



Complexity and the Human Experience: Modeling Complexity in the Humanities and Social Sciences

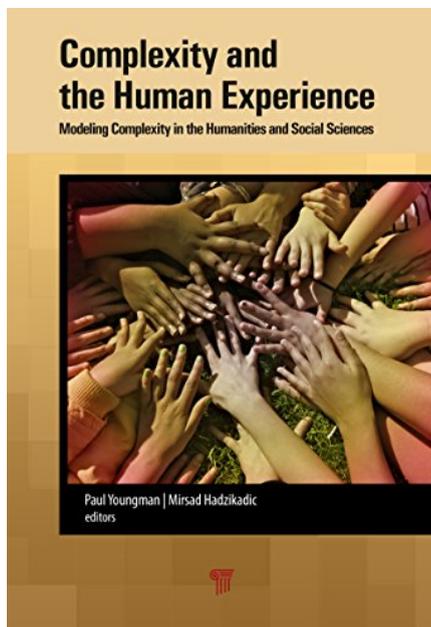
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Generally, I try to avoid conceits in my writing, as they tend to distract both writer and reader from critical analysis. But in the particular case of this book, it seems that a conceit could actually be constructive. The relevant idea, which is itself discussed in the book, is that of the “edge of chaos” Langton (1990), Mitchell et al. (1993). One way to present this idea is to think in terms of the problems of change and order. If a system is “too disorganised” (as perhaps with atoms in a gas) then any kind of order is simply impossible. On the other hand, if it is “too organised” (as perhaps with the same atoms in solid form) then

change is impossible. At some point in between (supposedly the so called “edge of chaos” although this has both technical and metaphorical uses) there is both sufficient structure and sufficient flexibility to observe meaningful change and order. But what has that to do with this review?

This book is an edited collection of chapters within the broad areas of “complexity” and “the human experience”. The latter phrase was chosen, I imagine, because the book is unusual in dividing its chapters almost equally between two sections on social science applications (relatively well established) and humanities ones (much newer and less numerous).

This division, and the contributions it supports, is what set me thinking

metaphorically about the edge of chaos. At one extreme, we have very strongly model-based paper like the contribution by Christen (“Overcoming Moral Hypocrisy in a Virtual Society”). This is a fairly typical and arbitrary “repeated game theory” style ABM that has the reader wondering on what grounds the model presented is “about” moral hypocrisy other than that the author says so and happens to work in the “Ethics” unit of his university. Similarly I can’t see what makes the moderately interesting – though not very far advanced or well grounded in the wider literature – contribution by Grim et al. (“Philosophical Analysis in Modeling Polarization: Notes from Work in Progress”) philosophy except that the authors say it is. These contributions (and that by Smead) seem to display “too much order” in that everything around the precisely specified “solidified” model (these happen to be ABM but they didn’t have to be) is just floating narrative designed to back it up. Interestingly, these contributions are all found in the humanities section of the book. At the other extreme (and in the other – social science – part of the book), we find the contribution by Zwick (“Complexity Theory and Political Change: Talcott Parsons Occupies Wall Street”) where it is honestly hard to tell what claims could be subjected to empirical scrutiny. This (increasingly popular) narrative/rhetorical use of complexity ideas (of which the Givel and Johnson contribution is a perhaps slightly less alarming example) is exactly the kind of disorganised gas within which (in my opinion) no scientific order and progress can thrive.

But having looked at the extremes (and the paper by Grim et al. is still well worth reading though perhaps as another ABM of attitude polarisation rather than as philosophy), we are left with a clearer and much more interesting idea of “what works” in the book. Two contributions in particular seem to be very interesting and also to bridge the (editorially unremarked) separation between the humanities and social sciences. The chapter by Sibayan (“China’s Complex Policy Network”) starts from rich, extensive and relatively novel data (historical biographies of party members) and uses it to construct the social network of the Central Committee. Despite some questionable but commonplace simplifications (people who went to the same school are “tied” – but perhaps that’s where they learned to despise each other?) Sibayan is able to link the long-term evolution of the network (something more formal Social Network Analysis doesn’t have much to do with) to reasonably “solid” concepts in complexity. There are plenty of details one could query in this contribution but neither the solidified model nor the gaseous narrative dominates and the result is something “on the edge of chaos” that one can see feeding into an effective research programme by interplay between theory and data

(something ABM can well contribute to). But the data is “historical” (humanities?) and some of the theoretical concepts are clearly social science (networks and, less assuredly, complexity).

The other interesting “edge of chaos” contribution is by Sack (“Character Networks for Narrative Generation: Structural Balance Theory and the Emergence of Proto–Narratives”). Put simply, this contribution is organised around the social networks of fictional characters as revealed in novels. The “discipline” of solidified Social Network Analysis moves us away from the subjective (gaseous) nature of much writing about literature. But this approach also raises new and provocative questions about both fiction and social science reality. Are Jane Austen’s character networks similar in her books and distinctively different from those of, say, Henry James, who might be considered a less “domestic” writer? Perhaps character networks are more distinctive than contentious word frequency counts or other measures of authorship Furbank and Owens (1994), Mosteller and Wallace (1963). Do character networks change en masse over time so they might be considered an unobtrusive proxy for real historical networks of the corresponding eras? Is the character network of David Lodge (with planes and phones) totally different from that of Dickens? Do character networks look anything like real networks at all? Or are these discovered similarities actually telling us that the “logic of narrative” mostly shapes character networks (no point in having characters who don’t advance the plot in some way.) Again, we can see a very interesting research agenda at the boundary between some formalisation (so we know what we are talking about clearly) and creativity (so we don’t just spend all our intellectual energy just propping up a specific arbitrary model.) These can thus be contrasted, pushing the earlier point to its limits for maximum emphasis, with pure model papers that could be about anything (or nothing) and pure verbal papers that could be about nothing (or anything!).

Taken as a whole, this is an interesting book with (for an edited volume) better than average quality control. In addition to those already discussed, readers of JASSS would find chapters by Throne, Düring, Downey and Jarryosi and Reynolds well worth their time. Almost inevitably, while not necessarily of bad quality, it isn’t clear that the contributions by Gonnering et al. and Andrei should be in this book at all (but I have seen edited volumes published with many more “random” contributions.)

I have two concluding points. Firstly, I think the editors missed a trick in saying almost nothing about splitting the research into social science and humanities

contributions. Having read the book as a whole, I am not sure how well that worked and it would have been interesting to think about whether modelling is likely to unify or divide these areas (and why). The best contributions seemed to drive a truck through the distinction almost in passing. Secondly, the more reviewing I do, the more concerned I become about citation practices (or rather their failure). For example, Grim et al. cite nothing from the Zaller–Deffuant model literature (and this is a fairly big field, at least some of which is available “free” via JASSS) even though they are building a model specifically on polarisation. It is hard to see how modelling will progress scientifically unless we can rely on published work to know, within reason, what other research already exists.

Taken as a whole, and despite my criticisms and reservations, this book is well worth the (somewhat selective) attention of JASSS readers.



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