Abstract

This paper employs the skyscraper to show how culture and economy are necessarily intertwined. I begin with the idea of the sublime, and then move on to consider representations of the tall building from the 1870s to the present day in order to illustrate what these artefacts are understood to 'mean'. But skyscrapers are not merely symbols of modern organization, they are themselves forms of economic organizing and the second section of the paper notes the various ways in which the tall building, and the divisions of labour that enabled it, began by 'making the land pay' in cities with a burgeoning rental market for small firms. This shift involves partly displacing the architect and the corporation, and instead focussing on project organization and rental values. I conclude by suggesting that the term 'organization', because of its mutability, can provide a bridge between culturalist and economic representations.

Keywords

Introduction[1]

> 'It is no linguistic accident that 'building', 'construction', 'work' designate both a process and its finished product. Without the meaning of the verb that of the noun remains blank.' (John Dewey 1980, 51)

Organization is a word with similar properties, and in this paper I will use this word to show how a particular artefact – the skyscraper – is also both a noun and a verb. In this case the noun refers to a cultural symbol and the verb to a capitalist project. The former alerts us to what something 'means', the latter to a logic which gathers together people and materials into a temporary arrangement which generates value. By concentrating on organization as a mediating term, I think I can show the symmetry of cultural and economic forms of explanation for the existence of tall buildings.

In 2009, the Burj Khalifa in Dubai became, at 828 metres, the tallest human structure ever constructed. This building marks a step change in height. The tallest previous structure, the CN Tower in Toronto, is only 553 metres high, and the tallest structure ever built previously, the Warsaw Radio Mast which collapsed in 1991, was only 646 metres high. At the time of writing, the Kingdom Tower in Jeddah, Saudi Arabia, is under construction. It will top out at one kilometre high. But why are these structures built? Purely symbolic explanations in terms of 'symbolic power' (Acuto 2010) seem to underplay the ways in which skyscrapers have been projects tied to rental incomes, urban boosterism and national economic strategies. Yet it is also difficult to see the tall building as merely a machine for making the land pay, when its materialisation is often so excessive, so extreme in its technology and scale.

If we go back to the beginnings of the skyscraper, we can see how even then they were seen to symbolise economic aspiration through elevation. Lewis Mumford, in

his essay 'America and Alfred Stieglitz' (Frank et al 1934) claims that sky-scrapers were named after the topmost sail on a ship[2]. Presumably, the first thing you would see over the horizon was the tip of the skysail, or sky-scraper, just as the tips of the buildings would be the first parts of Manhattan seen from the sea. The term was first applied to architecture in 1883 by John Moser in a piece entitled 'American Architectural Form of the Future'. In it, he says 'This form of sky-scraper gives that peculiar refined, independent, self-contained, daring, bold, heaven-reaching, erratic, piratic, Quixotic, American thought…' (in Landau and Condit 1996, x). The 1870 eight storey Equitable Life Assurance Society building in New York is now argued to be the first skyscraper, so by the time Moser was writing there were already many tall buildings in New York and Chicago, and other large US cities. Alfred Stieglitz was one of the photographers of the early twentieth century who catalogued the rise of tall buildings with a similar awe, but Mumford himself had no time for skyscrapers. They defrauded people of 'space and light and sun, turning the streets into deep chasms' and annihilated 'whatever stood in the path of profit' (in Marqusee 1988, 160). Just as the skyscraper has been thought to be the architectural expression of the commanding heights of modernity, so has it also been thought to be an example of greed on an inhuman scale.

Very often, as I will show below, skyscrapers are treated as merely advertisements for ego; thieves of light and air and energy; representations of hierarchy and exclusion; and (of course) compensations for having a small penis. A great deal of the writing on skyscrapers has been concerned to use them as illustrations in cultural criticism. For these authors, skyscrapers need to be brought down to size, to be made modest and to harmonise with the human scale of the human city. Sometimes this is tied to a critique of capital, or the city, but more often to a denunciation of scale. Like Versailles, the tall building may be awe inspiring, but it is also vulgar, immodest and un-necessary. We could point out, as the architectural critic Deyan Sudjic does, that the architect of the World Trade Center – Minoru Yamasaki – also designed the gigantic Pruitt-Igoe housing project in St Louis (2006, 301). Charles Jencks famously claimed that its demolition in 1972 marked the end of architectural modernism, whilst others have noted that the certain notions of rational social planning also died in its long, dark, piss smelling corridors (Dale and Burrell 2008, 292). Like so many of the stumpy residential blocks across the world which have provided mass housing for migrants or a decanter for slum clearance, this is a version of the modern city which engineers its working class into towers with broken lifts[3].

So I need to be clear, tall buildings are not all shiny and exciting, but still I can't help being swept up by the romance of the skyscraper as a defining feature of modern urban life. I pore over my glossy coffee table books of New York, and enjoy the sheer climb, the dizzying peaks. Imagining the drop from steel beam to pavement, whilst the nerveless Mohawk construction workers in flat caps eat their black and white lunches and look at the camera. The IKEA posters of midtown at night; the countless opening shots of films which the helicopter pans in over Manhattan; and the evil villains who look over Gotham from the fiftieth floor. Now, the baroque orientalism of the towers in Dubai, Taiwan, Kuala Lumpur and Shanghai, built by migrant labour and Western companies, and soaring into clear blue skies. They are all beautiful. All beautiful and terrifying at the same time. In part, this is the sublime terror of the abyss and the peak, of elevation and descent. It is also the sense of

being diminished by something on an entirely inhuman scale, with the possibility that a small squashy body is reduced to insect like insignificance in the face of such mass. From King Kong to the falling man, height can be given sickening sense by the splat on the sidewalk.

In 1988, Jon Goss argued that what he calls 'an architectural geography', needed to be attentive to the multiple meanings of buildings, to the fact that they are 'multifunctional objects rather than reflective facades' (1988, 392). Goss suggested that buildings could be seen in at least four ways - as cultural artefact, sign, object of value and spatial system. McNeill (2005) does something similar when he asks 'Which discipline owns the skyscraper?' These might seem to be questions which appear remote from organization studies, but this paper argues that the idea of organization is actually rather crucial here. The common division between culture and economy means that there is a tendency to focus on *either* symbolic meanings *or* the economics of generating value[4]. It seems to me that understanding the skyscraper as an entity which symbolises *and* as an example of a process which is made possible because of a particular set of economic relations allows us to transcend this rather easy dualism. The skyscraper is an organization of non-human and human materials which means various things, and it is also an organizing process for making money. This is a common enough distinction in terms of the entity and process view of the social world, and it has found considerable application in organization studies (see Cooper and Law 1995 for an example, and Hernes and Matlis 2010 for a review). In this paper I suggest that we can adopt a similar view of the dichotomy between culture and economy and suggest, along with Dewey, that one remains blank without the other.

Despite being in search of a certain kind of symmetry in which 'culture' and 'economy' are linked through 'organization', we have to begin somewhere. This paper will begin with culture, by looking at the common responses to height and the skyscraper, whether sublime, anti-modernist or celebratory. I then move on to show that the tall building is an organized economic object too. Many critics have seen the skyscraper as merely a *sign* of capitalist modernity, but I will argue that this is to be dazzled by the facade. Skyscrapers were, at the times and places of their origins, machines for making money in large cities, and a whole host of material and social technologies developed in order to maximise the amount of profit that could be generated from a small piece of land. Using the work of architectural historians, I will suggest that this sort of approach also allows us to see tall buildings as processes which involve a complex division of labour that allowed for speedy and efficient forms of construction (and demolition) in cities with high land values. I conclude with some thoughts on the politics of cultural representation, and on the ways in which 'organization' can be used as a term which makes it harder to forget that culture is economy, and economies are always cultural.

The Meaning of Big Things

In Deyan Sudjic's *The Edifice Complex* (2006), most big buildings are reduced to the desires of a little man, or his fawning acolytes. Hitler's neo-classical Berlin was intended to ensure that future generations would not end up admiring 'the department stores of a few Jews as the mightiest works of our era, and the hotels of a few corporations as the characteristic expression of the culture of our times'

(Hitler, in Sudjic 2006, 37). Hussein, Stalin, Mitterand, Mussolini and Trump are all similarly condemned for their externalisation of insecurity in the form of monumental bad taste. Tall buildings, with a few exceptions, are condemned as not being primarily about architecture, but 'an assertion of political will in steel, marble and glass' (*op cit*, 318). The very idea of building tall is dismissed as 'ludicrously childish' and even economically irrational. Sudjic is sure of his tastes, and presumably also certain about the sort of politics that attaches to such aesthetic choices. This account asserts that skyscrapers are about egos, whether corporate or state (King 2004, 10), or an element in a cultural battle between old and new money (Rubin 1979), or old and new cities (Acuto 2010) and it is difficult therefore to see them as other than culture, and symbol.

In his essay 'The Eiffel Tower', Roland Barthes notes that Maupassant often lunched in the restaurant in the tower because it was the only place in Paris where you couldn't see it (in Leach 1997, 172). Barthes himself is much less interested in such sniffy judgements, and instead concerned to note the various ways in which it functioned as a signifier for the city. The tower is, he says, useless, and is hence open to mythical meanings in a remarkable way. Like all tall structures it is 'an object that sees, a glance which is seen' (*op cit*, 173). It gathers sight to it, but also allows for a certain kind of viewing.

> '…the Tower makes the city into a kind of nature; it constitutes the swarming of men into a landscape (…) The bird's-eye view, which each visitor to the Tower can assume in an instant for his own, gives us the world to *read* and not only to perceive; this is why it corresponds to a new sensibility of vision (…) the bird's-eye view, on the contrary, represented by our romantic writers as if they had anticipated both the construction of the Tower and the birth of aviation, permits us to transcend sensation and see things *in their structure*. (*op cit*, 175)

One structure permits the visibility of another. No longer in the middle of things, the viewer can now link points of visibility, and connect and disconnect points of experience. This is an abstracted vision, 'one can feel oneself cut off from the world and yet the owner of that world' (*op cit*, 180).

Barthes' link with the European romantics seems important here, and also the importance of a certain sort of vision. The idea of a 'view', was something that began to be initially articulated primarily as a perspective over nature, not culture. The 16th century Belvedere was a piece of architecture which provided a beautiful view over the countryside, just as grand estates were often organized to maximise the beauty of the landscape beyond and Claude glasses (tinted mirrors which reflected the image) and picture frames could be used to produce the picturesque. But by the 18th century, the educated vocabulary of nature was beginning to include elements of danger too. Crashing waves, dizzying cliffs, and deep abysses became part of what Edmund Burke and others were terming the sublime. Burke's *Philosophical Enquiry into the Origin of our Ideas of the Sublime and Beautiful* of 1757 defined a very influential view of the natural sublime.

> 'The passion caused by the great and sublime in *nature* when those causes operate most powerfully, is Astonishment, and astonishment is that state of the soul, in which all its motions are suspended, with some degree of horror. In this case the mind is so entirely filled with its object that it cannot entertain any

other, not by consequence reason on that object which employs it.' (Burke 1990, 53)

If beauty is small, smooth, polished, light and delicate, then the sublime is vast, rugged, dark, gloomy, massive and solid (*op cit*, 113). The sublime produces an effect of 'delightful horror, a sort of tranquillity tinged with terror' (*op cit*, 123). This response can be produced by human creations too, such as buildings, though Burke is clear to point out that this does not mean excessive height or length, but a 'generous deceit' which can 'effect the noblest designs' (*op cit*, 70). A century later, as this form of understanding becomes more common, Ruskin is perfectly prepared to claim that the soaring vaults and spires of gothic churches could be understood as sublime, and that they had improving effects because they revealed truths about labour and life which were eternal (1985, 77 *passim*).

So the combination of the view, the idea of the sublime, together with rapid urbanisation provides for a sensibility in which elevation over a city can also become a pleasurable experience. The 'Panorama', a circular painting, invented by the Scottish painter Robert Barker in 1793, was initially used to depict the classicism of the city of Edinburgh, but paintings of views over urban landscapes often also begin to reflect the industrial metropolis, factory chimney and so on (Nye 1994, 109). There are also technological developments implicated here. Mark Dorrian (1986) draws attention to the views and photographs that later become possible from the hot air balloon, whether tethered or floating, and the Ferris wheel, first exhibited in Chicago in 1893. David Nye suggests that the USA in the 19th century was particularly receptive to viewing this monumental conquering of nature. His 'American Technological Sublime' embraces dams, bridges, railways, electrification, the Apollo programme and skyscrapers as sites of tourist interest and popular amazement (1994, 87 *passim*, 2005). So the tall building in the city both reverses and echoes Burke. Rather than being awed by the scale and power of nature, we are awed by the scale and power of human creations. They dwarf us, and we wonder at their ingenuity, and at the super-human forces that have made them.

But there is another twist to what Nye calls the 'geometrical sublime'. Kant wished to argue that the magnitude and violence of the sublime exceeds our capacity for embodied understanding, but also that simultaneously we feel a sense that our minds *can* intellectually grasp such scale. The Kantian argument is that phenomena which exceed our corporeal senses also show us that our disembodied reason actually exceeds phenomena, that humans can be more than shuddering awestruck creatures (Shaw 2006, 80-83). There is an echo of this in Nye's suggestion that the skyscraper makes possible an Olympian gaze across a city (1994, 96, 2005). Using early 20th century magazine adverts and novels as his texts, and building on Barthes' analysis, he notes that the view from the skyscraper is a view from, and to, capitalism. It is the gaze of the 'Captain of Industry' that we are given, and that allows us to map the city from above. The maps that we find in the observation decks of tall buildings encourage us to do precisely this. For those down below, it is difficult to see the skyscraper when you are close to it, it simply towers and recedes. Further away, it is more visible, perhaps at the moment when you are no longer visible to it as anything other than texture in the landscape. Unless, and this is crucial, you have a similar elevation, like de Certeau looking down from the 110th floor of the World Trade Center, in which case you can look across the rooftops towards the other towers too. The others down below become insects, and you can see the patterns they

make as a text to be read, as you are 'lifted out of the city's grasp', leaving the mass behind (de Certeau 1984, 92).

Against the Skyscraper

This exploration of the aesthetics of scale is often what so many others have found disquieting about the tall building. Long before the sky-scraper, the Prussian architect Karl Friedrich Schinkel toured industrial Britain in 1826 and noted Manchester mills that were taller than the length of the royal palace in Berlin (Darley 2003, 30). These shapeless, blackened monstrosities, with their belching chimneys, made the scale of the city a horrible thing. It is difficult, in early criticisms of the skyscraper, to detach specific complaints from a general condemnation of the urban, or of the conditions for alienated labour under capitalism, or of modernity itself. The first period of skyscraper building in lower Manhattan in the 1870s produced much discussion about congestion, the deprivation of light and air, and proposals for height limitation. By the 1890s, there were serious concerns about the dissipation of foul and noxious air, or the 'sweat' of the city. In 1894 the *Record and Guide* worried that -

> '… if the whole commercial quarter were built up with high buildings it would be a very terrible region for all but the occupants of the topmost stories, a region of Cimmerian gloom… The tenants who now have pure air and a wide outlook would face other tenants across a well.' (in Landau and Condit 1996, 111)

These 'hygienic' condemnations were paralleled by many who saw the skyscrapers as the uncaring market made stone. Henry James, returning to New York in 1904, condemned the ugliness of 'the thousand glassy eyes of these giants of the mere market' (in Marqusee 1988, 81). The Spanish poet Federico Garcia Lorca bemoaned the 'geometry and anguish' of this 'extra-human architecture' (*op cit*, 162), and US architect Frank Lloyd-Wright the 'false, cruel ambition [*which*] is painting haphazard, jagged, pretentious, feudal sky-lines trying to relieve it and make it more humane by lying about its purpose' (*op cit*, 165). For the most part, these were European condemnations of both capitalism and modernity. A city like New York was understood in terms of the materialisation of mass and motives that were inhuman in their implications, particularly if compared with older European cities with their supposed modesty and human scale. The German critical theorist Ernst Bloch, for example, suggested that modern city dwellers live a 'termite existence in box houses' whilst 'monstrous, schematically rigid skyscrapers project out of a raging sea of lacquered tin' (in Leach 1997, 45). Seemingly ignoring the working class slums and tenements that surrounded the core of most industrial cities, whether US or European, the US skyscraper becomes an emblem of uncaring modernity. Like the workers in expressionist films like *Metropolis* (1927) who are reduced to the lock-step of labour, the towers ingest and excrete the mass of humanity whilst the executives look down.

This sort of anti-modernism is perhaps the most common way in which the skyscraper has been used for cultural criticism. Robert Jungk's essay 'The Church and the Skyscraper' (1954, 159 *passim*) begins with the destruction of St Nicholas Church in Manhattan, and its inevitable replacement with a 21 storey office block. The efficiencies of organization and profitability are captured in the character of 'Mr White Collar', the efficiency engineer, who is watching people using the lifts in a new

building in order to determine maximum throughput and minimum waiting times. 'Thus I came to know the time-taker who reckons in seconds and minutes in the place where only two years earlier the joys of eternity were being preached.' (*op cit*, 174). A similar suspicion of the modern, though with much more conservative political inflections, was contained in the Prince of Wales' influential condemnation of the Canary Wharf tower as somehow un-English. This is a theme that dates back to at least a century previously (Landau and Condit 1996, 285), and positions tall buildings (apart from the church spire) as against tradition, and lacking a human scale (Prince of Wales 1989, 54). His contrast between Wren's spires as painted by Canaletto and the post-1960s tower blocks that then dwarfed St Paul's cathedral evokes a powerful sense of a lost city, and the regrettable triumph of utilitarian values that erase a millennia of history.

There is an odd paradox here, because many of these critics would bemoan the loss of authentic individualism which the mass building supposedly erases, at the same time as they would lament the loss of collective identity which results from the anomie and alienation of modern life. Both individual and group are at stake here. W.H. Auden, in his poem 'September 1st, 1939', describes a New York which is Stalinist in its crushing of difference.

> 'Where blind skyscrapers use
> Their full height to proclaim
> The strength of Collective Man,
> Each language pours its vain
> Competitive excuse,
> But who can live for long
> In an euphoric dream;
> Out of the mirror they stare,
> Imperialism's face
> And the international wrong.'

Collectivism shouts down the individual, but produces an urban order which is shallow and hypocritical, not genuinely collective. Neither identity or community can be secured in the face of such massive ideological edifices. Christopher Isherwood, who travelled with Auden to New York, is more explicit about his fears -

> 'the Red Indian island with its appalling towers (…) You could feel it vibrating with the tension of the nervous New World aggressively flaunting its rude steel nudity (…) We promise nothing. Here you will be on your own.' (in Pye 1993, 20)

Behind the façade there is the lonely crowd, the organization man, and the pretend mobility of the elevator and the corner office.

So skyscrapers have often been understood as an emblem of a damaged modernity. They destroy the authentic human and the communities that they might be rooted in. Their elevation and decoration badly conceals their coldly commercial intentions, and their masculine urge to dominate. Now, after 9/11, this diagnosis has gained global dimensions. Martin, an European character (possibly with left wing sympathies), in Don DeLillo's novel *Falling Man*, puts it well.

> 'Weren't the towers built as fantasies of wealth and power that would later become fantasies of destruction? You build a thing like that so that you can see it come down. The provocation is obvious (…) You are saying, Here it is, bring it down.' (2007, 116, see also Darnton 2011, 245)

For the commentators above, the skyscraper is a symbol, a metaphor. The tall building is an entity which points to a problem, but its economic logic is effectively made invisible. We can't see the process because the object gets in the way. If we look at commentators who were more enthusiastic about the skyscraper, we can begin to see the opening for understandings which allow us to see just how and why this symbol was constructed.

Capitalist Modernism

'Monday morning, when my ship stopped at Quarantine, I saw a fantastic, almost mystic city rising up in the mist. But the ship moves forward and the apparition is transformed into an image of incredible brutality and savagery. Here is certainly the most prominent manifestation of the power of modern times. This brutality and this savagery do not displease me. It is thus that great enterprises begin, by strength.' (Le Corbusier in 1936, in Marqusee 1988, 16)

Rather than horror, the eruptions of Chicago and New York in the late nineteenth century began to create a new image of the city, a city of towers, endlessly photographed from a distance, and then circulated around the world as postcards of 'an imagined city of the future' (King 2004, Moudry 2005, 10). This was a bar chart of masses in relation to each other, viewed from the air, or from over the river. From the early twentieth century onwards futurists such as Antonio Sant'Elia inspired illustrators like Hugh Ferriss to imagine *The Metropolis of Tomorrow*, published as a book in 1929. Both drew cities as soaring spires, connected by bridges, surrounded by rivers of traffic. They were simultaneously visualised in the film *Metropolis* and the scene settings of *Just Imagine*, a musical from 1930 (Bingham *et al* 2004, Wells 2005).

The aesthetic struggle for verticality was articulated by up and coming architects as a certain sort of honesty. Partly in response to the dominance of Beaux Arts classicism, and perhaps mindful of the limited legitimacy that tall buildings had, the dominant model for early tall buildings was generally one that stressed horizontal banding, usually with a three part base, column and capital decoration. Louis Sullivan, an influential architect and writer of the turn of the century, suggested a modernised version of this form, with but with a greater stress on verticality, and hence (for him) a certain democratic transparency too (Landau and Condit 1996, 185, Dupré 1996, 21). Yet the architecture of individual buildings seems to have been less important in the popular imagination of the time than the new idea of the 'sky-line' (McNeill 2005, 46), with sublime metaphors of tower, peak and spire becoming routinely adopted. For a commentator in *Scribner's* in 1899, skyscrapers were –
'… symbols of modern capital, perhaps, and its far-reaching possibilities, or they may remind you, in their massive grouping, of a cluster of mountains, with their bright peaks glistening in the sun far above the dark shadows of the valleys in which the streams of business flow, down to the wharves and so out over the world.' (in Landau and Condit 1996, 277)
Elevation could also become a sign of progress, of striving. As Edgar Saltus said in 1905, 'It will be demonstrable that as buildings ascend so do ideas. It is mental progress that skyscrapers engender.' (in Frongia 2005, 220-1). For many of these commentators, there is a sense that these buildings represent a shameless statement of national character, as if commerce (and hence the United States) was no longer

embarrassed about its activities (Rubin 1979, 342). Proud, in both senses of the word, and a concrete representation of a masculine sense of beauty.

Yet the battle for verticality was soon to become more than an attempt to stretch classical architecture. For 'international style' modernists such as Alfred Barr in 1932, 'capricious façade ornament' such as Sullivan's only represented the 'architectural taste of real estate speculators, renting agents and mortgage brokers!' (in Hitchcock and Johnson 1966, 14). Denying the influence that capital should have on *real* architects, Barr stresses discipline, restraint, and an avoidance of the aesthetic chaos of having skyscrapers built in, say, gothic, Aztec or Romanesque styles . Hitchcock and Johnson, in the book that Barr prefaces, wish for an authentic relation between structure and surface. Steel cage buildings can be light and tall, vertical without the clutter of masonry or a cornice. But verticality itself was not a virtue either, simply because it was a commercial response to the zoning and set-back laws which were intended to allow light down to the streets. Neither verticality or horizontality were principles in themselves, the point being that the architect should become an engineer of space, 'protected from all aesthetics' and 'pseudo-style' (Hitchcock and Johnson 1966, 67). Johnson's modernism (he was later the co-architect of the modernist Seagram Building in Manhattan) echoed with a new sensibility in which shining factory chimneys and soaring grain elevators were being held up as icons of function (Guillen 2008). Le Corbusier's 'Contemporary City' of widely spaced 60 storey towers dates from 1922, but even more radical was his 1935 plan to demolish parts of elderly Paris and replace it with a new 'Radiant City'. The celebration of both demolition and elevation appeared to combine capitalist creative destruction with an idea of the architect as visionary. But Le Corbusier's dream did not die. It was resurrected in Frank Lloyd Wright's mile high 'Illinois Sky City' in 1956; Norman Foster's 1993 plan for the M Tower, a 170 storey self-sufficient city two kilometres into Tokyo Bay; and now, the endless proposals for super-tall buildings in just about every Asian and Gulf state. Even old London town now has its 310m Shard.

For Henry Cameron, one of the single-minded architects in Ayn Rand's 1943 novel *The Fountainhead*, vertical buildings should not conceal their height by pretending to be something else.

> 'While architects cursed, wondering how to make a twenty-story building look like an old brick mansion, while they used every horizontal device available in order to cheat it of its height, shrink it down to tradition, hide the shame of its steel, make it small, safe and ancient – Henry Cameron designed skyscrapers in straight, vertical lines, flaunting their steel and height.' (1993, 44)

The individual, like the building, must stand straight and be themselves, not hiding behind convention, but rising 'as arrows of steel shooting upward without weight or limit'. Howard Roark, an architect who learns much from Cameron, but faces many obstacles, eventually designs the Wynand Building, a 'long streak slashed through space'.

> 'They say the heart of the earth is made of fire. It is held imprisoned and silent. But at times it breaks through the clay, the iron, the granite, and shoots out to freedom. Then it becomes a thing like this.' (1993, 692).

Or, as Ezra Pound wrote on seeing New York at night, 'we have pulled down the stars to our will' (in Lindner 2006, 5). The tall building becomes a celebration of the power of man, whether the collective energies of a city or state, or the individual force of an architect or industrialist. These are buildings that inspire thoughts of

elevation, and a certain sort of unconditional prose is needed to express such emotions.

> 'No matter where they are built, how they are financed, or what they look like, the daring heights achieved by each new generation of skyscrapers excite the mind and heart as Icarus once did, pulling us dangerously and thrillingly upward and into the future.' (Dupré 1996, 119)

These celebratory accounts certainly embed capitalism into their understanding of tall buildings, but they still make the building into a symbol. They suggest that the skyscraper is the result of organizing and economy, but again tell us little about how and why it was made, again leaving the building as a noun with certain ascribed meanings. In the next section, I want to show how both the 'nostalgic anti-modernist' and 'capitalist modernist' accounts are made possible by suggesting that the skyscraper does not merely *symbolise* modern organizations, but is itself a materialisation of modern organizing. Skyscrapers are symbols, and they may provoke the sublime, or horror and joy, but they are not simply built to be symbols, and their building itself involves some very complex processes of organizing.

Building a Building[5]

The city of New York was founded by mercantile capitalism in the form of the Dutch West India Company. For much of its history, it has been a haven for novel forms of economic activity, whether merchants and traders, or pirates and Mafiosi. The city is a site for capital accumulation, for speculation and development (Harvey 1985), and this city is an extraordinary example of these processes made into stone (Fainstein 2001, Darton 2011, Sorkin and Zukin 2012) This, it seems to me, should encourage us to understand the birth of the skyscraper in more organizational and economic terms. Rather than ending by being repelled or awed by their cultural or semiotic imputations, in Goss's terms (1988), it is possible to understand these buildings themselves as forms of industrial capitalism. In that sense, they are testaments to the complexities of the division of labour and the logic of capital accumulation. When Pye describes Manhattan as 'an engineer's diagram, a fixed, hard-angled thing' (1993, 257) we can understand him as not being merely metaphorical. The construction and maintenance of a skyscraper requires extraordinarily complex forms of labour, and the scale and height of buildings can be read as a bar-chart of land-values. Skyscrapers do not merely metaphorize modern organizations, they *are* forms of modern organizing. After 9/11, the air was full of office stationary, 'contracts, resumés blowing by, intact snatches of business, quick in the wind.' (DeLillo 2007, 4). An office tower, from the inside, is a workplace, 'a banal cocoon for water-coolers, dress down Fridays and leaving parties' (Sudjic 2006, 305). Firms such as banks, real estate brokers, architects, engineers, interior design consultants, accountants, venture capitalists and construction firms inhabit the very towers that they gain profits from building. Musing about what a tall building represents often misses the calculations about rental income, expenditure, and profit. When the 700 thousand square metres of office space contained within the Twin Towers was lost, real estate brokers were immediately calculating the loss of rents, but seeing a good market for displaced tenants. It was noted that the disaster had happened at a good time because the collapse of dot coms nine months previously had left much empty space in Manhattan (Dale and Burrell 2008, 288-9).

It is obvious that this sort of rental income analysis would stay clear of the sort of judgements that those who would celebrate or condemn skyscrapers usually trade in. However, it also suggests that an understanding of skyscrapers as 'corporate' capital is misleading. For example, Mona Domosh (1992, 72) suggests a reading of the skyscrapers of lower Manhattan as the expression of corporate culture. Citing some pop management writers, she suggests that the culture of an organization is manifested in its building. By this, she appears to mean that the skyscraper can be a giant billboard for the owners and top managers of an organization. But whilst a few buildings were clearly engineered for marketing a particular corporation (Moudry 2005, 130) to treat all skyscrapers as if they were merely facades built by CEOs is highly reductive. So too is the suggestion that the building has one evident meaning, as when Jon Goss (oddly) claims that 'the towering office block with its reflective skin signifies a powerful anonymous authority' (1992, 162). It might, but (as he points out in his earlier piece) cleaners, managers, town planners, architects, engineers, pizza delivery people, and property speculators are unlikely to read the same structure in the same way (1988, 398, also McNeill 2005, 43). There is a danger of a particular symbolic reading obscuring the economics of the tall building. The majority of US skyscrapers were (and are) constructed as rental properties by groups of investors (Willis 1995). They were rarely built by, and occupied by, single corporations, with the majority being leased to a large number of small businesses and professional services.

Importantly, the early story of the rise of the skyscraper is also the rise of the office building, and hence of the rise of the office itself. Such structures are predicated on the generation and storage of files, of paperwork, of the bureaucratic lifeworld which only came into existence in the private sector in the second half of the 19th century. Indeed, most office buildings prior to the 1850s were simply converted dwellings (Landau and Condit 1996, 5). The beginnings of a rationalisation of organization, as a verb, also meant the rationalisation of space though open-plan arrangements, type-writers, office chairs with castors, pneumatic tubes, telephones and paper storage technologies[6]. So the growth of the skyscraper is predicated on the growth of the bureaucratic organization, but this did not mean that the big corporation was actually the dominant player. In the first 'skyscraper' of 1870, the Equitable Life Assurance Society only occupied two floors of the seven (Landau and Condit 1996, 68), because the rest was intended for rental[7]. Of the 55 stories of the New York Woolworth building, in 1913 the Woolworth company only occupied two, and there were over 600 other small businesses with offices there (*op cit*, 148). The names of skyscrapers are certainly sometimes the names of their principal tenants, but often not, and even when they are, these names can change[8].

In fact, the Woolworth building, in both financing and the expense and personalising of its decoration, is rather an untypical skyscraper. In 1900, Cass Gilbert, the architect of what the newspapers called a 'cathedral of commerce', defined a skyscraper as 'a machine that makes the land pay' (Willis 1995, 19). To which it might be added, that it makes the air pay too. Frank Woolworth had gained a huge pile of cash by paying low wages to employees in order that they sell cheap goods to poor people (Watts 2005, 195). Huge turnover in 684 stores, low mark-up and effective distribution systems meant that Woolworth had money he could invest with the expectation of return. Whilst ego may have played a part in the decoration, as well it being 'a gigantic sign board' (Nye 1994, 93), the building was built for rent.

'Making the land pay' is hence the key to understanding why early skyscrapers were constructed, and not merely the standard story about competition between the egoistic robber barons who wanted to build the highest structure. Using the Woolworth, Chrysler and Empire State to explain (away) the skyscraper, mistakes an effect for a cause, and ignores the huge majority of tall buildings that made the new city skyline.

In her historical study of skyscrapers in New York and Chicago, Carol Willis (1995) hence refuses either the story about the Great Architect, or corporation, and instead concentrates on rent values as the key determinant of skyscraper form. She points out that, in the professional literature for the builders of tall buildings, contractors, owners, engineers and many architects were not concerned with style, but with economics. This meant that rent was the key issue, and all decisions were made in order to maximise return on investment. Architects, like Louis Sullivan, might have claimed to be disinterested in such matters but Willis appears to see this as a claim about professional identity, not practice. For example, George Hill, writing in the *Architectural Record* in 1904, puts the matter very simply indeed.

> ' The writer wishes to state once and for all, and as strongly as it can be put, that the only measure of success of an office building is the average net return from rentals for a period of, say, fifteen years. Everything put into the building that is unnecessary, every cubic foot that is used for purely ornamental purposes beyond that needed to express its use and to make it harmonize with others of its class, is a waste – is, to put it in plain English, perverting some one's money.' (in Willis 1995, 15)

Plain English indeed, and the co-incidence between the rise of 'form follows function' modernism, and the interests of capital then becomes rather useful on both sides.

But, Willis is clear, if something is built to generate rents, then the façade and lobby will be important too. In contemporary language, the more 'branded' the space, the higher the rents are likely to be. But 'return' is the key. Starting from plot size, shape and location, this means that calculations about floor space, ceiling height, distance from natural light, costs of heating, number and positioning of elevators and so on are necessarily calculations about return on capital invested. The application of scientific management and time-and-motion techniques to office space was not only a question of the rationalisation of the worker, but also an attempt to rationalise the space that each worker would use. The more people, the more offices, the more return. Typical early office plans, with demarcations for window access, secretarial cubicles, typing pools and so on embedded gender and class hierarchies in terms of an economy of space. Light courts, and H, E or U shaped plans meant that offices would be no more than twenty to twenty five feet from windows (*op cit*, 81). But when lighting technology improved, buildings could become solid masses and lighting can be artificial in the core. Again, it seems no accident that this happens at the same time as 'modernism' begins to displace 'classicism' in skyscraper design. The functionality of massing then harmonises with the interests of capital. Even the eventual passing of the zoning and set-back laws in New York in 1916 can be understood in this manner. The massive and vertical Equitable Building, finished in 1915, is often cited as the cause of the zoning laws. However, the Equitable had also generated 1.2 million square feet of rentable space, stealing sunlight and tenants from nearby buildings. The passing of the zoning laws provided for different areas of the city and different assessments of the amount of air that could be filled depending on

the width of the street and the size of the plot. There had been concern about the 'hygienic' implications of tall buildings for 45 years, but it was only when their very proximity began to be in danger of damaging property values that key interests swung behind the legislation and consequently produced the 'set-back' skyscraper (Landau and Condit 1996, 395).

So the Empire State appears like a spire in order that it could be built at all, not so that it looked beautiful. What we might call 'aesthetics' was important, but only insofar as it advertises the rental space, or gets around restrictions placed by authorities and planners. Indeed, all the early plans for the Empire State were '*entirely financial, not architectural*. The different schemes were described only in numbers – stories, cubic feet, operating costs, and projected income.' (Willis 1995, 95, emphasis in original). It was eventually completed in eighteen months from the first sketches, and shaped by an initial assumption of 12.6% return on capital.

> 'Rather than interpreting corporate skyscrapers simply as *representations* of big business, we need to understand them also as *businesses themselves*.' (*op cit*, 153, emphasis in original)

Taking this analysis further, the buildings are temporary sites for the reproduction of capital, not ends in themselves. Skyscraper cities are temporary, 'a provisional city' as Le Corbusier once styled New York (Page 2005, 181), with creative destruction happening continually as taller or more productive buildings replace older ones. The Equitable Life Assurance Building now exists only in photographs and plans[9]. In 1897 the slim and striking nineteen storey Gillender building was completed in New York, but it was demolished in 1910 to make way for the thirty nine storey Bankers Trust (Willis 1995, 41, Landau and Condit 1996, 249). Its thirteen year life seems tragic, but New York on fast forward shows little sentimentality. The Gillender had itself been built on the site of the Union Building, which lasted less than fifty years. Even the demolition of the Gillender proceeded with speed, the whole structure disappearing in 45 days, and the new structure being ready for rent in twenty-three months. But even more famous buildings are not immune. The iconic forty-seven storey Singer Tower in New York, the tallest in the world in 1908, was demolished in 1968, and still holds the record for the tallest building ever deliberately demolished (Landau and Condit 1996, 361). As Lietzmann puts it 'every pile of rubble turns into humus for a forest of new spires' (in Wolf 1980, no page numbers).

The point of this sort of argument is to suggest that architects do not 'build' skyscrapers, and neither do corporations. First, they are imagined as money machines by investors and accountants. Then they are imagined as structures by architects and engineers. Simultaneously the building, as verb, begins (Sabbagh 1989). Land is bought, many contracts are signed, surveys are made, and clearances and permissions negotiated. Demolition companies and wreckers crush and tear at whatever was on the land already, and a stream of large trucks negotiates city streets to take rubble away for disposal on the edge of town. Then down in what will be foundations and sub-basements, piles are sunk and steel and concrete meshed together. More large trucks arrive, bringing different machines, girders, bolts, cables, windows, plumbing and elevators. Connected to all of these items are factories and warehouses some distance from the tower, all tied into production and delivery schedules of their own from their own suppliers. Plans, charts, schedules, models, diagrams construct the building in advance of materials, and time the flows of people and materials from place to place, floor to floor. Each single piece of steel is

designed, fabricated and delivered at a particular time to fit into the building as it grows. They are connected together by people who work cranes, heat rivets, check the plans, tighten bolts, and weld joints. Later, people pour concrete, and smooth concrete, and polish concrete. Then panels and windows are attached to the steel, and insulation attached to the panels, and walls attached to the insulation. Later again, people run ducts and cables, fit windows, install toilets, hang doors, paint walls, place signs and bring in furniture and plants. Other people, perhaps the Mafia[10], collect money for making sure that nothing goes wrong, while inspectors and trade union officials visit to make sure that nothing has gone wrong. Even before the skyscraper is open for business, it has been an example of extraordinarily complex organization.

But this can, again, be tied back to the interests of capital accumulation. The control and scheduling of labour through the technologies of project and operations management, and the co-ordination of time schedules are necessary in order that large structures can be constructed in time periods that shorten interest payments on large debts. The quicker the build, the quicker people start paying rent, so forms of complex co-ordination were absolutely necessary as part of a business plan. The role of General Contractor, the first being the George Fuller company of Chicago in 1882, became a way for investors to externalise the relations between speed and price by embedding them in contracts (Landau and Condit 1996, 179). Just as bricklaying was being subjected to time and motion studies by Frank Gilbreth, so were all aspects of 'The Modern Building Organization' being subject to greater systematization and control. On the Empire State, in order to achieve a floor of brickwork per day, the bricks were delivered to the bricklayer by a system of hoists which meant that no-one on site handled them until the bricklayer put them in the wall (Nye 1994, 101). Even architectural and drafting practices grew in scale and developed hierarchies and divisions of labour for producing different sorts of drawings, and managing relations with engineers and fabricators, such as Cass Gilbert's practice in New York in the 1890s. Indeed, Gilbert called the Broadway Chambers building, constructed in four months, 'a triumph of organization' (in Fenske 2005, 24, 27). So the skyscraper is a social and material technology that developed in tandem with financial instruments that allowed for large interest payments on huge debts, underpinned by the assumption of future rents.

Seeing the skyscraper as a machine that makes the land pay doesn't necessarily suggest that the cultural celebration or suspicion of the tall building is wrong, simply that such buildings are not only symbols. They are often treated as such, with many commentators seeming to suggest that they are meaningless as anything other than symbols, since they make no economic sense (Nye 1994, 88; Sudjic 2006; Acuto 2010 for example). I think that they can be understood as forms of organization themselves, and moreover that they are driven by predictable processes of capital accumulation. But that doesn't also stop them from being adopted as symbols, as by Claude Bragdon in the *Architectural Record* in 1909.

> 'The tall office building, our most characteristic architectural product is a symbol of our commercial civilization. Its steel framework, strong, yet economical of metal, held together at all points by thousands of rivets, finds a parallel in our highly developed industrial and economic system, maintained by the labour of obscure and commonplace individuals, each one a rivet in the social structure.' (in Landau and Condit 1996, 377)

Bragdon is right. These buildings are contingent on organizational arrangements, but his functionalist gloss is doing a lot of symbolic work too. Skyscrapers, in their US incarnations, are capitalist organizations, but they can also be used to symbolise the aspiration or arrogance of such organizations. The former is a question of historical record, if architectural historians are to be believed (Willis 1995, Landau and Condit 1996), whilst the latter is a question of politics. So when Willis says 'Skyscrapers are the ultimate architecture of capitalism' (1995, 181), this is not a claim about what they mean, but what they do. Or, in reverse, it is not until the symbolic politics is bracketed that the economic and organizational relationships can be seen more clearly.

Conclusions

> 'Andy Warhol, Reinhart, these buildings make me think of money.
> Reinhart Wolf, You are right. It's the good face of capitalism. It took time and money to build them. The men who have erected Manhattan are the Medicis of America. They sponsored the best artists and the best craftsman of their time and took advantage of their talents. A marvellous and useful way of spending big money.' (in Wolf 1980, no page numbers)

It is easy to think about height as something necessarily associated with power and hierarchy. The great chain of being that leads to God and the angels is not so far from the Chief Executive in the office on the hundredth floor (Dale and Burrell 2008, 50, Parker 2009). And once elevation is fixed in steel and stone, and mobility happens in little cages, then it is hard not to imagine that we are witnessing the petrification of power. Either we cringe before its magnificence from the pavement, or we glory in our far-sightedness from the penthouse – 'Olympian or Orwellian, depending on how you look at it' (Huxtable in McNeill 2005, 52). The symbols matter, because the skyscraper is an entity that meaning can be attached to, but this is only half of the story. As I have shown, it is also an example of organizing driven by processes of capital accumulation, a verb which reaches into the sky into order to make the land pay. Culture and economy are intertwined, and one is blank without the other. There is no pure market logic, because judgements will always attach to the artefacts produced for the purposes of making money and thereby influence how the money can be made. The speculations of speculative capital are never merely utilitarian.

Since elevation is an advantage in battle and theology it seems evident that skyscrapers must often symbolise the domination of a few whilst the many live in the shadows. These inequalities are underlined by the manifest problems with high buildings. Sudjic, King, Dale and Burrell and a good many good people see windows creaking and groaning and falling out. They see set-backs littered with dead birds, and pedestrians thrown off their feet by downdrafts. They see ostentation, corporate verticality and buildings built by men. It is fair to say that many of the heroic readings of skyscrapers assume a certain gender, class and ethnic position (Lindner 2006, 18 passim), and that they tend not to mention the secretaries and cleaners. I have sympathies with these commentators but their largely symbolic analysis falls into the traps that Goss and McNeill make about the dangers of one-dimensionality in an analysis of tall buildings. As many skyscraper historians have demonstrated, too much emphasis on 'corporate verticality' does a great deal to hide the actual processes

which lead to the construction of the skyscraper (Willis 1995). There was a clear economic logic to the skyscraper boom in New York and Chicago, and it was based on speculators attempting to maximise rental income from many small professional firms. The corporate tower is the exception, not the rule, and even that was built to make money, not just to show power in stone. Further, the processes of finance, design, construction and demolition are clearly related to forms of the division of labour that were aimed at maximising capital. This analysis of capitalism and organization is often overlooked by those who prefer to pursue the symbol as if it were a noun.

Of course, as the skyscraper moves, so does its logic. As King (2004), McNeill (2005), Acuto (2010) and others have noted, the dissemination of the skyscraper across the USA and wider world was often influenced by the idea of a downtown like Manhattan. The Stalinist 'seven sisters' in Moscow were not built to reflect land values, but to emulate a particular form of urbanism. More recently, the destruction of the old and sprouting of tall buildings in Asian cities is certainly related to forms the possibility of accumulation, but in advance of a relationship between density and price. The flats, offices and shops in the super-tall Burj Khalifa will be rented to the super-rich, whilst the building has been constructed cheaply and quickly by poorly paid migrant labour working in largely deregulated conditions for 24 hours a day. This tower is both a process for making money, and the peak of a skyline which symbolizes the new Dubai. In both cases, it is an example of organization.

It doesn't really matter which 'discipline owns the skyscraper' (McNeill 2005, 41), as long as the division of labour recognises this necessary relation between noun and verb which can help us draw together the cultural and the economic. 'Organization' can function here as a mediating term, one which allows us to see cultural representation and economy as necessarily entangled. Cultural representations attach symbolic value to nouns, whilst the economy is a process for generating value. To account for the skyscraper, we require a symmetrical form of explanation which takes both into account and marginalises neither. 'Organization', because of its ambiguity, can be a mediating concept to help us account for the construction of meanings and the construction of things, and not only a term which is used in a discipline which studies organizations. The theoretical symmetry is to try and see it as both noun and verb, as a symbol of the 'organization of production' and an example of the 'production of organization' (Cooper and Burrell 1988, 106). It is hard to see entities like a building as in process, even though glass flows and buildings fall, but the Burj Khalifa was not always there, and it will not always be there.

When we encounter it, the skyscraper is material. It is capital made durable, made solid in ways that conjoin Burke's 'astonishment' and 'horror'. However we 'read' the skyscraper, and however we theorise its production, it is the sheer scale of the 'thing' that we are confronted with, and that demands explanation. Le Corbusier captures this paradox nicely. Writing of New York –
> 'It is a titanic mineral display, a prismatic stratification shot through with an infinite number of lights from top to bottom, in depth, in a violent silhouette like a fever chart beside a sickbed.' (in Wolf 1980, no page numbers)

The skyscraper is pathological and breathtaking, at the same moment, just as it allows you to look down and look up. Kant, at the beginning of part one of *The Critique of Judgement* suggests that you don't have to like the world that produced

something in order to find the thing itself beautiful (1951:38). Judgements of beauty, of the sublime, should be disinterested about such causes and interests. For myself, the world of power and money that produces the skyscraper is not one I like very much, but the buildings themselves always make me stop and stare.

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[2] Though Landau and Condit (1996, ix) add that its earliest known occurrence was as the name of a horse that won the Epsom Derby in 1789. During the 19th century it was also used as a word for a hat, a tall man, and a high ball in baseball or cricket. McNeill suggests that other words were used for tall buildings too – cloud-supporter, cloudscraper and skysweeper (2005, 49).

[3] This also opens the possibility of an analysis that does not begin with capitalist office blocks in New York and Chicago, but that is beyond the scope of this paper. On the 'residential high-rise', see Jacobs 2006, Jacobs et al 2007.

[4] In that sense, what I want to do is similar to what is now called 'cultural economy' (Amin and Thrift 2004), though with the difference that I think this field tends to treat the meanings of culture as epiphenomenal to showing how the economy can be treated as cultural.

[5] See the 1933 Mickey Mouse cartoon of the same name.

[6] There is also a parallel story about the gendering of work, technology and space in the new office. See Fine 2005, Schleier 2005, and Moudry 2005, 133. It is possible to argue that, by about 1920, the majority of workers in skyscrapers were women.

[7] Though others would argue that Chicago's Home Insurance Building of 1885 is actually the first (Dupré 1996, 15). It depends on what you mean by a skyscraper.

[8] In New York alone, the RCA Building has become GE, Pan Am is now MetLife and the AT&T Building is now the Sony Tower. In Chicago, the Sears Tower is now the Willis Tower. And so on.

[9] As does the Home Insurance Building.

[10] Sabbagh (1989, 186, 195) is explicit about Mafia involvement in the building of Worldwide Plaza, also in New York, in the late 1980s. Given their involvement in unions and construction, it would be surprising if this were not also another part of 'making the land pay'.