Unit (from 1933), carried the sound documentary to wider audiences. E.A.F. Harding, from his base, as Director of Programmes, Manchester, made the Northern Region, from 1930, the training ground for features' production.

The argument being advanced is that in the years between the opening of the first studio at Savoy Hill in May 1924 until Jeffrey left the staff in May 1929, radio drama was a central institution in an organisation of a new type. The conditions which made radio drama effective in bringing artists and engineers into collaboration were historically specific. Firstly, in the golden age of silent cinema, creative spirits were inspired to see in the microphone sound-track and aural atmospheres, the stuff of a new art comparable

---

1. See *The Oxford Companion To Film*, ed. Liz-Anne Bowden (1976), entries under 'Crown Film Unit', 'Film Society' and 'Grierson'.
with the art composed from moving pictures. Secondly, a generation of research engineers found opening before them a non-utilities domain, in which a swift succession of microphone and studio improvements suggested a relationship of interchange and co-operation between artists and engineers. Thirdly, a body of critics found in the pages of Radio Times (from 1923) a forum from which to formulate the criteria and advertise the progress of a new art. Lastly, in the pre-talkie and pre-electrically produced records' era (when non-commercial theatres and the London Film Society flourished) the idea of building a new art and a public (a cognoscenti) of one's own exercised a power of appeal over Company chiefs and Corporation officials that was historically specific. These conditions, which gave reality to those several ideals, were dissolving before Jeffrey left and replaced by others by the year that Productions Research came to an end.

In the creation of a studio and microphone technique (whether viewed as the relations of studio drama production involving producers, actors and support personnel or as the design of a microphone and studio complex) the efforts of drama producers and engineer researchers were sometimes directed by their own disciplines and in relative isolation. Sometimes those efforts converged and re-enforced each other. Those moments when engineers and producers joined forces in carrying programme technique and engineering technology on to new thresholds were important occasions in the consolidation of a broadcasting organisation. Principals on either side, saw those conjunctions differently. In early 1927, A.G. West the

---

1. Twenty-five years later, Gerald Beadle tried to distinguish an elusive 'broadcasting craft' distinct from engineering or artistry of any kind. "I must ask you to take it from me that if you create a gulf between the artistic and engineering functions, broadcasting in any really effective sense becomes almost impossible. It is a craft which comprehends and transcends both art and technique. It is the art of using electrical gear to produce precise and calculated effects on the mind of the listener." Gerald Beadle, "Twenty-Five Years with the BBC", Programme script of Transmission: West of England Home Service, Monday 3.1.49, p.8 BBC Written Archive.
the engineering principal in the development of the Dramatic Control Panel wrote that: "During the last three years or so the development of studio technique, and studio design, has been extremely rapid, and has kept well in line with, and in many cases well ahead of, the requirements of the programme producers."¹ Lewis credited non-engineers with the idea from which the apparatus derived. "The Dramatic Control Panel in Savoy Hill ... was the product of belief in the future of radio drama from the programme side and much ingenuity and clever design from the engineers."²

It is certainly possible to identify a phase in which efforts were made by artists and engineers, each according to their own discipline and in relative isolation. The B.B.C. Handbook 1929 explained the problem of translating theatre drama to microphone drama. "Theatres are the worst possible places from which to broadcast speech ... A great difficulty is to obtain a proper vocal balance between the individual performers, that is to say to give listeners an impression equivalent to that received in the theatre audience in regard to the relative prominence of one voice over another. When Lord Dundready makes his famous exit addressing \textit{sotto voce} remarks to the mat which has caused his discomfiture, a microphone placed too near would make his voice sound as loud as a Hyde Park orator though to the ears of a person standing by the microphone, it would come as a stage whisper."³

From the Spring of 1923 Lewis moved from "outside broadcasts" of theatre plays to the understanding that the microphone (like the movie camera) required its own workplace and its own technique. "Very few plays in the field of legitimate drama could be transmitted at all, since the players rarely speak into the microphone (a very necessary consideration) and are at constantly varying distances from it. For purely technical reasons,

---

therefore, we can surely do better in our own studios.\textsuperscript{1} By the end of that year radio drama producers accepted that their medium was a soundtrack whose products were to be \textit{listened to}. "The play is gone through 2 or 3 times in order to perfect cues, musical interludes etc., and is finally listened to at the end of the amplifier on a pair of telephones in another room."\textsuperscript{2}

Jeffrey was the first to set down the problem of production for the microphone. He wrote: "Positions of artists and microphones are most important. It is useless if, after selecting a certain type of light voice to illustrate a weak character, we place him close to the microphone. This will probably cause him to "come through" much stronger than the triumphant hero who has been carefully kept well back to avoid possible 'blasting'."\textsuperscript{3} Lewis urged artists to accept new hierarchies of authority as a first condition of a microphone theatre. "If the announcer puts you in a certain position relative to the microphone, \underline{stay there} ... You may think you are too far away, but trust him when you have taken up your position don't walk towards the microphone ... Stay where you are. The engineer is controlling you and doing his best to get all you have into the aerial."\textsuperscript{4}

Drama producers used their authority to move actors on or off the stage to modulate the microphone soundtrack well before engineers provided instruments. Lewis wrote: "The first dramatic reproductions were all done in one studio ... Sometimes we had an orchestra playing in the passage outside. The microphone picked them up through the open door and when we wanted to fade them out, we closed it."\textsuperscript{5} Another wrote, "It was difficult to give the effect of

\begin{itemize}
\item \textsuperscript{1} C.A. Lewis (1924), p.85f.
\item \textsuperscript{2} C.A. Lewis, \textit{ Broadcasting From Within} (1924), p.62f.
\item \textsuperscript{3} R.E. Jeffrey, "How an Opera is Broadcast" \textit{Radio Times} 30.11.23, p.337f.
\item \textsuperscript{4} Cecil Lewis, \textit{ Broadcasting From Within} (1924), p.125.
\item \textsuperscript{5} Cecil Lewis, 'Producing a Radio Play Then and Now' \textit{Radio Times}, Vol.XLI Southern 3.11.33, p.32.
\end{itemize}
'distance' ... Sounds refused to blend as they were required to do, so effects apparatus was installed in a passage and the dance band played while seated about the staircase, the studio door being kept open so that the various sounds could be picked up by one microphone. This very crude method was the very first experience of what we have since called programme mixing. Producers used their old powers to move actors in novel ways to suit the needs of the microphone. "Coping with crowds," writes Howard Rose, "had been a big problem for a long time. We had stuck them with their backs to the microphone, or even out in the corridors."  

In the new Birmingham Station (opened 11.8.23) drama producers carried this method of modulating voice to a new pitch of sophistication and control when they substituted signalling lights for the earlier dumb show. "In this particular studio, the artists are kept informed upon the strength or weakness of their voices (and the necessity or otherwise of moving nearer the microphone) by a system of coloured signalling lamps operated from the control room. As this station has a strong repertory company for vocal solo and choral work, many of the artists have become accustomed to taking their instructions direct from the lamps without the aid of an interpreter."  

What is important to notice is that engineers' constructive efforts reciprocated the efforts of Productions producers seeking to better articulate and control the sounds and voices substance of their programmes. Gerald Beadle whose career reached back to 1923, defined the basic of broadcasting professionalism as, "using the electrical gear to produce precise and 

calculated effects on the mind of the listener."¹ It was an accurate reconstitution of the idea of broadcasting that served to unite engineers and artists in one organisation in the era of West and Lewis. It was an idea that placed engineers on an equal footing with artists in an indissolubly technical and aesthetic venture.

Others at the time, saw engineering endeavours to instrument powers of critical control over effects on the minds of listeners, only in their aspect of self-publicity. "The stunts began with the broadcasting of the chimes of Big Ben to herald in the New Year of 1924. Since there was then no mechanical tie up with the clock this really was a stunt. The engineers had to scramble with their paraphernalia on to a roof top in the neighbourhood of the Houses of Parliament and pick up the chimes in their microphone. The young, giddily dancing the New Year in at the fashionable dance halls broke off in the middle of their steps and stood enraptured."²

The idea of radio production technique was pre-figured in the studio developments of 1925 (the year of the York Military Service Broadcast and West's Report). Jeffrey showed that the separation and re-splicing of sound sources had become routine practice in Productions by the July of the year that began with the New Year Big Ben-on-dance-music stunt.

¹. Gerald Beadle, "Twenty Five Years With The BBC". Programme Script of Transmission: West of England Home Service. Monday 31.1.49, p.8. Beadle (responsible for the establishment of studio support personnel - Music Balance and Control and Drama and Variety Sounds Effects - as "Programme Engineers" in 1938) repeated this statement before the Mennell Committee in January 1949, when the rationale of studio support work (whether more "programme" than "engineering") was once again a matter of dispute between Engineering, Service Departments and support personnel themselves.

See Gerald Beadle's "Verbatim of Evidence to the Mennell Committee", January 1949, in File 'Staff Policy, Studio Operations Committee' R49/797/7. BBC Written Archive.

"The Noise Effects are now usually in another room to avoid distracting the players, this requiring two synchronised microphones."\(^1\)

Work pushed ahead in several directions simultaneously to fill out a system that would give smooth and imperceptible studio control. Efforts to substitute 'fades' for 'clicks' in changeovers between microphones, went on alongside efforts to give the producer central control over operations in more than one studio.

"The installation of (Birmingham-New-Street type) red lights in the studio at Savoy Hill occurred in the Spring of 1925."\(^2\)

The Productions idea was instrumented as much from specifications handed up by producers as by engineers' roof-top stunts to merge Big Ben and New Year's Eve dancing. In the very period when Lewis and L.S. Jefferies were sketching plans for engineers for apparatus that would convenience the Balance-er and Controller; Productions producers were specifying arrangements that would place the headphoned producer at the centre of a web of control.

"The introduction of silence cabinets into studios (occurred) on account of certain programme requirements. The need evolved as follows: it was realised that it was much easier to carry out the placing of artists ... on the spot, and an ordinary telephone silence cabinet was introduced. The producer could listen during a rehearsal or an actual performance in comparative silence with headphones.

These ideas were first fully put into practice in No.4 studio (Drama and Variety), where a silence cabinet was built in one corner with its own microphone and silent changeover device switching from studio microphone to announcer's microphone and operating automatically at the same time corresponding lamps fixed on the outside of the cabinet to indicate to artists in the studio which microphone was sensitive. Neon lights indicating S & A were in use."\(^3\)

---

At the moment when West began to develop the telephone booth as the producer's place of command over operations in the drama suite, Eckersley announced the remove of the engineers to the Engineering Control Room, a point distant from the studio.

"In earlier arrangements the controlling engineer sat in a little box just off the studio, gazing into the latter through a soundproof glass window. He could watch all that went on, could be signalled to in dumb show, by the announcer, and could keep in touch with all that was going on.

... Briefly in our more modern installations (developed (1924) a separate control room is arranged, where all switching and controlling is centralised. It is the nerve centre of the business."\(^1\)

A report in the autumn season of 1925 stressed the ease of intercommunication between actors and support personnel and the power of flexible command over operations given the producer by the new studio design.

"At Savoy Hill, workmen are busily engaged in the construction of new studios. Perhaps the most interesting of the new studios is a large room divided by a glass partition and glass doors, which is set apart for rehearsals and dramatic transmissions. The two halves of this room are differently constructed and arranged. In the one the players will speak their parts; in the other, the effects will be produced, by assistants who can see when is the right moment through the glass."

A silence-cabinet will make it possible for the dramatic producer to see what is going on in both rooms and to hear how the sounds blend as they are transferred by two separate microphones to the amplifying room; he will be able to indicate by word of mouth, or by indicator board, to those in either room whether they are too loud or too slow, and, if need be, cut off the effects when they are drowning the diction of the players."\(^2\)

---

The report saw the current building work as a phase in an extensive continuing drama-engineering project, which made the special demand that the initial specifications of problems be got from insights and grasp on the needs of programmes; as well as the usual demand for inventiveness in solving them.

"Not everyone realises what infinite ingenuity and art go to the construction of a successful transmission studio. And the BBC engineers have by no means finished with their experimenting."

According to this view of the two-sided demands of drama-engineering, A.G.D. West in February 1926, announced a functionally-designed drama suite having a versatility that matched the varied needs of sounds-drama production.

"A combination studio for dramatic purposes, consisting of three parts which allow of effects and echo to be superimposed on the transmission of a play just as it is desired in any particular production."¹

Eckersley showed that experimentally-minded producers were lobbyists for the speedier carrying into effect of plans for a purpose-built drama machine. He followed West in recording the re-basing of drama in premises that gave critical control of sounds production at their points of origin and gave the producer powers of communication and command in combining them.

"Up to a few weeks ago, we played from, practically speaking, one studio. Those who wanted room to rehearse, experiment ... agitated considerably against this ... Consequently three new studios were built.

The players may speak their lines in a quiet room while backgrounds are controlled in another studio by a headphoned individual who hears as much as you do."²

Eckersley and West showed that engineers provided drama producers with new facilities but also that producers were an active force, on their own behalf, pressing for the implementation of the engineers' designs. That

1. A.G.D. West, "Programmes From Five Studios, Behind the Scene at the London Station", Radio Times 5.2.26, p.292.
reciprocation of action, by engineers from one side and producers from the
other, is a crucial element in the argument being here developed. Producers
maintained their pressure for improvement throughout 1926 and 1927. The
party of reform renewed their agitation in June 1926, when Lewis protested
to the Programme Board that existing studio arrangements failed to provide
producers with that measure of control that would allow them to operate on
the minds of listeners with precise and calculated effect. "Mr. Lewis drew
our attention most emphatically to the existing inadequate arrangements
available for the Dramatic Department in their productions. He asked that
a special control room should be installed so that the producer could control
all the effects which might be taking place in the different studios and
that further he should be able to speak by means of one microphone with 4
plugs to each or all the studios in operation at once. In this way a
tremendous saving of time would result and also true balance between the
various effects would be obtained. A Sub-Committee consisting of Roger
Eckersley, Controller and Chief Engineer and Dramatic Producer would go into
the matter to try to make improvements."¹

It was this compartmented, but under-sound-proofed, drama suite of
winter 1925-26, which served in Lewis' memory as the embryonic drama control
system. "During the first two years broadcasting spread like wildfire.
Soon we had several studios ... among them one specially designed for plays.
We were wildly excited about it, for it consisted of a room divided in half
by a glass partition with a microphone in both halves. One side of the
partition the floor was of concrete, the other was carpeted; one was for
effects, the other for speech. In a corner was a little box with rheostats
controlling the volume of the microphones, and also a signalling device - a
number of buttons, which when pressed, lit up signs in the studios,
reading 'Louder', 'Softer', 'Backward', 'Forward' to control the position

¹. Programme Board Minutes 11.6.26 BBC Written Archive.
of the artists and the effects during a transmission. As the division was far from sound-proof, the microphones 'leaked' badly; but, primitive and ridiculous as this sounds today, it was a decided improvement on the single studio and deserves to be recorded as one of the definite steps towards the creation of the D.C. Panel.\footnote{1}

It was this same box with rheostats located in the early glass-divided drama suite, which Howard Rose recalled.

"Howard Rose thinks he was the first producer to use (an early 'drama control panel'), a little black box with two control-knobs, each of which was linked to a separate microphone on either side of a glass panel dividing a smallish studio right across the middle. Against the side of this screen, was partitioned off a tiny cubicle with just enough room to hold a chair and a little table on which the small black box was placed."\footnote{2}

Six months later R.E. Jeffrey renewed agitation for improvements and made reference to delay in implementing already approved plans: "a scheme for a listening and control room to act as a nerve centre for all productions and rehearsals requiring more than one studio."\footnote{3}

February 1927 appears as the moment when the engineers' movement to perfect the new studio technology and the Lewis-Jeffrey's agitation for its implementation, carried drama production on to a new threshold. In the Spring of 1927, West (soon to depart to the new Gaumont British sound studios), wrote his series for Wireless World, a review of the progress of studio, microphone and electrical equipment design over the previous four years (broadcasting from Savoy Hill began May 1923).\footnote{4}

\begin{itemize}
  \item 2. Val Gielgud, British Radio Drama, 1922-56 (1957), p.22. Val Gielgud's judgement that Jeffrey's "experiments tended not to go far enough because of the restricted facilities of the time" excludes a reference to Jeffrey's and others' agitation for such facilities.
  \item 3. R.E. Jeffrey, Programme Board Minutes 13.1.27.
  \item 4. In consecutive issues of Wireless World between 9.2.27 and 2.3.27 under the general title, "A Tour Round Savoy Hill".
\end{itemize}
In that month, a new Number Two studio was constructed containing "an embryo 'control' panel controlling the volume of the microphone, with various signalling devices in addition," located in Room 97.  

West described the drama suite, as consisting, "essentially of four parts; in addition to the three sections - the dramatic, echo, noise - there is a silence cabinet where the announcer or producer of the play can get the right balance between the speech of the players and the incidental noises, introduce echo and atmosphere that may be necessary and also superimpose his voice if he wants to."  

As the original black box with rheostats had become the 'embryo drama control panel' so the original silence cabinet, the glass telephone booth, had become a sound-proofed nerve-centre. As West put it: "The idea of a silence cabinet built in the studio is being abandoned in favour of a small room built next to and actually outside the studio with a view of the studio through a small window, rather like the leper's squint in the walls of ancient churches. The new studios are being built with this adjacent room including a microphone for the announcer, microphone changeover switch, headphones for balancing and general checking of the programme; and communication telephone to the control room. Operated from the last mentioned is a bright light in the studio which shows when the control room is calling for the announcer."  

The BBC Handbook 1928, recording the events of the Corporation's first year, gave special prominence to "studio construction and technique" in three detailed reports. Taken together, they celebrate the synthesis of a technique and an art of using electrical instruments to produce precise and calculated effects on the minds of listeners.

1. D.W. Clarke's notes in "Drama Department 431" Acc.44986 BBC Written Archive.  
5. BBC Handbook, 1928 "London Studios", p.161ff; 'Studio Construction and Technique' pp.207-10; a third to the brand-new 'function' of Sound Balance and Control.
"One of the most interesting innovations at Savoy Hill has been the installation of a new set of dramatic controls. The use of several studios simultaneously has been a feature of some of the dramatic productions during the last year or so. The system of combining and controlling, say, four studios at once, has up to now been rather difficult. In the present arrangement, the producer of an entertainment involving several studios, can use a new control board which comprises any number of studios. He can listen during rehearsal to a loud-speaker reproducing the combined results, and correct faults by talking via a microphone in front of him to each assistant in charge of each studio at the time. During transmission he has the strength control for each studio in front of him, and he can alter the balance, continuously maintaining it correct while listening to the transmission reproduced by the loud-speaker in front of him.

In ordinary plays he would only use two controls, one for the players in the studio, and one for the noises in the noises room. But very often it would be necessary to use an orchestra ... Microphones are disconnected from their own amplifier and connected through to the Drama Control Panel.¹

Some of the bigger broadcasts (such as White Chateau) need several studios simultaneously with an orchestra in No. 1, voices in No. 2 (drama), effects in 28. Echo is applied externally as required. The cue sheet for such a production is a most interesting piece of work. In the past, it has been literally followed blindly, as those taking part cannot see their colleagues in the other studios ... 

... The artists in the various studios 'come on' when warned to do so by various members of the Dramatic Producers' Staff ... wearing headphones they are in constant touch with the course of production.

Till recently it was necessary for the sound products to be blended. ... in the main Control Room, the general balance ... between components ...

¹ "The Listening Room", BBC Handbook 1928. See typescript "Dramatic Control Panel" in File Acc.44986 BBC Written Archive.
being arranged by the Productions Director - calling for much skilful
"fading-in" and "fading out". Since the introduction of Room 97 the
production of such a programme has been greatly simplified. Installed in
his room is a piece of apparatus, which enables the producer to be in touch
with each of the studios so that he can give instructions from a central
point while the rehearsal proceeds and blend the products of the various
studios into a whole which he is able to hear on an efficient loudspeaker.¹

Collaboration between artists and engineers, I have argued, played an
important part in providing the organisation with a sense of identity. The BBC
Handbook, 1928, revealed the features which distinguished it as organisation
of a new type: firstly, the diversity of its functions;² secondly, its
R & D capability;³ and thirdly, the readjustment required of its clients
if the economies of large-scale communication were to be realised.⁴ The
core activity of the new-age organisation was the task of involving many
types of artist with engineers in the development of new methods of mediating
their arts. What the Handbook revealed was official acceptance by the
Corporation that the task of using electrical instruments to produce aesthetic
effect was most sharply defined in that Department which by name was set
free from indebtedness to any one of the older arts or activities, that
is to say, from Music, Education, Talks or Religion. 'Productions', where
the activities here under review were centred, was the Department charged

¹. BBC Year Book, 1928, p.162.
². Of the Corporation's thousand-strong staff: 'Few of these thousand can
be considered and legislated for in a group as a unit, for Broadcasting
requires great diversity of talents and personality in its executants.'
BBC Year Book, 1928, p.50.
³. Two sections (of Engineering) whose influence may be the most far
reaching - the Development section ... and a Research Engineer whose
work is almost that of an independent scientist studying problems of
acoustics in connection with studios, microphones etc. BBC Handbook, 1928,
p.51.
⁴. "Variety managers, the legitimate stage, concert promoters ... Whilst the
BBC have to handle (their products), the BBC can follow the traditional
and standard methods of none of them, but must transform all into the form
required by the new medium." BBC Handbook, 1928, p.52.
with the exploitation of technical resources dramatically, or with the creation of 'presentations', 'representations', or 'treatments' according to the canons of no older art but according to a syntheses of a new aural aesthetic and new instruments of control.\(^1\) It should come as no surprise that the year which saw the first fully-formed fruits of combined engineering-stylistic innovation - West's embryonic drama control complex, and Lewis' and Jeffrey's plays written to demonstrate its potentials - should be the year in which the theory of a studio and microphone medium (comparable with the media of theatre, the plastic arts, the cinema) achieved its fullest official statement. The Handbook, 1928, in its survey of 'The Administrative System' announced that 'Productions' was concerned with 'treatment' or 'representation' according to the perspective of a new medium of aural effect.

"The Productions Director is responsible for the dramatic works and their presentation, for revues and for 'variety' each having to be treated both in general effect and in detail from the new point of view of a special medium. He is also responsible for those effects, such as the representation of the Wembley Tattoo, which are peculiar to Broadcasting, and which at times as many as four studios have been in constant performance, with the chief action from one, background from another and so forth, all faded in and out and intermingled with each other into a balanced whole going through the engineers' control room."\(^2\)

Throughout the period, both before and after February 1927, one may see separate but reciprocal engineering design and drama-reform movements working to diffuse technology and innovate new dramatic styles.

---

1. No less a figure than J.C.W. Reith himself, observed in his Introduction to BBC Handbook, 1928, "Radio Drama and the Children's Hour are two forms of art that broadcasting is developing as specifically its own. The former tied to a long tradition of stage plays, and theatre audiences, was slow in reaching its true character, the latter wholly novel, leaped at once into its permanent place in the scheme of popular life." BBC Handbook, 1928, p.34. Both Drama and Children's Hour fell within the sphere of Productions.

2. BBC Year Book, 1928, p.53.
West's claim that the development of studio technique and design had been extremely rapid and had gone well ahead of the requirements of programme producers was certainly true in one instance. Pawley records that engineers saw in Howard Rose's production of "Trilby" 23.2.27 an opportunity "to use artificial echo for the theatre scene, which involved mixing three channels, a feat not before attempted." It was as much an attempt to use electrical instruments for artistic effects as the stunt of New Year '24. Gielgud described West's, "invaluable contribution to future possibilities when he suggested to Rose that he, West, could help with the theatre scene in Trilby if Rose could arrange for the crowd to work in a studio separate from the principals. Rose agreed and was amazed at the realism of the applause and cheers which echoed around his imaginary theatre auditorium."^2

Those in the Lewis-Jeffrey lobby viewing a sound-play as a product of a new sound-manufactory and a new aesthetic, needed no such prompting as Rose (working closer to the theatre-production model) required. In the autumn, there were two productions which bore the mark of innovative spirits pushing to exploit technical possibilities to the full.

Radio Tournament produced October 4th, 1926, employed various studios working by signals - orchestra in one, two people commenting in the second, effects in the third, echo in the fourth.^3

In the next month, 21.11.26, a production of James Elroy Flecker's Hassan was remarkable for Rex Haworth's attendance at rehearsals before the microphone and his use of two Round-Sykes microphones to achieve the 'sound perspective' in the Golden Road to Samarkand scene as the cast moved out of studio and up the staircase sounding camel bells.^4

3. 'Drama Department 431' Acc.44986 BBC Written Archive.
4. Rex Haworth was the engineer allocated to special studio duties in 1925. Mennell Committee Papers Acc.33572/9, p.29.
West, as much as Lewis, saw himself innovating in areas that were never more electrical than they were acoustical. In evaluating the new Dramatic Studio No.2, West imagined the potential of its facilities for the production of "a travelogue ... describing a visit to a Chinese city with incidental sounds, (where) variable echo can be used to great advantage in changing the character of the speech and noises as travellers pass along the street, enter the temples and so on."¹

West saw the studio as instrumenting a variable soundtrack, capable of blending, balancing, fading and reverberating sound sources. Each improvement of the medium more clearly defined the task of writing for it. Lewis wrote of his response to West's new drama suite:

"It connected eight studios together and enabled the speech, music, or effects from any or all of them to be mixed at will by a producer sitting at a panel. Also by depressing a key it enabled the producer to speak to all those concerned in his production through loudspeakers situated in all studios.

We realised nothing had been written making use of more than three studios. To remedy that, and really exploit the machine we had been provided with, we got busy. R.E. Jeffrey wrote Speed, and I wrote Pursuit (produced 6/7.1.28)."²

---

THE SOCIOGENESIS OF PRODUCTION-FOR-BROADCASTING 1928-48;
THE EFFORT TO SECURE THE MANDATE AND LICENSE OF
A BROADCASTING CRAFT
The period from 1927 to the end of the first year of occupation of Broadcasting House was one which ended with a rush of new developments — the inauguration of a Variety Department, prompted by the coming on air of continental commercial broadcasting stations; the commencement of the Empire Service; and the coming into distant prospect of a Television Service. The end of that period saw also the major 'Re-Organisation' of October 1933, which separated Administration ('Red Tag' staff), given charge of the allocation of resources, from Programmes ('Blue Tag' staff) charged with creation.

From the early thirties, and particularly after 1933, support staffs grew in number, and ramified in kind. The original craft-minded Balance and Control Section became the focus of the more general problem of support-staff claims to crafthood, which exercised the Corporation until the unification of all support grades in Programme Operations Division in 1950.

As early as 1928, the Corporation's fortnightly Control Board and Reith's cadre of young men, ear-marked for high office, commenced their first scrutiny of a Balance and Control Section, which showed an increasing tendency to extend its treatment beyond the narrow scope of symphonic programmes. In 1931, with the move to Broadcasting House pending, L. S. Jefferies presented a first claim for departmental status for his Section — the original support group which had its earliest beginnings contemporaneously in both Music and Productions.

Jefferies' claim for independence was rejected. The Section was split between those serving Music and others serving Productions (mainly Drama and Revue and Vaudeville producers.) From that date Balance and Control became a service staff under the general superintendence of the Programme Services Executive. Balance and Control (Music) had Jefferies as its head;
By 1933, the original Sounds Effects, commenced a process of mutation which sprang from Variety producer's tendency to use their alert, studio-wise, young Effects men more variously; and to initiate their older Balance and Control staff according to the innovative practices and theories of new Variety productions. This tendency towards growth and mutation was favoured by the traditions of team or troupe or concert-party work which the ex-vaudevillian producers of Variety brought with them; and by the increasing use of gram records, spot effects, panel-mixing, multi-microphone technique and light-music excerpts in their programmes.

The rising demand for the transfer of more resources to these grades made them a matter of prime importance to internal administration. As the instrument of economy, the Department of Internal Administration (instituted by the reform of 1933 and under Basil Nicoll's directorship) became a leading determining force in support staff's history. By 1934, developments in Variety and Drama suggested the paradigm of a staff of versatile 'Producers' Assistants' or 'Studio Assistants'. A less specialised, more interchangeable staff, seemed, to the eyes of administrators, the way to a more efficient use of staff resources.

Administration's ambition was for a hierarchy of support staff that rose from Junior to Assistant and to Senior Producers' staff. It was a design for the organisation of programme staff according to the paradigm of career and the graded promotional path. Balance and Control (Music) ambition was for recognition of a specialised new craft of broadcasting musicianship. The first clash, between the rival notions of crafthood and career, was one between the Reithian ideas of organisation, suited generally to brand new public service industries, and the ideas of craft brought in by people from the music and theatrical professions.

The Balance and Controllers and the new support staffs that grew up
from Effects were sited at the intersection of three interests: on one side producers, on the other, administrators, and on the third side, the engineers unincorporated in the reorganisation of '33, having their own budget and running their own show.¹

From the mid-thirties and through the forties, the special relationship between producers in Entertainment and support staffs (regarded by producers as their like-minded 'other selves'), generated in both a rising sense of mastery of craft. The project for a support grade of general studio factotums, with Balance and Control stripped and reduced to a low beginners art, by transfer of Control to engineer potentiometer readers, was a product of ideas that came from Engineering.

The producers' initiative towards new uses of support staff signified in reality the generation of a further spate of unique broadcasting trades. That dynamic of the mid-thirties was misread and welcomed by administration as the coming only of an interchangeable breed of general studio 'hands'. The resistance of musicians to assimilation into such a general Producers' assistants' grade in 1936, was followed by an intervention from the third side, from Engineering Division.

The years between 1933 and '37 was a period when Engineering incubated and matured a new broadcasting studio machine. Engineering injected into the deliberations of the Gerald Beadle Committee on Balance and Control (1937) perfected plans for 'big-end, little-end' (acoustically designed) studios and a broadcasting studio suite equipped with listening-room apparatus operable by one man. The Engineering plans raised prospects of programme production became more technical, requiring greater apparatus-

¹. The Engineering Division was organised as a broadcasting engineering profession with its own hierarchy and examination system. When the Corporation created its Staff Training School (1936), Engineering created the Engineering School, Wood Norton (1941). When the Corporation commissioned Asa Briggs to write the History of Broadcasting (1961, '65, '70, '78), Edward Pawley, ex Engineering School, commenced his BBC Engineering, 1922-72 (1972). The record of broadcasting engineering trades unionism in the Staff Association is an independent one.
mindedness and promising rewards from manpower-saving. In the year before the war, Balance and Controllers became, instead of Producers' Assistants, engineers' assistants or 'Programme Engineers'.

In the post-war world this dialectical movement, first producer-wards, then engineering-wards, synthesised a Programme Engineers' demand through the new Broadcasting Staff Association for recognition of a body of new broadcasting tradesmen, who were not engineers and could not all become producers.

By 1947, 'Programme Engineers' in Engineering had swelled to a staff of over 200, spread across new arms and functions of the Corporation grown in wartime. One-hundred-and-twenty, out of the 127 who responded to a Staff Association poll, showed themselves in favour of severance from Engineering Division and placement in a new division of their own. A five-man Committee, chaired by George Mennell, a Civil Service Commissioner, and composed of a representative each from Programme Engineering and Regions, together with Hay, Head of Central Establishment Office (and Head of the Man Power Review Unit), examined 48 witnesses from all quarters of the Corporation in Autumn 1948. In January 1949 it recommended in the 'plaintiffs' favour for separation from Engineering and independence in their own Division of 'Programme Operations'.

Thanks to the High Holborne School of Speedwriting it left behind nine stout files of evidence, the verbatim record of the entire dialogue of all its sessions of interrogation. This chapter draws on the Mennell verbatim and associated papers, the documentation and Report of the Beadle Committee of '37, and a battery of files containing the voluminous output of memoranda of the Executives of Internal Administration and of all those involved in, or touched by, the Balance and Control question, from 1922-39, in its study of the rise of the unprecedented craft of broadcasting.

1. Broadcasting Staff Association Recognised, October 1940.
Producers and Studio Staffs, 1928-48: the growth among producers and second-rank staff of appreciation of the production conventions they shared and the mutual support they gave each other, 1928-48.

In his original Report of Control and Balance of Musical Programme, made to R.E. Jeffrey in December 1925, L.S. Jefferies made an uncompromising claim for a 'functional' rather than 'contributive' status for the projected Balance and Control Section.

"I suggest... someone be made responsible entirely for the balance and control of programmes, it being left to his discretion what performances need his attention. He should be informed of all rehearsals and tests taking place". That position of Balance and Control expertness which he claimed for himself in music, he claimed for his "Second-in-Command", Rex Howarth, in the era of drama.

"I consider that the dramatic side should have their separate controllers, unless music plays an important part ... but an ordinary drama should be controlled by its expert."\(^1\)

He obviously saw the work developing on lines that would make it abstract, strictly separable from other people's work, and equipped with all rights of technical function.

In the Summer of 1931, when Sieveking was working the Drama Control Panel, the control instrument of new drama, Jefferies entered a strong plea for the rights of Balance and Control to operate the panel "on all occasions."\(^2\)

Not surprisingly the Head of Drama responded vehemently against Jefferies' pretensions. Drawing naturally on the theatre producers' understanding of his role, he insisted on the producer's right to define the goals of contributive occupations in programmes and resisted Jefferies' claim to define the Balance and Control man's input technically. Gielgud

---

2. Director of Programmes (Roger Eckersley) to Director General 29.12.31. File "Staff Departmental, Balance and Control 1924-33 Acc.76."
insisted that the producer should always have the option of handling the panel himself. Gielgud explained that "the reason why I pleaded for a Balance and Control Section of my own was that Balance and Control work vis a vis this department must be a service at the disposal of producers and not a separate authority. The theory and practice of Stanton Jefferies is at almost every point completely opposed to what my producers wanted....From the point of view of this department it was...better that we should have a few Balance and Control people trained in the specialist dramatic aspects of their work as opposed to being allotted in rotation (on the lines of the Engineers' duty rota), members of Balance and Control who have to spend most of their time dealing with musical work, which is handled on quite different principles".

In 1932, in consequence of drama producers' opposition, Balance and Control was divided between a Balance and Control (Music) Section and a Balance and Control (Productions) Section. A meeting to consider a re-unification proposal, which added the voice of Variety producers, reported, "The chief argument against a re-unification was that of the necessity of specialisation in three directions, viz Music, Variety, Drama.....It had compensations.....arising mainly out of greater interest in the work and closer personal relations with producers.

It was clear that any system of unification in a responsible separate department would involve the broad principle of a hierarchy of specialists under their own Head tending to work in a contrary direction to the producing departments."

A structural interest of producers in Drama and Variety drew them to create cell-like production staffs. It drew them to plead for the permanent secondment of support staffs to programme department and to particular programmes and to plead for support staffs' attendance at all rehearsals, from first read-through to the transmission. This gravitational pull on Balance

1. Director of Programmes to Director General 29.12.31 File "Staff Departmental Balance and Control 1924-33" Acc 76.
2. Val Gielgud to Director of Programmes, Roger Eckersley 7.7.33. File "Staff Departmental, Balance and Control 1924-33" Acc 76.
3. My underlining.
4. Notes on A Meeting To Discuss the Balance and Control Organisation 14.2.34 File Acc 79.
into particular programme spheres was a permanent force in Drama. In February 1933, Paul Askew, the Head of Balance and Control (Productions), wrote to Gielgud of the interactive process that drew support staff into deeper interest in programmes and moved producers to fully incorporate them in the team work.

"I find it increasingly difficult to allocate two Balance and Control officials at consecutive play rehearsals, though you have insisted. The activities of the full length play side of the Productions Dept. are increasing. I find each play an acoustical problem, requiring not only careful thought, but hours of pre-rehearsal discussion with producers.

I endeavour to attend every pre-rehearsal discussion but find it impossible to include the Balance and Control officials who will ultimately be concerned with the production. At first rehearsal, I endeavour to pass on the Producers' ideas to the Balance and Control man handling the play."^1

This growth of support staff's involvement in programmes continued sturdy and flourishing in the following February. Despite Gielgud's resistance in other quarters to Balance and Control's pretentions to departmental status and his pledge given to management to make do with a smaller Balance and Control Staff,^2 the minutes of the Drama Department meeting in the first fortnight of February, showed the drive to increase rehearsal hours unabated. It was resolved: "That a much closer liaison with producers should be assumed in future, and in view of this situation it was discussed at the meeting, whether it would be possible for Balance and Control to attend more rehearsals of dramatic productions. In the meantime, Balance and Control could send representatives to pre-rehearsal discussions with the producers, conductors, effects and stage managers, at which the whole question of the play would be

---

1. Paul Askew, Head of Balance and Control (Productions) to Val Gielgud 21.2.33, Acc 76.

2. "Mr. Gielgud is anxious to make a ruling that certain categories of plays are not to be controlled, therefore this will effect a reduction of work". Director of Internal Administration to Establishment officer 25.10.33 in File "Staff Departmental. Balance and Control, 1924-33" Acc 76.
gone into....Also that Balance and Control would attend the first rehearsal of a play in the central transmission studio.

After less than half a year's existence, at the end of 1933, the Variety Department commenced a drive of its own to increase Balance and Control attendance at rehearsals; part of a broader effort to constitute in the Variety field, the same programme-specific production teams. In November 1933, Askew, Head of Balance and Control (Productions), communicated demands coming from Variety: "Some of the Variety Department producers wish in future to employ our services more than formerly and they shall require Balance and Control to attend more rehearsals." On that same day, Gordon McConnell, the Variety Music producer, carried the demand to the Variety Director: "I am of the opinion that a vast improvement of our broadcasts could be achieved by further cooperation between the producer and Balance and Control. This would mean that both the Balanceman and the man on Control should attend more rehearsals....It requires not only skill but a high degree of concentration to do a show like "The Circus Princess" or "A Walz Dream". In communicating his producer's claim, Director of Variety, explained the total nature of commitment to programmes expected of Balance and Control working to Variety: "This work requires careful preparation and consultation with the producer and musical director, and the time taken up by Balance and Control people is therefore not limited to attendance at the panel rehearsals of the show, which may be two or more in number, but entails much discussion, thought and study." A memorandum from the hand of this same Director, early in 1934, brought into the open other features of the production system he was building. "I claim that the four Balance and Control men should be transferred entirely to my department in a 'creative' capacity as assistant producers, which they virtually are....I and my producers encourage our Balance and Control men to contribute as much creative work as possible. By joining my department, these men will be more closely identified with the creation of Variety programmes."

1. Studio Executive to Programme Services Executive 12.2.34 "Staff Departmental, Balance and Control, 1934" Acc 79.
2. Paul Askew to Programme Services Executive 6.11.33 File "Staff Departmental, Balance and Control 1924-33" Acc 76.
3. Mr. McConnell to Variety Director 6.11.33 File Acc 76.
4. Variety Director to Variety Executive 10.11.33 Acc 76.
5. Variety Director to Variety Executive 12.1.34 File "Staff Departmental, Balance and Control 1934" Acc 79.
describing Variety's organizational ideal. The Department Executive in his note of request for the secondments, described them as "an arrangement for the Variety Department to become more self-contained". ¹ 'Self-contained' was possibly a more accurate description of the cellular units of producers and support staffs, which the Department was bent on creating.

From the disposition of producers and support staffs to generate powerful commitments to task and strong bonds of interdependence sprang the force that resisted administrators' and executives' best efforts to limit the input of resources into rehearsal. The Director of Programmes encountered this force in September 1931, when he promulgated an order that Stanton Jefferies so arrange work for his staff that "he only deal with essentials and leave unbalanced and uncontrolled a certain amount of the less essential." Reporting the course of events to the Director General, he represented 'overzealousness' as a near-unmanageable phenomenon. "It seems that my original instruction, conveyed by Graves, was disregarded, but I think that this was no more than excess of zeal on the part of Jefferies and his staff, who prefer to overwork rather than leave things to look after themselves. I told Graves quite categorically that my previous instructions must be adhered to. These were conveyed to Mase (Music Department Executive) as an order, which meant in effect that no member of the Balance and Control Staff should work more than 11 sessions a week (the equivalent of 5\% days). The result of this was Stanton Jefferies' interview with you". ² Four years later, the same Controller encountered total commitment to tasks, represented as the very system of production of Variety. "I feel something has got to be done if we are to avoid overwork and breakdowns. I had intended talking to you on the matter of overwork after a personal conversation I happened to have with Harry Pepper and Miss Arnold one evening at my flat when they were working on the spiritual for the Kentucky Minstrels....I would at the same time say that neither of the individuals concerned spoke with any kind of bitterness.

---

1. Variety Executive to Entertainment Executive 12.1.34 File "Staff Departmental Balance and Control, 1934" Acc 79.
2. Director of Programmes to Director General 29.12.31. File "Staff Departmental Balance and Control 1924-33" Acc 76.
It seems that since their summer holidays they have, with the exception of two or three nights, worked steadily from 10 in the morning until 11 at night. In regard to my own particular tune which they were anxious to include in the Kentucky Minstrels, I left them to go back to St. George's Hall at about 7 pm to work on the lyrics, and I met them coming out at 11 o'clock having just succeeded in getting something done. This kind of thing is going on daily.....

It may be argued - quite rightly that extra variety work should not have been undertaken until there was sufficient staff to perform it properly. The fault, if any, lies through the inordinate enthusiasm of the department itself, the members of which are keen and happy in it and are ready to sacrifice themselves in the general cause.¹

No less a figure than the Director of Variety endorsed the view that total commitment to the task generated by self-contained small staff working under pressure was the system of Variety production. In response to Eckersley's memorandum, the Director of Programme Administration recalled that: "At the beginning of this year, when the Programme Division as a whole claimed more staff on grounds of overwork, Maschwitz (Director of Variety) was not particularly enthusiastic about the movement. He asked for a few additions which he got, but he said that however large his staff, the Variety Department by its very nature was bound to be chronically overworked. Creative people could not create properly except in an atmosphere of constant rush."²

The dynamic which drew contributors towards total commitment to the programme task was not limited to the major supply departments of Music, Variety and Drama.

Interaction between aspirations for improvement on the producers' side and reciprocal interest and cooperativeness on the support staff's side was at work in Children's Hour and built up to a claim for increase of resources in February 1933. The process is laid open to view in a memorandum from the

1. Assistant Controller (programmes) Roger Eckersley to Director of Programme Administration, G. C. Beadle 5.12.35 File, "Departmental, programme Division, Variety Department, File 1, 1933-35" Acc 150.
2. Director of Programme Administration to Controller (Administration) 30.12.35 File, "Departmental. Programme Division, Variety Department. File 1, 1933-35" Acc 150.
Children’s Hour Producer to Paul Askew, Head of Balance and Control (Productions),

manuscript comment when he passed it on to his boss, Gielgud. The Children’s Hour memorandum read: "I would be much obliged....if a member of Balance and Control could always be available for Children’s Hour. We are grateful for kindnesses in the past and appreciate your willingness to do everything in your power, but I do feel the position should be regularised. Our programmes are extremely varied, and, quite apart from plays, a programme such as songs at the piano, a story and possibly some instrumentalists needs careful balancing."¹ Behind that memorandum lay a past of informal cooperation between Children’s Hour producers and studio staff. Children’s Hour’s attempt to ‘regularise’ these relations was a further stage in the natural history of the spread and deepening of studio staff’s commitment to programmes in this period. Askew’s comment disclosed the other side: Balance and Control’s growing bond of commitment. "Mr Gielgud: I have done my best to look after Children’s Hour but some days I have no one available. I think these programmes are just as important as any and I would like to be in a position to allocate Balance and Control every day".²

In these miniscule interactions between producer, Balance and Control man and the Productions Department Director, we see laid bare the process that administrators learned to describe as "creepage". It mattered little that, some months on, a meeting to discuss Balance and Control organization, ruled:

"Children’s Hour and TV, handled by Productions Section to be regarded as optional. To be treated only when other work permits or a programme is special".³ In reality the process of cooperation between Children’s Hour and support staff went on undisturbed by rulings of this kind. "Actually Children’s Hour’s programmes are balanced every day though it has been laid down that it is optional work. Balance and Control work is only to be undertaken if more important

---

¹ Mr. Kettlewell to Paul Askew 16.2.33 File "Staff Departmental. Balance and control, 1924-33" Acc 76.
² Paul Askew’s manuscript marginal comment on Mr. Kettlewell’s memorandum.
³ "Notes On A Meeting To Discuss The Present Balance and Control Organization" 25.7.33 File. "Staff Departmental. Balance and Control 1924-33" Acc 76.
programmes permit".¹ In a short while after this note was written, Children's Hour had obviously raised itself to a new threshold and was voicing demands for yet further resources. "We feel we always need a member of the Balance and Control Staff to balance before transmission. We should like to have a Balance and Control man to operate the Dramatic Control Panel for plays, both for rehearsal and transmission and also to control transmission in the case of an elaborate musical programme."²

Growing alongside Children’s Hour was the daytime Schools' Section which, having found new limbs, sought the means of exercising them regularly. "The fact that the establishment of Drama is not adequate, is due entirely to a change in programme methods. School items under the headings of 'History' and 'French' are no longer straight talks but are done in dialogue, illustrated by effects etc etc."³

The process at work in Children's Hour and Schools was active also in the new Empire Service. The meeting that ruled Children's Hour and Television Balance and Control: "optional when work permits", also ruled: "Empire transmissions not normally to be balanced or controlled". We may assume that that measure had as little effect as the restraints put on other programmes areas. Certainly, by the Summer of '34, a renewed bid to turn back the growth of studio support work in Empire had come to nothing.

"There was a suggestion by Mr Sutthery sometime back that balancing for Empire transmissions should be discontinued. Such was the case for a month until general disorganization took place and this was undertaken again at the urgent request of Empire Department."⁴

---

¹ DIA's "Note on Balance and Control" 13.8.34 File, "Staff Departmental, Balance and Control, 1934" Acc 79.
² Children's Hour Executive M. E. Jenkin to Entertainment Executive G. C. Beadle 26.9.34 File "Staff Departmental, Balance and Control, 1934" Acc 79.
³ Drama Executive to General Establishment Officer "Application for Additional Producer's Assistant" 29.5.36 File "Staff Departmental, Balance and Control, 1935-37" Acc 80.
What we have looked at is the natural history of the growth and ramification of support activities in programme production in Music, Drama, Variety and neighbouring areas. Support Staff's growth in consciousness of their worth to programme is another aspect of their history. The shift of perspective, among administrators, from a view of Balance—and—Control—manship, as a quasi-engineering function, to seeing the growth of heterogeneous ancillary staffs as contributive occupations in a broadcasting—craft setting, was long delayed. Movement from the narrow view, that the musician balance and control man was a hybrid technical occupation, to the broader perspective, extended over the entire period between the point, in April 1929, when the Control Board first doubted that, "we have surety as to the value of this section (Balance and Control) in its more extended form outside special symphonic programmes,"¹ to the point, in 1950, when the Director General ordered the establishment of the Programme Operations Division.

Gerald Beadle was from 1933 Entertainment Executive responsible for resourcing entertainment and therefore charged with administering the use of studios and ancillary staffs that were properly engineering programme staff. Beadle was the originator of the idea of a BBC Training School (1936) that would do for broadcasters, what Staff College did for soldiers. He chaired the final and fullest pre-war enquiry into the "Balance and Control problem", which took Balance and Controllers and Sounds Effects staff out of the charge of the Executive branch and placed them in the Engineering Division as "Programme Engineers". In the post-war years, Beadle broadcast², spoke³, and wrote⁴ as a man broken free of old ideas and come round to a view of broadcasting as a new craft or profession.

---
¹ Extract from Control Board Minutes 23.4.29. BBC Written Archive.
² Broadcast "Twenty Five Years With the BBC" Programme Script, Transmission: West of England Home Service 3.1.49 BBC Written Archive.
"Broadcasting has become a craft. When I started (1923) there was no consciousness of craft at all. To us broadcasting appeared a simple process of putting an artist, entertainer or speaker in front of a microphone and transmitting his sound by radio telephony into the listeners' ear...." Speaking as an administrator who had learned to re-see problems with which he had once grappled, he said "I missed the great advantage of working my way up through the studios under the discipline of master craftsmen... In my early days, there were no masters and no craft. In time our people became craftsmen, self-taught by trial and error. But by then I was too senior in the service to learn from them. I devoted myself to administration and policy."^2

Looking back and re-interpreting that past from his position as Director of Television, given an equality with sound radio in 1956, he saw a line of division running between the cumulative build-up of experience among groups grappling daily with the production of programmes and administrators who failed to recognise the emerging patterns and configurations of a broadcasting craft.

"By the early nineteen thirties programme production had passed beyond the amateur stage of trial and error and in the hands of a lot of talented young men and women, it was developing into a highly skilled profession. It was, of course, an amalgam of the technical and artistic which required good teamwork between technicians and producers but the higher command of the BBC, were strangely slow to recognise the emergence of the professionalism which after all was the very basis of their business. Morale amongst the operational staff suffered, because individuals tried to make lines of demarcation for themselves and the rivalries of different schools of thought, were becoming troublesome. The feeling between engineers and producers was particularly acute."^3

1. Gerald C Beadle "Twenty Five Years With the BBC" Programme Script p.7.
2. Gerald C Beadle ibid p. 1f.
The presence of growing confidence and craft mastery among the ranks of support staff by the late thirties, was noticed by the Assistant Director of Variety.

"Undoubtedly, as time goes on, our most intelligent effects boys are going to be our most efficient panel controllers who have spent their time "growing up" with hundreds of productions, seeing the artistic requirements to almost as great a degree as the producer himself, acquiring that sensitivity of touch necessary for fine graduation of an effect, and the slick introduction of a gramophone record or, if needs be, several records at one particular moment. I would strongly recommend that Morris, Duncan, and later Keir Cross, undergo a regular scheme of training with Dr. Alexander. All these boys have brains which, due to their production experience, are quick to adapt themselves to an emergency, and through continual experience of intricate multi-turntable work have the lightness of touch on a control knob that is essential for successful panel work. Also they are young - their brains are pliable and have not become set."\(^1\)

Ronnie Waldman joined the Corporation in the year that Brewer drew attention to the rising craft mastery of sound effects. Ten years later, he confirmed Brewer's faith in the promise of great things coming from Sounds Effects Variety.

"Leslie Bridgmont, George Inns - the latter is considered inside the department and I think outside as well, to be the most brilliant producer in the Variety Department - and Peter Duncan. All three of them were programme engineers. Peter Duncan was an effects boy. George Inns has been everything from office boy upwards. He got himself into sound effects.\(^2\)

In 1948, Waldman showed that he had broken free of that frame of mind which categorised effectsmen as technicians. He saw them rather as performers and gave them an equality with comedy players.

"They are there to produce sounds which will help and enhance that production. This was proved to a very great extent by the fact two years ago

---

1. Charles Brewer Assistant Director of Variety Executive 14.4.38 File "Departmental Producers' Assistants 24.9.37 to 22.11.38" Acc 270.
in "Itma", we actually hired and cast an actor to provide us entirely with sound effects. Now the junior programme engineers are there (likewise) to provide us with sound effects." He went on to credit theirs as the craft of the comedy sounds cartoon strip: the one truly popular art form to emerge from radio broadcasting.

"On the whole the sound effects people, especially in variety, are creating a new type of technique of their own, which as far as I know, has never appeared in any other medium of entertainment in history.....As this type of radio comedy develops, particularly "Itma"... I quote that because it is an outstanding example of radio comedy strip...we find more and more that the effects in "Itma" must be produced by spot effects and not by gram effects to get the results we want."¹

¹ Ronnie Waldman Oral Evidence pp 11 & 13 Studio Operation Committee, File Acc 33572/5.

A strong sense of a cumulative mastery of craft among support staff, got from growing up with hundreds of productions, was not confined to producers. By 1948 those talented young men and women of Brewer's day were well advanced in their careers. Before Mennell, the confident voices of the bearers of new skills showed them well aware of the learning curve that had brought them to mastery of a craft and given them a sense of their value in a scheme of broadcasting production.

The process of exchange and interaction between producer and support staff, which generated a sense of craft in the studios, was anything but a one-way street. Support staff gave producers a sense of working amongst masters of a craft as much as they received it from the plaudits of producers and producers' acts of spokesmanship on their behalf. Waldman, for one, acknowledged his debt to the support staff, amongst whom he found himself when first flung into broadcasting: the year when Brewer saw the studios populated with young variety journey-men who had been hard at the business of learning their trades for five years or more.
"I was shot into the BBC and production so rapidly....I do know that the ability (the opportunity, the circumstance) where we had to work in extremely close contact with Balance and Control people, was a good thing".  

Paul Ellingham, already himself Senior Programme Engineer, Bristol, was the son of that Ellingham who wrote four perceptive articles on the function of Balance and Control for The Musical Times. He was specially vantaged to see himself and his kin as the presentational, translational professionals of the new media, standing between the 'doers', the producers and actors of programmes, and the engineer—suppliers of the electric wave medium. He saw himself analogously as the 'cameraman' skilled in getting onto the medium those values which producers sought to create. He saw his media-skill as a culture acquired from much practice on one side of the microphone and an equal measure of study of finished products on the other.

"I would not change my job for any in the Corporation because the presentation side other than the actual doing of programmes, I think it is the most important. I think it is highly important, it is like the cameraman of the films.

The training I had in the early days....getting radio-minded, seeing shows, listening to shows on the air before doing them. That is the sort of thing that makes a man radio-conscious".

Evidence that support staff felt themselves ahead, rather than lagging in the wake of producers in the realisation of a craft, comes from Rex Haworth in 1948. Haworth, we first met in the early twenties as a young maintenance engineer given morning and evening duties; so arranged that he might attend morning drama rehearsals and evening transmissions. He left the studios for the sound—film industry in 1928, gained experience in Gaumont and the Paris studios and returned to the Corporation in 1933. In 1936, he joined Beadle and Archie Harding, the sound—features' innovator, as the third member of

the new Staff Training School. G. C. Mennell, at the 1948 Enquiry, put it to him that he had stepped sideways from his career ladder at a time when he was, in the eyes of engineering, the exemplar and ideal of support staff that were originally engineering-trained.

"Mennell: You had reached a point in the Senior Engineer's (Studios) Branch when you were very much on the up-grade, and I am wondering why you went to the Staff College in 1936?

Haworth: Actually it was that I particularly very much wanted to try and educate Producers and others attending the courses and get them to realise the subtleties of studio work and show them that there was very much more in it than just merely putting on a programme and getting a script and doing the whole thing mechanically. I felt that it was useless to attempt to drill good studio technique into the PE if the Producer himself was not conscious of any improvement which could be got from such techniques.

Mennell: You wanted to improve the key people in the mechanics of the whole thing.

Haworth: Yes. I thought very strongly if I got outside the Engineers Division there would be great possibilities of doing it."

Growth of support staff's consciousness of their craft, was a function of producers' use of support skills in their programmes. Producers' quickness to appreciate and articulate the value of individuals' inputs to their programmes had both positive and negative effects. They could as easily recognise individuals whose inputs were harmful to their programmes as they could those that were beneficial.

When Maschwitz, (Head of Variety), agreed - as a condition of the division of Balance and Control into B&C (Music) and B&C (Productions) Sub-sections - to the transfer of control of Variety to engineers, he had in mind, though obviously unvoiced, an understanding that engineers assigned to Variety would be allocated, not routinely according to the order of the duty rota, but according to their personal qualities. Under this engineering - control arrangement, Maschwitz was made suddenly rudely aware that the 'artistic' control, received and taken for granted at the hands of the Balance and Control Section, was replaced by 'mechanical' control by engineers. The new regime threatened to wreck Variety's most expensive programmes.

"The question of special control for Variety is serious. It was distinctly understood by me, when I agreed to the division of Balance and Control, that Control though carried out under Chief Engineer, would be executed by controllers at least as efficient and experienced as those of the former Balance and Control Section. Mr Miles, long recognised as superb on control, though an indifferent balancer, was thrown away as balancer to Talks and Children's Hour.

In the meantime, our most costly and elaborate music productions are being mishandled 'on control' by ordinary Control Room engineers with no knowledge of music or dramatic productions, who cannot in many cases control at the two rehearsals necessary to grasp the subtleties of a big show, but come to transmission blind and make such a mess of things as might be expected. Mr. Stanford Robinson and I protest against this state of affairs. If Control (as re-organised under C. E.) cannot be carried out with the efficiency of tradition, we had better revert to the old procedure. As it is, our programmes are in danger of being wrecked."

1. Variety Director to Director of Entertainment 4.1.35 File "Staff Departmental, Balance and Control 1935-37" Acc80.
Producers evaluated support staff, not as the bearers of a technical, abstract, engineering-like function, but for their programme-specific inputs. They valued contributive individuals, rather than technical functions, because an individual contribution to programmes was a factor of his personal idiosyncratic attributes. Waldman said:

"Most producers like working with individual members of the programme engineering division. What happens is that the producer will phone Senior Programme Engineer, Morriss and say, "Look, I've got a new show coming up of this nature, is so-and-so free to handle it? He is pretty good at that sort of thing". Morriss tries to make it his business to make sure that the man is free."

Charles Brewer made vividly clear that bearers of skills, inestimably valuable in certain programmes, were precisely individuals who would do untold damage to his type of programme.

"In a Producer's Assistant.....it is essential he should have an imaginative and somewhat creative mind with an ability to appreciate a script and the artistic intentions behind every fade. We have with us at the moment Mr Macara and Mr Miles, both I believe first-rate technicians at balancing dance bands and straightforward musical programmes even where two or three microphones are involved; I also understand Mr Macara is becoming very efficient at taking technical charge of variety programmes, having a quiet and pleasant manner with artists, which is extremely helpful. But, frankly, I would not dream of permitting them to take sole charge in the listening room or panel room of productions such as "Scrapbook" or "Star - Gazing". My experience on the first broadcast of Anna Neagle's "Star - Gazing" was more nerve-wrecking than any programme I had undertaken for years. I had previously marked up his script, and also been through it with him, yet even after two three-hour rehearsals, Mr Miles still did

1. Ronnie Waldman, Senior Producer, Variety, p.7 Studio Operations Committee Acc 33572/5.
not know what was really required, although in many instances the typed stage directions made it perfectly clear. In other words, he could not read or appreciate a script. His manner at the panel was crude and disconcerting. He does not hold the knobs lightly, but grips them as if in danger of being swept away by a flood. He only had three microphones to control (orchestra, artist and chorus - I made myself responsible for gramophone and back-stage studio) and yet one could see throughout a lack of finesse on control. In fact there was more than one moment when there would have been disaster if I had not been with him.

Maschwitz discriminated sharply between Miles (of the Balance and Control Section) as one "long recognised as superb on control" but "indifferent on balance". Brewer, in his memorandum written only four months later, appreciated the same Miles as "a first rate balancer of dance bands and straight forward music shows" and disastrously inept at control. The discrepancy between Miles as superb control-man and Miles the paralysed control-man is explained by the difference between the types of show involved. As Waldman said, in later years "The indispensable requirement in our department is an ability to understand the show."  

That is to say, the value of support staff's inputs were at once highly individualistic and programme-specific. Further complications were added to the considerations which determined producers' evaluations of studio ancillaries by producers periodic thrusts-forward to new programme styles, which gave value to new orders of skill. We saw earlier that drama producers, in the late twenties, brought into use the control panel linking several studios. In the mid-thirties, Variety Department took a similar

---

1. Charles Brewer, Assistant Director of Variety to Variety Executive 14.4.38 File "Departmental. Producers' Assistants 24.9.37 to 22.11.38 Acc 270.

Brewer outlined the course of stylistic innovation which raised Peter Duncan's stock in trade and awarded him in a few years to producer of *In Town Tonight*.

"This now brings me to the question of the grading of our Variety Effects Staff. More and more is gramophone work forming the greater part of our effects work. Not merely the simple fading in of a record at an appropriate moment, but mixing and cross-fading two or more records, and taking charge at a remote point of an integral and important part of a production - a part which is not merely an atmosphere background but frequently as much in the foreground as artists, chorus and orchestra. I would strongly recommend that Duncan's gramophone script for "Scrapbook for 1900" be closely inspected to fully appreciate this statement. There were moments when he had six turntables working, the resultant sound forming the main action of the programme. In other words, the slightest false move or exhibition of heavy-handedness on his part would have wrecked a £400 show. The responsibility of the gramophone operator has always been the same throughout the 4½ year history of "Scrapbooks", and thanks to our having quick-witted boys like George Inns, H. J. Morriss and Peter Duncan, I have so far not been let down. I would go so far as to say that no other Department (Features and Drama included) makes the demands upon their gramophone operators that we do, and therefore it is only just and fair that young fellows, upon whose shoulders rests the great responsibility of the making or marring of an expensive production, should be regarded for purposes of grading for salary in a different light from juniors who merely have to operate comparatively simple 'spot' effects".1

1. Charles Brewer, Assistant Director of Variety to Variety Executive 14.3.38
File: Departmental Producers' Assistants 24.9.37 to 22.11.38 Acc 270
Brewer here made a plea for the upgrading of Inns, Morriss and Duncan on the grounds of programme—specific inputs on which his very successful "Scrapbook" series depended. The plea, according to a regularly repeated pattern, moved Drama and Features' producers to contest Variety's claims for a higher valuation of Variety JPA work out of a jealous regard for the inputs of their own Junior Producers' Assistants.

"We (Drama) never allow any of our JPAs to operate the Drama Control panels for any broadcast and the Producers' Assistants (a senior rank) only after much severe training. This attitude is supported by the producers and Productions Manager, who are all agreed on the very high standard required of a panel operator and we feel that "In Town Tonight" programmes would be much improved were producers' assistants with panel experience to operate the D.C. panel instead of the Junior P.As employed by Variety Departments. The operation of the gramophone bank is an exceedingly intricate business in almost all feature or drama productions and I do not think that many Variety Shows necessitate such difficult gramophone operation as the average Features and Drama production. I have myself, in the short time I have been in this Department, attended some of our productions in the effects and gramophone studios and "sustained concentration" is, if anything, an understatement. I am still amazed at the efficiency with which our lads carry out what seems to be an incredibly complicated job.

This memo seems to be developing into a competition for super excellence between Features and Drama and Variety Departments. It is not meant as such, but I would hate anyone to feel that by inference the J.P.A.s in Drama Department were less efficient or less skilful than those in Variety Department. I have no doubt that most of them could work a panel as well as the J.P.A.s in the Variety Department but we do not allow it because, as I have tried to explain, we do not think that the standard of performance we should get would be high enough for the requirements of our programmes."

1. Giles Borrett, Features and Drama Executive to Rose - Troupe, Assistant Director of Programme Administration 31.3.1938 File 'Departmental Producers' Assistants 24.9.37 to 22.11.38 Acc 270.
Geoffrey Bridson, the foremost Features producer, could look back to the days of Sieveking when producers handled their own panels. He could appreciate the difference that the coming of the panel controller had made to the role of the producer: it had released him to concentrate on sound. Like producers in Variety or producers generally, he had a sure and exact sense of the qualities he required in support staff and the contributions they made to his programmes. Bridson: "I have worked with programme engineers right the way through from the time they came on the job. Before that when I was producing, before there were any people doing the job of programme engineering, the producer used to do his own panel.

they produce, for him the effects which he would normally achieve himself, if he handled the panel; thus leaving him free to concentrate, particularly on the sound of the show, so that he does not have to bother about mechanics....

I say they are ears...you can have two panel operators, one will work the knobs for you, and make no mistakes at all; he will be absolutely dead sure of what he is doing and he will do exactly what they have been told to do....

The expert ears come in where they have a creative sense and imagination, and know what the producer wants of his fades, and the general knitting together of the show and they can give him that in exactly the same way as he could get it himself if he could do the acrobatics, which in the old days producers used to do....it is really a matter of being able to produce for the producer variations of sounds, the mixing of sounds in a way which I can only describe as aesthetic...

Chalmers: What you mean is that a fade which is a second too fast, will destroy an emotion?

Bridson: Yes."1

This excerpt of dialogue illustrates in little an important difference between relations between administrators and producers in 1948/9 and relations in the thirties. Here the administrator was Chalmers (soon to be Controller of the Light Programme). Chalmers started his broadcasting career as an announcer in the early thirties, was handpicked in 1936 as a promising candidate for high office, and went through a training on the first Training School Course under Archie Harding, the Features producer. He, like others, had "grown up with hundreds of productions" and following Bridson's very tangible expression of the control man's contribution, showed a sympathy and positive understanding which was often lacking in administrators of the thirties. One may contrast the situation in 1935 when the Drama and Features Executive handed Basil Nicolls, Director of Internal Administration, a request that the engineer - controller attend second rehearsals and received back the tart scribbled comment: "Please ask Mr. Sieveking to say precisely what the engineer will get from a second rehearsal that he will not get on the first." All the evidence suggests that producers always knew precisely what they would get from a second rehearsal.

Producers knew very precisely the highly individualistic, idiosyncratic, programme-specific values they were seeking and rejected wholly any arrangement (such as Stanton Jefferies') which interpreted their support staff needs in technical-functional terms, that could be supplied by any member of an independent department as of right and crudely according to the order of the duty rota. This quasi-engineering view of assistants' functional rather than contributive input, stood at the root of administrative bafflement in the face of the balance and control 'problem'. In a memorandum to the same Director of Administration, cited above, the Programme Services Executive wrote in early 1934 of the 'anomalousness of the Balance and Control situation'. He commenced: "As you know, I have for some time past been worried about the extremely unsatisfactory Balance and Control situation and have been studying it with a view to getting

1. Nicolls move into broadcasting administration in 1924 following an earlier military career and administration in India.
at the source of the trouble. There are various anomalies that go to make up this situation. In his position as the first receiver of recurrent pleas for increases of staff and attendancies at rehearsals, he found it curious that, "The Drama Director states he has no use for Balance and Control. Variety Director on the other hand, finds them quite satisfactory. Outside Broadcasts Director, again, has no use for them, regards them as completely incompetent.... The general attitude in the building towards them is derisive....a lack of faith and doubt as to the usefulness of Balance and Control."¹

Talks Department circulated a demand for a meeting of all client interests to challenge "the current idea that balancing is a type of mystery which can only be mastered by a race of supermen (and to expose it) as just a lot of ballyhoo".²

The Director of Administration reported that "Mr. Gielgud's general opinion appears to be that he does not believe in a High Mystery".³ Programme Services Executive received from Engineering the complaint that "Balance and Control people have a tendency to become little demi-gods surrounded by an atmosphere of forced mystery which nobody on the spot is capable of penetrating. To the engineers they have a tendency to explain their actions in terms of their musical training and to Programme people in terms of their technical knowledge. I am looking for ways of pricking this bubble."⁴

Executives' collective bafflement, in the face of a curious phenomenon, was conveyed when another executive passed Programme Services Executive the minutes of the Drama Department Meeting, one week after he, the latter, reported that Drama Director had no use for Balance and Control. The document minuted Drama

---

¹ Programme Services Executive, R. J. F. Howgill to Director of Internal Administration 5.2.34. File "Staff Departmental. Balance and Control, 1934" Acc 79.
² Rose Troupe, Talks Department, "Balance and Control" undated but circa 12.2.32 File "Staff Departmental, Balance and Control, 1924-33" Acc 76.
³ Director of Internal Administration, "Note on Balance and Control" (n.d.) but circa 13.8.34 p.5 File "Staff Departmental, Balance and Control 1924-33" Acc 76.
⁴ R. T. B. Wynn, Senior Engineer (Studios) to R. J. F. Howgill, 19.4.34. Programme Services Executive. File "Departmental. Balance and Control, Regions, 1930-37". No Access number at 3.4.80.
Department Meeting as agreeing,"...that Balance and Control was an essential service to Drama,...that a much closer liaison with producers should be assumed in future,...that Balance and Control should attend more rehearsals of dramatic productions,...that Balance and Control would send representatives to pre-rehearsal discussions,...that Balance and Control would attend the first rehearsal of a play."¹

As experience of valuable cooperation between producers and support staff accumulated from the early thirties, a general acceptance of the highly individualistic nature of programme skills established itself in the higher and lower ranks of production; equally among producers and among support-staffs themselves in variety, drama, features or wherever critically—contributed sound was important. That understanding was commonplace by 1948, when G. G. Mennell, a civil servant, occupied the chair of an Internal Committee convened to investigate "Programme Engineers" revolt against their administration by Engineering Division. Mennell, on one occasion, sought from a Regional Features Producer, a view on the proportion of technical function required in the support or assistance of different types of programmes. To Livesey, the producer, it was a question which failed to address the situation as he knew it. He replied in the only way he could: the work of programme support personnel was personal not functional.

"Mennell: Can you differentiate between the different types of production, musical and dramatic and so on, or say whether the programme engineer is more important in the one than in the other....whether he is important because of artistic ability or because of technical proficiency in the equipment?

Livesey: It seems very difficult. One thing that does seem to me necessary is that there should be a very considerable degree of specialisation, that a man may be — well, within our knowledge — an excellent panel operator for features, and not good enough musically to handle straight music programmes. Similarly, a man may be absolutely brilliant at dealing with dance bands, which is possible

technically, I should say, one of the most difficult balances to handle.\textsuperscript{1}

When Paul Ellingham was interviewed later that same day, he, quite independently, heavily stressed that the value of support work consisted in individuals' special qualities, and illustrated the point from his experience:

"Programme engineers specialise\textsuperscript{2} – in dance bands and perhaps do very little else and if you put them to balance a symphony orchestra, they are out of their depth. One lady programme engineer, for example, is very good on religious music and organ recitals but has no sympathy with dance bands....cannot handle them.\textsuperscript{3}

a Dance Bands producer showed a knowledge as sure as any other producers' of the individuals who would enhance his programmes and those who would wreck them.

"There are four (Programme Engineers) in Variety who are extremely good for dance music. The remainder should never be put near a dance band. They do not like dance bands, they do not understand dance bands. No doubt they do their best to produce the right sound but.... they do not really know the right sound when they get it.\textsuperscript{4}

Producers of programmes knew what they wanted from support staff and knew exactly the individuals who would give it to them. Outside dance band leaders had the same interest and knowledge of individuals; they shared with producers an equal knowledge and concern to have individuals who would enhance their programmes and avoid those who would wreck their programmes. Lawrence, the Light Music Supervisor, said:

"At times I have people come to me, outside orchestral conductors who ask if I can arrange for so-and-so to be in their show. I have been in the box and people (artists and conductors) have looked up at the control box and said it was going to be a bad broadcast or a good one.\textsuperscript{5}

\begin{footnotes}
\item E. Livesey, Regional Producer, Features, p.11 Studio Operations Committee Acc 33572/5.
\item The stress was added by the stenographer.
\item Paul Ellingham senior programme engineer, Bristol, p.39 Studio Operations Committee, Acc 33572/5.
\item D. Lawrence, Light Music Supervisor, p.28 File Studio Operations Committee Acc 33572/6.
\end{footnotes}
White and Lawrence and all such intimates of small production circles shared the understanding that programme values were factors of individuals' inputs. White would have objected, as strongly as any producer, to a Jefferies-like scheme for an independent support department supplying bearers of technical-functional skills, understood as uniform among all members. To White, or any other producer, the very principle of support work organised as a technical arm and not emerging organically from co-operative activity around a particular programme-type was fallacious.

"(We get unsuitable engineers) because the Programme Engineers attached to Variety are simply a group ... they have to share all their work between them ... from Itma to Music While You Work."\(^1\)

Ideally, White would have particularised Ellingham's "radio-mindedness" as the requisite for programme engineers; and substituted "dance-band-mindedness".

"These four (allocated to Dance Bands by an internal Variety Department arrangement by Senior Programme Engineer Morriss of Variety) do nothing but dance music but they cannot cope with all the dance music. They are interested in dance music, and understand it. I do not say they understand it to the extent that they could tell whether the arrangement was right. But they know when a dance band sounds right."\(^2\)

Studio support staff remained throughout the thirties and forties an aggregate of insecure individuals, because their work was largely non-uniform and amorphous. They failed for the same reason, to produce a rationale of support work and were perennially prey to accusations by outsiders (by engineers, administrators and producers) that they made their work 'mysterious'. Their tenacity and power to endure in the face of exhaustive investigations, turned on the fact that particular individuals, and clusters like the Dance

---

2. Ibid.
Bands' four, were valuable to particular client producers. Jefferies owed his security in his exposed position to the support of Adrian Boult, (to Boult's respect for his musicianship, as I will show, rather than to Boult's ability to specify his contribution to music productions). Howarth owed his irreproachable position, on one side to McConnell's specific support for his contribution to operetta productions; and to Engineering for whom he stood as an example of a qualified engineer's programme-value. Inns and Duncan, the panel and gram effects operators, were the darlings of Variety producers. By the 1940s, administrators long in the business, had moved round from the 'engineering' perspective, focussed on transferrable functional skills, to the producers' perspective focussed on the special qualities of special individuals. In his written submission to the Studio Operations' Committee, the Midland Regional Director wrote:

"As Producers have individual qualities which they bring to bear on their work, so also must Programme Engineers be regarded. They cannot properly be appointed, moved about or promoted on purely impersonal grounds, such as seniority, which is so prevalent in other branches of the Engineering Division".¹

Dinwiddie here made a point that was made again and again equally by support staff on their own behalf and by producers. Continuous cooperation between producers and programme staff from the early thirties, taught both sides that programme values were functions of individuals' special qualities, not of the youthfulness of the talented young men and women who moved into Variety, Drama and Features spot effects, gram effects, and panel work, and into serious, operetta and Variety music in the thirties and forties. Dinwiddie, producers and staff themselves insisted that specialised contributions were the essential resource of broadcasting and that a career of

---

¹ A. B. O. Dinwiddie "Programme Engineers: Note by Midland Regional Director" p.2 File Studio Operations Committee, Acc 33572/1.
specialisation must be opened to support personnel as much as to producers.

George Gillies Mennell, the Civil Service Commissioner, pressed hard on Begg, Programme Engineer in Variety, to disclose the artfulness of the activities he was charged with - that might make a lifetime devoted to them, a satisfying one. What Begg revealed was that his satisfaction came partly from the artfulness of his activities, but in greater measure from his commitment to programmes beyond any point amenable to definition in the technical way that Mennell required.

"Mennell: What is the greatest manifestation of a spot effect? I mean to say, what is the most considerable thing the spot effects man does? I know he shuts doors and all that sort of thing,¹ but I presume you mean something more considerable than that though you have not been clarifying it at all. There is an art, but where does that art manifest itself?

Begg: In the actual operating, the timing, the actual sense of the drama, and what I call 'ear' in spot effects. It is not quite so essential as in gram effects where your mixing ability and timing ability together all make or mar a programme. But we, and some of the people in the Department feel that we would like to make a career out of the effects and we cannot do it."²

1. "Shutting doors" was a frequently cited example of a seemingly trivial effect which could be given either ineptly, or reliably and expertly. Thus Livesey, the Regional Features Producer: "Take the very simplest possible case, the shutting of a door. You would think that anybody could be trained to shut a door, but in my experience it is not, on the whole true, and that nerve on the night for example may cause quite a perceptible difference in the sound that comes out on transmission and certain people are more liable to that than others."
Livesey, p.3 Studio Operations Committee, File. Acc. 33572/5.

Maclean, Engineering Division's representative on Mennell, provided Begg with his cue to turn from Mennell's focus on the content of his contribution, to the satisfaction he found in partaking in the particular illusion with which the programme makers surrounded themselves; however circumscribed his own contribution was technically.

"Maclean: If you could earn a thousand a year doing effects, would you be glad to do it?

Begg: Yes, I feel that effects are one hundred percent programme at the moment. I like to be on programmes; therefore I really would not mind at all staying on effects. I am quite happy to cut out the panel."¹

Members of the Mennell Committee were perturbed at the prospect of confining individuals to minute details of the sort that such as Begg seemed satisfied with. Contrariwise, the producers' perspective was one which saw a highly segmentalised division of labour as both necessary and fulfilling. A succession of producers represented that support persons, provided they were adequately paid, could be charged with what might seem like trivial details; precisely because their contributions were not technical but creatively worked up by individuals who had first to get to know the requirements of the show from discussion with the producer and presence at rehearsals.

"Well, take the script here which I am doing on Christmas Eve. That script is a Nativity play with music. I have got the script and I have adapted it myself, and it is now in a Roneo-ed state. I shall now go to the Programme Engineer, and I shall certainly ask his opinion on various effects - I do not mean effects in the technical BBC sense, but artistic effects which I could get - and we will go over the script in detail, and I am pretty certain I shall get some useful ideas from him. Certainly I shall on rehearsal, on the nature of the fades, the sort of way in which the music is to be used and so on and the acoustics of the various speakers, and in the carrying out of this, he

and I must, before rehearsal, really get under way and have the same end in
view, the same details for artistic ends.  

Producers perceived what the Committee saw as detail work, as only the
apex of a triangle. The detailed peak of a sound effect got just right arose
from a broad base of pre-rehearsal discussion with the producer. It
necessarily included also a hinterland of observation and adjustment according
to the phases of creation and adaption which early ideas went through at
rehearsals.

From that perspective, producers represented that outsiders were excluded
from appreciation of the long, continuous, subtle process of inter-change
between producers and support staffs, which stood behind an effect got just
right on the night. When Maclean, the engineer, aired the Committee's
perturbation about the producer's proposal for lifetime specialisation,
Livesey countered by citing the case of an outstanding woman gramophone operator
classified, according to the engineering categorisation of 'operations' involved,
as a Junior Programme Engineer. Her promotion to Programme Engineer ('raising'
er to Control Panel operations) would result in the loss to programmes of her
special gifts.

"Maclean: It is going to make too much specialisation and hard on prospects
of promotion if recruited for only one job.

Livesey: May I take an example from London, my own department here, of
a really skilled gram op like Joan Coates. She is every bit invaluable - in fact
irreplaceable - as the most skilled PE on control, yet there is certainly the
feeling, in regions at least, that it is a junior job compared with the actual
controlling of the programme.

Mennell: You would not wish her to be a gram operator for the rest of her
life because she is so good at it?

Livesey: I think yes Sir, provided she had got financial promotion,
because I think it is a job as interesting as any programme engineer's.

1. Livesey. Regional Producer, Features, p.10 Studio Operations Committee.
File, Acc.33572/5.
Mennell: we have had people here saying that the spot effect itself is a career.

Livesey: Exactly, I entirely agree. That is exactly the point I was trying to make, that I think the programme engineer's job at the moment is about three different careers.¹

Miss MacDonald, a Children's Hour producer, made the same point using her own example.

"Miss MacDonald: We had only one J.E.E. (Effects) for a long time and he was absolutely first rate, most inventive and imaginative and he would build things especially for effects. He was one of the best boys we have ever had, but then he never passed his examination (Grade D engineering). ... even if he had passed it, I think to take a boy like that and put him on to Programme Engineer's work when he was absolutely first class at the other work is an awful waste. One of the things I do feel very strongly is that people should be allowed to graduate on effects work and to get on to a higher grade to get better salaries and still stay on effects work which is an enormously important side of the programme and can do more to make or mar it very often than a Programme Engineer can.

Mennell: A witness said effects properly described is a life career?

MacDonald: Yes, it is. You can understand that with children an interesting sound in a programme very often conveys a picture that just mere words do not!²

---

1. E. Livesey, p.8 Regional Producer, Features, p.8 Studio Operations Committee Acc, 33572/5.

2. Miss MacDonald, Children's Hour Producer, Northern Region, p.9f Studio Operations Committee Acc 33572/8.
In taking this view of the work of support staff, producers in drama features and variety drew on the experiences, identities and perspectives derived from the theatre. Archie Harding's depiction of his relationship with a studio staff member replicated Livesey's account of Joan Coates or Miss MacDonald's of the Children's Hour. Harding's more fully than the two previous accounts, gives an insight into the sense of satisfaction a support staff craftsman might gain from meeting stern calls made on his craftsmanship by a master producer. Harding's exacting demand that Len Chase get him the effect he wanted, and Len Chase's ability to interpret and come up with exactly the right goods, is reminiscent of innumerable incidents related by film directors - of their asking for and getting the impossible from cameramen, stunt men, actors, special effects and sound crews. Such demands for ingenuity that goes beyond the technical to achieve a special effect on audiences, derive ultimately from the way of work of theatre rather than the way of engineering or administrative work.

"Archie Harding: I did a show and I had Len Chase on it as he was supposed to be one of the more creative people. I sent for him some 10 days in advance. "I want this, that....according to the way my mind is working, and you've got to do something about it". And he went away knowing what I wanted....and worked out a most complicated thing which did the job very nicely. It must have taken him hours to do it - he recorded piano cords being vibrated, and all sorts of things to get the effect he knew I wanted....this man was of the more creative type who understood and had an interest in the job he was doing."¹

It came naturally to men of the theatre to value contributions to the show precisely for their extra-technical value as performances, or for their effect on audiences. Of this Len Chase incident, Harding continued:

"One of the actors, Marius Goring - said he was absolutely fascinated

watching the boy 'act' the part of a lame man, with one leg. It was a spot effect....that lovely performance made the right sound.

There is not very much difference between Len Chase doing his sound effects stuff and the actor on the stage."

That the producers' orientation was towards seeing their own work and that of others around them in terms of the experiences, identities and perspective of the theatrical professions came through constantly in statements to the Mennell Committee.

Both Waldman and Harding stressed that broadcasting professionalism in a producer required that he should know the mechanics, or the 'engineering', of the programmes, as much as the theatre producer should know the mechanics of theatre. Waldman explained:

"Waldman: when I came to the Corporation...I extended the same technique which I was using on the stage. I made it my business to find out how the gear worked and the broad underlying principles of acoustics, microphones and so on....providing gear is working adequately I maintain that training he and the programme engineer needs, is going to be given to him in a few weeks, plus experience in the studio."^2

Again:

"Waldman: I have always been a firm believer that the understanding of the why" of a control panel is the job of the producer as well as the programme engineer. I always have, merely because again it is an extension of the technique which I used on the stage which was, that if I was going to give orders to my electrician about certain lighting effects I wanted, I wished to make sure that I knew what I was talking about...and that he knew what I was talking about as well."^3

---

Harding (the co-founder, along with Beadle, of the Staff Training School and the colleague at that time of Haworth who joined to initiate producers to 'studio technique') represented Waldman's as the view of broadcasting professionalism institutionalised in the Training School of '36.

"This view has always been represented in the Training School when I was in charge...that not only the Programme Engineer but the Producer, should be theoretically at least knowledgeable about this side (the 'engineering' - the limits of microphones, control panels, acoustical properties of studios) of the business and should know what it is that he is handling, which is an electrically produced or electrically reproduced sound."¹

Archie Harding and Marius Goring looked on the best programme engineer's work as performance. Waldman, also a man of the theatre, saw the programme engineer sharing a fellow purpose with the actor and the producer: to work effects on audiences.

"Waldman: The Programme Engineer puts into operation my intentions with regard to the overall output of the programme....he has to interpret, in his own terms, what I need, just as much as the actor has to interpret in his terms what I need, with the exception that the programme engineer has much more power to make or mar the programme than any of these individuals.

When he mars he mars through lack of artistic ability. I consider the musician does the same. A saxophone player is expected to know how to operate his saxophone. I demand more than merely a knowledge of operation from a programme engineer."²

Ipsos facto, the programme engineer was a member of the cast of production as much as the actor; and ideally being (in Paul Ellingham's terms) charged with the presentation of all other performances, the most important member of the cast.

"To us they are members of the cast of production."³

"Ideally, the programme engineer should be paid more than any member of the cast. Of course that is impossible."⁴

---

² R. Waldman, pp 2, 3 + 4, Studio Operations Committee. File, Acc 33572/5.
⁴ ibid. p.16.
When his turn came, Bridson said; "I should like to see them upgraded because I know just how valuable their job is." He reminded the Committee that in America, the programme engineers' position was nearer the producers' ideal than might be thought possible by the BBC.

"McLean (Engineering Division representative):

Are American sound men technical?

Bridson: I do not know which Division but they were paid 3 or 4 times as much as ours over here and their status with network was considerably higher. The sound men with American network, which we would call Junior Programme Engineer... They were paid really big salaries, almost into the category of a good actor."2

Harding, more than any other witness, wondered at the failure of Administration to borrow on the obvious model of theatrical professionalism in organising its programme engineers. Administration's failure was to ignore that theatrical professionalism, or pride of craft, embraced equally high and low occupations: producer, actor and support staff.

"Administration of these people (Programme Engineer) will never be successful until the existence of the profession in its humbler, as well as its more portentous forms is re-organised as something real in broadcasting."3

In contrast to his own theatrical perspective, the attention of administrators was given over entirely to establishing the narrow technical or 'engineering' content of the 'programme engineering' couplet. In the centuries that the theatre had done the Corporation's type of work, the resource which the theatre had always valued was the feeling of commitment for the artistic whole which brought many occupations, high and low, behind projects: whether a theatre as a whole or an individual show.

"I was mystified at all this business coming from such high quarters.... you don't realise the pride in ones work among those people, of the theatre. And the people in the profession, not only the Oliviers but the dressers and call boys - they are all accepted and recognised as members of the profession;  

2. ibid.
and they all had the same feeling for it."¹

The principal factor of production in the theatre was the feeling of commitment to the craft; and the milieu that cultivated that feeling in naturally disposed individuals, whether journeymen or masters of the craft, was always the theatre itself, or now, the studio.

"Programme Engineering is a good apprenticeship for the right sort of man for the Production side ... but that of course happens in the theatre ... the theatre is the apprenticeship medium of the great creative artists who come in at fourteen. Look at Noel Coward and people like that - and Shakespeare, too, for that matter."²

The dynamic of increasing commitment of programme producers and support staff to excellence stood behind the situation which management confronted throughout the thirties; the constant handing-up of worksheets showing conditions of overwork accompanied by warnings of imminent collapse and nervous breakdown. The following dramatic appeals characterise the intensity of the pressures that were brought to bear on management by staffs preferring to overwork rather than let things go unimproved. "Maschwitz (Variety Director) came to me yesterday saying that Brown must have an assistant or would crack up ... It would be an increase of establishment, justified by the recent doubling of Variety work ... This has been more than doubled owing to the factors such as greater elaboration, use of St. George's Hall and general increase in the vigour with which everything is done."³

---

3. Director of Internal Administration, Basil Nicholls, to Controller (A) C.G. Graves 21.3.34. File, Programme Division: Variety Department, File I, 1933-35. Acc.150.

Compare: "May I urge the consideration of the questions in regard to Balance and Control and in regard to a supervisory official over the whole Section, including the Provinces, as soon as this can possibly be done."

This memorandum is in reply to a serious report of overwork in Manchester. "The death of Mr. Loughlin at Birmingham has been attributed largely to overwork, and it is vitally necessary that the whole position be carefully overhauled," Adrian Boult to Controller (Programmes) 27.3.36. File, "Staff Departmental. Balance and Control, 1935-37" Acc.80.
The dynamic of increasing pride in work operated in all programmes, whether in entertainment in the use of spot records, locational or symbolic sound or in the 'artistic' manipulation of the mixing panel; or in music in the forging of the craftsmanship of Ellingham and his peers. As Beadle put it, broadcasting became a craft in the hands of talented young men and women who grew up with hundreds of productions from the early thirties. New thresholds and standards of excellence were defined alike for producers and studio staff. What generated and sustained this force of rising craft consciousness was the cellular enclosed milieux of programme teams where producers and support staff gained a standing in each others' eyes and in the broader circles of programme departments as a whole.

That thrust to reach out, always to do better, operated even in programmes that seemed to outsiders anything but centres of ceaseless innovation. Miss MacDonald, the Northern Region's Children's Hour producer, faced, in George Mennell, one who was as sceptical of the sophistication of children's hour work as he was of the resourcefulness of support staffs' work in general.

"Mennell: Your experience is a little limited, is it not? I mean you always have been concerned with Children's Hour work.

MacDonald: No. They are changing. We are always trying to improve things. We are doing more features work than we used to do, and the actual dramatic productions are getting bigger than they used to be."¹

Miss MacDonald's ambitiousness throve on a sense of versatility in small-scale craftsmanship spread over features, plays, serials, children's concerts borrowing far and wide from the whole range of broadcasting genres. Her rewards included, as well as her standing among producers for versatility in producing with only-once-rehearsed casts of amateurs and children;² a sense of feedback from audience, as much as any producer might receive.

2. MacDonald: "Northern Region casts - most of them - come fair distances. Trains do not get in early and we cannot start until 10.00 a.m. A lot are amateurs and take the day off; we also use a lot of children and we might get them one day off from school. but we do not get them off two days ... things like that limit what we can arrange." Miss MacDonald, p.15, loc.cit.
The Mennell Committee, in January 1949, questioned the propriety of so much innovative effort applied to children's programmes as earlier enquiries questioned the 'excessive treatment' of music by Jefferies; or the 'over-elaborate' production of drama by Sieveking.

"Chalmers: Is there any obligation on Northern Region to do so much original programme work?

MacDonald: There is no obligation on any one to do any ... We have created an audience that likes their own regional stuff. We are doing stuff that is not done in London ... As far as children are concerned, you are working with a definite audience every day ... I mean you have a specialised audience and I feel that continuity is enormously valuable."^1

Miss MacDonald threw on regional loyalties and took pride in surpassing London on the resources of shoe-string budgets with casts of amateurs who took the day off.

Miss MacDonald was thrust forward to innovative endeavours by her sense of competition with London Children's Hour producers as much as by audience's appreciation of her efforts. Livesey, the Midlands Region Producer, emphasised the importance of that larger community, when he showed how crucial Broadcasting House had become as a trade centre by the late forties: an emporium wherein producers exchanged ideas and received the honours of their craft. It was the market place of broadcasting craft knowledge and the place of evaluation of one's standing in the trade; as much for the producers as for the journeymen of programme staffs.

"In London (Broadcasting House) there are far more people talking the job. It works with producers you see, as well as programme engineers seconded to London. I had a month up there last year and for short periods so did Bill Hughes, simply going to find out what other people in a similar job are thinking and playing about with."^2

---

Balance and Control Staff: the contrast between their relations with symphony leaders concerned with distribution opportunities and with operetta producers grappling with the problems of production of music, libretto and effects, 1928-48

We showed that, in the theatrical and entertainment branches of broadcasting, progress towards an acceptance of a broadcasting craft was inhibited in the thirties and forties by busy producers' tendency to specify the particular "individualism", the individual qualities, required in their shows. They failed to go forward to the formulation of a generic broadcasting professionalism. From their situation, the producers' logic dictated an anarchy, in which each individual constituted a job. Support staff, from their side, were torn between their dependence on particular producers and programmes and their need for a recognised independent standing in the corporation for security and salary-negotiation reasons. Support personnel craved the independent departmental status which engineers, producers, presentation and all other staffs around them enjoyed.

For administrators and executives, the place of non-engineering support staff was firstly as ancillaries of the studios, where they always worked, rather than as servants of programmes which came and went. Administrators in the thirties found themselves faced by the 'anti-departmentalism' of producers and burdened with the deployment of a growing body of studio staff.
spread across an increasingly multi-form range of programmes. Administrators in this situation were drawn naturally towards attaching these 'difficult' staffs to engineering, on the grounds that the studios and equipment they used were a constant factor in their work, whereas programmes were always coming and going.

We have so far stressed that the spread of support staff work across many types of programmes in the theatrical and entertainment departments brought their work under the exclusive purview of single producers. That fragmentation confined tangible insights upon, and understanding of, studio staffs' work to the intimates of programme circles; it worked against any disclosure to the Corporation at large of the general configuration or pattern of their activities.

The situations in the three main spheres of music production differed in measure from circumstances in the theatrical and light entertainment branches, but operated to the same effect. The three main spheres of music production were serious music, organised under the Music Department having its Symphony Orchestra under its principal conductor, Adrian Boult; light music provided under Variety having (from July 1934) its Theatre Orchestra with Stanford Robinson as its principal conductor; After the departure of Jack Payne and his BBC Dance Orchestra in the Spring of 1932 and the inauguration of a separate Variety Department in 1933, the Corporation commenced its policy of contracting from the pick of the rising commercial dance bands to fill a late-night dance bands slot on six nights of the week.

The production situation of each of the three differed distinctly, but the principal division was between the Symphony Orchestra which continued in an important way to reach its audiences via the concert hall and the two others, which communicated exclusively through the new musical media. The
Theatre orchestra, whether performing for a light operetta production as the Variety orchestra in support of shows, reached its audiences through broadcasting. Commercial dance bands also reached their audiences via new media. They reached their mass audiences through broadcasting and most usually were only then sought for and built up by record companies. As we will show, the main difference between the serious music sphere and the others was that the Symphony Orchestra continued in the understanding that its standing in the serious music world depended on its concert hall audiences. In consequence, the difficult matter of the mechanics of its reproduction was trusted to the charge of the Balance and Control Section. The Concert Orchestra and commercial dance bands producers, by contrast, being confined to broadcasting as their medium of communication, deeply concerned themselves from the start in the problems of broadcasting production. Dance Band's situation differed from Variety Orchestra's in that concern with production was divided between Variety dance band producer and the band leaders sensitive to the appeal of their music over the air and to the ratings of their latest numbers in Melody Maker. As we have already suggested, Balance and Control (Music) in Music Department were trusted as musicians by orchestral leaders and conductors. Contrariwise, those on Vasty Orchestra and control and balance in the Dance Bands studios were valued for their studio panel or studio floor expertise in music production. They were valued as were support personnel in theatrical and entertainment branches, for their power to enhance or make programmes. These bonds of understood and specified contribution, which linked Variety, Features and Drama producers to their staffs, also linked Haworth to the operetta producer McConnell and Robinson to yet others.

1. Albert McCarthy, The Dance Band Era (1971) p.54, col.2
The place of music in the history of the support personnel problem was important, if only for the reason that its output far exceeded any other category of output. In 1930 serious music accounted for 15% of National (as distinct from Regional) broadcasting; light music for 21%. By 1938 serious music accounted for 18% and light for 23%. National broadcasting of dance music in 1930 accounted for 11½%; in 1938, for 6%.1 If studio staff 'treatment' was not only to extend but to deepen and elaborate, then music had to be the category of first concern to management. In the period from the winter of 1925/6 to perhaps 1927, the BBC saw themselves standing between a concert-trained public, who were not yet wireless listeners and rising wireless audiences for Chamber, Symphony and Opera for whom broadcasting was the only source. Of this first audience: "The musical public already interested in this art (Chamber Music) was not yet interested in wireless and it was natural that this would be so until Chamber Concerts became an established feature of wireless."2

As a way of holding the first and older audiences trained to concert hall listening until they came over to wireless, the Company's chamber ensembles and orchestra and later the BBC Symphony Orchestra continued to appear on the outside concert-hall circuit. As the Handbook described it, a policy was adopted of, "giving a certain number of

---

Comparisons. 'Spoken Word' accounted 2½% in 1930; 19% in 1938. Light Entertainment for 6% in 1930 and 7% in 1938. Outside broadcasts accounted for 1.38 in 1930 and 2½% in 1938.
2. BBC Handbook, 1928, p.89.
concerts actually in public in order to enable those who wished to hear the music "first hand" and not through the medium of any reproduction."

To secure its position with the classical music public, the Corporation founded its Symphony Orchestra under Adrian Boult in 1930, as an orchestra which divided its time between the outside concert hall circuit and studio performances. To disarm the opponents of broadcasting in the field of music politics, the Corporation adopted a policy of complete frankness about the inadequacies of radio engineering. With the same Music politics in mind, it adopted a public posture of committing whatever resources were required to make the Corporation a technical and world leader in the reproduction of music. This commitment to excellence in musical performance, as heard in the concert hall, and to the highest standards of reproduction from the studio, was the condition of its power in the world of music - its access to the best conductors and performers. Under the heading "True Democratisation of Music", the Handbook, 1928 adopted a posture that combined frankness about the inferiority of broadcasting reproduction and a resolve to maintain concert-hall standards of performance:

"It is commonly admitted that the standard of (broadcasting) reproduction and transmission of speech and music in this country is the best in the world. That is to say, our listeners hear a nearer approximation to the original than is possible elsewhere....But the BBC desires it to be clearly understood that it does not wish to suggest that this approximation however near to the original in quality can ever replace that original....On the other hand, it is most important that the wireless listener not confuse 'tone' as broadcast, with the original, and in order to provide him with more opportunity of hearing music as it really should be heard, the BBC has organised for some seasons past an

1. BBC Handbook, 1928 p.98.
important series of symphony and other concerts given in London and else-
where". 1

Despite its posture of frankness about the superiority of the concert-
hall product and reluctance to raise hopes, that a day of perfect reproduction
would soon dawn, the Corporation did let others speak in that way on its
behalf. The BBC Yearbook 1930 cited the Music Critic of The Times.

"I have done a good deal of intensive listening - in this week (early
Dec. 1928). Some of the results have been quite astounding. What I have
heard has been nearer the real thing than has come my way before. A few
more years of progress at the rate of the last three years or so, and the
average music-lover, I fancy, will be even less inclined than he is now to
leave his fireside for the concert room." 2

The Corporation cited also the Music Critic of The Observer writing
more boldly as a partisan of music broadcasting:

"It is my belief that I listen to the music through a set as perfect
as it can at present be, under the best management; and the two together are
hard to find. One would guess that those who profess themselves disappointed
with wireless music have not as yet had the good fortune to find them both
together...." 3 He showed himself sensitive to improvements in reproduction
instrumental section by instrumental section.

The efforts of the Sound Balance and Control Section to reproduce the
subtleties of music were not wasted on this critic. He wrote: "The weak
point in what we heard of 'Siegfried' - to take that first - was certainly
the tuttis. With the full orchestra, all one really heard was brass,
percussion and flute; strings and wind were obscure and almost wasted. But
when the orchestra came down to chamber music level, it was another matter.

2. BBC Yearbook, 1930 p.32.
3. ibid.
Each instrument, when it had room to sound, was distinct, and, what is more, individual. The tone was unmistakable, except that the double reeds lost something of their nasal quality, and the tuba something of the leadenness which distinguishes it from the trombone. The bass is still weak, but stronger than a year ago. The voices were far too powerful and too much alike; we heard the breathing and the mechanism of the note; that almost every word was distinct was of little advantage, since we had the score.\textsuperscript{1}

The importance to the BBC of gradually converting concert-trained audiences to broadcasting, gave Adrian Boult and the producers of the Music Dept. a position of special independence and power within the Corporation. We showed earlier that it was the Corporation's sensitivity to the politics of the music world, which led to the institution of a Sound Balance and Control Section in the first place.

Administrators, when they engaged closely with the Music Department, emerged with a new insight that power lay with the music audience viewed as an electorate; moved by deep-seated prejudices, but held in check by loyalties to music chieftains such as Boult: witness here Gerald Beadle in October 1934 on the electoral or music politics obstacle preventing the transfer to Engineering of the control function of Balance and Control.

"The other, to my mind more important (obstacle), arises from the more or less ill-informed criticism which is constantly levelled at us to the effect that we mutilate good music by mechanical (Engineering) control. I doubt whether we can ever meet this criticism by a perfectly frank statement of what we do to it, because we actually indulge in a form of faking. The criticism is so plausible that a convincing reply to it is very nearly impossible to make.

I think our only way of getting out of the difficulty is to say that the

\textsuperscript{1} A. M. Fox Strangeways, Music Critic of \textit{The Observer}, cited in \textit{BBC Yearbook} 1930 p.32f.
whole process from the beginning to the end is under the direction of our Music Directors.

It might be argued that whether the controllers are in the Engineering Branch or the Music Dept. involves no real difference, provided they are musicians. With this I agree, but from the ill-informed outsiders's point of view, I think it makes a great deal of difference.

The whole business of control, though necessary for technical reasons, is so very questionable on artistic grounds, that I am definitely nervous of doing anything to encourage the critics. I would rather put up with a state of affairs which we in the BBC know to be unsatisfactory, than to make ourselves vulnerable on a already vulnerable point. The fact that the Music Director himself supports the status quo seems to me to make our position in the matter more delicate than ever.¹

The Music Department's sure knowledge that its power derived from its audience outside Broadcasting House had one important effect. Producers in Drama, Variety, Light Music and Dance Band sought consciously to create specifically radio-drama, radio variety and music scored for radio. Lance Sieveking wrote a technical treatise on radio-drama in 1933 and Eric Maschwitz, the first Director of Variety, defined new Variety genres and articulated the principles that must govern the running of a mass entertainment machine.² In so far as anyone in Music undertook to articulate the problem of broadcasting classical music the first of those was certainly L. Stanton Jefferies. In this regard, there is an analogous pattern in the fall from grace of Lance Sieveking in Drama, for 'overelaborate' experimentation with multiple studios in 1933, and the charges brought against Jefferies of 'excessive' balancing and controlling in serious Music which led to his leaving the Corporation in 1936.³

---

1. Entertainment Executive, Beadle to Director of Internal Administration, Nicolls, 31.10.34 File, "Staff Departmental. Balance and Control, 1934" Acc 79.
3. For a post involved with the organisation of the organists of the Odeon Cinema chain.
Boults, it seems, was a concert hall rather than a broadcasting orientation. Among the Programme Heads, Boult made the least progress towards becoming a mass-media organisation man. Roger Eckersley, who was well qualified to pass judgement: "thought he never cared at all for administration work, in fact he delegated as much of it as possible to his hard-working, modest second-in-command....Boult is a conductor first and foremost."¹ "Many conductors, especially outside conductors, admit that they are not anxious to concern themselves with the technical reproduction of their concerts."²

Boult was frequently involved in concert tours. When Boult failed to grasp the point of a discussion about Balance and Control, in an exchange of memoranda, the same Roger Eckersley, then Director of Programmes, scribbled on Boult's paper: "It's a pity he doesn't attend meetings."

When Boult responded to the Balance and Control Section's 'Manifesto' against their reorganisation in 1932, after 'being away from the building for some time', he appealed to that which he knew of their musicianly standing with visiting international conductors rather than to knowledge of how the technical arm of his Department did its work; as Maschwitz, Harding, Waldman or the others would have done. To the Director General, he wrote: "The importance to broadcasting of Balance and Control....under Mr. Jefferies' leadership....has, as you know, reacted all over Europe."³

There is evidence, even in Jefferies' day (and later),⁴ that Music was not the monolithic department it sometimes appeared to be. There were moments when Boult's perspective on balance and control either genuinely differed from Jefferies' or he stood revealed as having a less than secure grasp of the Section's work.

¹. Roger Eckersley, The BBC and All That (1946) p.139.
³. Boult to Director General 15.4.32 File 'Staff Departmental, Balance and Control 1924-33' Acc 76.
⁴. See Sir Stewart Wilson, Head of Music, 1948 "Note On The Proper Placing of Programme Engineers" 2pp in File Studio Operations Committee" Acc 33572/1. Also see Sir Stewart Wilson's oral testimony 13.10.48, in File Studio Operations Committee" Acc 33572/3.
Messrs Mase (Music Executive) and Jefferies state categorically that balance and control are absolutely inseparable functions and that to separate them is unthinkable....The opinion of Music Department is divided, Messrs Mase and Jefferies claiming that it is an artistic impossibility, while Dr. Boult who is opposed to it for reasons which he is not able to define, thinks that theoretically it is a possibility.¹

Sieveking's radiophonic theory of radio-drama was dismissed by his chief as "propaganda to elevate the control panel to an equality with the conningtower of H.M.S. Hood." Jefferies' understanding of the practice of balance and control was never fully formulated in print, but, as we have seen, his efforts to expound it were interpreted by the Controller of Administration as attempts to raise himself to "the stewardship of the 'High Mystery' at Head Office."² The Senior Engineer (Studios) vilified his efforts as, "talking in the language of the musician to the engineer and talking language to producers....a bubble which I wish particularly to prick." The Director of Administration in a more restrained moment wrote: "The view of the Music Unit, regards the man on Control as of equal importance to, say, the leader of the orchestra, in fact he is a virtuoso almost equivalent to another conductor. If he is skilful enough, he can so control the transmission that there will be no imperfections."³ The same administrator wrote elsewhere:

"The Music unit holds that the man who balances and controls the programme has to function as an artist in the ensemble of which the programme is the result and that he cannot get good results unless by identification of himself with the conductor and orchestra at rehearsals, he enters into the artistic unity of the performance and becomes himself a performer and obviously in many ways the most important performer of all."⁴

² Controller (Administration) Basil Nicolls to Controller (Programmes) C.G. Graves 29.4.36 File, "Staff Departmental, Balance and Control, 1935-7" Acc 80.
³ ibid.
⁴ DIA to Entertainment Executive 7.9.34 File, "Staff Departmental. Balance and Control, 1934" Acc 79.
Engineer (Studio) Basil Nicolls made strenuous efforts to prick the 'bubble' of theory.¹

The thirties were nearing their close before the practice, if not the theory, of the balance and control of serious music was fully set down by a master of the trade, soon after his retirement. Harry Ellingham, in his five articles for The Musical Times, observed the strange absence of response from those quarters of the music world equipped to grapple fundamentally with the problem of production in the new media.

"It is strange that so few of the big names among living musicians have been keen to get down to the brass tacks of the job, and most journalists who have touched on the subject have floundered badly."² Using terms which would have invoked memories of Jefferies' day and the still current controversy of balance and control in the Corporation, he wrote, "There are delightful anecdotes about this absence of knowledge and the easy presumption of it on the part of those who dabble in it superficially.

Surely most readers will agree that balance and control is, at best, a very obscure subject to them - a mystery. This Mystery is not easy to the ordinary listener, and rarely a pleasant task to explain to a musician. An experienced wireless engineer can mentally digest the view of what was once the latter's (sic) job, much as one can digest a dose of unpalatable medicine."³

Ellingham went on to say, "Outside the members of the 'Balance and Control' section and engineers concerned, I doubt if six people in the BBC could give a detailed account of the work, or stand up to a cross-examination on the subject."⁴ Ellingham tactfully failed to say whether he included Boult, or any of the

---

1. "Quite apart from any questions of wasted time and man power, reading novels, answering the telephone, talking to one another and to interrupters (all of this procedure put forward as necessary in the sacred cause of identifying yourself to the maximum artistically with the conductor, the atmosphere in the Queen's Hall Control cubicle being completely noisy, commonplace, inartistic) as shown when we visited Queen's Hall on Wednesday." Director of Internal Administration to Entertainment Executive. 26.10.34 File, "Staff Departmental, Balance and Control, 1934" Acc 79.


3. Ibid.

conduors of his former Department among those six.

The serious music producers steadfastly ignored the problems of music production through the broadcasting chain. The Chief Engineer dared say what balance and control men avoided saying, at least pointedly: "In the case of the Music Department, I gather that the conductors with few exceptions take no interest in what goes out from the loudspeaker, concerning themselves only with what is produced by the orchestra in the studio." 2

Years later, Sir Stewart Wilson, Head of Music confirmed this continuing lack of interest among Music Department conductors in the practice and theory of production through the new medium. Before the Mennell Committee, 1948, Chalmers asked:

"Chalmers: What would Boult expect (of Balance and Control), taking Boult as the representative conductor?

Wilson: He expects the performance through the microphone and in the loudspeaker in the programmes engineers room will correspond as nearly as possible with all the nuances and balance that he is getting live in his room in the studio.

Chalmers: Does Boult try to produce the best performance he can in the room he is in without reference to the microphone? He then leaves it to the programme engineer to get over as best he can?

Wilson: Yes." 3

The Head of Music confirmed that serious music conductors felt themselves in no way members of that broadcasting craft of creating electrically - produced sound with which Livesey, Bridson, Harding, Waldman, Lawrence and White associated themselves and their journeymen.

1. I found no evidence that this lack of interest in the practice and theory of Balance and control, was any thing but total in the Music Department outside the circle of the Music unit itself. Otherwise interpreted, Ashbridge might be taken to refer to orchestral conductors outside the Music Department, in Variety.


3. Sir Stewart Wilson, Head of Music, p.8 Studio Operations Committee File Acc 33572/3.
"It is in a thing like a Features programme that you get the producer saying he wants a particular quality of far-off sound. But the orchestral music is quite straight. I want it to sound over the air exactly as I am rehearsing it...with just that clarity and focus on the different levels of sound."¹

Stewart Wilson conceded that in effect the Balance and Control men were producers in Music Departments.

"Wilson: We have accepted from the programme engineers that they so often are the responsible people in the studio and the only person the artist meets.

Chalmers: Do you, in fact, unofficially recognise them as producers?

Wilson: Yes"²

He showed just how fully Programme Engineers (Music) bore the charge of music production:

"Wilson: The decision on what musical quality, perspective, balance and perspective rests with the Programme Engineer. He times the programme and arranges the artist's or conductor's necessary cuts or arranges the transmission allocation where complete works have been introduced or discarded.

Mennell: He is regularly expected to give pure music advice to the artists and conductors on the playing of the instruments and requirements of orchestral playing?

Stewart Wilson: Quite true, A conductor will ask them if the trumpets are too loud; a pianist if a bass is too heavy; he will say to a singer, "take care of such - and - such a note".³

---

¹ Sir Stewart Wilson, Head of Music, p.8 Studio Operations Committee, File Acc 33572/3.
³ Sir Stewart Wilson, p.4 Studio Operations Committee. File, Acc 33572/3.
The grounds for disagreement between administrators and executives, concerned with economy, and the concern of the Music unit for the standards that prevailed in the world of music, threatened always to bring the two sides to impasse. Thus, in October 1934, the Programme Services Executive wrote to Mase, the Music Executive, questioning the necessity of sending a Balance and Control man to balance the Municipal Orchestra at the Grand Hotel Bournemouth, (Harry Ellingham), when "engineers could do equally well what is necessary, when the programme is a straight forward one, as it is more often than not."  

As always on such occasions, it was revealed that administrators and musicians, held conflicting views of what constituted simplicity and straightforwardness. The Music Executive countered the question with a description of the Bournemouth balance as a task quite other than straightforward: "Some adjustment of comparative strength is necessary on average in 4 or 5 places per work, either by a very slight alteration in playing or a slight alteration in the position of players. For example, it was found necessary to move the bassoons forward in order to get a most important note to come through at all."

The Music Executive concluded with an expression of disappointment at the departure of its corporate patron from the ways which a regard for musical excellence would oblige.

"If it is decided that the slight extra expense on an important concert is something the Corporation should not undertake there is nothing more to be said. Musically....it will be lamentable and, I think, unjustified."  

This small incident opens to view the characteristic behaviour of the engineering interest on such occasions. The executives G. C. Beadle (Entertainment) and R. F. G. Howgill (Programme Services), after their investigation of music balance and control in this same autumn, concluded that expediency dictated that music should be shown to be under the direction of "our Music Director from end to end". Likewise, the Superintending Engineer South, writing to his opposite number at headquarters, showed the need for Engineer-

2. Music Executive to Programme Services Executive, 27.10.34 File "Staff Department. Balance and Control, 1934" Acc 79.
practise the same expediency. He recommended keeping engineers out of involvement, as far as possible, in case of a farrago about the Grand Hotel balance which might raise doubts about the quality of landlines (erroneous but difficult to dispel where non-technicians were involved).

"It is not good principle for an orchestra, such as the Bournemouth one to be balanced occasionally by a Balance and Control official, and for the rest of the time by an engineer. True, the composition of the orchestra itself and the positions of the instrumentalists do not vary greatly and there may be times when the presence of the Balance and Control man is not altogether required; but this point would have to be very carefully watched because there is always the possibility of solo artists taking part in the programme, who have to be specially catered for.

In any case, the Balance and Control man should be on the spot to control and give the correct interpretation. Now that the lines are in such good condition, level control at Bournemouth followed by Balance and Control at London, should not be considered. It would be possible to balance over the line, but I do not like this because again it brings engineers into it in an indirect way."

Eckersley, the Director of Entertainment, and his assistant C. G. Graves (soon to receive the much-prized Directorship of Empire Service) were the authors of the abortive scheme of '33 to limit Jefferies' crew to dealing with 'essentials' only, and leaving unbalanced and uncontrolled the 'less important matter'. Beadle and Howgill were senior executives (respectively of Entertainment and Programme Services) responsible to Director (Administration). The extract below, taken from Beadle's densely-typed nine-page memorandum, devoted to balance and control, follows in a direct line of descent, though an evolutionary stage further on from the Eckersley-Graves initiative; in that engineers had made clear that the coming

1. Superintending Engineer (South) to SSE, H.Q. 5.11.34. File, "Staff Departmental. Balance and Control, 1934" Acc 79.
of new microphone types required balance manoeuvres in all programmes. The passage shows in Beadle a liberality of spirit on balance control matters. Beadle (and Howgill) were consistently open-minded listeners to the musicians' case. Beadle set aside the possibility of 'Technical' control in favour of artistic control by musicians but persisted with the aim of isolating a category of simple and inessential work.

Mr. Florence (Engineering) claims that control exercised by engineers is not mere technical control. His Control Room staff is capable of all the many simple forms of artistic control, though he admits that the more difficult form (i.e. Symphony concerts etc) are beyond their experience and need the services of expert musicians. Within the category of simple control come the dance bands, variety shows, etc. Within the category of difficult control come Symphony concerts, all performances of instrumental combinations the size of the Theatre Orchestra or larger, big choral performances etc. So far as these two categories are concerned, there is no difference of opinion between the engineers and the programme staff. There is, however, an intermediate category in which fall small combinations viz. Reginald King, Victor Olof Sextet Regional Nonets, Solo singers and instrumentalists. This intermediate category happens to be a very large one, and we were particularly anxious to settle for all time whether control by programme staff is necessary or not, because it affects the staffing of Balance and Control very substantially. The difference of opinion that exists between Engineering and Music is... whether artistic control is simple enough for engineers to be able to manage it. The engineers think it is simple enough; Music Department do not.

1. "It now appears to be the assumption that all transmissions have to be balanced, one of the reasons being the recent developments in the use of microphones of different types. The engineers now say that if some transmissions are not balanced, it would be necessary for engineers to handle them". Director of Internal Administration (Nicolls) to Director General 8.6.33. File "Staff Departmental, Balance and Control 1924-33" Acc 76.

2. "Beadle and myself asked Stanton Jefferies many questions and examined duty sheets. Not to make the increase of staff will mean overworking the Section or letting material be broadcast in an insufficiently supervised manner" Programmes Services Executive (J.F. Howgill) to Director of Internal Administration (Basil Nicolls) 31.5.33. File, "Staff Departmental, Balance and Control, 1924-33" Acc 76.
After hearing all the evidence on both sides, and in spite of a previous leaning towards the engineers' point of view we [Beadle, together with Programme Services Executive, Howgill] have come to the conclusion that Music Department's argument is the stronger of the two.¹

Howgill and Beadle here showed a moderate and accommodating temper; more usually administrators rose against the failures of musicians to evolve 'set balances' that would reduce the need to allocate staff to supposed "simpler" or "intermediate" categories of programme.

Typical was the Director of Administration's brusque instruction: "It has been laid down that Balance and Control are only to control the most important programmes and the remedy is not to increase staff but to leave off balancing programmes like the Leslie Bridgewater Quintet."²

Musicians countered that there could be no set layouts: particularly so in what administrators define as simple and intermediate categories. Jefferies, addressing the Director of Administration, wrote in the course of a twenty-page memorandum:

"In general there are certain standard layouts for any particular arrangement of artists or instruments and these form a starting point from which the ultimate groupings can be made. In the case of a large orchestra it is seldom necessary to depart from this standard....In the case of speech, solos, quintets and other big combinations no such ultimate standardisation is possible and frequently changes in the positions of artists are required for different items in a single performance.

Thus it will be seen that the ideal would be in every case to rehearse such combinations, hearing every item from start to finish. This is particularly necessary with such combinations as King's Orchestra or Parkinson's

¹. Entertainment Executive, (G. C. Beadle) to Director of Internal Administration (Nicolls) 8.10.34 p.2 File "Staff Departmental, Balance and Control 1934" Acc 79.
². Director of Internal Administration (Basil Nicolls) to Programme Services Executive (Howgill) 24.5.35 File "Staff Departmental, Balance and Control, 1924-33" Acc 76.
Quintet where the arrangement of the music is so varied.\(^1\)

Ellingham at the end of the decade, addressing The Musical Times readership, assumed himself free of that easy presumption of knowledge by those who dabble in it superficially. He showed acceptance of a hierarchy of difficulty, but his review of the contents of the different orders allowed for measures of variation from case to case, which defied 'reduction' to the routine order that administrators were in quest of. Ellingham acknowledged Beadle's category of Symphony and other orchestras, but showed how subtle were the differences between the elements grouped under even a single sub-heading.

"For balancing purposes small orchestras belong to two kinds: first, those like the Boyd Neal String orchestra, who play works specially written for that type of orchestra; second, those which include all sorts of combined instruments but are comparatively few in numbers. Dealing with the first group, the process of balancing is exactly the same as that used for full orchestra. The work still calls for vigilance and close attention to the score but there is far less difficulty. The score is thinner, more easily checked by the eye and ear, and apart from groupings, rhythms, and time values of notes, there is little that should need adjustment.

The second group is interesting because most of the playing is from manuscript arrangements from full score, re-orchestrated to suit the smaller number of players and kinds of instrument."\(^2\)

Ellingham's articles are important, because they substantiate in detail what Sir Stewart Wilson conceded without question, ten years later: Balance and Control (Music) was a body of producers charged with producing music for broadcasting. What Ellingham articulated to a readership of the musicianly, was the specificity of music production through the medium. In the course of his five articles, he showed that same precise knowledge of

---

1. Stanton Jefferies to Director of Internal Administration 11.6.34 File "Staff Departmental. Balance and Control, 1934" Acc 79.
the problems of production of serious music for broadcasting as Haworth might have done of operetta; or others of dance-music production for broadcasting. In the course of his exposition, he represented as complex, items constituting Beadle's middle order. Characteristically what appeared relatively simple to Beadle's lay mind had for the master craftsman a nature of unclassifiable difficulty.

"Now ... the the very important question of chamber music. The balance work here is mainly the accurate positioning of the players before the microphone. This depends on the weight and quality of tone coming from each particular instrument ... Difficulties occur because the players form a habit of rehearsing all as close together as possible so that each one can see and hear the others clearly. Much care is needed if the balance of quality as well as more quantity of tone is to be correct. The violin is put nearest the microphone, the cello opposite, a little further from the microphone, but the distance and position of the piano behind these two varies with the size and make of the pianos and the general nature of the works to be performed. Rehearsal (home) positions, all bunched together, make the piano top weight, the cello powerful, and the violin an 'also ran' - If one closes the piano-top, the piano quality and general blend is bad. The weight of tone balance may be more even but a dull boxed-piano quality actually becomes more conspicuous to a truly sensitive ear because it does not blend with the brighter string quality. As one moves the strings nearer the microphone and further from the piano, artists get fidgety about their ensemble and glance dubiously one to another."\(^1\)

What Ellingham disclosed was that ensemble instrumentalists as much as any cast of actors or comedians, or producers themselves; progressed in their broadcasting sophistication and craft.

"Balances of quartets, quintets etc., run on much the same lines. Members of regular broadcasting combinations and the studio attendants soon memorise the approximate positions of the lay-outs for each studio, and the necessary balancing adjustments are generally small but very important.

The BBC policy in the balancing of chamber music is the wise one of moving players as little as possible from the positions they prefer to play in,

but there is no doubt that a half-circle formation instead of the usual quartet position is better for broadcasting. One or two groups who play frequently have very sensibly rehearsed in the desired position and have found that a perfect ensemble can be arrived at and a richer tone sent out to listeners.¹

In reviewing the multiple conditions that entered into the striking of a balance, Ellingham showed the unavoidable element of compromise and artifice that thrust forward the 'music producer' as the natural focus of criticism in a situation fraught with variables.

"The balancing of singers with piano accompaniment depends on three things: the singer's timbre, power and diction. Quality of voice indicates the quality of piano tone necessary to, blend with it. A brilliant powerful soprano voice needs a bright open quality from the piano. Now if diction is poor, the quality balance suffers. The big voice must come nearer the microphone until diction is good, and that will have the effects of too much voice, a hard quality and the piano sounding too far away. If one brings the piano nearer to compensate... the piano quality is likely to become 'slappy' and compromise is the only way out. The difficulty caused by less than perfect diction means that the general balance is not good on the air and the Balance and Control man may have to stand up to complaints coming from listeners or answer a memorandum from staff authorities."²

Performers with technique moulded in other circumstances - in concert halls, in other music studios or gramophone-recording studios, were the source of problems of another order.

"Singers question the position given them before the microphone, as it may vary so much from what they use when making gramophone records. Different

microphones, different studios, different amplifications, different purposes in view, were explanations used to soothe and encourage the sceptical."

Beadle's category of transmissions of middling balance and control difficulty, stands revealed in Ellingham's perspective as no sharply distinguishable category at all; but a myriad individual programmes each posing its own problems as much as any of the many programmes issuing from the theatrical and entertainment branches.

Tasks, which seemed straightforward to those who dabbled superficially, were trials and masterpieces to those who tried to work them to perfection.

"Last of the smaller balance jobs is that of piano solo transmissions. It might appear to be the easiest task of all, whereas some of my late colleagues consider it the most difficult. To obtain pure singing quality and to eliminate percussion noise is never easy, though intensely interesting. I have often fiddled about with the microphone by moving it inches in every direction for perhaps twenty minutes, until at last the desired result arrived like the sun breaking through the clouds."  

Ellingham's two articles on balance excerpted from here, together with his others on control, open a window on his sense of daily triumph over obstacles, which work on music in the wireless medium had given him. From their side, administrators struggled with the ardour and 'overzealousness' of such as Jefferies and Ellingham, that spurned letting things go unbalanced and uncontrolled. Administrators and executives, as they saw it, contended in the interests of the institution with the law that musician balance and control men would ever seek to perfect those values that their

music training had taught them to recognise. C.G. Graves wrote in a long tradition of similar statements by managers, in his memorandum to the Director of Programme Administration:

"I don't believe that 999 : 1000 listeners would notice the difference if there were no musical control at all by members (of the Balance and Control Section) and it is very galling to feel that because of the one person in every 1000 we have to spend such a lot of money."¹

From their side, the Studio section responded to charges of their profligacy with resources with an outraged sense of pride in craft. Jefferies wrote:

"It is quite true that if you stick a live microphone anywhere in the studio it will make a noise of sorts. If this is all that is required, by all means let us abolish Balance and Control; but after many years of experimenting with the relative positions of microphones etc., I cannot agree to this suggestion. I can only assure you that in musical work rehearsals and balance tests are absolutely necessary to the success of broadcasting."²

R.S. Thatcher, recently appointed Deputy Director of Music, reviewed the balance and control problem de novo in 1937. His review was prompted by the 'sudden' fall into disfavour with Adrian Boult of Saunders-Jacobs, Jefferies' successor as Head of Section, and by the onset of a further 'stack-up' of anti-Balance and Control criticism which led on into the enquiry chaired by Beadle.

Thatcher like Boult or Wright or other senior people in Music before him saw the balance and control men as charged with music re-production. He differed from Boult and company only in his readiness to grapple with the ad hoc problems of other people's work. His was the Music Department's view, more fully formulated than hitherto, but more characteristic than he may have guessed: which saw the Studio Section doing a job which had no place in music history. Lacking any theory of music composition or performance which gave place to

---

² L.S. Jefferies Twenty-page rejoinder to Basil Nicholls 'Note on Balance and Control' (no date but mid-June 1934) File, "Staff Departmental, Balance and Control, 1934" Acc.79.
balance and control, he saw only patently trustworthy musicians, opposed by non-musicians, who required validation of their work in terms that were not musical.

"There is no expressed consensus of opinion with regard to the value to the Corporation of the Studio Section from the artistic point of view. To me it is distressing to see so much unobtrusive and enthusiastic work being done by Saunders-Jacobs and some of his Assistants with such meagre encouragement and so little positive recognition; they seem even to be under a vague cloud of suspicion. Their work is either of paramount importance to the Corporation as an artistic asset or it is a colossal hoax. There is no possible theory between these two extremes. I cannot believe in the intermediate "High Mystery" theory; during the years of bickering and disintegration it is inconceivable that some disgruntled member of the Section would not have completely unmasked it."1

The essence of the Balance and Control Section's position in the Music Department was that they were fully accepted members of the symphony and chamber music culture by virtue of the experiences, identities and perspectives they derived from their training as musicians; but at the same time they were set apart by their function of production-of-music-for-broadcasting. The confusion over whether that function was musical or mechanical was grounded in the ambiguity contained in the terms used to define their work: the difficulties of distinguishing between musical 'performance' and its 'productions', 're-production' or 'distribution'. When L.S. Jefferies openly, and others covertly, claimed that the balance and control man was a second conductor and often the more important one, the issue raised was the one endemic in the industries making art with new machines. The question of differentiation between the old 'artistic' occupations and new 'mechanical' ones was endemic in the cultural industries. The ambiguity surrounding the division between the conductor and the balance and control man in broadcasting was replicated in the question of the relations between the conductor and the recording manager in the record companies;

in the cinema industry, in the 'auteur' question of whether the film was 'made'
by the director or the film editor in the cutting room or by yet other mechanical
occupations.¹

Ellingham showed that throughout his working life he was genuinely seized
and possessed by the phenomena of the new work of production of music for
broadcasting. As music recording managers might have, he identified the
particularities of his work and revealed it in an ad hoc way that pretended to
no conception of the possibilities of a 'new music' inherent in the facilities of
broadcasting, but disclosed the view that the production of music for broadcasting
involved 'covering up the mistakes' of artists' performances for the microphone,
studio and the further broadcasting chain. Ellingham's understanding and
articulation of the craft of a new work was generated and grew among musicianly
balance and control men who were aware of the complexities of the aesthetic
decisions routinely involved in the electrical production and distribution of
music. Balance and control men were at once credentialised members of the
symphony and chamber music culture and the first professional radio-musicians;
formed by the very conditions of the studio and performing work that had no
meaning outside the context of broadcasting. As the licensed sole users of

¹ For example: "A film editor's job is no more limited to the joining up of
scenes, than a poet's to the rhyming of words. Both are essential functions,
but both are merely mechanical stages in a creative process.
Editing is directing the film for the second time. To gauge the
psychological moment - to know exactly where to cut - requires the same
intuitive skill as that needed by a director.
The director controls the action and judges the point at which it should
occur. So does the editor. The editor's field is narrower, because he has
to work with what he has been given. If a director is dissatisfied with the
contents of a scene, he can augment it, or subtract from it, and then reshoot.
The editor has to put up with what he has or discard it. But by careful
placing and selection, he can transform an inferior scene into a perfectly
acceptable one. With the director and the cameraman, the editor is one of
the major contributors to the quality of a silent film; he is capable of
destroying a well-directed film and of rescuing poorly directed material.
But his efforts are never fully appreciated, except by the director. The
producer, the members of the unit, seldom realise the effort that goes into
the various editing stages. It is small wonder that those outside the
industry have the idea that an editor merely joins up the scenes as they
come from the studio."
Kevin Brownlow, The Parade's Gone By ... (1968) Chapter 23, 'Editing, the
Hidden Power', p.280.
the microphone and acoustic resources for music-broadcasting, the work life
of the circles of music balance and control men, always in and around the studios,
approximated in character and features the milieux of artisanal workshops where
fraternities of like-minded and competitive craftsmen constitute forcing-houses
of standards of excellence.

Balance and controllers were both the servants and critics of celebrated
musicians and natural critics of their own and each others' musical and music-
balance-and-control performances. Wilfred Goatman left a vivid record of the
balance and control community in the Empire Service: individuals who took
equally pleasure in performance and pride in their special new craft. Though
the Music Department had not theorised their place in music and the Corporation
had not theorised their place in broadcasting, they were secured practically by
other musicians' respect for their high level of musicianship and by their mastery
of the \textit{ad hoc} problems of music broadcasting.

"When there are no broadcasts needing the services of the Empire studio
assistants, they listen to electrical recordings of shows they have balanced.
And the criticism of the most disgruntled listener cannot equal the pungency of
their own condemnatory comments.

All the studio assistants are experts on one or more instruments. One day,
perhaps, the Empire Sextet will find themselves in a studio playing for listeners.
The thought is a plaything for the mind - because, who, then, would dare to
balance \textit{them}?\footnote{1}

We have said that in the spheres of serious music-conductors, orchestral
and ensemble players, instrumental and vocal soloists and (as we will show)
musician arrangers continued to see themselves, according to an older mind set,
involved in concert-hall \textit{performance}. Each of the various species of performer,
arranger and composer, remained steadfast in its commitment to co-operation with
other members of a traditionally-understood circle of 'artistic' producers:

\footnote{1. Wilfred Goatman, \textit{By-Ways of the BBC} (1938), p.55.}
they remained, for the most part, unanxious to concern themselves with the technical reproduction of their work. Members of the Music Department made only very limited progress to understanding themselves involved in an historical shift from 'performance', or production of music for concert-hall audiences; to the production of music for broadcasting, in a circle of producers that included studio technicians. Insofar as musicians in broadcasting affected a partial accommodation to a new world, they were found in the spheres of production of traditional light opera and musical shows and dance music; they were musicians who reached their audiences, exclusively through new media.

Gordon McConnell joined the Company in 1925, on the staff of the Cardiff station, where he gained a reputation as a fervent experimenter. In 1929, he was placed in company with R.E. Jeffrey and Lance Sieveking, in the Productions Research Section; and was transferred to Productions Revue and Vaudeville in 1932, to form, along with Harry Pepper and Miss Arnold, the nucleus of Variety Department, set up under Eric Maschwitz in the following year. Stanford Robinson became Director of the Theatre (Variety) Orchestra, when it was created in 1934. Soon after his return from his sojourn with Gaumont Films, Rex Haworth was transferred to Variety and commenced his collaboration with the producer-conductors of the Theatre Orchestra, most closely with McConnell, until his transfer to Staff Training School in 1937.

McConnell, as a producer of operetta, was pre-occupied with making distinct, the words and dialogue of his musical shows and earned a reputation for his 'unrestrained' attacks on the music orientation, rather than libretto orientation of the balance and control staffs. His championship of Rex Haworth (a non-musician unable to read a score) as the engineer-type ideal of a reconstituted Balance and Control Section, made him a leader among those who agitated for the removal of support personnel to Engineering Division. as 'programme engineers', in 1938.

Soon after the inauguration of Variety, Gordon McConnell commenced a
monthly series of revivals of "Edwardes-Daly" type Edwardian musical plays, condensed to 75 minutes. McConnell established himself as a genre producer of theatre operetta, accepted as one of an array of forms suitable for radio. By 1934, McConnell was recognised as a specialist producer of a valuable radio programme staple. A report for the year 1934 acknowledged that, "Theatre operetta holds its own, and a feature of the year's programme was the increasing number of musical plays. Gordon McConnell's "The Lilac Domino" and John Watt's version of "Show Boat" were perhaps the most successful products of the year in this difficult field of adaption, where the dialogue of a full length stage play has to be condensed for radio."2

In 1934, at the peak of his and Variety's first flush of success. McConnell set down a ten-page memorandum, showing the course of his experimentation and metamorphosis into a radio variety genre-producer. In his "Summary of observations Made By a Producer of Musical Shows From 1925 to 1934", he showed how the creation of a radio-specific form had arisen from producers' readiness to delve, search back into, and reassess, a balance and control practice suitable for music; but obstructive of progress in radio operetta production. The commencement of a shift of interest, beyond the usual concerns of conductors, was prompted by Italian developments of the practice of electrically recording opera.

"Until 1931, all the producers of light entertainment took it for granted that no chorus words could ever be heard; that the orchestra would invariably drown a good deal of the soloist's singing; and that the intended crescendo was as often as not a diminuendo during the broadcast. I think Mr. John Watt3 was the first Variety producer to question the fallibility of Balance and Control. Producers had begun to study gramophone records and they found it was evidently

2. BBC Annual, 1935, p.58.
3. Later, Head of Variety following Maschwitz's resignation.
possible to put on wax a very satisfactory impression of big operatic finales, e.g. recordings of Milan Opera Company.\(^1\)

Rex Haworth brought to Variety four years experience of sound film studios beginning with his initial contacts with RCA sound engineers and, thereafter, of rapid developments at Gaumont. Haworth's experience of film studios combined with the Watt-McConnell discovery of the hinterland of studio arrangements that stood behind the production of superior gramophone records coming out of Italy. The two currents together turned variety producers to a search for a radio specific mode of music production. That re-orientation replicated the earlier spate of new-ground-breaking which gave West and his Section a grasp on a music-engineering professionalism. The engineers' advances in the early twenties were prompted by the bringing together of the music microphone and Sabinean acoustic theory. Variety's advances were prompted by the discovery that studio practice was a fluid form calling just as much for the conductor's attention as the artist's performance.

Watt and McConnell, followed by other Variety producers, turned to Italy and Germany as the progressive centres of electric production of music, as West had turned to the USA. In so doing, they broke through to a grasp on the all importance in variety music production of a new co-operative relationship between the conductor and the technician of the Rex Haworth type.

"Producers of Revue and Musical Comedy became more and more dissatisfied. They found that abroad in the studios - and in Germany particularly - Balance and Control was a matter studied by people with considerable scientific knowledge. In fact it was considered a matter of paramount importance. They felt convinced that the best possible results were not going through the microphone. It seemed essential that there should be the closest possible co-operation between conductor, balancer and control."\(^2\)

---

Watt's and McConnell's new appreciation of the plasticity of studio practice led them to experiment with a genre-use of microphones, with the possibilities of variable absorption (movable screens) and the resources of artificial echo.

"Mr. Watt succeeded in getting authority to install a three-way mixer with three independent microphone points. Results with three microphones were at first only partially successful. However I kept diagrams of all the experiments and in October 1931 an exceedingly complicated operetta. "Janet and Felix" was broadcast from Studio 1 with all three microphones in operation and a certain amount of carefully calculated screening ... Not only was there a good balance between orchestra, chorus and principals, but by the use of different types of screening and artificial echo, four distinct acoustics were obtained in the same studio. It was a very important step forward in that this production proved that multi-studio effects could be obtained in a single large studio and at the same time, for what was practically the first time on record, a really good musical blend between vocalists and orchestra was heard."

As West was the beneficiary of the powerful Western Electric speech and music microphone, developed for continental-scale broadcasting in America, McConnell was the beneficiary of opera broadcasting developments thrust forward in Italy by the presence of mass audiences for opera. Information from Italy demonstrated the critical importance of faking, or the manipulation of the factors of the studio to achieve precise effects on listeners.

"Thanks to the co-operation of the engineers, several foreign operatic broadcasts were picked up and put through to Broadcasting House. A broadcast of "Mignon" from Rome was heard. The results were so excellent that a letter was written to the broadcasting authorities in Rome, asking them to furnish certain details - studio dimensions, size of orchestra, lay-out of orchestra, number of microphones used and the type of microphones used. The Rome people

sent information which I found extraordinarily interesting in that it showed that they were using two microphones in all their operatic broadcasts, were using no screening whatsoever, had an orchestral layout which differed from ours, and it was pretty obvious that they believed in large studios, that is to say, plenty of air space around the entire layout.\(^1\)

By January 1934, McConnell's practice as a producer of operetta for broadcast, bore marks and distinguishing features that would have made him appear a bizarre and outlandish figure in the company of serious musicians in Music.

"I made diagrams (of microphones' and performers' positions) ... My latest diagrams have become carefully calculated drawings on squared paper which have been used by the balancers co-operating with me."\(^2\)

By the end of that year, McConnell should have realised that, however fervent his enthusiasm for studio experiment, the developmental resources made available for Milan Opera Company broadcasts over Italy, would not be made available for opera broadcasts from the Variety studio at St. George's Hall.

"Music Director of Variety (S. Robinson) has impressed on me the urgent need for research and experimental work necessary on the question of balance. They should get four free days in four weeks ... They must be given time to study and discuss methods of balance. This part of their work has been cramped in the last four years. Mr. McConnell tells me that in Italy, balancers have time to study their job more thoroughly and consequently produce better results."\(^3\)

By 1937, the McConnell-Haworth team were specialist producers gone far ahead of their contemporaries. In McConnell's next statement on the state of the radio operetta art, in that year, he revealed the distance that separated him from the conventional wisdom of music resource managers and from the body

---

2. Ibid.
of music engineering science, which he had assimilated and surpassed.

"On occasions the broadcasting of certain passages in operas, pot-pourris etc., from St. George's Hall have not worked out according to the conductor's requirements. The most recent example of unsatisfactory balance occurred in the finals of 'The Princess of Kensington'.

Whenever this sort of thing occurs it is suggested that something technical is at fault, and that experiments should be carried out to improve matters. Technical experiments have been carried out in St. George's Hall over a very long period, and by dint of much faking, very large volumes of complicated sounds have been successfully handled in opera, pot-pourris etc.

... Although we have studied and know well the limitations of St. George's Hall and the microphone itself, we are not believed. If we say that a chorus of 40 with heavy orchestration will be a blur and that a chorus of 22 will get a better effect microphonically, that does not hold up the booking of 40...

It is sometimes suggested that the 'engineers' should be called in to give advice. We know more about St. George's Hall than the 'engineers'."

By 1937, McConnell identified the core-resistance to progress in production, as no longer centred among the music balance and controllers but in the bastions of the music profession itself. McConnell, in his less restrained way, agreed with Ellingham who observed "it strange that so few among living musicians have been keen to get down to the brass tacks of the job."

McConnell found operetta - studio - practice well studied and adjusted to the genre, but the adaptation of music to the genre - studio, by the composer and the musician - arranger, was an area of inertia and neglect.

"Whereas the technician has been continually experimenting and improving matters for four years ('34 to '38), during that same period little or nothing...

---

has been done by the arranger-musician to conform to the well-known often
demonstrated limitations of the microphone, to say nothing of the studio.
There is one arranger who has been writing music for the Theatre Orchestra for
a long time, who has apparently made no attempt whatsoever to analyse the
problem of scoring for broadcasting.

After countless experiments a certain understanding of microphone lay-outs
has been established. We have records to prove that works which seem theatrically
far too complicated and noisy for the size of the hall have come through intact.
They came through because the scoring turned out to be so planned as to allow
its various component parts to register as entities and also in a well-balanced
blend.

I think it is time that a musician got down to this scoring business. It
is obviously a musical and not a technical problem now. It requires the
musical research that has been put into St. George's Hall technical research.
I have met only one 'outside' arranger who has tackled the business
scientifically, Walter Goehr. I've only read one article by an opera expert who
tackled the re-arrangement for the microphone problem seriously: Cornelius
Bronsquest of Vienna. This man said that so far as studio opera was concerned,
stupendously difficult tasks had to be undertaken in order to get the composers
intentions by the re-orchestration and re-arrangement of complicated concert work.
We find that too often our arrangers fake simple, straightforward stuff, suitable
for the microphone in its original form, and re-arrange it that one part of the
full score competes with the chorus and vice versa.\(^1\)

It is a curious reflection on the classical music world of those years that,
though the balance and control section was the site "of smouldering embers which
flared into activity about every two years,"\(^2\) the controversy provoked no response
among serious music circles in and adjoining broadcasting.

1. Gordon McConnell to Music Productions Director (Stanford Robinson) and
copy to Rex Haworth 22.8.37 File "Balance and Control, File 2, 700
Acc.45471a.
2. Harry Ellingham "Wireless Transmission of Music" The Musical Times,
May 1938, p.339.
Broadcast Dance Music In-The-Making, 1923-48: the mobilisation of the resources of a music-for-listening

The situation of dance music differed from that of either serious music or radio operetta. The pre-occupation of radio operetta and musical shows producers was the creation of a genre craft specifically for broadcasting. Dance band leaders were merchandisers interested firstly in broadcasting as the newest market place for the wares of the music publishing houses of Charing Cross Road, and only secondly in the craft of broadcasting presentation.

Styles in dance music, in the early twenties, were spread by big-name hotel dance bands, who carried their fashionable polished wares to dance-halls up and down the country making series of one-night appearances: in the interest of promoting sales of sheet-music and gramophone records. The entrepreneurial objective of dance-band leaders catering to such a market was to formulate a style that would meet the needs equally of hotel dancing-and-listening patrons and dance-hall dancers.
By the late twenties, Henry Hall had brought together in one system a style (and organisation of production) that matched both dancers' and listeners' needs; and a means of distribution that was pre-broadcasting. Something between the jazz rhythms of Paul Whiteman and light orchestral melody ("Sweet and well-bred"), "nearer to the British ideal"¹ supplied the model of universal appeal that such entrepreneurs as Hall looked for. By 1929, Henry Hall was already promoting a style of music, melodic to be listened to, and rhythmic to be danced to, through a chain of 32 L.M.S. hotel - bands.²

"In 1928/9 we were all hotel - dance bands; playing for dancing in hotels was our main commitment. The ideal of hotel dance bands was to create a band which combined the two functions of being pleasant to dance to and pleasant to listen to.

The principal dance bands above all employed first-class arrangers.... I had a complete new orchestration for every number my band played.... By the judicious use of accent, by cross-currents of counter point, for instance, in 'hot' style upon saxophone, trumpet or violin, you could preserve a special character for your band, and, all things being equal, make it enjoyable for both listeners and dancers."³

Special orchestration of music for listening and dancing among dance band leaders generally, antedated special orchestration for the microphone. Hall's visit to America in 1933 was as important to raising him to popularity with a mainly listening audience as was his contract in 1932 to be the Corporation's dance band leader. The visit consolidated

3. ibid. p.75.
his grasp on the importance of arrangement in the making of a "universal" style; the contract gave him a temporary monopoly over the means of marketing it.¹

Debroy Summers, from 1923, demonstrated the power that broadcasting had, to magnify the market for dance music and swell the fortunes of those who monopolised it.

"Dance music was a great early feature and in a sense this was one of the big early successes of the BBC, the Savoy Hotel Dance Band. The Savoy Orpheans became a national institution...and of course it did God knows what to the sales of their records, they made fortunes out of it."²

He antedated others also, in grasping that music broadcasting involved, above all things, presentation or production through a novel medium, in which instruments, positions, music (if not styles of playing) were changed to suit the microphone.

"Music played by the Orpheans sound different from the same music played elsewhere. It is due to the pains taken to ensure a perfect balance between the various instruments. In fact, three men do little else but arrange and adapt new pieces to the Band's requirements. The instruments of rhythm, the banjos and the piano, have to be balanced very skilfully against the saxophone and violins, for if there is too much banjo or drum the noise drowns the melody, which causes a painful effect in the headphones.

Correct balance of the various instruments for wireless purposes has been attained only after considerable experiment; and the microphone is now suspended over the centre of the Band, a recent change that has greatly improved the quality of wireless reception. Several kinds of saxophone are employed, and a careful balance is observed between them also,

1. Joe Batten, Recording Manager of Columbia Records: "Henry Hall's BBC Band lasted (1932-37) only as long as the Corporation could resist the wave of resentment increasingly audible from the various popular and more efficient dance bands denied a reasonable share of the ther" Jo Batten's Book, the story of sound recording (1956) p.91.

2. Cecil Lewis, BBC Oral History Unit Interview Transcript, p.21 BBC Sound Archive.
for they are the principal melody instruments".¹

Dance band directors, already schooled in American styles to meet popular taste, found no problem in adjusting to the needs of broadcasting. When Hall joined the Corporation in the Spring of '32, "This question of balance was priority. It could make a band sound completely different, depending on which section of instruments was nearest to the microphone. So one would often find the paradox that the band's performance in the studio was a cacophony of seemingly unrelated sounds, and yet to the listener the whole would have been blended into a satisfying and melodious half-hour of dance music. I even used to get suspicious if the band sounded fine in the studio."²

A little more than one year later, when he visited the U.S.A. to move among the circles of band leaders, his interest reached beyond orchestration styles to include the up-to-date techniques of music broadcasting.

"My first visit was to the N.B.C. Studios, Chicago, which were very well equipped and efficient technically. I was particularly impressed by the technique of broadcasting dance music. They had at least six microphones, visually controlled, and fitted them to the band more than we did at that period, when we were using rather the mobility of the players for our effects."³

In the following three years, broadcast dance music technique moved forward to new thresholds pushed by dance directors' increased thrust for orchestration and for showmanship. Hall, the entrepreneur, counted the investment that his enterprise had cost the Corporation. By 1936, Hall deployed a team of ten principal arrangers, "I shudder to think how recklessly we spent the BBC's money for orchestrations."⁴ The costs made

3. ibid, p.105.
perennial, "the vexed problem of who was going to pay the ever-mounting orchestration bill." ¹

That thrust joined forces with a rising craft of broadcasting to raise demands for a new order of resource input into production. In April 1936, Establishment Officer measured the change from one dance bands' situation, to a newer one; came about in the three years since dance bands had become a section of Variety.

As well as magnifying orchestration fees, the combination of Hall's wish to gain the benefits of American methods of production and of the studio craftsmen's thrust always to do better work, cost the Corporation dear. The technique of production through a single microphone, supplemented by a little movement of the players, was already part of an old regime.

"The old system of presenting a dance programme, whereby the band remains in the same position, the only complications arising through men doubling instruments and a vocalist occasionally approaching the microphone, has been dispensed with. Now every dance band number constitutes a small variety programme with several vocalists or soloists, and often small choruses. The programmes appear to me to be amazingly complicated and require the full-time attendance of a Producer's assistant. The BBC Dance Band sessions number 5 per week with between 3 and 6 hours rehearsal for each session and the outside dance band sessions number 9 with again 3 or more hour's rehearsal each. It is not possible apparently for a Producer's Assistant to attend at the beginning of a rehearsal and leave the band set, each number requires a separate balance, some numbers being rehearsed for an hour or more with constant adjustment." ²

---

¹ ibid, p.153.

Hall had gone forward to the achievements of effects by multi-microphone techniques with all the multiplication of microphone adjustment work that that involved. To a different Administrator's eye, the scale of change in the dance bands' situation was of the order of a substitution of a new system of production for an old one.

"With regard to the proposed increase of staff to deal with the dance music situation, it should be remembered that prior to Variety Department taking over control... Studio technique was simple. Henry Hall and other bands working from studio 10, used only one microphone and no special production technique was employed.

From around the time that dance bands moved to Broadcasting House (circa 1934), dance band broadcasts became more complicated, production methods were introduced - and multi-microphone technique developed until Henry Hall now uses at least four microphones. All this requires more rehearsal, a full production three-hour rehearsal or the microphone being only just adequate for each dance music transmission."¹

A succession of popular music producers giving evidence before the Studio Operations Committee, more than a decade later, found in its members, persons for whom the culture of dance music production was a cult mystery. The problem of gaining acceptance of the validity of the practices of dance music before the Mennell Committee, represented vividly the problem of support staff, in radio-specific programmes generally, in getting their value to producers and their acculturated audiences, recognised by the Corporation.

A succession of witnesses disclosed to the Committee that 'the cacophony of unrelated sounds' that fell on the ear in Studio 10, on Maida Vale, was the raw material from which the collaborative work of

¹. Assistant Director of Variety, to Assistant Controller (Programme) 12.5.36. File "Programme Division. Variety Department, File 2, 1936-39" Acc 150.
studio staffs and conductors "produced" dance music. Dance music was a process of production, not one of 'playing'. It was 'faked' or manufactured music originating in studios that were artificial-sounds manufactories. Whilst chamber musicians gained ensemble from playing for each other's ears, and orchestras for conductors' ears; dance musicians 'manufactured' for the microphone and loudspeaker. The system of dance music production involved scorists attentive only to sounds carried by loudspeakers, instrumentalists who were sounds makers, music technicians whose instruments were microphones and conductors whose conductorship consisted in fitting unrelated sounds to microphones. It was a system which realised the worst fears of William Boosey and the serious-music reactionaries of the early twenties that broadcasting would "mechanise" good music and habituate new audiences' tastes to electrically-produced sounds, not music. A witness sympathetic to popular radio music represented, without misgiving, that "the technique of that type of music is that music is written for the microphone and not the human ear. The human ear enters into it only after the microphone and loudspeaker have done their best and worst."¹

Gundry, Senior Programme Engineer, Bristol, sketched the situation in the broadcasting dance band studio, where the tonalities of "crooning" of the trumpet, or the saxophone, had value only via the 'balance' which microphones made possible.

"In a dance band everything depends on what the Programme Engineer does. That sound that goes on the air bears little resemblance to what goes on in the studio. It is written specifically to sound like that on broadcast.

For instance, you can write something to be played on a very softly-muted trumpet with other very loud instruments playing in fortissimo at the same time and you can get a certain tone colour from it by doing that. The soft, muted trumpet will be quite inaudible in the studio, you

never know it's playing at all; but by putting a microphone right in front of it you can bring out its peculiar quality."¹

Gundry expanded on the further, more important point that popular audiences' music tastes were for the high-cost studio-produced music they had learned from broadcasts, not for the dance band playing in a dance-hall. Dance music became transmuted for broadcasting in the early decades. In consequence, popular, or broadcasting, dance bands were caught, as much as the Corporation, in a trap of their own and broadcasting's devising. Popular dance-bands going outside Broadcasting House and resident top bands in big commercial dance halls, were burdened with the problem and the costs of making out-of-studio, the manufactured sounds their clients recognised.

"In fact the listener does not want to hear the noise he would hear if he was in the presence of the dance band. He wants to hear the noise the dance band makes over the microphone. He likes to hear that in fact when he is on the dance floor. If you go to most dance halls you do not really hear the band direct at all, you hear parts of the band direct, the rest you hear boosted up by microphones and apparently the public likes that.

Dance-hall bands have music written for the microphone because they have a complicated public address system with 4 microphones all faded up with the band, and the dancers do not hear directly from the band, but the result of the microphones coming out of the loudspeakers.²

White, the Dance Bands Producer, showed how fully commercial dance halls had gone over to the 'faking' system.

"Hammersmith Palais have put up two bandstands filled with a complete

---

2. ibid.
complement of public address microphones, the same number as the bands normally use in the studio. Conductors have specially constructed conductor's stands, complete with a set of knobs which control various microphones so that if they are sufficiently clever, they use all the broadcasting aids in dance halls, by twiddling the appropriate knob.

I say that to show that an arrangement which they play on the air and which is specially written for broadcasting can also be played in the dance hall."¹

Prompted by a question from the chairman, Gundry and the Committee's principal programme representative, combined to instruct the Committee in how fully cooperative a system had evolved for the production of dance music: a system of production as much understood by the music-publishing men of Charing Cross Road as by the studio craftsmen of Broadcasting House.

Mennell assumed that the lesson he was being taught, was that the microphones balancer had become conductor. He overlooked how fully the conductor had converted to being a producer of already balanced sound for the microphones; and a collaborator with the microphone man who balanced that sound through multiple microphone.

"Chairman: The Programme Engineer is of special importance because he is the interpreter and the only interpreter. In fact he is the manufacturer of the noise the public hears?

Gundry: Guided, by the dance band leader.

Chalmers: You have only to read the trade papers to see how much the dance band leader does depend on the Programme Engineer.

Gundry: One of the Programme Engineers has been mentioned by name in the trade papers.

Chalmers: Some dance band leaders have to have a certain Programme

Engineer or they will not broadcast. It is true to say that has been fostered by dance band leaders for perfectly legitimate reasons.1

A week later, Chalmers, the Committee member, carried forward the disclosures of the cooperative relations of dance music production, in company with White, Producer, Dance Bands, the witness of the afternoon.

Radio dance band scorists designed for a manufactory they were familiar with.

"Chalmers: The dance band has a technique of production entirely its own?

Mr. White: ...To such an extent that modern progressive dance orchestras have been for a long time re-writing their arrangements to what they come to regard as a normal studio set-up. In other words if they know that they usually have five microphones the arrangement will be written for the set-up which they have in the studio and they might never play that particular arrangement when they go out to a dance hall, because it is written for the studio."2

Chalmers and White, together in the dialogue that followed, opened to view the fine articulation of a system dependent on the input and the understanding of the whole, required equally of studio craftsmen, conductors and instrumentalists able to interpret at performance the instruction given at rehearsal by the conductor and the microphones man.

"Chalmers: Would you say that the Programme Engineer is, in a sense, as important as the conductor, and that in dance bands — the interpretation is very largely in his hands?

Mr. White: Certainly, yes. I would say that the Programme Engineer, if he is a good musician, is more important up to the time the relay goes on. If the orchestra is a good one and properly rehearsed, and the conductor has done his job up to then, he will sit down and the engineer will make or mar the complete broadcast.

1. R. S. Gundry p.13 Studio Operations Committee Acc 33572/5.
Mr. Chalmers: Because it is in the engineer's hands to make trumpets louder or softer, I presume?

Mr. White: Not entirely. If the orchestra has been properly rehearsed, the engineer should not have to touch the microphones, once he has got the knobs set up.

Mr. Chalmers: He leaves that unchanged the whole way through, does he?

Mr. White: No, take for instance any passage where the brass in the band are starting forte and playing a passage with a pianist, then going back to forte again, and playing open the whole time. If they are properly rehearsed by the conductor, there is no need for the programme Engineer to touch the brass microphone because the orchestra are able to produce that effect themselves. But if they suddenly stick the mutes into their instruments, you have obviously got to bring up this microphone unless they are so well directed that two or three of them stand up and group themselves in the proper place around the microphone, thereby bringing themselves into perspective without having to call on the engineer to do something about it.

Whether the engineer took action or the conductor, that would have to be decided at rehearsal between the programme engineer and the conductor.

Mennell: An experienced conductor would know, would he not?

White: He would probably know. The most likely thing is that the engineer would say to him, "This particular spot here, where the brass is muted, can they stand up? Otherwise, I have to bring them up inside (the cubicle) and that will not give you such a good sound."

Chalmers: I just want to sum up the point I was leading up to, that is in a dance music programme, would you agree, that the programme engineer has a big interpretative function - the programme engineer jointly with the conductor?

White: Yes."

The Persistence of a 'Scientific Management' Approach to Studio Work, 1948/9: the Studio Operations' Committee's search for the ultimate components of work; its blind spot for the relations of cultural production

The problem that was posed for support personnel's attempts to validate their activities in the Corporation, was never more vividly defined than in the gap that stood revealed, between the Studio Operations Committee's man-power study of dance-bands' situation; and the instruction in popular cultural production which the witnesses from Dance Bands provided fragmentarily in their oral statements. Hay, in 1948, Head of Central Establishment Office, and member of the Studio Operations Committee, stood charged with the conduct of a man-power review, which he estimated would occupy his five-man team over the next five years. "In the Man-power Review, we are concerned with the time motions of everybody in the Corporation. It deals with all types of programmes; for instance what half an hour of Variety is costing us, as opposed to half an hour of Drama and so on. The whole motions of the Corporation have got to be looked at. We are doing what any large organisation has got to do to keep itself efficient."¹

At a meeting of the Studio Operations Committee in July '48, Lawson-Reece, a member of Hay's staff, summarised for the Committee the findings of his study of studio operations which the Chairman greeted as a "brilliant piece of work". At this, its first meeting, the Committee accepted Reece's work as providing a possible basis for their investigations. Mennell saw Lawson-Reece's memorandum as supplying the Committee with its terms of operation: "We have a view now of what happens and we can put it to any responsible Head of Department or anybody else and say: "This is what we believe is the fact: what have you to say about it?""²


2. George Gillies Mennell. Verbatim of the meeting of Studio Operations Committee, July 2nd, 1948, p.4
One 'fact' in particular, which Lawson-Reece included in his survey, was that the artificiality and complexity of multiple microphone production far departed from the simple delivery of the artist to the microphone. The dance bands' situation raised in the acutest form the question of the proper ratio of resource input to entertainment output. Lawson-Reece's norm of simple delivery of artist into microphone, was the one which Beadle, over his long career had wrestled with. The Mennell Committee's beginning view, "what we believe is the fact", was precisely the view of Beadle's youth: when broadcasting appeared a simple process of putting an artist, entertainer or speaker before the microphone and transmitting his sounds by radiotelephone into the listener's ear.

"Dance-bands and light-music combinations increasingly depend upon 'special arrangements' where, for instance, muted trumpet or subtone clarinet must stand out against all the other instruments. This requires a complex multi-microphone balance technique, which is not economical of manpower or equipment; moreover, the internal (acoustic) balance of the musicians is so artificial that studios and engineers have to be set aside even for preliminary rehearsals. In aggregate, these programmes eat voraciously into studio-hours and operational man-hours by comparison with those where the artist simply delivers before the microphone a performance which might equally be given in a concert-hall. The problem is one no less of aesthetics than of technique, but it is pertinent to ask whether the exploitation of trick arrangements of novel tone - colour always justifies the effort."^1 In his oral evidence, Lawson-Reece saw the dance-band's situation of 1948 as one grown up over night. His strictures show that Hay and Lawson-Reece saw in popular music production for broadcasting, the same autonomous development by zealots, got out of hand, that Basil Nicholls and Cecil Graves, saw in the thirties in Jefferies' and Sieveking's 'excessive' exploitation of the then technical resources of broadcasting.

'Lawson Reece: In Dance Bands there has grown up a very sudden change in the whole shape of their work. Instead of delivering in a BBC Studio precisely the kind of performance that they would deliver in any other public place, they have special arrangements which are designed very artfully to take advantage and exploit the resources of broadcast chains and you get a Dance Band with eight microphones instead of one, because the arrangement has to be of little bits of somebody trumpeting against a huge parcel of sound by someone else and it has to have a separate microphone; it inevitably complicates the whole affair. It multiplies the rehearsal time by at least two in order that the specialist staff, Programme Engineers and Producers can realise those effects in the special arrangements; and I have the impression that it has got a little out-of-hand. It has got to the pitch where people go to a studio like Maida Vale 2 and one band I listened to there last week, was laid out in such a way that there were four sections. Not one of them could hear what the others were playing and the conductor could not hear what any was playing, and there was all this faking.

The object is to get quite original effects into the loudspeaker by exploiting close balances for weak instruments and getting a new tone colour. I cannot help thinking that the question of special arrangements for broadcasting has been allowed to get slightly out of hand and is eating into man-power rather."¹

Lawson-Reece's evidence showed that the Corporation's man-power students derived their notions of economy from manufacturing industries rather than from the newer cultural production industries or other broadcasting systems. By contrast, Variety popular music producers testifying before Mennell, showed themselves fragmentarily aware of realities in their situation, unacknowledged in the man-power view.

¹ C. Lawson-Reece, Verbatim of his oral presentation of his man-power study findings at the preliminary meeting of the Studio Operations Committee 2nd July 1948, p.17f Studio Operations Committee File Acc.33572/2.
Before broadcasting, the moving-pictures industry developed its own market. From the very start it found itself moved upward through a spiral of rising costs and increasingly complex production practices by the push-and-pull of a developing craft and its audiences' taste for novelty. Dance music production was subject to the relations of this same new-age cultural commerce.

The Corporation's popular music producers, before Mennell, revealed that they were involved only in another sector of the cultural products market-pushed and pulled through a similar spiral of rising costs by the same forces of craft and audience taste for novelty. The confusion in the man-power view was between an order of economy appropriate to manufacturing industry and an order of economy that met the real conditions of cultural production. That disparity stood out, when Lawson-Reece was drawn to make comparison between the costs of American commercial music-broadcasting and the Corporation's own popular music production. In the light of a comparison between one music-broadcasting system and another, BBC Variety's record was a good one.

"Mennell: Is this eating into man-power by dance-bands at the instigation of the conductor or the proprietor of the orchestra, or who?

Chalmers: Dance producers have copied the American technique.

Lawson-Reece: With this difference: that Americans rehearse for three weeks before they put it over and we do it in three hours."¹

It is clear that the disjunction between the strategies of man-power economy and theories and practices of the programme culture, persisted in the post-war years. The survey of the multiplicity and variety of support staffs' work that Lawson-Reece put before the Programme Operations Committee on the occasion of its preliminary meeting, gave them only a beginning sight of a

bewildering problem. Reece's survey showed the situation of numerous autonomous occupations sprung up across the entire broadcast programmes map. Each successive witness from the programme side, thereafter, opened further insights on the situation. The creative partnerships between producers and their staffs worked to set a value on individual idiosyncratic and programme-specific talents rather than on specific able generic occupational skills. The witnesses disclosed a map whose occupational colours were not solid but infinitely shaded ones; appreciated by producers for their qualities of difference, not their colour. In Lawson-Reece's phrase, production in broadcasting had become production by an 'orchestra of one-note players'.

The Committee was exercised from the start by the contradiction between the programme view and the logistical perspective. The programme culture saw individual's unique inputs as the stuff of economic worth. The corporate planning requirement was that work should not become so 'absurdly specialist' that it closed down individuals' interest in, or prospect of, movement outside programme types that might close up in any year or decade of a man's career.

Hay, of Central Establishment Office, saw only the 'problem' of creating a single system of promotion. Littlewood, the Staff Association General Secretary saw only the necessity of creating two entirely different systems of promotion.

"Hay: Basically, this multiplication of peculiar people in the Corporation is astonishing and alarming. The more little blocks of peculiar people you form, the more you stultify any possibility of avenues of promotion.

Littlewood: The recognition of peculiar people is the only answer that the Staff Association has to an otherwise fairly rigid system. It is the system in the Engineering Division which makes promotion in Engineering Division (for peculiar people) a rigid system."

Mennell, as Chairman, came back to Littlewood on a problem that occupied the foreground of his mind. The Committee's starting conception was a single system of promotion. Littlewood, the outsider countered by developing the notion that the Corporation was both the unique creator and the sole market place of skills peculiarly its own. The Corporation was neither an engineering works nor a theatre but just broadcasting. He differed from Reith in posing for the Corporation, the problem of creating organisation neither national nor rational but rational-for-broadcasting.

"Mennell: I think Mr. Hay's point was that we should all agree that the ideal is a universal avenue of promotion in the Corporation - promotion from bottom to top. Well, every time you invent fresh peculiar people you make pro tanto the idea of universal promotion more difficult.

Littlewood: If you carry the process to its logical conclusion you do not. If you specialise to the extent where everybody is in a special little category of his own, then I think you find that the contacts between the various classes of specialists, their knowledge of what goes on around them, their technical contacts on the one side, or cultural contacts on the other, do, in fact, in an atmosphere like that of broadcasting equip them for promotion outside their own category of people into another category of people. In other words, the more minutely distributed the specialisation ... the more tendency it has to equalise people."

Littlewood, who gained his first experience as a trades union officer in the Post Office Union, developed his perspective on the uniqueness of broadcasting as a creator and sole market of its own skills, in a subsequent edition of the Staff Association Bulletin. Under the heading "Broadcasting Craft Unique", he interpreted the implications for Staff Administration of the emergence of a hierarchy of new broadcasting trades, the constituents of a craft without parallel elsewhere.

1. T.L. Littlewood, General Secretary, BBC Staff Association, p.46, Programme Operations Committee, Acc.33572/3.
"It is not my view that rates in the Corporation should be related to rates either in the Government's service or in private industry. The techniques employed by engineers, producers, scriptwriters, announcers and other grades are not techniques for which standard rates can ever be settled by any other industry than our own. Furthermore, since we are compelled to create our own market for staff of this kind, we must concentrate on relative rates of pay within the organisation as a whole."\footnote{General Secretary, "Wages and Salary Increases" Staff Association Bulletin 15 (May–June 1949), p.27.}

In subsequent meetings the stream of programme witnesses compounded the problem of peculiar people. Paul Ellingham claimed he saw his work in broadcasting comparable with the cameraman's in his medium. Miss MacDonald, Harding, Waldman, Dance and Variety Music producers and others, cited with regret, cases of rare talents forced out of positions of great value in programmes by their need for better pay.

Begg, the spot effects man on 'Itma' gained his sense of status from the high esteem which Variety producers held him in, for which Waldman was the spokesman. Begg was the prime example before the Committee of the absurdly specialised skill carrier. He gave evidence of the value of his skills in this genre of popular comedy.

Chalmers, first Head of Light Programme, showed on this occasion that the fuller implications of Littlewood's argument had passed him by. Chalmers reminded Begg, as part of his interrogation, that programme genre, which were popular today might not be so tomorrow and that the Committee, in the Corporation's name, had to so organise work that it was proof against a future when taste and technology might change.

"Chalmers: Are not effects such a specialised part of production that they depend on a fashion in Variety which, at the moment, is growing up? In my lifetime, before I came to the BBC, there were no shows like 'Itma', 'Band Waggon' was the first. This fashion in Variety is a sort of ten year
old thing. Who is to say in Television they use that thing at all."¹

What Chalmers failed to take account of, was that the history of the commerce of entertainment was constituted naturally of just such shifts of fashion and technology which outmoded its peculiar people and changed the market for their skills, the displacement of silent cinema by sound-on-film being only a supreme example. When entertainment production was run by showmen, it was geared to fashion and 'credited' and rewarded absurd specialisms that matched the peculiarities of fashion; and dispensed with them as fashion changed: it was the nature of show business.

---

¹ Begg, Sound Effects, Variety, p.43, Studio Operations Committee Acc.33572/5.
In the course of the mid-twenties, Engineering surrendered its dominant position in the studio to broadcasters: those charged with producing effects on listeners through a calculated use of microphones and room acoustic. In the years between 1923 and the move to Broadcasting House in 1932, engineers were preoccupied with big radio engineering projects such as the improvement of the landlines for simultaneous broadcasts and with short-wave radio to reach that total national and empire audience - on which the Corporation built its claim to a monopoly.

Those great achievements conspired to sustain the notion that the conditions of pick-up would one day be the subject of an exact science. A series of engineering improvements kept alive the fiction that broadcasting involved putting artists and orchestras in front of microphones rather than a craft of broadcasting production. It was reasonable in the twenties to suppose that sound-reproduction would become fully mechanised. Contemporaries therefore settled for "an artificial sound-reproducing system" as an expedient made necessary by the inevitable inadequacies of an infant science. It was supposed that microphone and studio design improvements were signs of engineering's steady progress to full mastery and that imperfections were the human faults of the conservatism of musician balancers and controllers, who failed to get the best out of the ever-better means the engineers supplied.

The circumstances that favoured absolute faith in the coming of an exact science of acoustic management, began to change after 1932. The many shortcomings of the purpose-built studios and equipment in Broadcasting House revealed themselves; but the fall guys were most often the balance and controllers, or their supposed laggardness in theory and practice. The earliest and fullest expression of a dawning realisation
of shortcomings in the system, came in a long memorandum by Gordon McConnell, the experimental-minded operetta producer. He and John Watt and other Variety producers began first to question the "infallibility" of Balance and Control. "So anxious, in fact, was the Head of Balance and Control to avoid the use of two microphones that on his advice the equipment of Studio 8A at Broadcasting House was carefully planned that it would be impossible to use the three-way mixer or two more microphones. Recently, at considerable expense, it has been found necessary to rewire the Studio in order to equip it properly for the modern methods of production i.e. the use of independent microphones on a three-way mixer."¹

From the early thirties, the coming of a new generation of more sensitive microphones (beginning with the American moving coil microphone of 1932) opened an era in which the inexactitudes of acoustical science were thrown into relief, and Engineering Division shifted its earlier preoccupation with 'big engineering problems' to greater involvement and concern with studios. The increased power of the Corporation's two-sided ribbon microphone (1934) to magnify the variables of studio acoustic and complicate the problem of balance, brought the Studios and Microphone Liaison Committee into existence under the Chairmanship of R. T. B. Wynn, the Senior Superintendent Engineer. The weekly committee became the cockpit of clashes between Engineering and Programme representatives with Balance and Control being exposed to suspicion and criticism from both sides.

In 1934, the Chief Engineer expressed it as his greatest fear that Balance and Control, without an engineering orientation, would act as a barrier to artistic and technical joint progress.

¹ Gordon McConnell to Programme Services Executive R. J. P. Howgill 18.1.34 File "Staff Departmental. Balance and Control, 1934" Acc 79.
"The question I will try and discuss is what is required of Balance and Control people apart from their obvious programme duties. A point which is usually lost sight of is that they must keep close liaison with the Engineering Branch, in fact it must be almost as close as with the producers themselves. The reason for this is that the Engineering Branch is responsible for the acoustics of studios and for the design and performance of microphones. The difficulty has been, however, to impart to the Balance and Control people how to obtain these improvements, because their work is based on and linked with one type of microphone so far as balance is concerned. The same thing applies to the acoustics of a studio. We try to carry out this liaison through the research people, as well as people like R. T. B. Wynn and by means of the microphone and studios committee. This is all very well in its way, but at times the Balance and Control people just do not agree with what is said by the engineers and go their own way."¹

From the mid-thirties it became an Engineering dogma that programme support personnel were the channel for the flow of information to Engineering Research: the design of studios and studio equipment depended on support staffs being able to interpret programme production practice to Research in engineering terms. In 1937, the report of the Committee acknowledged it as a vital requirement of the reorganisation of the Studio Staff, that it should "harness the practical experience of Balance and Control to the inventive skill of the engineers."²

¹ Chief Engineer Noel Ashbridge to Director of Internal Administration 21.8.34. File "Staff Departmental, Balance and Control, 1934" Acc 79.

Engineering required an engineering orientation in this proto-
studio grade, not only as a source of intelligence on the medium and
long term technical needs of the studio machine, but also out of a
concern that the week to week shortcomings in producers' and performers'
work should not be visited on Engineering equipment. As the Chief
Engineer put it, he wanted "a division of responsibility, so that if
anything went wrong it would be the producer's fault."¹

The engineers' dissatisfaction was with the ease with which
producers, performers and studio staff united to blame microphones and
room acoustics for programme shortcomings. Three years after, the
Chief Engineer wrote that the studio staff's lack of Engineering
knowledge led to a wasteful cycle of departure and return to engineering
standards by Programme people.

"As things stand, Alexander (the microphone designer) may find
a balance admitted at the time to be suitable, but it is not kept to.
I am told that the first time any one sings badly, or a show is
generally not satisfactory, the producer, feeling ruffled, naturally
queries with the studio assistant whether the balance was alright. The
studio assistant, although he has accepted the balance laid down by
Alexander, usually thinks he could have found a better one. The result
is, that for the next show of a similar character the balance is changed
several times during rehearsals, ending up possibly with some poor
arrangement, although not so glaringly bad as to make all the senior
people rush to the telephone when they hear the broadcast. After a time
it becomes apparent, that things are not quite right. Alexander attends
another rehearsal and the process starts all over again. By this time,
probably, several microphones are being used instead of one, but

¹. Chief Engineer, Noel Ashbridge to Director of Internal Administration
21.8.34. File "Staff Departmental, Balance and Control, 1934" Acc 79.
gradually things are sorted out, until a suitable balance - usually with only one microphone - is again found. This goes on until the next time there is an incident of some kind during a performance, which causes the balance to be queried.¹

The Chief Engineer wished for a clearer division of responsibility, between Engineer and Producer. For this reason he favoured instituting a hand-over point. He wrote, "If we were starting from the beginning (again)....I should recommend that at every rehearsal the producer or conductor must pass out the balance himself, and, if he did not like it, he must say definitely what is the matter with it."²

Engineering's jealous regard for the competence of its equipment was defined as a strategic interest. Engineering's conduct in the history of the studio grades, accordingly, may be read as directed by this interest. This interest could lead Engineering as much to give support to the establishment of a staff specialising in microphones and acoustics, as to moves aimed at bringing this body under more complete Engineering control. During 1934, the D. I. A. reported to the Reith Engineers' advice that the development of more critically-angled microphones entailed the attendance of a balance man on almost all programmes. Again in early 1934, C. G. Graves, the first Head of the Empire Service, ruled against the use of balance and control resources on Empire transmitters. It was the action of a loyal organisation man against giving grounds for staff increases. That economising gesture came to grief precisely on Engineering's jealousy that the quality of transmissions might be compromised in the ears of Empire listeners by lack of Balance and Control treatment of the content. Dryland,

¹ Chief Engineer to Controller (Administration) Basil Nicolls 18.1.37 File, "Balance and Control, File 1" Acc 45471.
² ibid.
Engineer in Charge, 22.9.34. London Station, wrote: "I understand that it was ruled in the past that Balance and Control should not balance any Empire show....The matter, however, is becoming very serious, for I am repeatedly seeing reports in which recordings have been futile even when they have been listened to on reproduction here - so I cannot imagine, what the result would be like to a listener in the Colonies....I suggest very strongly....that the matter of balance be considered as a matter of importance rather than....a matter of complete indifference when it is a question of Empire transmissions."¹

By 1937, acceptance of the fallibility of engineers, on the inexactitude of acoustic knowledge, was a common-place among producers. In that year, McConnell took it granted by Robinson - that the immeasurable peculiarities of St. George's Hall were better known to those who grappled with them in the course of production: "We know St. George's Hall better than the engineers!"

Conductors had grown aware that no studio in the Corporation's complex, was without such peculiarities. Chief Engineer, himself, reported that it was so: "I was told that according to conductors, none of the studios at Maida Vale was any good. I have no doubt that if we had gone into the matter further, somebody would have found fault with every studio in the system."²

Balance and Control men were aware that the acoustical peculiarities of listening cubicles compounded the peculiarities of studios and removed all chance that they could be sure of suiting the performance to the acoustic of the average listener's home.

"There was a general criticism of studios and OB Listening Rooms especially with regard to size and acoustic properties. Very often the results as heard in different rooms in the same building varied and it was, therefore, difficult to know whether anyone of these coincided

¹. Engineer in Charge, London Station to Empire Services Executive 22.9.34 File "Staff Departmental, Balance and Control, 1934" Acc 79.
with the average results as heard by a listener in his home. It was felt that some of the outside criticism of balances were justified but that it was probably due to this cause. It was proposed that the whole question of listening room design and treatment be investigated."

Ellingham could demonstrate in a way that anyone could understand, that microphone designs were glaringly ill-matched with the circumstances they were meant for.

"Chorus with orchestra presents serious problems to the musician balancing with the double-sided ribbon microphone in use by the BBC... The two-sided microphone is always best used singly and not in multiples... The insistence by the engineering department on the exclusive use of ribbon microphones is wrong. I could give a very glaring example: a microphone nearer the chorus was used, but the other live side of this microphone picked up so much wood-wind, bass and drums that diction was smothered; nor could one expect the result to be otherwise. As this is dangerous ground, I will only remark that, as the balancer is entirely responsible for broadcasting results (and the recipient of any kicks that may come along) he should be given the tools that he prefers to use for the job in hand."\(^2\)

---

The Search for Paradigms of Studio Support Staffs' Work, 1932-48: the 'craftmanship' of Music Balance and Control or the 'assistantship' of Programme-Engineering?

From the early thirties, faith declined in the possibility of high fidelity sound production - that is a science that would make it possible that sounds coming out of the loudspeaker would be identical with those going in at the microphone. The idea of broadcasting of Beadle's youth - of simply putting artists before the microphone and transmitting their sounds to the listener's ear - rested on belief in the perfectibility of such a science. The reverse side of the dissipation of that hope was the rising sense of mastery of a craft of sound production for, or presentation through, a broadcasting system. The place of origination of a sense of craft was Productions, perhaps principally, the Variety Department.

When, according to the promulgation of October '32, Balance and Control Section (Productions) was separated off from the original Music Section, growth of a generic staff of producers' assistants commenced. In the circumstances of Variety's studios in St. George's Hall, producers, from '33, found new uses for Balance and Controllers and Sound Effects Staff in an array of programme types that were consciously faked and contrived productions.

As the McConnell-Haworth collaboration defined one type of studio staff in Variety, so co-operation between other producers and enterprising Sounds-Effect-ers (Brian Michie, George Inns, and Peter Duncan cited earlier) defined other elements of work content, particularly with grams and mixers.

Brian Michie, an ex London schoolmaster, who joined Effects in 1930, was the first to metamorphose - out of Sounds-Effects. The first sign that Variety producers would find new uses for, and prompt developments of, old staff, came from Eric Maschwitz. His memorandum to Val Gielgud gave the first indication that broadcasting had become the maker of its own studio-specific skills: skills which no section of the outside labour market could supply.
"It seems that Sharman (Vaudeville Producer) must have an assistant.... He needs a strong, quick competent youngster to act as his studio-assistant and, in the course of that work to qualify him for acceptance as a separate producer. An outside man of this kind would be hard to find. That is why I have no hesitation in putting forward Brian Michie for the job. Michie knows studio work backwards, has a calm nerve, an occasional touch of inspiration and, very important, a reassuring manner which is greatly appreciated by artists. As an Effects expert he is at a dead end.... It would be of great assistance to Mr. Sharman to have the support of Mr. Michie quickly."¹

Variety Department, set apart from Broadcasting House in the Old Maskelyne Theatre's premises, was a world where music-hall artists and Variety producers (several were ex-vaudevillians and Summer Promenade Showmen) merged: a special enclave where new work relations flourished.²

"I claim that the four Balance and Control men be transferred to my Department in a 'creative' capacity as assistant producers (which they virtually are since unlike other departments where Balance and Control is merely routine work I and my producers encourage Balance and Control men to contribute as much creative work as possible."³

The balance and control-ers, transferred to Variety, were given scope by producers who found use for individuals' special gifts; and likewise, thrustful enterprising sounds effect-ers moved to whatever work Variety producers thought their talents suited them.

¹ Variety Director, (Eric Maschwitz) to Production Director (Val Gielgud) 10.5.33 File "Programmes Division. Variety Department, File 1, 1933-35" Acc 150.
² Material here is drawn from, Eric Maschwitz, No Chip On My Shoulder (1956).
³ Variety Director (Eric Maschwitz) to Variety Executive (M. M. Dewar) 12.1.34. File "Staff Departmental. Balance and Control, 1934" Acc 79.
"Variety Department are using George Inns of Effects Section for operating the Drama Control Panel which formerly belonged to Balance and Control."

The speed of the re-division of labour process in Variety from 1933, left some Administrators feeling left behind and out of touch about exactly what was going on.

"A requisition has come through calling for an oak table and chair for Mr. Inns. Mr. Inns is officially second man in Effects Section and therefore requires no office accommodation. Mr. Inglis (Drama Studio Manager) recently asked me whether there would be any objection to Mr. Inns specialising in Variety work and I said no, obviously not, as the Effects Section provided the service to both Drama and Variety.

He seems, however, to be turning into something quite different and Mr. Inglis certainly gave me no hint that he would be blossoming out into a kind of assistant producer. Inns' chief, Willis, for instance has no office accommodation that I ever heard of."

Beadle and others reorientated their thinking in response to this spate of spontaneous growth in Variety and saw early something of the outline and configuration that developments were taking. Developments in Variety, as they saw them, had forced into being an interchangeable general studio factotum - different from the independent or autonomous functionary that the Balance and Control man claimed to be.

1. Drama Executive (R. Burns) to Entertainment Executive (G. C. Beadle) 14.11.34. File, "Staff Departmental. Balance and Control, 1934" Acc 79.

"The Studio Assistant will have no independent function at all and only becomes necessary insofar as the producer cannot be in more than one place at a time and needs assistance with his production.

I think it most undesirable to lay down any standard practice for producing. From this it follows that the function of the studio assistant will be more or less undefined."^1

A month later he set down what he discerned as the pattern of a possible career path, leading from Junior Effects, renamed "Junior Producers' Assistants" allowing a Senior more specialised grade in Drama where effects work was thought more sophisticated) through "Producers' Assistants" to a "Senior Producers' Assistants" grade; the latter incorporating the existing and older Balance and Control men of Variety and Drama. It was a pattern which suggested a three rung ladder of career, which commenced with simple effects work and general studio factotumhood led upward to Senior Assistantship and held out for some the prospectus of Producer's status.

"The requirements of the Variety and Drama departments insofar as Effects Staff is concerned, are quite different. The Effects Staff of Drama needs to be highly specialised, whereas on the ariety side, it is a positive advantage to have a less highly specialised and more flexible staff.

For the Variety Department I recommend a new staff which I suggest calling 'Junior Producers' Assistants ... They will be 'Jacks-of-all
Shortly after, with some small amendment that met their circumstances, Drama put together their own idea of a three- or four-rung, ladder of career.

"Drama Director, Mr. Inglis (Drama Studio Manager) and I have been discussing the four Senior Effects operators. We should like to give them more opportunity and widen the scope of their work. It would encourage them and give them greater scope for the future. Two of them have already shown great promise in studio managing and they are all capable of learning the work of Producers' Assistants." ²

The coming on air of Radio Luxemburg and Radio Normandie in 1933 opened new markets for the skills of studio labour. Michie and the ex-Sounds Effects boy wonder, Inns, left in 1937. In that year, Duncan of Variety and Scrope of Drama presented claims for wage increases and made play with offers that had come their way from Luxemburg. From 1933, the problem of career paths in the Corporation, became increasingly an urgent one.

Developments in Variety and Drama fitted easily into the scheme that would bring sounds effects-type people and musician balancers and control-ers on to a single graded ladder of promotion. The ease of accord between developments in the two departments and the career scheme made the problem of the original, specialist and older musician balance and control-ers of Studio Section, Music, all the more acute. The success of the Producers' Assistants or proto-producers' model of career in providing scope for the

1. Entertainment Executive (G. C. Beadle) to Director of Internal Administration (Basil Nicolls) 27.11.34. File, "Staff Departmental Balance and Control, 1934" Acc 79.
2. Drama Executive (R. Burns) to Establishment Officer (D. H. Clarke) 8.4.35. File, "Staff Departmental, Producers' Assistants. 24.9.37. to 22.11.38" Acc 270.
rising talent of those two departments, suggested that the same motif
might be applied to the residual musically balance and control-ers, Music.

From the Administration's viewpoint, the obvious solution was
firstly to do what they had already tried and failed to do in 1932: to
break down the High Art of Unified Balance and Control, make balance on
its own a low beginners' art, with control (thought by both administrators
and engineers an engineering matter) transferred to Engineering. The
original self-styled craftsmen could then be offered 'producer' status in
orchestral management or music programme - planning. Administration's hopes
of assimilating Balance and Control into the Productions scheme, crashed,
when Saunders - Jacobs submitted a scheme identical to the original
Jefferies' one of 1931. Like its antecedent, it asked for recognition
of balance and control men as a guild of special HQ music craftsmen given
suzerainty over balance and control practices in regional stations.

Graves' and Nicolls' hopes fell flat before what they took to be a
'bogus' music ideology formulated yet again by Saunders - Jacobs.

"I have read this (Saunders - Jacobs') memorandum with feelings of
growing despair....Practice during recent months has made it quite clear
to me that the functions of the Studio Section 'Producers Assistants' are
quite different. The former have to be experts in music; the latter are
in effect Assistant producers and their qualifications....are quite
different. Probably the Producers' Assistants have a wider field in front
of them. They may rise to be Producers, and because their chances of going
further are greater, their initial rates of pay need not necessarily be
as high as those in the Music Section who begin as musicians and will
remain musicians."

Administration's scheme fell flat because it was tailored to the needs
of organisation-men concerned only with 'career'. It failed to take account

1. H. Saunders - Jacobs to Director (music) 12.11.35. 6pp File, "Staff
Departmental. Balance and Control, 1935 to 37" Acc 80.
2. Controller (Programmes), Cecil Graves to Controller (Administration) Basil
Nicolls. 25.11.35. File, "Staff Departmental. Balance and Control,
1935 - 37" Acc 80.
of zealous, overworking craft-minded balance and control-ers who could not be stopped from attending shows of special interest in their own free unpaid time.

At a Meeting of Nicolls (Administration) Ashbridge (Engineering) and Adrian Boult, Graves made a last abortive bid to influence Director (Music) to bring his musicians round to joining in the scheme.

"Proposal that Director (Music) consider the handing over of nearly all control to (Engineering). It would mean the employment of fresh engineering staff with musical knowledge....I begged him to make it clear to the Studio Section that the chief motive behind this proposal of C(A)'s and mine was to see whether we could not do something to make the jobs of people like Saunders - Jacobs etc. more interesting and with a better future. As Music 'Producers', there seemed to be very little doubt that they should be comparable with Producers' Assistants in Variety and Drama Departments who had a good career in front of them. I said that if D. M put the matter this way it would, in my opinion, ensure that Balance and Control would not try and make out a terrific case for retention of the control function, as they had done in the past, chiefly, I thought, because they imagined they were fighting for their own existence."

The increases and mutations of Drama and Variety staffs in the middle thirties - as producers saw them (but darkly) and as Beadle saw them, clearly, long after - was a development of the manifold trades of a more general craft of broadcasting. Contemporary administrators saw it as a multiplication of producers' hands: important in the long-term for the training-up it offered for the few who had producer's talents.

The manifold programme tradesmen of Variety, Drama, Features and Empire, gained their sense of crafthood and achievement from the special relationships with particular producers and others around them in the programme teams. The Staff of Balance and Control (Music) were distinguished from these others,

only by their collective sense of crafthood, a solidarity which they derived from the ideas and outlook they brought with them from their early training in musicianship.

The problem of programme craft, or the laying claim by programme staff to special types of non-engineering skills, was foregrounded and perceived as limited to balancers and controllers, Music. The general problem of craft claims was reduced and narrowly designated in those years the problem of 'balance and control'.

The failure of administrators to reorientate musicians from crafthood to career in 1936, was followed, in 1937, by a contingency which opened up the prospect that studio staff in a further phase of studio-engineering development, must be required to be more engineering or apparatus-minded. The early failure to assimilate all studio staffs under the concept of 'producers' assistants', was followed by the assimilation of all staffs (including Balance and Control) as 'programme engineers', brought under Engineering. The contingency of studio-suite design development offered also the expedient solution of cutting down by half the cost of conceding the 'bogus' claims of music balance and control crafthood.

The decision by the Beadle Committee in December 1937 to place support staff was contingent on the coming of new apparatus. The perfection by engineers in 1937 of a new Listening Room design, allowed a single man to balance and control at both rehearsals and transmission instead of two as formerly required. The long-standing division between those viewing 'balance', as a musician's art, and control, as an engineering matter, and those viewing balance and control as indivisibly an art, was resolved by a contingency that made two new perspectives dominant. Administration gave their support to the single-man idea for the returns in man-power savings that it offered. The same Listening Room design tilted producers' opinion to acceptance that the placing of studio staff in a complex apparatus room entailed some increase vaguely guessed at in the 'engineering' content of jobs in studios.
The decision of 1937 resolved the problem of 'balance and control' in its narrow musician aspect. The McConnell - Haworth 'School' of balance and control had always worked closely with Research Section and confident of standing in the engineering camp. The balance and controllers of Studio Section, Music, were given what they always wanted, acceptance that balance and control was one art.

The Committee explained, in a nicely balanced formula, that they had found in favour of a shift back from Administration's 'career' idea to the musicians' 'art' idea of reform, because the musicians' case had something more in it than the 'superficial plausibility' hitherto supposed.

"It has been suggested both in the past and in the evidence given to the Committee that balance and control are distinct functions with different requirements, which could and should be performed by separate sets of staff. It has been suggested that, by extending separation of the two functions to Music, the music studio assistants, relieved of the sometimes monotonous job of control, would be able to add to their balance work the general presentation and supervision of programmes.

The Committee has given very careful consideration to this suggestion. It recognises that if the studio assistants in the Music Department were made into "music producers" in this way, they would be given more interesting work, better prospects and a more substantial status. Nevertheless, it is of the opinion, as are the great majority of those whom it has consulted, that balance and control should be carried out by the same person.

There is more in this view than superficial plausibility.... "

The coming of a new studio suite complex gave fresh force and relevance to the engineering doctrine that studio support personnel were a hybrid, part—programme, part—engineering staff charged with — as well normal day—to—day programme duties — the function of interpreting programme needs to research—engineers in engineering terms. The engineering concept

of a 'programme - engineer', an intermediary liaising between two sides, became powerful at those moments when broadcasting moved on to new thresholds of studio technology and design. The institution of the Microphone and Studios Liaison Committee in the early thirties, coincided with the coming of new microphones. The re - vision of studio work as 'programme-engineering' in 1937 coincided with the inauguration of the New Control Room Design or a new order of instrumented 'continuity' (co-ordination) between announcer, producer, artist, transmission engineer and support staff.¹

The Beadle Committee found the sudden projection of this new circumstance, a contingency outside their terms of reference; but acknowledged it as one with which their recommendations must integrate.

"In commending the principle of unified Balance and Control, the Committee has not been influenced by the proposal recently formulated in the Engineering Division for a system of listening - room control, involving the installation in listening - rooms of a programme meter, control potentiometer and microphone mixer. But although it is not within its terms of reference to comment on the proposal in detail, the Committee feels that there is much that is desirable and no insuperable difficulty in an arrangement whereby one man could be made responsible for testing, balancing, mixing and controlling in the studio and its adjacent listening - room. The advantages of enabling the balancer to see, during the rehearsal, the results of his balance, registered on a programme meter close at hand have been demonstrated at St. George's Hall (by Rex Haworth) where one has been installed. The Committee is convinced that one man, adequately trained could carry out this work with assistance only in occasional, especially elaborate programmes."²

For engineers, the realisation of their plans during the early life of the Committee, was a circumstance which optimally favoured their ambitions. The senior administrators with whom the decision rested had considered the engineers' plans and found them to their liking; arrangements for putting them into effect were all but complete.

"The scheme at its inception was submitted to D.P.F. and C(P) (Mr. Graves) who strongly commended it. It has therefore been worked out in technical detail and found practicable. It is now being costed."

In their efforts to solve the problem of support staff, the Corporation in 1935 explored the synthesis of "assistantship to producer"; and in 1937, influenced by very present novel circumstances, settled for the notion of "assistantship to engineer—researchers". The war interrupted this process of dialectical development. As the post-war Committee put it:

"The Beadle Committee recommended their unification and incorporation in the Engineering Division. These recommendations were approved and carried out, but the approach and outbreak of war prevented their considered development until 1946 or later."

On both occasions (1935 and '37) the possibility that the question of whether balance and control was the art, or craft, its practitioners said it was, continued unresolved. In 1937 the question was expediently begged. The focus of those who grappled with the problem in the thirties centred on the claims to crafthood of one group and ignored the conditions of the many autonomous non-balance—and-control occupations in process of becoming craft conscious.

The pre-war broadcasting occupational map included an array of new occupational provinces: balance and control, the earliest one, but also

---

sound effects, panel operators, Gram effects and spot effects. By
1948, new occupational territories had been colonised, 'studio managers'
in Oxford Street, 'assistants' in Transcription Services and Recorded
Programmes. Augmenting this world of manifold occupations, beyond the
map of sound - broadcasting, was the television empire with its myriad
grades, descending from the long - honoured and accepted one of cameramen.
Viewing the Beadle Committee's from the vantage point of a post-war
broadcasting world of multiple up-and-coming trades, Mennell could identify
that the pre-war investigations had looked at the problem with too narrow
a focus.

"It seems, in the light of experience, that the method of unification
achieved by the Beadle Committee hardly took enough account of Studio
Staff and interests unconcerned with Balance and Control." ¹

¹. Studio Operations Committee (Mennell) Report, para. 19.
The New Managers, 1928-38: laymen against the mysteries of cultural production

The environment in which studio staffs developed was bounded by their relations with audiences - the values they added to programmes - and by their relations with producers, engineers and administrators. The role of the controllers of Administration and Programmes and their executives in deciding the resource - worthiness of support staff's input, make it an important influence on support staff's history.

Broadcasting came into existence in the 1920s in company with a spate of public service agencies, the Forestry Commission in 1919, the Electricity Commission in 1920. The BBC was established as a public Corporation in 1927 and Imperial Airways in 1928. Reith became the first Chief Executive of the Broadcasting Corporation and took command of Imperial Airways in 1938. This increase in the number of large scale and more complex organisations, was accompanied by an increase in the propagation of ideas drawn indirectly from the American scientific management movement and from European studies of public administration. The first Oxford Management Conference was held in 1919, the Institute of Industrial Administration was founded in 1920. These bodies proselytised the case that the increasing scale complexities of new public services required direction by more studied administrative forms. That John Reith identified himself with the problems defined by these propagandists is suggested by his readiness to lecture the conference of the Institute of Public Administration, three years after the foundation of the Corporation on "The Business Management of the Public Services." ¹

¹ Winter Conference of the Institute of Public Administration. File, Acc 44602. The same file contains other statements which demonstrate Reith's interest in broadcasting as experiment in the building of new-type organisation. "There is more in the BBC than just broadcasting. Some of you may not have realised that we constitute in fact, a new and vitally important experiment in the management of a public utility service. In my own view, before so many years are out, you will find public services such as the Post Office, which are now run entirely by government, others which are run by private enterprise, taken over by bodies constituted similarly to the BBC." Director General to the General Staff Meeting in the Concert Hall Broadcasting House, 3.5.32.

And: "We are hearing a great deal about nationalisation. Nationalised rationalisation or rationalised nationalisation of this I submit the BBC is the outstanding example". J. W. C. Reith, Address to the Royal Institute, 1932.
Cecil Lewis was in no doubt that it was Reith who was responsible for the bringing in of 'organisation' to broadcasting.

"I should say that Reith really was responsible for that. Reith had these enormous charts you know. Reith's desk was a huge desk in his big office, I still remember it. An enormous bloody great desk he had, and underneath the glass was...you know like a family tree of the Kings of England, all, the whole of organisation of the BBC from Reith at the top down to all the stations, all the engineers, all the splits, and everything was laid out. An enormous blue print. And it was, I mean his work, nobody else's work. He, this was the organisation of the BBC, and you know it was law, it was so. It was he who did that."¹

In anticipation of the task of "bringing in organisation" into broadcasting, Reith commenced from the early years of the Corporation, to recruit and prepare a cadre of young men intended for promotion to high office in broadcasting administration. The young baronet, Cecil Graves, Basil Nicolls and Peter Eckersley were the leading members of this select band. Reith valued the training in administration which previous experience in the Armed Forces Staff administration and the Indian service provided.

Graves was a Sandhurst-trained officer who served on the General Staff of the War Office from 1919 to 1925. Nicolls was a staff officer in the Middle Eastern Zone; who served in the Indian Service on the Calcutta steel project in the post-war years. Peter Eckersley was an exception, as an ex-articled golf-course architect, club secretary and chicken farmer; but having qualities of sociability and a small talent for popular-song writing, which suited him for assistant Controller-ship

¹ Cecil Lewis BBC Oral History Unit Interview Transcript, p.47, BBC Sound Archive.
of Programmes with the responsibility for public relations which that entailed. When Reith made appointments from outside the ranks of his cadre of young men, he showed preference for recruits from the same background. Reith had Rear - Admiral Carpendale as his second - in - command from 1925 to '38. Colonel Dawnay, appointed Controller of Programmes in 1935, came from the General Staff Office of the War Office.

Outside that inner circle stood G. C. Beadle, R. J. F. Howgill and D. H. Clarke, the Entertainment, Programme Services and General Establishment Officer, the top rank executives answering direct to the Controllers and Assistent Controllers. Beadle conveyed something of the experience of being one of Reith's proteges:

"For the first eight of my nine years in broadcasting I had been in independent commands (beginning with two years as the Head of the Durban Municipal Broadcasting Station, later Northern Ireland). From 1932 I came in for a great deal of moulding by Reith....An interesting sideline was my Chairmanship of the Concerts Committee which managed all the BBC's public concerts. It was a business job and not an artistic one. I enjoyed this work....though not a musician. For six months during this period I had yet another sideline. I was instructed to take over the duties, in addition to my other functions, of Director of Religious Broadcasting. It is the one occasion of my life when I have been the head of a specialised programme producing department."

Beadle, in an autobiographical passage, at the time of the Mennell Committee, observed the strange slowness of members of the Corporation's high command to recognise the development through the thirties of those skills that formed the basis of their business. He confessed the sins of omission that had faulted his preparation for positions of command in a radically new industry.

"There are advantages and disadvantages in being a pioneer in a new and rapidly expanding enterprise. Take my own career. I reached a directorial position at the age of 25, simply because so few older men had broadcasting experience. I was too young. I missed the great experience of working my way up through the studios under the discipline of a master craftsman. In time our people became craftsmen, self-taught by trial and error. But by then I was too senior in the service to learn from them. I devoted myself to administration and policy".  

In the course of the second year of occupation of Broadcasting House, in the year of the coming of the continental commercial broadcasting competitors and the opening of Variety as the Corporation's entertainment arm, Reith brought into effect a substantial 're-organisation' which separated the administration and resourcing of programmes from the creative work of programme departments.  

The 'Re-Organisation' of October 1933 divided the Corporation into two, under a Controller of Output, or Programmes (Colonel Dawnay) and a Controller of Administration (Admiral Carpendale). Among the four directors responsible to Controller (Programmes) were Graves, Director of Empire Service and Eckersley, Director of Programmes (the two others being Talks and Publications). Among the four directors responsible to Controller (Administration) were Noel Ashbridge, the Chief Engineer, and Basil Nicolls, the Director of Internal Administration (the others being Chief Accountant and Director of Public Relations). Answering to Basil Nicolls were four senior executives, Howgill, Programme Services Executive, Beadle, Entertainment Executive, Rose - Troupe, Talks Executive and Clarke, General Establishment Officer. Beneath these were the Studio Executive and departmental executives attached to Empire, Religious, Drama and Variety departments and responsible for all administration in their spheres (programme finance, staffing claims, copyright, booking). Until 1937 Balance

and Control and support staff were an item in Programme Services Executive's responsibilities along with programme finance, recorded programmes, correspondence and studios.

Variety re-charted its staff in 1936 according to a 'unit system' which assigned each producer, script writer and arranger his place, level of seniority and specified duties in one of an array of units specialising in outputs of a distinct kind. In the same year M. M. Dewar, the Variety executive, completed the Handbook of Variety Routine (issued to all Variety staff in November 1936). The Handbook routinised the previously less ordered pattern of procedure. It specified procedures to be followed in such matters as the submission of programme ideas, the booking and engagements of artists and bands, the responsibilities for checking copyrights and recorded materials in 'programme scripts as broadcast'. These developments in Variety, soon replicated in other programme departments, marked a further phase in the Reithian drive to rationalise the organisation of the Corporation: they extended the reorganisation of '33 to the work of the programme departments.

The reorganisation of 1933 emplaced a hierarchy of control unconcerned with production. Maurice Gorham, Editor of the Radio Times, was the publicist of the efforts of Maschwitz (Variety) and Gerald Cock (director of Outside Broadcasts) to make BBC entertainment competitive with its commercial - broadcasting rivals. From his special vantage point, he produced a partisan interpretation which represented the reorganisation of '33 as imposing momentous restraints on programme work throughout the entire remaining pre-war period.

"Administration had always been a problem in the BBC because Reith and Carpendale made it unduly strong. It reached its peak in 1933 when the Internal Administration System was invented and set up a sort of diarchy that ran right through the BBC.

This happened in 1933 when Basil Nicolls became the first Director of Internal Administration. What it meant was that the head of every section,
department, and branch had as his right-hand man an executive responsible for money, accommodation, staff salaries and all the business and facilities' side of the job, and this executive worked not for him but for Nicolls.

Like most things in the BBC, the system was never applied throughout. The Engineering Division never accepted it: they ran themselves...

This system of divided control lasted right through the pre-war phase and it made Nicolls, who became Controller (Administration) the most powerful figure in the BBC. Under that system, in my opinion, it became progressively harder to get the work done. The machine was manned by people who had every incentive to say No and none to say Yes, and who were suspicious of every demand because they did not know enough to see the reasons for it."

There is abundant evidence, much of it displayed already incidently, that lends support to Gorham's view that Administrators did not see the reasons for demands for increase of resources. It is hard to deny the view that the administrative system headed by Charles Carpendale and Basil Nicolls pursued its vested interests in economy to the point of unconcern about the real conditions of existence of broadcasting work.

Through the spring and early summer of 1933, Carpendale and Nicolls set their executives to investigate the circumstance of support staffs 'hanging about' and 'standing by' in the building, in the intervals between rehearsals and performances, and their attendance for full morning or evening 'sessions' for programmes of short duration or 'low' value.

Carpendale wrote to Cecil Graves, "I am not satisfied with the request for additional staff when 'sessions' include plays in Children's Hour, Talks or other such things of short duration." Following this

2. Controller, Charles Carpendale to Assistant Director of Programmes, Graves 27.2.33. File "Staff Departmental. Balance and Control, 1924-33" Acc 79.
line, Graves instructed Howgill (Programm Services Executive), "Please investigate: Is, say, balancing John Coates for a 30 mins. recital a 'session' just as much as attendance on a 3 hour orchestral rehearsal?"^1

The Programme Services Executive returned the incontrovertible reply that drew attention to three basic conditions of broadcasting. Rehearsal was a 'net' time, exclusive of discussion following rehearsals and of preparation priorly. Secondly, short rehearsals could not be strung together to fully fill each session because the availability of studios and equipment in the building, did not allow it. Thirdly, the 'session' formula was a specifically broadcasting rather than an office work device to give men time-off in the afternoon to get them in for the busy performance time of evening.

"Ignoring time spent in the building discussing productions with producers, artists etc. and counting only the net time of rehearsals and transmissions, a man's day may be five hours. At the same time he may have been in the building getting on for thirteen hours.

The sessions frequently work out as morning and evening. The actual hours of the Balance and Control staff are definitely less favourable than those of the office staff, though in fact they may spend a good deal of time hanging about the studios which cannot be avoided.

The way rehearsals and transmissions fall throughout the day make it impossible to dispose of Balance and Control men's time economically."^2

In reading the exchange of memoranda between administrators dealing with demands for staff resources in the thirties, it is hard to overlook the sharp contrast of ideas, valuations and experience that separated producers' and administrators' perspective on the work of the rising studio staffs. The language of the senior administrators hardened to a reductionist terminology, which took no account of what others represented as a cumulative build-up of individual and cooperative skills in a first generation of broad-

---

1. Marginal manuscript note on memorandum Assistant Director of Programmes, Graves, to Director of Internal Administration, Nicolls, 5,5.37 File, "Staff Departmental, Balance and Control, 1924-33" Acc 76.
2. Programme Services Executive, R.J.F. Howgill to Director of Internal Administration, Basil Nicolls, 13,5.33 File. "Staff Departmental, Balance and Control 1924 - 33" Acc 76.
casting studio staffs.

In the mid-thirties, when so many producers in Drama, Variety and Features expressed their dependence on the virtuosity of their particular Michies, Innses, Duncans or Haworths, Nicolls remained unmoved by the values of the programme culture. He resorted to forms of reductionism that would give some handle for comparison between the unique forms of work in broadcasting and better known work outside.

"I do here suggest that there should be some caution in accepting the view that any great skill and responsibility are demanded of the Effects Staff. It is difficult to compare the rattling of peas in a drum with, say, book-keeping or the work of a shorthand typist, but one should at least recognise that most of the Effects work consists of actions which could easily be learned are made and rehearsed under the direction of the Producer." ¹

'Reductionisms' of this sort became the obstacles to dialogue when members of the Administration or Engineering cultures and Programme people jointly confronted the question of programme work. When Waldman, the Variety Producer, before Mennell, cited sound effects as bringing into being an art of a radio-comedy style, new in the history of entertainment, Deputy Chief Engineer. McLean asked:

"Would a man be content to do sound effects until he is sixty? I cannot imagine what interest there is in drawing corks out of bottles and so on.

Waldman: I know, but it is much greater than that. If you say that it seems so silly" ²

When Beadle appeared before the same Committee, some three weeks later, he identified reductionism as something that had grown up in the Corporation in disregard of actual practice.

"Mennell: I do not know much about camera-men myself but witnesses have

---

2. Ronnie Waldman p.11 File 'Studio Operations Committee' Acc 33572/2.
been trying to draw an analogy between the effects operations and the cameraman. I think someone went so far as to say that a good effects man could look to a life's business of doing nothing else. I think that must be an exaggeration?

Beadle: Well, no, I know what they are talking about. If I may say so, this use of the word 'effects' is something that has grown up in the Corporation and has a rather ridiculous interpretation....I should be terrified to do an Effects job. It requires a degree of dexterity which fills me with admiration every time I see it done. I do not mean to say that it is a job which requires any very high qualities of intellect, but it does require speed.

To speak about them as effects men, as you see, is very much to underestimate the task which they perform.¹

Nicolls remained sceptical of the value of support staff's work in all its several branches throughout the thirties. He remained faithful to the Control Board Minute which first raised the question of the worthwhileness of Balance and Control work, when "It was felt that we had little surety as to the value of this Section in its more extended form outside Symphonic programmes."²

In his confidential memoranda to his executives, he showed that he remained a layman steadfastly unconvinced by the ideology of the Music Section, Balance and Control. He accepted the special symphonic category only of the Beadle - Howgill tri-partition of balance and control work into special, intermediate and simple classes. To his Establishment Officer, in the mid-thirties, he showed that he accepted only the treatment of symphonic work as artful. All other balance and control activity was layman's work.

"The Studio Assistants (Music) work is not a special art of its own and any qualified musician in the Music Department should be able to help by balancing an orchestra or controlling a programme. I do not mean by this to suggest that one of the office staff of the Music Department should be expect-

². Extracts from Control Board Minutes compiled by Miss Edwin, Extract from the Minutes of 23.4.49. Filed in "Staff Departmental, Balance and Control, 1924-33" Acc 76.
ed to control one of our Symphony Concerts, but in an emergency they should be looked to for help with the less important programmes."

Nicoll's' conception of the nature of the work and the type of persons suited to it were the polar opposites of the conceptions developed by the men who did the work. To his like-minded fellow-Controller, Cecil Graves, he wrote:

"I always visualise Control as being done by a special squad of musicians attached to the Engineers - retired orchestral players, perhaps from our orchestras, who would not mind a smallish salary."

The availability of studios and the spread of rehearsal and performance times from morning to evening were circumstances and conditions of existence of broadcasting. Those were realities which would have made the work unsuited to the powers and health of older men. In another context, Head of Balance and Control, Music, wrote of the heavy burden that the system as it was, imposed on the existing able-bodied staff.

"It is unreasonable to expect a man to be absent from his home day after day from early morning until late at night with no opportunity of real rest-breaks of two or three hours are of no use whatsoever under these conditions. His physical and mental efficiency must, therefore, suffer."

Peter Eckersley, Basil Nicolls and Cecil Graves frequently acknowledged that there was something in support staff's work which made them over zealous and ready to come into work on off-days. When Nicolls, Graves and Chief Engineer proposed to reorganise the work of Balance and Control, they found that separation of balance from control had created work that was desperately dull - which raised a new problem. Nicolls consoled himself with the thought that they had created work that was no duller than non-broadcasting work.

"I envisage Chief Engineer recruiting, either Engineers who could read a score or ex-orchestral players who would not be Engineers but would be part of Engineering. Chief Engineer thought that this might be rather dull for them and that there might be difficulty in getting them, but I do not see that it would be any duller than adding up a ledger or even some routine - engineering jobs, and that there would certainly be no difficulty in recruitment, considering the amount of unemployment among musicians."\(^1\)

It was a measure of the distance that separated the viewpoint of Administration from the viewpoint of the support staffs they administered, that work, which Jefferies, Saunders - Jacobs, the Ellinghams (father and son) found worthy of a life's devotion, Basil Nicolls found 'dishonourable' and "desperately uninteresting and unimportant work".

"We have attracted rather good young men into the Studio Section now, but as things are at present, they have to peep about and find dishonourable tasks such as telling Gershon Parkinson how to balance his Quintet."\(^2\) And:

"The people we select nowadays for the Studio Section are generally young men of first-class academic qualifications, but they are called upon to do a lot of desperately uninteresting and unimportant work."\(^3\)

Support staffs again and again expressed their sense of the total difference of perspective that separated their understanding of the theory and practice of their work and Administration's view. At the point of origin of Balance and Control "It was a hard fight to convince laymen in the persons of important administrative officials at the head of the BBC that to remedy artistic imperfections a specially trained staff of musicians would be necessary."\(^4\)

Jefferies, in 1934, expressed his desperate sense that the disjunction between the practitioner's and the "layman's" viewpoint of all those outside their own closed circle, stood at the root of Balance and Control's problem in the BBC. It was the same sense of isolation which Ellingham expressed when he doubted that there were six men in broadcasting, outside the ranks of Balance and Control, who could give a detailed account of practice or stand up to cross-examination on the subject. In his twenty-page memorandum to Basil Nicolls: "It has been definitely proved that angling of microphones in certain studios, certain positions of the piano etc. give better results. In fact to say that is not necessary for a Balance and Control man to undertake balance merely shows once again that people have not the slightest vestige of knowledge of the function or science of this work.

It is quite true that if you stick a live microphone anywhere in the studio it will make a noise of sorts. If this is all that is required, then by all means let us abolish Balance and Control, but after many years of experimenting with the relative positions of microphones etc. I cannot agree to this suggestion. I can only assure you that in musical work, rehearsals and balance tests are absolutely necessary to the success of broadcasting."

At the point in time when Jefferies quitted the broadcasting service, Saunders - Jacobs, his successor, represented this same problem precisely in Maurice Gorham's terms - as a separation of cultural perspective, between those charged with getting out the work and those charged with economising the use of resources required for the work.

"The Point of View of Administration"

I cannot overemphasise the fact that a difference of viewpoint in regard to balance and control matters exists between the Administrative and Programme Divisions and is, in my opinion, the cause of much that is

---

1. L.S. Jefferies' Rejoinder to Basil Nicolls' "Note on Balance and Control". Jefferies memorandum is undated but was published circa, June, 1934, p.18. File, Staff Departmental, Balance and Control, 1934" Acc 79.
hampering the work of the Balance and Control officials. In contradistinction to the understanding of this work by the Programme Division, there appears to be a strange amount of ignorance of its function and value in the scheme of broadcasting on the part of the Administrative Division. As it is principally the responsibility of the latter to decide what status and position such staff enjoy and consequently the type of man who is to be engaged for the work, such ignorance can have and is having a very serious effect upon the efficiency of this particular service."

That pre-war sense of the impermeability of laymen to the viewpoint of balance and control, was still undiminished at the time of the Mennell Committee. In the post-war Studio Operations Committee that original group's grievance only merged with the discontent of all branches of support staffs. The issue before the Mennell Committee was that the lay administrators of the Corporation failed to recognise the value and status in production of support staffs generally, which producers, universally, acknowledged.

Rex Haworth had gone to Staff Training to communicate his body of a "broadcasting" knowledge to producers generally, but by 1948, "programme engineers" aggrieved at their misplacement in Engineering Division, found that ignorance of the basics of their craft was deep in the most unlikely quarters.

".....Rex Haworth was giving a talk on various aspects of programme engineering, and a certain gentleman got up and said he could not understand the need for multi-microphone technique, which is a thing that has been going on for some time now. Mr. Haworth tried to explain it as simply as he could, but this particular person could not get the drift of it; his chief remark was, that if you could get the N.B.C. Symphony Orchestra on to one microphone, why could you not get Geraldo? And we could not point out to him by any manner of means the intricacy of multi-microphone technique, or the necessity for it. That person was the Engineer-in-Charge, London Control Room. That is just an illustration of how little some people know of our job."

It is clear that the disjunction between the strategies of man-power economy and theories and practices of the programme culture, persisted in the post-war years. The survey of the multiplicity and variety of support staffs' work that Lawson - Reece put before the Programme Operations Committee on the occasion of its preliminary meeting, gave them only a beginning sight of a bewildering problem. Reece's survey showed the situation of numerous autonomous occupations sprung up across the entire broadcast programmes map. Each successive witness from the programme side, thereafter, opened further insights on the situation. The creative partnerships between producers and their staffs worked to set a value on individual idiosyncratic and programme-specific talents rather than on specifiable generic occupational skills. The witnesses disclosed a map whose occupational colours were not solid but infinitely shaded ones; appreciated by producers for their qualities of difference, not their colour. In Lawson - Reece's phrase, production in broadcasting had become production by an 'orchestra of one-note players'.

The Committee was exercised from the start by the contradiction between the programme view and the logistical perspective. The programme culture saw individual's unique inputs as the stuff of economic worth. The corporate planning requirement was that work should not become so 'absurdly specialist' that it closed down individuals' interest in, or prospect of, movement outside programme types that might close up in any year or decade of a man's career.

Hay, of Central Establishment Office, saw only the 'problem' of creating a single system of promotion. Littlewood, the Staff Association General Secretary saw only the necessity of creating two entirely different systems of promotion.

"Hay: Basically, this multiplication of peculiar people in the Corporation is astonishing and alarming. The more little blocks of peculiar people you form, the more you stultify any possibility of avenues of promotion.

Littlewood: The recognition of peculiar people is the only answer that the Staff Association has to an otherwise fairly rigid system. It is the system in the Engineering Division which makes promotion in Engineering Division (for peculiar people) a rigid system."¹

Mennell, as Chairman, came back to Littlewood on a problem that occupied the foreground of his mind. The Committee's starting conception was a single system of promotion. Littlewood, the outsider countered by developing the notion that the Corporation was both the unique creator and the sole market place of skills peculiarly its own. The Corporation was neither an engineering works nor a theatre but just broadcasting. He differed from Reith in posing for the Corporation, the problem of creating organisation neither national nor rational but rational - for - broadcasting.

"Mennell: I think Mr. Hay's point was that we should all agree that the ideal is a universal avenue of promotion in the Corporation - promotion from bottom to top. Well, everytime you invent fresh peculiar people you make pro tanto the ideal of universal promotion more difficult.

Littlewood: If you carry the process to its logical conclusion you do not. If you specialise to the extent where everybody is in a special little category of his own, then I think you find that the contacts between the various classes of specialists, their knowledge of what goes on around them, their technical contacts on the one side, or cultural contacts on the other, do, in fact, in an atmosphere like that of broadcasting equip them for promotion outside their own category of people into another category of people. In other words, the more minutely distributed the specialisation.... ....the more tendency it has to equalise people."²

² T.L. Littlewood, General Secretary, BBC Staff Association p.46 Programme Operations Committee Acc 33572/3.
Littlewood, who gained his first experience as a trades union officer in the Post Office Union, developed his perspective on the uniqueness of broadcasting as a creator and sole market of its own skills, in a subsequent edition of the Staff Association Bulletin. Under the heading "Broadcasting Craft Unique", he interpreted implications for Staff Administration of the emergence of a hierarchy of new broadcasting trades, the constituents of a craft without parallel elsewhere.

"It is not my view that rates in the Corporation should be related to rates either in the Government's service or in private industry. The techniques employed by engineers, producers, scriptwriters, announcers and other grades are not techniques for which standard rates can ever be settled by any other industry than our own. Furthermore, since we are compelled to create our own market for staff of this kind, we must concentrate on relative rates of pay within the organisation as a whole."¹

In subsequent meetings the stream of programme witnesses compounded the problem of peculiar people. Paul Ellingham claimed he saw his work in broadcasting comparable with the cameraman's in his medium. Miss MacDonald, Harding, Waldman, Dance and Variety Music producers and others, cited with regret, cases of rare talents forced out of positions of great value in programmes by their need for better pay.

Begg, the spot effects man on 'Itma' gained his sense of status from the high esteem which Variety producers held him in, for which Waldman was the spokesman. Begg was the prime example before the Committee of the absurdly specialised skill carrier. He gave evidence of the value of his skills in this genre of popular comedy.

1. General Secretary, "Wages and Salary Increases" Staff Association Bulletin 15 (May-June 1949) p.27.
Chalmers, first Head of Light Programme, showed on this occasion that the fuller implications of Littlewood's argument had passed him by. Chalmers reminded Begg, as part of his interrogation, that programme genre, which were popular today might not be so tomorrow and that the Committee, in the Corporation's name, had to so organise work that it was proof against a future when taste and technology might change.

"Chalmers: Are not effects such a specialised part of production that they depend on a fashion in Variety which, at the moment is growing up? In my lifetime, before I came to the BBC, there were no shows like 'Itma', 'Band Waggon' was the first. This fashion in Variety is a sort of ten year old thing. Who is to say in Television they use that thing at all?"¹

What Chalmers failed to take account of, was that the history of the commerce of entertainment was constituted naturally of just such shifts of fashion and technology which outmoded its peculiar people and changed the market for their skills, the displacement of silent cinema by sound-on-film being only a supreme example. When entertainment production was run by showmen, it was geared to fashion and 'credited' and rewarded absurd specialisms that matched the peculiarities of fashion; and dispensed with them as fashion changed: it was the nature of show business.

---

¹ Begg, Sound Effects, Variety, p.43, Studio Operations Committee Acc 33572/5.
The sociogenesis of broadcasting occupations traced in this history accords with the approach to the study of occupations set down fragmentarily in the writings of Everett Hughes. In defining the field in which new offices originate and evolve, he distinguished analytically between the larger frame or social system in which a new division of labour or combination of labour occurs and the process of occupation birth and growth. That third stage originates in unique and informal activities of series of individuals in new circumstances and produces formal and somewhat impersonal occupational roles only contingently and historically. In providing analytical approaches to the study of institutions in terms of the growth of their occupations, he stressed that they were tentative constructs suggested by enquiries embracing numerous professions and occupations and only to be used discriminately


2. "No line of work can be fully understood outside the social matrix in which it occurs, or the social system of which it is part. The system includes ... not merely the recognised institutional complex but reaches out and down into human life and society. ... one of the most common failures is to overlook part of the interactional system." Everett C. Hughes, 'Social Role and the Division of Labour', in *The Sociological Eye*, p.309.

3. "Exchange ... is especially pertinent to the analysis of division of labour. Where there is differentiation of function there is exchange ... the division of labour involves many kinds of exchange. In many occupations, the exchanges occur on at least two levels. There is exchange between a person and the various others with whom he interacts in his occupational role ... The other level is that of exchange between the occupation and the society in which it occurs." Everett C. Hughes, 'The Study of Occupations', *The Sociological Eye*, p.286f.
together with exhaustive studies of occupations and their larger settings. Hughes' syntheses both lend endorsement to the findings of this investigation of the evolution of broadcasting work and occupation and facilitate the incorporation of its detailed matter into discussion of the process of the evolution of occupations in general.

The matter of this study may justly be ordered under Hughes' scheme of categories. Broadcasting commenced with the formation of a system out of the conjunction of an electronics industry, the worlds of performing arts and letters and new audiences. In the early post-war years the elements of broadcasting were all to hand, only awaiting the 'idea' of broadcasting: the advancing sophistication of telephony backed by the Marconi Company; the art worlds of drama and music primed to take up its creative opportunities and economies of distribution; and the populations of new suburban residential areas already mobilised as consumers of new cultural goods and services - pianolas, classics and operas on gramophone records, cinema and Lyric Theatre seats - were the obvious market for receiver sets and programmes of music and 'experimental' drama. Burrows, Eckersley, Lewis, Scholes, Filson Young and others each recorded vividly the suddenness with which the broadcasting idea broke through, made sense of the materials around them and possessed their imaginations: "broadcasting took off and spread like wildfire; its success ceased to be in doubt after the first fortnight," said Cecil Lewis. The creation of an unprecedented division of labour between executives, artists and engineers, commencing in 1922, was identified and set down by Lewis in Broadcasting From Within at the end of the first year of operations and in publications by Burrows and Reith in 1924. The successful working out of the

1. "The logic of the division and combination of activities and functions into occupations and of their allocation to various kinds of people in any system is not to be assumed as given, but is in any case something to be discovered. Likewise, the outward limits of a system of division of labour are not to be assumed but are to be sought out. Analysis of systems whose limits have not been determined can be very deceiving." Everett C. Hughes, 'The Study of Occupations,' The Sociological Eye, p.286.
concomitant process of integration to achieve the co-ordination of a national system was a condition of the grant of the charter in December 1926. Occupation-making characterised by efforts to give manifold new jobs, created by the work process, an autonomous place in the institutional arrangements of broadcasting may be seen to have commenced in 1928 with the Control Board's expression of doubts of the value of extending balance and control treatment beyond the limits of symphonic music; and to have extended to the incorporation of a Studio Operations Division in 1951.

Hughes took his first and second terms, the system and the division of labour to be the two parts or 'levels' of the dynamic field that propelled the genesis, growth and constitution of occupations. The developments in society at large which occupy a substantial place in this study of broadcasting may properly be accommodated in the system or 'outer interactional frame': they include the technologies and ideologies based on companies like Marconi and the Institute of Mechanical Engineers; the paradigms and conventions of art work stemming from the repertory theatres and the symphony foundations and music academies; the interests and strategies of managerial elites and dance band leaders brought into broadcasting from outside professional circles and commercial entertainment enterprises; the pressures trades unions brought to bear on management for the classification and grading of broadcasting occupation in the late forties; and not least, the changing tastes of listening audiences.

Hughes employed the term 'division of labour' to distinguish the determinations of occupation-making arising in the inner institutional sphere out of the personal interaction of individuals involved in the work process. Study of the evolution of work begins according to the Hughesian approach with the conjunction of the elements of a system which prompts division of labour or the combination of occupations hitherto uncombined. 'Division of labour' as Hughes used the term emphasised not division but the process of
co-ordination of the functions divided or juxtaposed:¹ the sedimentation by individuals working together on a regular basis of a new complex of conventions and relations of work. In a way that fits easily into the Hughesian perspective, the focus of the chapters devoted to the creation of music and drama broadcasting, when it is centred not on the influence of the art worlds on the conceptions of broadcasting studio work is, otherwise, centred upon the miniscule actions and interactions of such as Cecil Lewis, A.G.D. West, H.J. Round, R.E. Jeffrey, Stanton Jefferies and Peter Eckersley.

Hughes' scheme supplies the means of formulating the findings of this study: that is to say that the genesis, growth and constitution of broadcasting occupation occurred in a frame composed of the microcosmic interactions of individuals in the work process and interaction between the emergent occupation and institutions arising in society at large. The coupling together of electronics, artists and audiences brought into existence in the first instance a broadcasting system; the process of division or co-ordination of broadcasting effort was, thereafter, continuously conditioned by the interplay of both macrocosmic and microcosmic contingencies: by the economising and entrepreneurial managerial strategies carried into broadcasting from the 'new industries' of the late twenties and thirties, the technology of electrical recording and reproduction originating in outside industries, the developing tastes of audiences for the products of studio-generated jobs and programme-conventions - the new cultural goods of radio drama, children's hour, features and dance music; but also by the internal dynamic arising from new jobs self-created by individuals out of new conceptions and the opportunities technical changes presented for the exercise of ingenuity or aesthetic judgement.

In conceiving of the dynamic of profession or job-making as a composite

¹ "Division of labour" is but a poor term for differentiation of function in a social whole. It is poor because it emphasises the division and neglects the integration, the relations among the functions so divided or differentiated."
or 'impure' blend of contingencies arising in distinct inner and outer spheres. Hughes supplied the means of seeing occupations as socially and historically evolved rather than technically given.¹ In so characterising occupations as essentially social products, Hughes supplied the key to understanding why the force of producers and support staffs' shared understanding of the distinctiveness of their expertise and work relations, well established by 1939, did not carry the case for independent occupational status for back-up individuals to victory in the internal Studio Operations Committee in 1948/9. It was achieved, however, in the course of the next two years for reasons that are in no way traceable in the voluminous records of the Mennell Committee. Hughes' composite dynamic field, divided between outer and inner spheres, allows one to make sense of the circumstance that the powerful concensus among producers and their staffs manifested in the Mennell Committee failed, on its own, to secure for second-rank producers the recognition of occupationhood they sought.

In Hughes' perspective the constitution of an occupation by 'society' should not be confronted with the work of its individual practitioners. The force that gave doctors their formal institutionalised status as a profession did not proceed from the sphere of relations between doctors and their clients; it occurred because 'society' was persuaded that their technical competence was so special and important that the public should be prevented from using any other occupation.² It is those determinations arising from interaction between the occupation and the society at large which buttress an occupation

---

1. "Every occupation has some history ... the items of activity and social function which make up any occupation are historical products ... The allocation and grouping of activities is itself a fundamental social process."

2. For the notion of the 'impurity' of the occupation-making process I am indebted to Eliot Freidson, "The Impurity of Professional Authority," in Institutions and The Person, Papers presented to Everett C. Hughes, edited Howard S. Becker et al. (Aldine Publishing Co., Chicago, 1968), pp.25-34.
in a hierarchy or give a profession its formal legal status.

The incorporation of a new occupational estate in broadcasting came as a result of exchange occurring at two levels. It was partly the result of producers' and support individuals' long-incubated conviction of the worth of what they were doing derived from mutual appreciation of the conventions they shared and the support they mutually afforded each other: a force that found its forum in the internal Studio Operations Committee. It was also the outcome of the exchanges between society and the broadcasting institution that occurred when the trades unions working through the Committee on Broadcasting persuaded Beveridge that it was the responsibility of management to classify the labour of individuals in their employ.

Art Worlds and Engineers Within Broadcasting, 1922-26: Division of Labour in Symphony Broadcasting, Combination of Labour in Drama Broadcasting

Music and drama broadcasting organisation emerged from the meeting of a new means of distribution, broadcasting technology, and the arts mediated under the auspices of a company founded to promote the sale of receivers. Music and drama were the first arts that responded to the changed conditions of production and distribution. The art worlds of drama and music, however, were only one of the outside interests that overlapped and engaged with the broadcasting institution. Drama and music took their place among an array of formations in the larger society. Among those others were the corporate research projects that pressed ahead in many sectors of a broad front of audio-engineering development; the nascent entertainment industry of commercial recording that competed, concentrated, integrated and distinguished between the functions of production and control; and 'new industries' innovated and made available, to those charged with the administration of broadcasting, strategies and structures thought appropriate to the task of managing large complex new-age organisations of any kind. Corporate audio-engineering research directors,
the executives of commercial recording syndicates and new professional
managerial elites, as much as the leaders of orchestral music or non-commercial
theatre sought to mobilise the resources of broadcasting according to their
own interests and ideas. Collectively they supplied the opportunities and
restraints, the structures, of the environment in which broadcasting work evolved.

In considering in particular the art worlds that figure in this array of
formations that overlapped and influenced the broadcasting institution, this
study showed that musicians and drama people differed radically in the way they
saw and took up the opportunities of broadcasting. Drama mobilised microphone
and studio resources behind a project for productions specifically for the new
medium and the novelty of the work of sound effects and drama studio support
staff occurred as an item in the productions' enterprise that was accepted
as wholly new in root and branch. What this study disclosed was that
orchestral music negatively integrated with broadcasting while drama engaged
positively or co-operatively. What this study further showed was that music
and drama and other arts or carriers of new conceptions, in features, variety
and dance music may be placed on a scale running from negative to positive
integration, graduated according to the degree to which each of these endeavours
succeeded in mobilising the resources of broadcasting. That measure serves
also as a measure of the degree to which these various programme sectors
created new work and contributed to the growth of specifically broadcasting
occupations. Balance and control men were forced into an exposed and extremely
constrained limbo position while drama sound effects was less stringently
questioned and contained; variety and light opera put their staffs to multiple
new uses and dance bands, being an exceptionally popular as well as a new
broadcasting art, were relatively a law unto themselves.

Balance and control by contrast failed to secure acknowledgement of
their raison d'être in broadcasting because musicians conceived of music-
broadcasting as an engineers' distribution task. Musicians failed to perceive
broadcasting as a challenge to create the practice of music production anew in
co-operation with others. The balance and control man's work remained unexplained or legitimatated by a theory or ideology of the production of music through the broadcasting chain, because performers, composers and engineers mounted no combined effort to create music specifically for broadcasting.

Balance and control's difficulties, therefore, derived ultimately from the music world's historical view of the way forward of its art in the early twentieth century: the way of the rapid growth of the technical standards of orchestras. The 'professionalisation' movement of the symphony orchestra world was concerned with catching up with the problem of adequately interpreting (at first) Beethoven, Hadyn and Mozart. The newly-created symphony orchestras were pre-occupied with establishing the repertoire - what works were worthy of preservation and what were not - and with brilliance of performance. The concern of the symphony music world was with raising standards through the establishment of permanent orchestras and associated music academies, rather than with the possibility of new approaches to their art opened up by co-operation between contemporary composers, performers, and 'mechanical' occupations such as occurred in cinema. Those priorities were crucial in shaping the terms of the accommodation reached between music and broadcasting in the early twenties. Accordingly, the music broadcasting division of labour (as also the division of labour in the commercial recording companies) sharply distinguished between the performing musicians' core 'artistic' activity and the second rank work left to engineers. This sharp distinction in music, between artists and occupations regarded as mechanical, was very different from the situation in cinema where the controlling vision or affective unity of a film was attributed frequently by trade colleagues, and sometimes by critics, to the work of technicians, to individual cameramen or cutters or sound men.

It followed from this prescription that the task of engineers in the music sector was narrowed to the achievement of 'faithful reproduction'. That division of labour was premised on the illusory idea that what was broadcast could be what was heard. In practice, the Balance and Control
Section's job - to get music to sound over the air as it did in the studio - was a work of elaborate reconstruction: the balance and control man's 'dirty work' or 'faking'. Trained musicians knew that the balance and control man contrived a miniature of symphony sounds (as much as the camera man and cutter who unfolded a panorama, 'as if seen', on a cinema screen) without admitting that veracity would require composition specifically for broadcasting and revised ideas of 'performance'.

The music world's area of overlap and exchange with broadcasting may be imagined as triangular with its base in the London orchestras and concert-giving organisations and their established audiences: its apex formed a segment of the circle of broadcasting activities as the Music Department. Ideas of the independent interests and economy of symphony music, its artistic philosophy and its democratisation-of-good-music ideals were formed and spoken for by the organisational leaders and followers at the base of the triangle. Those who moved forward to colonise the apex, the music segment of broadcasting, were mobile revisionists seeking to bring the London symphony base into accord with the new London broadcasting-distribution facilities. Percy Pitt and the B.N.C.C. orchestra saw broadcasting as the way forward for the popularisation-of-opera which had failed to find audiences through the traditional media of distribution. Percy Scholes and Filson Young, who moved into broadcasting as broadcast-music critics, represented the spokesmen of the Musical Times' good-music-through-new-media lobby. Like their peers, Compton MacKenzie and Christopher Stone in the Gramophone Society, they had already experimented with the pianola, the gramophone and annotated programme notes for beginners as a way of creating a music culture in England before they discovered the microphone.

Young's terms for a music-engineering-concordat - to capture the ears of audiences for quasi-symphonic sounds by re-scoring for broadcasting - was unacceptable to an engineering organisation interested in faithful
reproduction of studio or auditorium-produced music and acoustic. In the event, the bargain struck between music and engineering - that musicians should interface with engineers where un-re-scored music met the machine - was one which at once guarded the ears of the millions for what was precious in symphonic music and one which assured engineering autonomy over the conditions of research towards perfection of the means of mechanical distribution.

In seeking to account for the creation of a Balance and Control Section in 1926, it is important to notice the consistency of the effort of the Company and the Corporation to institutionalise musicians' powers to define, for themselves, the proper conduct of their work. The grant to Henry Wood of autonomy in determining the selection of the Proms repertoire and the requisite hours of rehearsal, the licence to the Symphony Orchestra to conduct itself as a symphony orchestra (rather than a radio orchestra) submitting to tests of its quality by regular appearances before concert audiences, and the establishment of musicians in the studio listening posts were various conditions determined by one logic: that the values of the music world should inter-penetrate the original engineering organisation.

The establishment of 'Productions', conceived as an experimental and developmental enterprise to found a part-technics, part-theatre, cinema-like drama of the air, derived again from interaction between the broadcasting institution and the drama world's own historical view of the way forward of its art. The new departures in drama were propelled by the entry of better educated individuals into the profession as 'new' actors, critics, designers, playwrights and producers moved to specialise, deepen and revise, simultaneously, their own conceptions of their work and the standing of their jobs in the view of their 'society', their work fellows and their audiences. It was the effort to 'professionalise' - to ground their professionalism in
assured knowledge and agreed evaluations of a total field - that brought a
generation of young critics, actors, playwrights and producers together in
Sunday forums and experimental theatres and impelled them to seek to widen
their domain by searches into the developing processes of newer dramatic arts.

What disposed the music world to ignore the possibility of exploration
of new approaches to their art in an audio-engineering setting was its
pre-occupation with raising performance to a level that would do justice to
the repertoire. The drive of music academies and symphony foundations to
achieve excellence of performance, in the era of the solidification of the
repertoire, entailed also an increasingly mechanistic organisation of
orchestral work.

What orientated the drama world - quite otherwise towards collaboration
with engineers in the creation of a new segment of their world was that—in
the two or three decades before broadcasting, the drama people inaugurated a
re-organisation of drama production, which while giving each an area of
autonomy, engaged them correlative in a process of continuous revision
and exchange between the occupations and the individuals of the cast and the
theatrical codes involved. The style of work involved in effecting
co-operation between the 'new' actors, producers, designers, critics and
playwrights in the theatre extended naturally and easily to embrace co-operation
with the new types of audio-engineer in broadcasting.

The transformation of the theatre medium in the early decades of the
century entailed the creation of a new total system - a transformation of
production and audience - requiring on the production side the invention and
elaboration of new theatrical codes of ensemble-acting and the standardisation
of co-operative patterns; requiring also a studied effort on the part of
audiences towards self-cultivation and new sensibility. In the context of the
London of the Broadcasting Company, it was natural to conceive the audience
as a congeries of subscription publics of familiar faces, of regular attenders
at the Lyric Theatre and the like; understood to grow in sophistication and
receptivity to new art.
The understanding of the two-sided creation of new art and new audiences for a contemporary world on which the new drama movement was predicated was only deepened and endorsed in the early twenties by the critical success and drawing power achieved by the cinema operas of Griffith in London's new suburbs. For contemporaries, Ivor Montagu's inauguration of the London Film Society (in the very period of Lewis' initiative for drama broadcasting) for a following of cognoscenti of a new art gave programme organisers only a further lesson in the way that the conventions of a new art and the sophistication of 'subscription public' audiences might be expected to grow together.

If the interaction between the broadcasting institution and the drama world at large is imagined as proceeding from a base in the London "Outer Circle ventures", then the generative thrust Casson and Playfair gave to broadcast-drama came less from the resources it brought to the Company stage and more from the powerful parallel they drew between cinema, and the paradigm-idea they supplied - that the silent cinema's 'other half', a drama for the ear alone, was imminent in an organisation that combined audio-engineering and new audiences.

In the interaction occurring between broadcasting and the music and drama art-world bases in society at large, Young and Scholes, and Playfair and the Casson-Thorndikes occupied equivalent positions in the cross-over or exchange areas; but brought sharply differing orientations to the opportunities of art and audio-engineering relations. The popularisation-of-music-through-the-new-media activists, like Filson Young, were radical conservatives looking to re-group the interests of music around a powerful new distribution centre and seeking terms with engineers that would preserve the ears of millions for things precious in the orchestral symphony. Playfair and the Casson-Thorndikes, quite otherwise, saw in drama-broadcasting a new segmentation of their art - a theatre of voice out of a proscenium of sounds heard blind by audiences. Young's and Scholes' orientation was towards securing a
balance of power between art and engineering that would keep engineers on
course to the perfection of concert music distribution. Playfair and the
Casson-Thorndike's contrariwise brought to broadcasting a conviction of the
"total un-understanding" of the art-production possibilities that enveloped
the scientist-inventors of technology. The drama people, who grappled with
the new play-thing in the twenties, were bearers of a powerful idea of radio
drama as a second 'theatre of science' an art-science like cinema, having its
own peculiar materials and conventions of communication as its subject matter;
and of the studio as an art-engineering laboratory in which the object of
research was the achievement with electrical gear of precise and calculated
effects on audiences. When Playfair took his plays out of the early hessian-
draped microphone-experiments room into the corridor outside, he was not
breaking-off relations with engineers, but giving Lewis a brief for the
founding charter of 'Productions': that drama-broadcasting should be a research
enterprise with engineers on broadcast-drama production, not its distribution.

The Inner Interactional Sphere, 1922-26: individuals set aside old
concepts of profession to realise the conventions and relations
of a new work-world

As well as the interaction occurring in the larger or outer frame,
between the art worlds and the economies of distribution offered by broadcasting
technology, there was also a relatively closed-off, studio-centred process of
interaction between individuals. The conditions of interaction between
individual engineers and artists within broadcasting were four. Firstly,
broadcasting worked a profound change of mental perspective upon all those
involved on the microphone side: a shift from seeing telephony as a mechanical
transportational utility to seeing the possibilities of broadcasting as a
cultural force. Secondly, it brought together, in new work, occupations
hitherto uncombined. It united the programme-organising executives of a new

1. Robert Grau, The Theatre of Science, a volume of progress and
achievement in the motion picture industry (USA, 1917).
cultural industry, telephone engineers drawn by the prospect of creating a music-and-acoustic-sound segmentation of the electrical engineering profession, and men drawn to a milieu offering opportunities for ill-defined artistic talents. That is to say, it brought together marginal men: either those drawn by the opportunity to revise their occupations in a new setting or others of indeterminate occupational identity. Thirdly, those individuals and occupations found themselves commonly engaged in an enterprise set apart from all other institutions of entertainment production and distribution by three orders of situational contingencies: their encounter with the opportunities and constraints of microphone and studio production of multiple arts (the translational problem); with the opportunities and constraints of programme-building for audiences of unparalleled scale and heterogeneity (the selectional problem); and the pressures to fill out an unprecedented schedule of daily programmes (the logistical problem). Fourthly, the concomitant charge of their condition as a new division of labour was to standardise new ways of doing and co-operating, for which there was no analogue in existing industry. Awareness of the very singularity of their condition led Company executives to embrace, in a specially whole-hearted way an organic theory of organisation-building. It became an unspoken assumption that the system of broadcasting effort must be raised from practices and relations actually emergent in the everyday work of broadcasting.

That thorough-going pragmatism dictated that in the framing of "studio and microphone technique" company staff were a fraternity: programme organisers, engineers and artistic people distinguished sharply between the authority of those really within broadcasting having a close contact with the microphone and having a robust sense of its demands; and 'advisers' brought in by Reith, lacking knowledge got from studio work. The Balance and Control Section of 1926 was a formalisation of balancing and controlling methods that were accepted by all concerned with the studio as the product of the accumulated experience and common sense of several years practice; the existing
arrangements were institutionalised rather than the ones proposed by Filson Young.

Stanton Jefferies of course formulated and expressed these practices ambitiously in the way that his natural musician's search for finesse and perfection of detail dictated. In the years that followed his appointment as Head of Balance and Control, Jefferies discovered - as musically trained recording managers in the recording companies also discovered - that his work was the work of 'covering up other people's mistakes'.¹ Jefferies, like Freddy Gaisbergs of HMV and other studios, found that he got symphony or chamber music into the system as best his instruments allowed; brought poor performance up to scratch and made their output marketable by his critical choice of favourable studio or type of microphone or by amplifying or repositioning players and/microphones. His position gave him vision of a total system of production for the broadcasting chain. Jefferies' successive developments of the case for Balance and Control attendance at rehearsals and performances emerged from his musician's appreciation that shifts of microphone, amplification and diminuendo, allowance for resonance and the like were practical decisions of identically the same kind as those negotiated between conductor and members of the orchestra in the progressive build-up of interpretation and ensemble in the hours of rehearsal. The purpose of rehearsals for the Balance and Control musicians became, in Jefferies' long memoranda, identical with the purposes of rehearsals for performers and conductor: to effect an approximate ensemble of sounds by the time of final rehearsal. It was the task of the Balance and Control Section to establish the tolerances within which a dynamic musical structure required adjustment when players 'peaked' their efforts for the actual broadcast. In accordance with this view, the role of the new staff in music-broadcasting could no more be reduced to standardising microphone settings and floor-marked microphone positions

¹. A key motif in Everett Hughes' studies of work and occupations. See, for example, "Mistakes at Work" in The Sociological Eye, pp.316-325.
than music performance could be reduced to 'following a score'. The mandate Jefferies sought incorporated a musician's view of the conditions proper to production of music in a new setting; but the view of a musician grappling with the constraints of studio and microphone production, one in-process-of-becoming a new-media musician. When management commissioned outside musicians to appraise the economy of Jefferies' and his successors' methods, such 'advisers' had to be laboriously inducted into the mysteries of the work. Instructed by Jefferies, they came down emphatically in favour of balance and control of all music as the only answer to the 'mistakes' of music-broadcasting.

Jefferies' individual traverse to broadcasting-musicianhood is only one example of a general phenomena uncovered by this study. The forces that impelled the genesis and evolution of music-broadcasting and drama-broadcasting work were not determined one-sidedly, or 'purely', by the occupational ideologies formed by music or drama or engineering history. That order or level of determinations mixed with others of a different kind: those arising from interaction between individuals and circumstances involved in the work process within broadcasting. The situation within the broadcasting studios was not one in which occupations were juxtaposed and interacted each according to inner logic of its own, but one in which individuals were uniquely bound together by the opportunities and restraints of technology and the need to combine their technical and stylistic effort, daily and critically, in a way which seized the attention of ill-defined audiences.

The uniqueness of the studio situation included the personal interaction of individuals. The 'productions' project brought together Cecil Lewis and A.G.D. West: Lewis, an ex-Vickers aviation pilot combining a scientific and technical training at school with a taste for art and poetry and an unusual degree of imagination; and West, moved by a professional ambition to engineer a variable and critically controlled audio-environment, saw his drama studio complex as instrumenting a sound-track capable of blending, balancing,
fading and reverberating sound sources and kept watch for productions that
gave opportunities to put his new equipment through its paces. Lewis made
sketches of equipment that would 'convenience' the operator, took to knobs
and panels easily, and saw each improvement of the medium as more clearly
defining the task of writing for it.

A second ingredient was the common and close involvement of engineers
and artists with the stuff of microphones. In the unproblematic, paradisian
childhood of the microphone art, engineers and artists alike showed an
immediate appreciation of the new resource of voice and locational and symbolic
properties of sounds heard on headphones. Eckersley himself was mong the
first to use such microphone 'stuff' in an experimental production. Engineers
and artists, therefore, were bounded and took off on their joint endeavour to
research and develop an art of moving sounds from a common extra-occupational
ground of shared experience of the affectivity of microphone sounds.

The source condition of this inside interactional face was that
broadcasting brought together occupations formerly uncombined and set them to
novel unprecedented work daily in the same building. The efforts of drama
producers and engineer researchers were sometimes directed according to their
discipline in relative isolation; at other times those efforts converged
and re-enforced each other. Engineers worked to instrument a sounds-manufactory
of multiple studios, echo chamber, listening room, mixers and drama control
panel; artists to create the criteria of blind-drama out of exercises in
audible-atmosphere-creation extending to the writing and production of longer
test pieces or prototypes of a new art form. The parallelism and interchange
of engineering and drama innovators' efforts was kept on course by the
circumstance that the work of engineers and artists overlapped and continuously
intermingled in the broadcasting activities going on in the same crowded Savoy
Hill premises. For engineers about the studios, the technical resource
constraints with which producers grappled were an open book which specified
their task: to instrument the separation of sounds, provide for their variation
and control and re-unite them in a fluent seamless whole.

This study shows that the inner interactional frame of the studio work process was one dimension of the dynamic that generated and impelled the evolution of broadcasting occupation. In drama-broadcasting, most vividly in its formative phase, the individuals brought together in stable programme teams saw in their collaborative activity in the studios a peculiar new work-system screwed to an unprecedented pitch of co-ordination and perfection. Writers, producers, actors, sound effects men, apparatus and studio design engineers gained reciprocally a sense of the worth of what they were doing. The various contributing individual parties could appreciate what each was doing for the other. The documentary materials brought to the fore in this study show that whenever individuals were brought together in programme teams turning out Drama, Children's Hour, Features Variety or Dance Music (or the products of the cultural industries generally), the work process threw into peculiar relief an interactional system in which each individual's work was critical and no one's work was less valuable than anyone else's. Where research engineers seeking to professionalise audio-electronics together with producers and actors removed from the theatre and men of no settled occupational identity united in 'productions' for broadcasting, they created bonds that were distinct from those of occupation and profession and assimilated their individual career ambitions in the collective endeavour to realise the system of a new art-engineering world.

The Turning-Point of 1928-33: the new influences exerted on the studio by professional management backed by institutions of administration, commercial dance bands backed by E.M.I., and a reformed electrical engineering profession backed by the I.E.E., and the 'Big Six' electrical companies

This study showed that interaction at the level of production to co-ordinate the broadcasting division of labour did not diminish or exhaust itself in the period defined by the grant of the charter of incorporation
and the opening of Broadcasting House. The change that marked the period of the late twenties and early thirties as a turning-point was not that the integrative energies of the broadcasting effort were expended in the creation of music- and drama-broadcasting, but rather that the locus of the effort to co-ordinate production widened to include Empire Broadcasting, Features, Variety, Light Music Productions, Dance Bands and Radio Comedy; and that the level of microcosmic interaction between individuals involved in the work process became overlaid by renewed activity at the level of exchange between broadcasting and society at large.

Firstly, in the period 1927-33, broadcasting exchanged its early condition of singularity for an environment of competition with other audio-electric media of communication - the Electric and Music Industries, the sound-cinema chains and the continental commercial broadcasting companies; and its audiences of art-publics for mass-entertainment audiences. Secondly, broadcasting's emergence in this period as an acknowledged new-era growth industry impelled it to create new functional divisions and successive rounds of adaptation of a hierarchy of managerial control. As much as the orchestral music chiefs buttressed their position in the symphony concert world through the institution of a new model orchestra under the terms of contract of the 'all year, no deputies' rule, so the chief executives of broadcasting secured their claim to 'expert' administration of a new large-scale complex public enterprise by continuous reform of the internal structure of organisation according to 'principles of administrative science'.

Thirdly, in a rapidly changing technological environment, engineers' relations with the circle of the big six electrical firms became central to the Corporation's long-term planning. The Engineering Division's function as the point of exchange between broadcasting and the advancing sectors of high-power transmissions, studio and microphone engineering and television gave them special powers over the determination of an occupational structure adapted to changes emergent and accelerating in the electronics field.
It was the dynamic of interplay between society, outside organisations and audiences, and the internal life of the BBC that framed and moulded the system of studio work. To construct the institution of broadcasting production was to bring the co-operation of outside organisations, the attention of audiences and the motivation of its personnel behind the broadcasting purpose by conceding control over certain aspects of policy to external bodies; and by conceding to the people recruited to the BBC a measure of control over the proper conduct of the matters concerned in their work. The symphony music world was ceded an important share of control over music-broadcasting when the Corporation created a symphony orchestra that took its place alongside existing concert-giving foundations in 1930; the ideas and practices of echelons of professional managers in the new industries and public utilities interpenetrated broadcasting from the point in 1933 when the Corporation implemented its major re-organisation to separate production from control. In 1933, Engineering was given a place outside that system of control and between 1938 and '48 the Engineering Division created and developed its broadcasting-engineering school and a hierarchy of credentials ordered on the model of the Institute of Electrical Engineering's own exam structure. The world of popular music established an influence over broadcasting when recording companies negotiated agreement with the Corporation on the use of records and when Henry Hall became in effect the BBC's own dance band's executive in 1932. This study discloses that it was actions and reactions in this constellation of internal and external forces that the evolution of studio production occurred; and that from the early thirties, while the vigour of growth in the internal sphere was augmented by the coming of new broadcasting arts, the range of outside bodies overlying and interpenetrating broadcasting both increased in number and institutionalised processes of exchange.

The early thirties marked the beginning of a new period in the history of broadcasting organisation partly because the new dance band music in
particular brought to broadcasting, audiences which had hitherto never consumed music. Dance music gave broadcasting the novel 'entertainment' staple of a new era and energised Variety to develop further common-pleasures formats for the same audiences. The coincidence between the harnessing of audiences around new radiophonic entertainment forms and the standardisation and cheapening of valve receivers in the early and mid-thirties consolidated broadcasting as a truly national service.

From the perspective of the growth of the broadcasting institution in terms of the history of its occupations developed in this study, the thirties emerged as a period in which a second wave of arts people, dance bands, documentary and radio-comedy people, the bearers of conceptions and practices of new arts, entered the broadcasting encampment and created their own stable conventions of doing and co-operating.

What also became clear was that broadcasting in the thirties acquired definition as a special-purpose communication organisation when its organising elite brought into the encampment the divisionalised structures of the diversified chemical, rayon, automobile, rubber and electrical industries of the day to administer its monopoly and distribution of the arts. In that era, the Reithian cadre of staff-officer occupations brought to their guardianship of a cultural monopoly the ideas and practices of rational economic management detached from day-to-day production of the multiple staples of broadcasting and concentrated efforts on the task of revising and matching the structure of audit and control to the growing scale and diversity of its operations, its changing technology and the shifting tastes of its audiences.

1. Arthur Stinchcombe assembled a wide-ranging body of evidence to show how generally new organisations are constructed from the 'social technology' available at the time of their invention. "Organisations which have purposes which can be efficiently reached with the socially possible organisational forms tend to be founded during the period in which they become possible." Arthur L. Stinchcombe, "Social Structure and Organisation", in Handbook of Organisations, ed. James D. Marsh (1965), p.153, col.2.
The Widened Span of Arts Seeking Production Through Broadcasting in the Thirties: Dance Bands as the Leading Sector of Innovation

Certain aspects of the work of engineers in the BBC were not very different from the work of engineers in other concerns - there was much movement to and from the BBC and the Marconi Company for instance. The task of building and operating broadcasting management was conceived as not very different from the task of building and operating the public corporation system of public services management elsewhere. Like the engineers and administrators, performance artists, too, moved back and forth between broadcasting and their own art worlds. It was, therefore, only producers and support staffs - and the latter most particularly - whose work was quite different from any work elsewhere.

The formation of a specifically broadcasting division of labour, fully identified and formulated in the Staff Training School in the years after 1936, occurred from interaction between the original microphone or studio personnel with no outside or non-broadcasting occupational identity; the quasi-broadcasting occupations, the engineers, performance artists and administrators with mandates derived from their membership of established professions; and the broadcasting audiences themselves. While the positions of the quasi-broadcasting occupations, who pitched their tents in the new enclave, were buttressed by the power of their professions in the larger society, the power of the anonymous microphone and studio staffs to secure control over the conduct of their work against the pretensions of other broadcasting groups derived partly from producers' appreciation of their work, and partly from listeners' regard for the products of the co-operative networks of microphone and studio production.

1. The Broadcasting Corporation and the Central Electricity Board were each given their statutory powers in December 1926. At the end of the first year of the Corporation's existence, Reith saw his function as Director General as interchangeable with that of the Chairman of the Electricity Board. The Reith Diaries ed. Charles Stuart (Collins 1975), 4 February, 1928, p.99, and J.C.W. Reith Into the Wind (Hodder & Stoughton, 1949), p.133.
When broadcasting brought together audio-engineering facilities, new audiences, engineers came round to seeing electric communication as a cultural force, producers with ideas and visions of the possibilities of a new medium and support personnel malleable and unset in the established ways of music, theatre and music hall, it created a figuration of conditions that generated innovative effort, and sometimes that measure of re-patterning of co-operation among the people involved required to create new art worlds or new segments of old ones. That sociogenetic figuration of conditions that brought together engineers, artists and others on a regular basis requiring revision of the terms of co-operation in the production of arts specifically for broadcasting was the Hughesian 'inner interactional frame' that impelled the rise of studio backup or support organisation.

Howard Becker, in his study of the origination of art worlds, insisted on the crucial importance of organisational development or success in mobilising enough people to co-operate in the new activities that a new medium requires. Becker's analysis provides a way of differentiating organisationally between the arts that took up the opportunities of broadcasting.

The arts that re-organised around broadcasting differed greatly in the degree to which their members opened themselves to co-operation with groups with whom they had hitherto not combined and in the extent to which they devised new forms of conventional practice. At one extreme of such a graduated scale, the serious musicians reached out to wider audiences through the new distribution arrangements but continued to produce their characteristic products. Though Drama and Features, Variety and Comedy created specifically

2. "We should not confuse innovation with the development of an art world. New worlds develop around innovations - technical, conceptual or organisational changes - but most innovations do not produce new art worlds ... To understand the birth of new art worlds, then, we need to understand, not the genesis of innovations, but rather the process of mobilising people to join in a co-operative activity on a regular basis." Howard Becker, Art Worlds (University of California Press, 1982), p.311
broadcasting segments of the older art worlds of theatre and music hall, their organisational victories were limited ones. They failed to assemble around themselves the apparatus of new art worlds - adequate rehearsal hours, sustained technical development, playwrights or scriptwriters of sufficient number or quality, untempted to progress to higher things in the theatre or the cinema; higher critics with power to raise censorship limits on the range of permitted subject matters; and audiences moved to accept the listening media as the equals of vision and sound media.

Dance music stands at the other extreme of this spectrum of the successful creation of new organisational bases. Dance music created the apparatus of a new art world by both capturing the existing co-operative networks of sheet music publishing, recording companies and broadcasting and creating new ones. Dance band leaders incorporated music publishing, recording and broadcasting in a new popular music complex. They created new networks, when they responded to the post-war "society dance craze" for dance music in the quick-step genre by establishing professional dance bands in the performance facilities offered by London and provincial hotels. In imitation of Paul Whiteman's mid-twenties paradigm of a dance music for a national listening audience, broadcasting dance leaders combined the syncopated rhythms of piano ragtime and Euro-melody, and drew on the brass, wind and percussion instrumental styles of Original Dixieland to give distinctive effects.

The differences that separated the serious music world, the theatrical arts and the dance musicians on a scale of success in the mobilisation of resources were of crucial importance in the history of the rise of broadcasting
studio organisation. Where arts undertook substantial or revolutionary\(^1\) reconstruction of co-operative conventions, they created among the various participants a mutual appreciation of the conventions they shared and the mutual support they gave each other.

The Balance and Control Section (Music) was singled out by administrators as the locus of the phenomenon of 'excessive' elaboration of studio practice, because the various participating groups in the world of symphonic music combined to produce no ideology of production of music for broadcasting. Contrariwise, Variety in St. George's Hall secured a measure of latitude and tolerance for the uses they made of transferred Music Balance and Control and Drama Effects staff and invariably triumphed in the claims they advanced for additional resources to avoid breakdown of their system.

The dance bands were an extreme case. From the late twenties, the dance bands were an invading force from outside. With a rising listening audience behind them and the columnists of the popular press as their spokesmen, the band leaders negotiated the terms of their co-operation with broadcasting from a relatively independent base. The BBC (or the listening audiences) needed the band leaders as much as the band leaders needed the Corporation and the inauguration of commercial broadcasting of dance bands from the Continent in the late thirties worked to tilt the scales in the latter's favour.\(^2\) Though the battle lines between the BBC and the commercial

\(^{1}\) Becker was sensitive to the difficulties of positing the rise of definitively 'new' art worlds in the circumstances of the twentieth century. "We cannot clearly separate new art worlds from those which have changed substantially by virtue of an artistic revolution, nor can we easily decide, when an art world has died, as opposed to being changed or taken over by new people. We need not make these distinctions definitely, since our own interest is in the growth and decay of forms of collective action rather than in the development of logical typologies... We notice technical developments most in contemporary art, where they create serious ambiguities as to whether we are seeing new art worlds develop or only new segments of old ones." Howard Becker op. cit. p.310f.

\(^{2}\) Albert McCarthy, The Dance Band Era, the dancing decades from ragtime to swing, 1910-50 (Chilton Book Company, 1982), p.77.
bands centred on the issue of 'song plugging', dance bands largely dictated the conditions proper to the conduct of their work: choice of studios, the supply of microphone and equipment resources, the hours allocated for band rehearsals, the selection of studio personnel, control over the hours of attendance of these staff at rehearsals and determination of the volume of re-scoring required for broadcasting.

The power of the arts that collectively undertook reconstruction to set aside the curbs imposed by administration on the creation of new work, and criticisms levelled by engineers is illustrated by their relative invulnerability to technical criticism. When the engineer-in-charge, London Control Room, asked why the NBC Symphony Orchestra could be got into one microphone and Geraldo's dance music needed a multiple-microphone set-up, he could only be interpreted as opening debate with the dance-band leaders themselves or the taste of the audiences for dance music. Similar questions directed at the treatment of symphony music would have left the authority of composers and conductors and the discrimination of their audiences untouched; they would have found their mark in the work of the Studio Section in the background.

Broadcast Engineers, the Institute of Electrical Engineering and the 'Big Six': the imperative to organise exchange with outside centres of electrical 'R & D'

The contrast between engineers' relations with musicians and drama people in the Company years threw into relief two distinct patterns of engineering engagement with broadcasting. The engagement of A.G.D. West with Cecil Lewis and R.E. Jeffery was individual and extra-occupational centred on shared conceptions of the opportunities and problems of the work place. The exchanges between Filson Young, H.J. Round and Peter Eckersley were, otherwise, preliminary rounds of bargaining between two orders of technicians centred on the Crawford Committee as the place where two distinct professions brought
together within broadcasting might formalise agreements that would allow
each to guard what was precious to itself. Filson Young was for offering the
new music-machine only what it could properly perform; Eckersley argued that
broadcasting was a laboratory-machine wherein engineers must have all rights
to tests on precious things: Balance and Control became the via media
between the two professions. That is to say, that in the Filson Young and
Eckersley exchanges, two professions met and formally negotiated, each moved
by different time-scales and criteria: one gave priority to individual
performances, the other gave priority to the distant horizon of long-term R & D.
Engineers took as their proper sphere advances in the measurability and
variability of hall acoustic and the frequency and range properties of
microphones. Engineers and musicians were brought together by an
institutional or contractual imperative, but both equally looked outward to
establishing a mandate in the eyes not of their neighbour segments in
broadcasting, but in the eyes of those occupying the hinterlands or baselands
of their professional 'triangle' - existing in society at large.

Engineers strengthened their power to influence conditions in
broadcasting in that crucial era between 1928 and '32 because, like the dance
bands and the new professional-managerial stratum who contemporaneously
increased their standing and authority in broadcasting, engineer's bases or
institutional networks in society at large were strengthened and consolidated in
those same years.

The increased power and autonomy of electrical engineers in broadcasting
was coincident with and intimately correlated with the rapid extension of the
installations of electrical supply, from the establishments of the Central
Electricity Board in 1926 to the peak year of construction of the National
Grid in 1932. It was the circumstance that electrical engineers were at a
peak point of a surge of growth of their profession that allowed its members
of the Engineering Division in broadcasting to stand out of that re-organisation
of 1933 that brought all other divisions under a hierarchy of administrative control.

The engineers' claim to autonomy and apartness in broadcasting was premised on the understanding that continuous organised exchange with the professional and scientific engineering world outside was strategic to the engineering department's entrepreneurial role in carrying broadcasting forward on to successive new technological thresholds. Ambition among engineers within broadcasting to incorporate themselves as a distinct sector of their profession was not new, but the expansion of electrical distribution facilities, massively under way in the early thirties and the momentum it imparted to the diffusion of telephones, household appliances, mains valve receivers and electric gramophone units, made it in the minds of broadcasting chiefs a very imperative of the future development and existence even of broadcasting.

Ex-Marconi research engineers, come new to broadcasting in 1922, had learned the lesson of their overlong pre-occupation with the telephone and their consequent neglect of the Western Electric amplifying microphone: at the cost to the Company of the loss of its music audience for several months. From this poor start, followed by revelations of the inadequacies of the studio and equipment designs of Broadcasting House and growing awareness of the widening gap opening up, in the early thirties, between the quality of broadcast music and the quality achieved by cinema and recording companies, the proto-broadcasting-engineers learned the need for a restless watchfulness on the frontiers of their developing profession. Thereafter, whether interfacing with the audio-engineering problems of the studio or the problems of transmission, engineers were given all facilities required to keep abreast of developments occurring in the ring of the 'Big Six' electronics companies and in the pertinent quarters of the scientific field.

Broadcasting, being a new and self-advertising phenomenon, gave its engineers unprecedented opportunities to move the boundaries of the electrical
engineering profession forward in a way that made it a showpiece of the profession as a whole. Eckersley's joint work with post office engineers in the conversion of telephone landlines from speech carriers to music carriers and his inauguration of long-wave transmission trials earned him his unusual direct election to full corporate membership of the I.E.E. in 1924. Broadcasting was then the centre of a new electronics domain with broad avenues leading off. Thus West and his entire team, having brought together microphone research and Sabinean reverberation studies, moved out of broadcasting in 1928 carrying their audio-engineering expertise to form the cadre of British sound-cinema engineering.

Engineering, like the drama and music worlds, the professional-managerial stratum and the dance-music networks, had its own orientation, its historical perspective on its way forward as a profession; the time-horizon of the intervals between successive waves of scientific-technical invention occurring in the field of high-power transmission telephony, electrical recording and reproduction, and television throughout the thirties. The need of engineers to maintain contact with the several leading sectors of a broad front of advance of electrical engineering led them into necessary engagement with the larger professional community: with the IEE and the 'Big Six' ring of electrical manufacturing companies occupying the hinterland and base of their profession. The priority which senior engineers gave to engagement with the progress of R and D in the engineering world outside - their high entrepreneurial 'navigational' charge to guide broadcasting into new technological waters - was an important part of the logic of the division of broadcasting labour traced in this study.

The opening of the Engineering Training School in 1938 to control the curriculum and structure a credentials hierarchy was an attempt to institutionalise exchange between the broadcasting segment and the engineering world at large: to equip broadcasting engineering personnel with capability
of receptivity and assimilation of new technology and to secure and facilitate admission of specialists and knowledge bearers from pertinent leading sectors of the engineering world outside. The moves to institute an Engineering Training School in the second decade were as significant in the history of broadcasting-engineering occupation as the formation of the symphony orchestra was in the history of the balance-and-control occupation; or as the re-organisation of 1933 was to the evolution of the offices of broadcasting administration; or as the appointment of Henry Hall as the BBC dance bands executive was to the development of broadcasting-dance-work occupations: all were institutions formed to facilitate exchange between broadcasting and professional worlds outside. Only the Staff Training School, under Haworth and Harding's leadership from 1936, was singular in seeking to create a profession or occupation of broadcasting's very own, with no bases on the outside; and it was only the trades unions ten years later, for reasons of their own, who sought to classify broadcasting's back-up labour as akin with labour in other centres.

The 'Management Movement' and the Re-Organisation of 1933: the bringing-in of the social technology of the day

A certain symmetry and parallelism unites the entry into the broadcasting encampment of the ideas of new business management to inspire the 're-organisation' of 1933 and the 'coming in' of commercial dance bands and audiences, who had not previously consumed music - both from bases already established outside broadcasting. As much as the history of broadcasting occupational roles were shaped 'from below' by the co-operative construction of broadcasting work in the studio, it was shaped 'from above' by an elite bent on creating in broadcasting a structure of business management that would replicate or surpass the work of their peers in similar complex technical commissions in the utilities field. The re-organisation of October 1933 was an effort to 'rationalise' broadcasting activities within a policy-making
structure of departments or divisions grouped under two Controllers (of Administration and Programmes), supplemented by an order of staff officers or 'executives' charged with monitoring actual operations with a view to effecting corrections and modifications of the system. It was the executives, Beadle and Howgill, who reported on the activities of Balance and Control and other support staffs to the Director of Internal Administration and the Controller of Administration from 1933.

British industry in the 1920's experienced a more intensive merger movement than had occurred before. The creation of 'new industries' - ICI, Unilever, Fisons, Associated Electrical Industries and others - required considerable investment of time, capital and skill to effect a transition from market relations to intra-firm organisation. The new industries reacted to the stresses of spectacular growth by functional differentiation of the management task and by pressing forward a search, centred in the Institute of Industrial Administration, for a "Science of administration" that would make possible the determination of the optimum organisation of an enterprise ahead

---

1. Some conception of how closely the reformed broadcasting system of 1933 approximated the ideal of large-scale organisational structure of the day is conveyed by a paraphrase of its essentials set down in 1934. "The central problem of management today is the facilitation of the decisions by persons somewhat remote from the problems they have to decide. The essence of the scalar chain is a hierarchy of persons, who beyond a certain point must know less and less about more and more ... But such a chain is itself a bad instrument for the transmission upward of knowledge and information. It must in almost every case be supplemented by a staff organisation, whether the staff be formally recognised as such, or not. The task of the staff is ... to acquire the knowledge necessary to co-ordination and the creation of a central plan of administration ... to discover at the earliest moment defects in the plan or divergencies from the plan and to secure modifications of the plan itself ... The essential purpose of the plan is to provide for the upward passage of the knowledge on which the one supreme co-ordination authority can base its decisions." Austin Robinson, "The Problem of Management and the Size of Firms", Economic Journal (June 1934), pp.252, 253 passim.
of its operation. From the mid-twenties, the interest of the new industries in the 'rational' administration of large industrial enterprise was replicated in a parallel rising interest in the business management of the new public corporations, charged with the administration of London's underground and autobus system and the national electrical generation and supply and broadcasting systems.

Leaders of big business and the new public corporations recognised a common interest in developing a new-age capability of large-scale complex administration. That interest was reflected in the recruitment by the new industries of managers with experience of large-scale bureaucratic administration, from the Revenue and Armed Services in particular, and the discovery by intellectual spokesmen of the management movement that the Institute of Industrial Administration and the Institute of Public Administration were interchangeable forums of debate for such a 'science.'


2. Josiah Stamp, who had been a director of the Nobel Industries, became President of the L.M. and S. Railway in the 1920s taking with him experiences of large-scale bureaucratic administration over a wide field. A steady succession of civil servants from the Revenue followed Stamp into the higher echelons of the management of I.C.I. (which acquired Nobels in 1926). Other large industries, e.g. Vickers, recruited senior management from retiring military and naval personnel. Leslie Hannah op. cit. p.258.

Josiah Stamp and John Lee (Director of the London Telegraph and Telephone Centre and the leading expositor of new management thought in the 1920s) were founder members of both the Institute of Industrial Administration and the Institute of Public Administration. Josiah Stamp spoke to the Institute of Public Administration on "The Administration of Business and Public Affairs" in the first year; Lee addressed them on "The Parallels Between Industrial Administration and Public Administration" in 1926. Lyndall Urwick, the chief spokesman of the 'management principles school' in the thirties, spoke to the Institute of Public Administrators on the essential interests that united the two fraternities. There is considerable evidence to suggest, that the leading members of the two institutes formed a cohesive elite by the late twenties.

While it is difficult to specify the ways in which J.C.W. Reith was drawn into the orbit of these circles, it is significant that Reith entered into discussion with Sir Henry Bunbury, Secretary of the Institute, and


3. "The Institute of Public Administration is doing important work in organising the study and comparison of Governmental methods ... Employers, who are brought into contact with this Institute are struck by the close correspondence between the problems examined and those which face industrial managers." Lyndall Urwick, The Meaning of Rationalisation (1929 p.97.

incorporated Bunbury's four desiderata for a good public utility authority,\(^1\)
when he spoke on the business management of public broadcasting to the Winter
Conference of 1930. In the context of discussing Bunbury's requirement for
expertise in public corporations, he argued that the basis of the professional
administrator's claim to be a 'floating piston between the motive power of the
politicians and the working parts of broadcasting' was his application of
'administrative science'.\(^2\)

The Mechanism of Disclosure of the Novelty of Broadcasting Work:
the 'Haworth-McConnell' phenomenon that made Haworth co-ordinate with
producers in broadcasting staff-training in the late thirties

The outer frame of broadcasting included among others the drama,
symphony orchestra, engineering, music-hall and dance music worlds, which
acted sometimes to promote and sometimes to restrain the evolution of
specifically broadcasting occupations. In the course of the thirties, the
perspective that saw broadcasting in terms of a technology of distribution,
gave way to the intuition that broadcasting was a new division (or combination)
of labour. That broadcasting producers' and support staffs' work was different

---
\(^1\) See H.N. Bunbury's summary of the proceedings of the Summer Conference,
Oxford 1926, in Public Administration Vol. (1926), pp.281-86
Bunbury's desiderata for a good public utility authority were:-
1. Freedom from political interference in the management of the utility,
as distinct from general policy;
2. Disinterestedness;
3. Expertness;
4. An area of operation which is economically the right area.

\(^2\) John Child made clear that those seeking to establish themselves as a
new professional-managerial stratum in British Industry in the twenties - a "third party" between capital and labour - grounded their claims to
autonomy in the complex managerial techniques required by large-scale
Chap.2, 3 & 4. Reith reworked this argument in the interests of the
autonomy of the management of the public Broadcasting Corporation, using
the metaphor of "the floating piston".
J.C.W. Reith, "Business Management of the Public Services", Lecture
from work practised elsewhere, was apparent by 1939, although the expertise involved was by no means universally identified, understood or approved by that date. By the end of the decade, in programme sectors where the conventions of new work had reached an advanced stage of development, producers, writers, light orchestra and dance leaders, actors, performers and support staffs saw that their work was done through complex systems of exchange, in which no one's function was less essential than any one else's; a new system which could make good, weak conceptions and poor performances. Whether the weaknesses were on the producer's, the script writer's, the scorist's or the performer's part, the studio system was seen to be the organisation that did the 'dirty work' of turning out broadcasting's characteristic products.

It is one of the central findings of this study that support staff were 'the first broadcasters'. While all others - musicians, drama producers, music hall people - had a status defined elsewhere, the reason of existence of music balance and control and studio ancillary staffs generally was dictated by the imperatives of the evolved studio practice; and existed as occupations de facto long before their establishment and legitimation as an order of occupations de jure in 1951. This study has disclosed that the mechanism through which the novelty of the new work was made more visible and defined was the action of individual producers in bringing certain support individuals out of their background anonymity and making them 'household' names on the microphone side of broadcasting. George Inns, presented by producers as an artist-craftsman on the drama panel, achieved celebrity among drama people, surpassing for example the importance ascribed to A.G.D. West in radio-drama development and equalled only by those who broke new ground by producing or writing specifically for the medium.

Variety producers crossed to a new threshold in 1933, when they discovered that self-contained small staffs of producer, script-writers and studio-wise ex-effects staff, like Duncan and Morrissey, deploying the resources
of gram banks, spot effects, panel-mixing, multi-microphone technique and light music excerpts, working under pressure was the system of Variety production. The conditions required to make a new complex system of exchange visible and mutually appreciated by all the contributing parties, varied greatly according to the department or art-world sector involved. The magnitude of the difficulties involved in producing 'blind' drama, concentrated attention right from the start on the need to create the organisational bases of a new art. Yet more acute were the problems of combining the resources of libretto, music and sound effects in the production of radio opera. It was no accident that it was in operetta that the conductors Gordon McConnell and Stanford Robinson made the discovery that set them apart from symphony conductors - that studio production was a fluid form, calling as much for the conductor's attention as the standards of performance. The result was that, in the household of Broadcasting House, the names of Gordon McConnell and Rex Haworth became synonymous with the emergence of a new organisational basis of broadcasting production, as the names of David Wark Griffiths and Billy Bitzer once did for the new Biograph system of cinema production. And the coupling together of Haworth and Harding under Beadle in the new Staff Training School signalled the beginning of a regime in which, in Haworth's words, broadcasting became understood as a studied system of production, not a matter of bringing performers and a script before a microphone.

On the graduated scale of varying measures of organisational response of the arts to the opportunities of broadcasting, orchestral symphony occupied one extreme and dance music the other. Where symphony musicians saw the opportunities of broadcasting minimally, as a distribution system merely, Stanton Jefferies' section was restricted to the pick-up functions of balance and control as an annex of what was seen as an unreformed system of production, Dance music, at the other extremes, was, as much as broadcasting itself, a new division of labour in society which harnessed the resources of musicians,
dance halls, recording companies and broadcasting to its purpose. The work of studio and microphone dance-music staff in broadcasting was only one element in a project to mobilise a new total system of production and distribution for new audiences. At one end of the spectrum Stanton Jefferies' section was singled out as the target of administrators' attack on 'creepage' and 'excessive treatment' in production. In the middle ground of drama, features, variety and operetta, support staffs were established as co-ordinates of producers and artists in new systems of production for the microphone. At the other end, the back-up personnel of broadcast dance music received their mandate as an occupation of an art world constructed root and branch anew by dance music leaders.

The foregrounding by name of hitherto anonymous back-up individuals or their recruitment into the service of a new and unfamiliar art world, come into broadcasting from the outside, was part of a shift to seeing broadcasting not as a way of distributing the work of artists of many different kinds, but as the joint product of all the people who co-operated to bring church music, dance music, light operetta, orchestral symphony, drama, variety, children's hour on to the air, sounding just right. As Haworth and Harding taught Gerald Beadle to see it at the Staff Training School, a whole new art of using electrical gear to achieve precise and calculated effects on the minds of audiences had emerged. What that change of standpoint brought into view was a vision of broadcasting work as a system that required of the individuals involved, a quite exceptional degree of commitment to understanding the overall task: to a point that denied the conditions of growth of specialised functional skills that could be moved impersonally from programme to programme. Just as the producer's person was the source or the executive of a programme and the conventions that brought his kind of work into existence, so were the pre-requisites of support staff also personal. What stamped second-rank individuals as 'broadcasters' was the disposition - out of natural
endowment and sensibility - to discover and cultivate an avocation or intense personal involvement in programme areas they found specially appealing. From that power of identification with particular programme cultures derived the values found in the Haworths, the Innses and the Duncans.

The Formal Constitution of Broadcasting Occupational Grouping, 1951: the outcome of pressure-from-the-inside on management to resolve the problem of the 'heterogeneity' of studio staffs and the pressure on management to allow outside unions to organise broadcasting labour

David Wark Griffiths expected his set dresser to notice without prompting that the gliding movements of Mae Marsh's hands done on a rough-top table in the rehearsal of *Apple Pie Mary* would require an oil-cloth surface when the scene was done with dough for the camera. In the same way broadcasting producers expected their support staffs to pick up the illusions their shows sought to create from the codes and discourses occurring along the way from first read-through and through the hours of rehearsal.

Such contents were screened-out by a time and motion approach to work. When Hay's Central Establishment Office observed that the trend in broadcasting was towards production by an orchestra of one-note players, it was Littlewood of the Staff Association, come new to broadcasting, who noticed that the accountancy of logistical economy omitted the element of the equation of the broadcasting work that made it different from most work done elsewhere. From the perspective of Hays and Lawson-Reece, support individual's work looked absurdly programme-specific; to Littlewood, immersed in his trade union members' own accounts of their work, its value consisted not in knowledge of specialised operations, but in their technical contacts on one side and their cultural contacts on the other. The logistical equation of broadcasting production, with its focus on operations, overlooked that the more specialised the skill the more important became knowledge of the total system for every one involved. Any enquiry into the value of the second-rank support work of broadcasting production must consequently shift its focus from minute
divisions of labour to the social phenomena of the conventions and codes and
discourses of exchange through which differentiated activities are integrated
in the collective work of turning out programmes.

The nature of the expertise of broadcasting was already understood
among the leading sectors of programme production by 1939. The enquiries
of the Mennell Committee disclosed how broadly united by the late nineteen-
forties were all divisions of programme labour behind the conviction that
the conventions they shared and the mutual support they offered one another
was what made broadcasting work distinct and valuable. It is true, however,
that such a shared sense of the value of what they collectively did by fellow
workers, was not strong enough on its own to win for the second-rank support
staffs recognition of their status as a distinct division of labour from
engineers to one side of them, or from administrators ranked above them.

Reith established the authority of professional administration of public
broadcasting by persuading the leaders of society of his and his colleagues
competence to do so, through personal contacts and through associating his
case with the precedents established by the professional administration of the
Post Office, the Indian Railways and particularly the public utilities of
electricity and transport. Analogously, to win the power to define proper
conduct with respect to matters concerned in their work, through an autonomous
Department of Programme Operations, the leaders of studio support personnel
had also to persuade leaders of society that their members possessed a competence
special and important enough to be set free from control by engineers,
administrators and producers.

It is possible to derive, from Reith's achievement in establishing
himself and his senior executives as members of a new order of professional
administration of broadcasting, a paradigm for understanding the constitution,
or the formal institutionalisation, of studio support individuals as an
occupation in 1951. Reith secured the constitution of a professional-
managerial occupational grouping in broadcasting through his success in founding a working broadcasting organisation and by persuading 'society' that he and his colleagues were members of an elite of professional managers arising in the 'new industries' and the new national utilities field, spoken for by the institutes of administration. In a like way, this study shows that the studio personnel won their 'licence and mandate' as an occupation, not simply as a result of the work and accumulative experience of individual practitioners over several decades, but because in the reconstruction following world war two, the trades union movement's position of power and influence was enough to persuade the Beveridge Committee on Broadcasting that the hitherto unincorporated back-up individuals were a hierarchy of occupations that should have a place of their own in the BBC's grading structure.

So formulaic an approach, left unqualified, does less than justice to the complexity of the activities of the internal Mennell Committee (1948/9) and the Beveridge Committee on Broadcasting (1949/51) leading to the re-organisation of support personnel in a Programme Operations Division in 1951. In those events, it is possible to discern that individuals involved in studio work voiced an interest of their own that was muted and overlaid by the dispute about whether their union, the Staff Association, was a company union. In the Staff Association's representations to both the Mennell enquiry and the Beveridge Committee, it is possible to read the voices of producers and (at least some sections of) support staff speaking in harmony to assert the distinctiveness of the work they were parties to, in defiance of attempts of management to organise their work according to the precepts of scientific management on the one side, and trades unions seeking to organise them in the way of nineteenth-century craft unionism on the other.

In the Mennell Committee, the Staff Association found the Central Establishment Office (under the Controller, Staff Administration) pre-occupied with making a study of the time-motions of everybody in the Corporation the
basis of an objective grading structure, while producers, programme engineers and Littlewood, the General Secretary, struggled to suggest that the value of the kind of work under review did not inhere in ultimate components of skill or mental operations but in knowledge of its unique co-operative system. In the Beveridge Committee, conflict over staff organisation was between the T.U.C.-affiliated unions arguing for the right of the individual to join the union of his choice and the Staff Association arguing that broadcasting was a peculiar 'twentieth-century' work performed by a 'heterogenous' staff calling for 'organic trade union development' of a single vertical association rather than horizontal organisation by 'a number of nineteenth century craft unions each having its centre of interest elsewhere.'¹

Beveridge, like Mennell, put aside the crucial 'questions on the definition of the class of employees' and allowed that any trade union had a case for rights to organisation of broadcasting labour that could prove that it had as members not less than 40% of that class in BBC employ.² The long-term implications of Beveridge's recommendations are beyond the terms of reference of this study, but certainly Beveridge's focus on the question of the definition of the grades of broadcasting labour prompted the BBC management to tilt the scales the Mennell Committee were holding, in favour of transferring the ambiguously-named 'programme-engineers' out of engineering.

Certain speculations arise from the fact that the internal debate ventilated by the Mennell Committee was never elucidated and resolved by management, but only acted on executively under the press of contingencies. The S|tudio Operations Committee's excursion into the management matter of the definition of programme work produced no ripple in the concurrent Beveridge Committee, but it seems reasonable to suppose that the experience

---

impressed or reaffirmed support personnel, producers and Association officials in their perception that programme work was a phenomenon as yet misunderstood even by broadcasting management itself. From that perspective, it seems likely that the Staff Association's insistence that, since 1941, they had 'undertaken in a twentieth century industry, the tasks gradually imposed on collective organisations during the eighteenth and nineteenth centuries in relation to the then existing industrial structure ... and (were) in the mainstream of organic trade union development' was more than just an expedient to prevent other unions recruiting their members.¹

One may guess that the sense of isolation of some individuals of the Association was acute at that point: that is to say the 'peculiar people', the Haworths, Ellingham's, Beggs, the Ms. Leftwiches and Ms. MacDonalds, who had struggled to explain their 'callings' to do the arcane works that they themselves had created in the studios to the Studio Operations Committee. While they were convinced of the need to resist the interposition in their affairs of 'nineteenth-century craft-minded unions having their centres outside broadcasting' via the agency of the Beveridge Committee; the persistence of the Mennell Committee in applying a deeply-set logistical

1. "Improved Form of 'Industrial' Trade Union
During that period (1946-49) the staff themselves developed their own organisation, suited to their special needs, and took advantage of the lessons of history in selecting its form. In essence, they have undertaken in a twentieth century industry, the tasks gradually imposed on collective organisations during the eighteenth and nineteenth centuries in relation to the then existing industrial structure. Faced by an entirely new business organisation, they have created an improved version of the 'industrial' union."

"Superiority of Single All-Embracing Union
However appropriate to the economic conditions of the nineteenth century, the 'horizontal' union, which was able to bring some measure of order into industries whose management was minutely distributed among thousands of private employers, is not demonstrably appropriate to conditions of monopoly ... We in broadcasting are in the mainstream of organic trade union development and are fully determined not to suffer oppression from the dead hand of the nineteenth century."

'Memorandum of Evidence by the BBC Staff Association'.
approach to programme work was proof that management was only another 'dead hand', inappropriate to the task of organic organisational development in an art industry.

For that reason, it is worth asking whether the managements of the cultural industries anywhere were more innovative in the promotion of the division, co-ordination and constitution of their special kinds of labour than were the managements of broadcasting in Britain. On the face of it, the Hollywood Studio heads of the thirties are a promising case. The studio moguls insisted on the uniqueness of film-making as an economic activity, beginning with an emphasis on their own distinctive talent in selecting material and supervising its production.1 Film production personnel replicated that distinction in the importance they attached to the elements of creativity, unique talent and specialised skill involved in their work. Whether the NBC or CBS studio heads sought to stress their singularity or apartness from the A.T. and T. landlines distribution system in which they were embedded; to anything like the extent that the Hollywood majors did in distinguished themselves from their conventionally-run New York distribution offices and manufacturing industries generally, is hard to say. In the music-recording industries, John Culshaw, at least, was convinced that it was Sir Edward Lewis' total misunderstanding of the skills and conditions of co-operation forming the base of fine recording work that precipitated the rapid unionisation of staff at Decca in the 1960s.2 In the case of British broadcasting, while one tradition has stressed the singularity of conditions of cultural production another has sought to promote comparisons between its own and well-run business anywhere.

Summary Overview

Broadcasting became a new division of labour when it mobilised new technology, new approaches to organisational administration, sufficient numbers of people from the established arts and listening audiences; and individuals centred in the work place evolved a new complex of relations or occupational groupings that constituted the very core of novelty of the new division of labour. The efforts of individuals in the work place to combine new conceptions with technical facilities and to conventionalise the daily work of turning out programmes was an autonomous internal dynamic present from the beginning; so also was the effort of a succession of external bodies to gain a measure of control over the activities of broadcasting. This investigation brings to light the constant inner tension in the field of broadcasting-occupation-making between the conceptions of the members of the occupation of the conditions proper to their work, organically developed, and the opportunities and restraints contingently supplied by external bodies influencing or penetrating broadcasting.

We showed that the offices of broadcasting administration were mandated by a combination of Reith's individual success in creating a working company and the factor of the "persuasion of society" by professional managerial elites in the industrial monopolies and public services that distinct organisational capabilities were indispensable to the proper conduct of large-scale multi-purpose undertakings. The establishment of managerial hierarchies in broadcasting was achieved at the long-abiding cost of assumed comparability between economy in large-scale cultural production and economy in large-scale manufacturing business. In the history of the specifically-broadcasting occupations, this study shows that those costs are to be understood as management's deep-set commitment to seeing studio work in terms of ultimate components of mechanical or mental operations and the consequent screening-out or blind-spot to the special social relations
and commitment-sealing features required in the organisation of "efficient"
cultural production.

This study found that a certain symmetry and parallelism united the
process and long term implications of the constitution of administrative
offices in 1933 through the influence of outside managerial elites; and
the incorporation of studio staffs in an autonomous division in 1951 through
the action and influence of trades unions. Broadcasting management failed
ever to elucidate and resolve the problem of the "heterogeneity", the
"orchestra of one-note players" character of studio labour; but trades
unions, for reasons of their own, refused to accept that broadcasting
labour was a special case requiring a peculiar company-union organisation
set apart from the horizontal craft unions organisation that obtained in
manufacturing generally. That is to say, the finding is that the
constitution of a specifically broadcasting-studio occupational grouping
in 1951 was achieved contingently, in default of understanding or penetration
of the social and aesthetic or moral phenomena that underpinned the observed
heterogeneous or idiosyncratic nature of studio backup labour.

This study has made good that default by refusing to see the protracted
balance and control controversy in terms of a "clash of personalities" in
the studios or recurrent "stack-ups" between engineers and musicians in the
thirties; by disclosing the coherence that unites the issues of the balance
and control controversy and the issues brought before the Studio Operations
Committee; and by articulating the continuity of social relations in studio
work that cyclically renewed consensus in the studio and conflict between
studio and other occupations.

What this study finds is that the force of individuals in the
workplace seeking to bring their conceptions together with technical
facilities and to conventionalise the ensuing new activities was there
from the beginning. What distinguished the early phase, the Company
years, from the phase of occupation-making commencing in the early
thirties was that in the turning-point of 1928 to '32 an increasing technological momentum, a regular succession of improvements of facilities, in conjunction with a rising managerial capability created a stable environment of unprecedented opportunities; and compounded with that internal dynamic mounting from the effort of individuals to find new ways of doing and co-operating round those opportunities. The years 1928 to '32 defined a period when the means of sustaining perpetual electric-audio and foreseeable electric audio-visual communication development and change in a permanent organisational shell established broadcasting as an enduring major new component in society and augmented the supply of men of talent and new conceptions that a stable cultural organisation drew to itself. Concomitantly, it raised questions of the identities and relativities of individuals and levels in a hierarchy of engineering, administration and production; much as the American cinema did in the same period, when it equipped itself with sound, enlarged its audiences, encased itself in the Hollywood major studios system and gave its population the prospect of life-long employment in an "industry".

In the setting of institutional permanency after the administrative organisation of 1933, it was natural that producers and support staff, faced by closure of exit to anything like comparably stable and rewarding work outside, turned to define the system they were part of, as engineers and administrators also did. What changed the game to one of explication of the relations of the broadcasting division of labour and movement to constitute a broadcasting-specific occupation was that broadcasting production had come to stay in 1928 to '33. The interval between the opening of Broadcasting House and the setting up of the Staff Training School, as the study centre for producers and support staffs formulating understanding of their new profession, was filled by producers appraising and taking stock of the studio system back of them; or in the case of
Gordon McConnell, looking over to how Hamburg or Milan did its opera productions; or Henry Hall taking stock of how people were making dance music at N.B.C. studios Chicago; or Innis transferring his acknowledged skills to commercial broadcasting; or Haworth coming back from the less secure opportunities of the London and Paris film studios or Freddy Gower from his post as Columbia's chief recordist in Milan.

The juncture of 1932/3 was crucial in the history of broadcasting-occupation-making in that it opened an entree to broadcasting to a new organising elite and simultaneously to popular commercial music leaders: the one seeking to contain the use of broadcasting resources and the other fully bent on making the most of them, scorists who would score for it and microphone-and-studio staff who could fashion and blend sounds in the novel ways required. By 1948 the confrontation between commercial dance musicians and ideas of the economy proper to a public service were the starting point of management's initiative for an enquiry into studio practice.

As much as the contingent impure character of occupational development is underscored by the arrival simultaneously in broadcasting of management with ideas of manufacturing economy and dance band leaders bent on a maximum and prodigal use of its facilities and expertise, it is also underscored by the arrival on the scene in 1948/9 of trades unions pursuing purposes quite different from Hays' Establishment Office.

This study has traced the course of occupational evolution always simultaneously in terms of opportunities and constraints wrought by interaction between the institution and external bodies and interaction of named individuals in workplace circles; but ends by asking questions about how the line-up of such as Begg, Leftwich, Ellingworth Jnr, Lawrence, White, McDonald of 1948 reaching back to Paul Askew, Stanton Jefferies,
M. E. Miles, Ray Suffield, Saunders-Jacobs, R. E. Jeffery, Eckersley, H. D. West and Lewis, who created their own work peculiarly from opportunities supplied contingently, did or might have reacted to the total misunderstanding of that work by both the Central Establishment Office and the T.U.C. That John Culshaw, in the cognate field of Decca hi-fi fine recording, looking back to Freddy Gaisberg of H.M.V. and others as the admired progenitors of his line of work, first broke with Edward Lewis on the grounds of the General Manager's total ignorance of the skills and commitment that were the basis of his business and looked also sceptically at the conditions sought by unions as the ones proper to the work he knew in studios is a circumstance which raises the question of whether the matter of the optimal conditions of organisation of corporate art industries, as distinct from business or industrial management, has ever been addressed.
Primary Materials

The primary sources of this study are the internal memoranda and committees of enquiry reports relating to the Balance and Control Section and Variety Producers' Assistants together with the materials amassed by the post-war Studio Operations Committee. These documents are available at the BBC Written Archive, Caversham, near Reading. A small but rewarding deposit at the Marconi Company Archive, Chelmsford, in the charge of the Company Historian, Mrs. Betty Hance, was also consulted.

For my prior knowledge of the existence of a Balance and Control section I was indebted to passing references in Asa Briggs History volumes I and II. From that point, I relied on Mrs. Kavanagh's staff at the BBC Written Archive to retrieve files relating to Balance and Control from the small leads I supplied. The following list of files represents those with substantial contents bearing on the pre-war Balance and Control question. Where items were discovered in files outside this list, their locations are supplied in footnotes.

Staff Departmental Balance and Control. 1924-33 Acc 76

Policy Sound Broadcasting, 1926 R 34/874/1 Acc 44874/1
Contains a typescript 'History of Programme Developments' compiled by D.H. Clarke and sent to the Managing Director in April 1926.

British Broadcasting Company, Major Binyon's Papers. File 3A
September - December 1925 Co 62/6 Acc 44159/1

Staff Departmental, Balance and Control, 1934 Acc 79

Staff Departmental, Balance and Control, 1935-37 Acc 80

Staff Departmental, Balance and Control Meetings, 1937-38 Acc 75

Staff Departmental, Balance and Control, 1938-46 Acc 78

Balance and Control. File I Acc 45471
Balance and Control. File 2 700 Acc 45471a

Balance and Control Investigation Committee, 700, 1939 Acc 45472

Balance and Control Investigation Committee, Technical General - From Store, 1939 Acc 45472

Departmental Balance and Control Regions 1930-37 (No Accession Number at 3.4.80)

Variety Department 1924-46 Acc 44995

Departmental Producers' Assistants 24.9.37 to 22.11.38 Acc 270

Departmental Programme Division, Variety Department, File 1, 1933-35 Acc 150

Departmental Programme Division, Variety Department, File 2, 1936-39 Acc 150

Entertainment: Dance Music and Dance Bands 1926-43 Acc 45003

Handbook of Variety Routine, November 1936 Acc 4500

Entertainment. Drama Department, 1924-48 431. Acc 44986

Compilations. Acc 20644 (Formerly 935)

Contains MM. Dewar, "The First Year or Broadcasting: 5Sc Glasgow Station of the BBC"

Departmental. Production Department, Effects Operators (Weekly Staff) 1929-36 Acc 189

Music General, 1931-43. Music and Music Department Acc 45050 R27/219

Staff Departmental Engineering Division, Programme Engineering, 1939 Acc 423

Staff Training School Acc 62935

Staff Policy. Staff Training. Engineering Training School, 1937-41 Acc 203

Policy Sound Broadcasting File 1A 1934-5 Acc 44874/1 R34/874/2

Policy Report of Director of Regional Relations, Siepmann, 1936 R34/845 Acc 45203

Sound Broadcasting File 1B 1936-38 Acc 44874/2 R 34/874/3

The Studio Operations Committee is an event unrecorded in literature. Its findings came to light by chance. For their appearance I shall always be in the debt of Gwynyver Jones: to her archivist's sense of the promise of an unopened batch of files. They consist largely of the verbatim evidence of 48 witnesses brought before the Studio Operations
Committee together with the reports of the Hotine and the Central Establishment Office enquiries and papers arising.

Their coming to light was the more remarkable in that the Studio Operations Committee shelved the transcripts of evidence taken down by the High Hilborn School of Speedwriting as a product that defied interpretation. Forty years later, Programmes' representative on the Committee saw the writer's request for a meeting to discuss its work as a slighting disregard of his contribution to the founding of broadcasting in Nigeria.

Staff Policy, Studio Operations Committee File I, 1948 Acc 33571
Staff Policy, Studio Operations Committee, 1949 Acc 33572
Staff Policy, Studio Operations Committee Acc 33572/1
Staff Policy, Studio Operations File I Acc 33572/2
Staff Policy, Studio Operations Committee File 2 Acc 33572/2
Staff Policy, Studio Operations Committee Acc 33572/3
Staff Policy, Studio Operations Committee Acc 33572/4
Staff Policy, Studio Operations Committee Acc 33572/5
Staff Policy, Studio Operations Committee Acc 33572/6
Staff Policy, Studio Operations Committee Acc 33572/7
Staff Policy, Studio Operations Committee Acc 33572/8
Staff Policy, Studio Operations Committee Acc 33572/9
Staff Policy, Programme Operations Department Acc 20737
Studio Operations Committee Report 1948-9
Hotine Report 1949
Central Establishment Office Report 1950

Staff Policy, Association of BBC Engineers. File I 1940-43 Acc 8066
Staff Policy, Staff Wartime Association
- Internal Organisation and Establishment 1940-45 Acc 8376
Staff Policy, Staff Association Bulletins July 1946–52  Acc 33519
Staff Association, Internal Organisation  Acc 33522

Empire Broadcasting Conference, 1945.  "Recruitment and Training of Programme Engineering Staff"  Acc 11306

Policy, Home Programme Liaison Committee 1948–51 : Minutes File I  Acc 32709/1
Policy, Home Programme Liaison Committee 1952–55 : Minutes File II  Acc 32709/9

BBC Recording  BBC Transcriptions  1947  Acc 32377
BBC Transcription Service 1946–53 File I, 1946  Acc 6194
BBC Transcription Service 1946–54 File II, 1947–54  Acc 36817

Technical Recording, 'Recording and the BBC' Mr. Clarke's Summary  Acc 6267/A
Technical Recording, Characteristics File I  1941–6  Acc 6196
Technical Recording, Characteristics File II  1947–54  Acc 32384
Technical Recording, "The Recording Service" January 1945 Acc 6267
Technical Recording, Magnetic recording, 1947–50 Acc 32418
Technical Recording, Reports 1947  Acc 32468
Technical Recording, Magnetic Recording Specification, 1951  Acc 21282
Technical Recording, Magnetic Recording : Extended Service Trial 1949–52  Acc 21284

Technical Recording, Magnetic Recording 1953–55  Acc 21283
Recording General, Routine. Central Programme Operations 1951–54 Acc 36742
Recording General, Routine. Central Programme Operations Departmental Meetings 1952–54 Acc 36743

Staff Policy, Association of BBC Engineers File I 1940–43  Acc 8066

Other sources that were of substantial value, were: the Control Board Minutes, Press Cuttings Boxes, BBC Lunchtime Lectures, Radio Times, Ariel and the BBC Handbooks and Yearbooks.
Oral History Interviews

These were commenced after six months' reading at the Written Archive. What six recorded interviews revealed, however, was either a lack of skill in the interviewer or the power of the BBC's own self-regard to concentrate individuals' memories on their association with the celebrated events of Corporation history rather on the contents of their personal histories. The advice recurrent in interviews was, "You could read all this in Briggs of course". The feeling the interviewer carried away from such meetings was of contact with a palpable fabric of many-times-told stories. That experience was made vivid by the possibility of sometimes rending the fabric with photocopies of thirties' memoranda which revealed a past no less complicated and strife-torn than the present. On those occasions, stunned silences and remarks like, "You seem to know more than I do", brought the meetings prematurely to a close. For that reason the peculiar value of Cecil Lewis' oral history is a phenomenon: to be explained either by Gillard's superior interviewing skill or by the fact that Lewis left the service in his first youth and stood by the dictum of his autobiography, Don't Look Back for most of his life.

Survey of Left - Staff

As an alternative to the miscarried oral-history project, the writer attempted to cast a wide net - to draw in the experiences of left - staff of Music, Drama and Features, Variety and Empire support sections. Of an original list of 66 names, the addresses of 28 were known to the BBC through the Left - staff Register. BBC Pensions found it contrary to policy to divulge addresses, but forwarded on my behalf what in retrospect appears now as two over-crowded densely-typed pages of detailed questions. This zealous effort drew only three short letters.
ARTICLES


Adorno, T.W.  "On the Social Situation of Music". TELO, a quarterly journal of radical thought No.35, Spring 1978, pp.129-165


Altman, Rick  "The Lonely Villa and Griffiths Paradigmatic Style". Quarterly Review of Film Studies, Vol.6, No.2 (Spring 1981)


Clark, David G.  "H.V. Kaltenborn's First Year on the Air", Journalism Quarterly (Summer 1965), pp.373-81


Hall, Henry  "My First Year", Radio Times (17.3.1933), p.654


Hall, Henry  "All About my Guest Nights", Radio Times (30.11.1934), p.723

Hall, Henry  "Into the Fourth Year", The Radio Times (15.5.1935), p.5.


Hutchinson, A.S.  "A Novelist's Thoughts on Broadcasting", Radio Times (4.1.24)


Lewis, Carl  BBC Oral History Unit Interview Transcript, BBC Sound Archives.


Mitchell, George  "Thomas Ince was the Pioneer Producer Who Systematised the Making of a Movie", Films in Review (October 1960), pp.464-484.


Reich, Leonard S.  "Research, Patents and the Struggle to Control Radio, A Study of Big Business and the Uses of Industrial Research", Business History Review (1977)

Reich, Leonard S.  "The Early Years of Bell Laboratories", Business History Review Vol.LIV


Scholes, Percy  "Written Evidence to the Crawford Committee (1925)


<table>
<thead>
<tr>
<th>Name</th>
<th>Citation</th>
</tr>
</thead>
<tbody>
<tr>
<td>West, A.G.D.</td>
<td>&quot;A Tour Round Savoy Hill&quot;, <em>Wireless World</em> (9.2.27)</td>
</tr>
<tr>
<td>Young, Filson</td>
<td>&quot;The Lament of a Listener&quot;, <em>Radio Times</em> (27.6.24)</td>
</tr>
</tbody>
</table>

*BBC Written Archive*
BOOKS

Abbot, Waldo

Handbook of Broadcasting (1950)

Batten, Joe

Joe Batten's Book, The Story of Sound Recording (1956)

Affron, Charles

Star Acting: Gish, Garbo, David (1977)

Balshofer, Fred J. & Miller, Arthur C.

One Reel a Week (1967)

Beadle, Gerald C.

Twenty Five Years with the BBC

Beadle, Gerald C.


Becker, Howard S.

Art Worlds (1982)

Bitzer, G.W.

Billy Bitzer: His Story (1973)

Boosey, Williams

Fifty Years of Music (1931)

Boulton, David

Jazz in Britain (1958)

Briggs, Asa

The History of Broadcasting (1961), Vol.1

Briggs, Asa

The History of Broadcasting in the United Kingdom (1965), Vol.II

The British Phonographic Committee

The British Record, the Gramophone Record Industry's Services to the Nation from 1898 to the Present (c.1959)

Brown, Karl

Adventures with D.W. Griffith (1973)

Burns, Tom

The BBC Public Institution and Private World (1977)

Burrows, Arthur & Lewis, C.A. (1924)


Burrows, Arthur

The Story of Broadcasting (1924)

Bush, Alan (A.R.A.M.)

"What is Modern Music?" 10th Dec. 1936. Vol. LXIII (pp.21-30) RPOC of the Musical Assoc.

Cantor, Muriel G. & Pingree, Suzanne

The Soap Opera (1983)

Ceram, C.W.

Archaeology of the Cinema (1965)

Chapple, Stanley

"In the Recording Studio", The Gramophone (1928)

Chase, Gilbert

Music in Radio Broadcasting (1946)

Chandler, Alfred

Strategy and Structure (1962)
<table>
<thead>
<tr>
<th>Author</th>
<th>Title</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chavez, Carlos</td>
<td>Toward a New Music</td>
<td>1937</td>
</tr>
<tr>
<td>Chop, Max</td>
<td>&quot;Die Phonographische Zeitschrift&quot; cited in Gelatt</td>
<td>1977</td>
</tr>
<tr>
<td>Cobbett, Walter</td>
<td>The Cyclopaedic Survey of Chamber Music</td>
<td>1929</td>
</tr>
<tr>
<td>Copland, Aaron</td>
<td>Our New Music</td>
<td>1941</td>
</tr>
<tr>
<td>Copland, Aaron</td>
<td>The New Music 1900-60</td>
<td>1968</td>
</tr>
<tr>
<td>Cox, David</td>
<td>The Henry Wood Proms</td>
<td>1980</td>
</tr>
<tr>
<td>Culshaw, John</td>
<td>Putting the Record Straight</td>
<td>1982</td>
</tr>
<tr>
<td>Czitrom, Daniel J.</td>
<td>Media and the American Mind</td>
<td>1982</td>
</tr>
<tr>
<td>Dowset, H.M.</td>
<td>Wireless Telephony and Broadcasting</td>
<td>1925</td>
</tr>
<tr>
<td>Drakakis, John</td>
<td>British Radio Drama</td>
<td>1981</td>
</tr>
<tr>
<td>Eckersley, Roger</td>
<td>The BBC and All That</td>
<td>1946</td>
</tr>
<tr>
<td>Eckersley, P.P.</td>
<td>The Power Behind the Microphone</td>
<td>1941</td>
</tr>
<tr>
<td>Elkin, Robert</td>
<td>Queen's Hall 1893-1941</td>
<td>1944</td>
</tr>
<tr>
<td>Fagan, M.D.</td>
<td>A History of Engineering and Science in the Bell System: the Early Years 1897-1925</td>
<td>1915</td>
</tr>
<tr>
<td>Foss, M. &amp; Goodwin, N.</td>
<td>London Symphony</td>
<td>1954</td>
</tr>
<tr>
<td>Goss, H. &amp; Goodwin, N.</td>
<td>L.S.O.</td>
<td>1954</td>
</tr>
<tr>
<td>Faulkner, Robert</td>
<td>Hollywood Studio Musicians</td>
<td>1971</td>
</tr>
<tr>
<td>Gaisberg, Fred W.</td>
<td>Music on Record</td>
<td>1947</td>
</tr>
<tr>
<td>Geduld, Harry M.</td>
<td>Focus on D.W. Griffith</td>
<td>1971</td>
</tr>
<tr>
<td>Gelatt, Roland</td>
<td>The Fabulous Phonograph</td>
<td>1877-1977</td>
</tr>
<tr>
<td>Gielgud, Val</td>
<td>&quot;Concerning Radio Drama&quot;, Radio Year-Book</td>
<td>1935</td>
</tr>
<tr>
<td>Gielgud, Val</td>
<td>British Radio Drama</td>
<td>1957</td>
</tr>
<tr>
<td>Goatman, Wilfred</td>
<td>By-Ways of the BBC</td>
<td>1938</td>
</tr>
<tr>
<td>Name</td>
<td>Title</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>Goldie, Grace Wyndham</td>
<td>The Liverpool Repertory Theatre 1911-1935 (1935)</td>
<td></td>
</tr>
<tr>
<td>Gomery, Douglas</td>
<td>&quot;How Fox Innovated Sound&quot;, Quarterly Review of Film Studios</td>
<td></td>
</tr>
<tr>
<td>Gorham, M.</td>
<td>Sound and Fury (1948)</td>
<td></td>
</tr>
<tr>
<td>Grant, Margaret &amp; Hettinger, Herman S.</td>
<td>America's Symphony Orchestras And How They Are Supported (1940)</td>
<td></td>
</tr>
<tr>
<td>Grau, Robert</td>
<td>The Theatre of Science (1969)</td>
<td></td>
</tr>
<tr>
<td>&quot;Granville-Barker&quot;</td>
<td>Dictionary of National Biography</td>
<td></td>
</tr>
<tr>
<td>Mrs. D.W. Griffith</td>
<td>When the Movies Were Young (1968)</td>
<td></td>
</tr>
<tr>
<td>Grisewood, Freddy</td>
<td>My Story of the BBC (1959)</td>
<td></td>
</tr>
<tr>
<td>Hall, Henry</td>
<td>Here's to the Next Time (1955)</td>
<td></td>
</tr>
<tr>
<td>Hall, Henry</td>
<td>&quot;Into the Fourth Year&quot;, Radio Times 15.3.35</td>
<td></td>
</tr>
<tr>
<td>Hauser, Arnold</td>
<td>The Social History of Art (1952)</td>
<td></td>
</tr>
<tr>
<td>Head, Sydney W. &amp; Sterling, Christopher H.</td>
<td>Broadcasting in America (1982)</td>
<td></td>
</tr>
<tr>
<td>Henry, Leonard</td>
<td>My Laugh Story (1950)</td>
<td></td>
</tr>
<tr>
<td>Jeffries, L. Stanton</td>
<td>&quot;Soap Box Days&quot;, The Popular Wireless Weekly (5.10.35)</td>
<td></td>
</tr>
<tr>
<td>Jefferies, L. Stanton</td>
<td>&quot;Balancing&quot; a Wireless Orchestra&quot;, Radio Times (19.10.23)</td>
<td></td>
</tr>
<tr>
<td>Jefferies, L. Stanton</td>
<td>&quot;Soap Box&quot;, Popular Wireless (19.10.35)</td>
<td></td>
</tr>
<tr>
<td>Joad, C.E.M.</td>
<td>&quot;The Pleasures of the Pianola&quot;, The Pleasure of Being Ourselves (1951)</td>
<td></td>
</tr>
<tr>
<td>Kranzberg, Meloin &amp; Pursell, Carol W.</td>
<td>Technology in Western Civilisation (1967), Vol.2</td>
<td></td>
</tr>
<tr>
<td>Kranzberg, Meloin &amp; Pursell, Carol W.</td>
<td>Technology in Western Civilisation (1967)</td>
<td></td>
</tr>
<tr>
<td>Lambert, Constant</td>
<td>Music Ho' A Study of Music in Decline (1966)</td>
<td></td>
</tr>
<tr>
<td>Lea, Gordon</td>
<td>Radio Drama (1926)</td>
<td></td>
</tr>
<tr>
<td>Lewis, Cecil</td>
<td>Don't Look Back (1974)</td>
<td></td>
</tr>
</tbody>
</table>
Lewis, C.A.  Broadcasting from Within (1924)
Lewis, Peter  Radio Drama (1981)
Lewis, Peter (ed.)  Papers of the Radio Literature Conference, mimeographed papers (University of Durham ed. 1982)
Lichty, Lawrence W. & Topping, Malachi C.  American Broadcasting (1975)
McCarthy, Albert  The Dance Band ERA (1971)
MacKenzie, Compton  The Industry of Human Happiness (1959)
Mackerness, E.D.  A Social History of English Music (1964)
Marshall, Norman  The Other Theatre (1947)
Maxfield, J.P.  The Voice, Its Production and Reproduction (1933)
Myers, Rollo H.  Twentieth Century Music (1968)
Newman, Ernest  The Piano Player and Its Music (1920)
Niver, Kemp R.  The First Twenty Years: a segment of Film History (1968)
Noggle, Burt  The Re- Interpretation of American History and Culture (1973)
Bowden, Liz-Anne (ed.)  The Oxford Companion to Film (1976)
Rawley, Edward  BBC Engineering 1922-1972 (1972)
Payne, Jack  Here's to the Next Time (1947)
Peach, L. Du Garde  Radio Plays (1933)
Peacock, Alan & Weir, Ronald  The Composer in the Market Place (1975)
Playfair, Nigel  Hammersmith Hoy (1930)
Playfair, Nigel          The Lyric Theatre, Hammersmith (1925)
Playfair, Nigel          The Lyric Theatre (1928)
Pleasants, Henry         The Agony of Modern Music (1955)
Pogson, Rex              Miss Horniman's Gaiety (1952)
Pratt, George C.         Spellbound in Darkness (1973)
Reed, Oliver & Welch, Walter L.  From Tin Foil to Stereo (1959)
Reith, J.C.W.            Broadcasting Over Britain (1924)
Robertson, Alex          "Reviewing the Records", THE GRAMOPHONE Jubilee Book 1923-73 (1973)
Rosenthal, Harold        Two Centuries of Opera at Covent Garden (1958)
Royal Scottish Museum    Phonographs & Gramophones, a Symposium in connection with the exhibition "Phonographs & Gramophones" and the Centenary of the invention of the Phonograph by Thomas Alva Edison, held in the Royal Scottish Museum, Edinburgh, July 1977
Russell, Thomas          Philharmonic Decade (1944)
Scholes, Percy A.        in S. Moseley, Who's Who in Broadcasting (1933)
Scholes, Percy A.        Listening to Music (1919)
Scholes, Percy A.        Everybody's Guide to Broadcast Music (1925)
Scholes, Percy A.        Oxford Companion to Music (1938)
Scholes, Percy A.        The Mirror of Music (1947)
Scholes, Percy A.        Musical Times (1894)
Seldes, Gilbert          The Movies Come From America (1937)
Shaw, Bernard            Cited in P. Hartnell (ed.), Oxford Companion to the Theatre (1972)
Sieveking, Lance         The Stuff of Radio (1933)
Slide, Anthony  
Sprigge, Elizabeth  
Stinchcombe, Arthur   
Talbot, Frederick A.  
Trewin, G.C.  
Tredd, Kenith  
West, A.G.D.  
Woodfield, James  
Young, Filson  
Young, Kenneth  
Young, Percy M.

Early American Cinema (1970)  
Sybil Thorndike Cassen (1971)  
Moving Pictures: How They are Made & Worked (1923)  
Gay Twenties (1958)  
"A Tour Round Savoy Hill", Wireless World (9.2.27)  
Shall I Listen (1933)  
Music's Great Days In The Spas & Watering-Places (1968)  
The Concert Tradition (1965)
The Creation of Production Practice in the Early BBC.

This study focusses on the occupational setting of programme support personnel in broadcasting at the point where engineering and art worlds intersect. It traces the creation of production practices and the emergence of hybrid support occupations of artist-technicians. This phenomenon posed for management the problem of establishing the place and the relativities of a host of artist-technician occupations in the organisational hierarchy. The problem existed in a specially acute form in broadcasting as perhaps in the mass culture industries generally.

Chapter One shows that for its idea and its personnel, music broadcasting was indebted to the Newman - Good movement to 'democratise good music.' The chapter centres on the concordat sealed by the institution of a 'Music Balance and Control' staff in 1927: between musicians, journalists sprung from the music appreciation movement, engineers inspired by the possibilities of high fidelity; organisers responsible for programme quality and executives wishing to rebut the charge that broadcasting 'mechanised' music.

Drama broadcasting was inspired by two independent visions - that of a National Repertory Theatre of the Air and of a new dramatic art that would exploit technical resources to a maximum. Chapter Two focusses on the joint endeavours of engineers, producers and executives to create from a sounds-manufactory studio-suite and a specialist Effects staff a 'blind' drama that would rival silent cinema.

Chapter Three shows that Music, Drama and Variety support personnel developed craft consciousness in the thirties and became the focus of conflicts of interest and vision among the engineers, producers and administrators who encircled them. In the post-war years, the heterogeneous studio staffs in the recently - founded A.B.B.S. found common ground in their wish to become Programme Operators in a division independent of Engineering.