

Letter to the Editor

Comments on the Constituents of Social Structure

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(accepted for publication in *Sociologica* 2/2008)

Abstract: The 1/2008 edition of *Sociologica* contains a reprint of Harrison White's classical "Notes on the Constituents of Social Structure" alongside explanatory notes. This short memo offers a glimpse into the rewriting process of White's *Identity and Control* and points out how stable this theory has been over 40 years. Three core concepts already present in the Notes are singled out, namely social space-time, the duality of emergence and constraint, and scale-invariance. Finally, it is argued that I&C can contribute much to integrating insights from social science and complexity science.

Keywords: Identity and Control, social space-time, emergence, constraint, scale-invariance, complex systems

The 1/2008 edition of *Sociologica* contains a reprint of Harrison White's classical "Notes on the Constituents of Social Structure", a teaching script from 1965 for undergraduate students at Harvard University, alongside excellent framing notes by Marco Santoro, a preface by Harrison himself, and a revealing postscript by Mike Schwartz. The reprint precedes the release of the second edition of *Identity and Control* (White 2008), Harrison's structural theory of social action and the lead theory of relational sociology, by one month. If I write Harrison instead of White it is because I have been involved with a good handful of other graduate students at Columbia University's Department of Sociology and a few externals in the rewriting of I&C in the half year before the second edition went to press. Our job in G9110 "Identity and Control" (fall 2006) was to comment, correct, cut, and "make the book useful and accessible."²

Harrison is both old school and new school because what he developed already in the 60s is at the heart of today's social science. His is a fresh approach in sociological theory, ready to take it up with the challenges of the age of complexity that is surely just beginning. From this perspective, the Notes are an intriguing read because they show us newbies the roots. Talking about his concept of *style* Harrison once said in a seminar he tried to make the book a style. It is, and so is the theory, I say now, having seen how stable its constituents have

Acknowledgements: I am grateful to Frédéric Godart, Matthias Thiemann, and Matteo Bortolini for their comments on drafts.

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² As Harrison writes in the acknowledgements, Scott Boorman and Michel Grossetti were instrumental in the rewriting. Victor Corona and Frédéric Godart got involved before the fall 2006 seminar. The "good handful" of graduate students of the fall seminar were Larissa Buchholz, Anna Mitschele, Rozlyn Redd, Millie Su, Clément Théry, Matthias Thiemann, and Sabine Würkner. Don Steiny contributed a lot from a distance.

been over decades. Let me pick three notions central to I&C that are already present in the Notes.

“I want to change people’s perception of space.” This quote from one of Harrison’s seminars introduces the first notion, which is actually strongly present in the Notes. In relational sociology *distance* is not the number of kilometres between two GPS coordinates. It is rather captured in terms of ties and measured as the number of steps between network nodes. Theorizing local knowledge and group overlaps the Harvard gang was already working out the foundation of the small-world that Stanley Milgram was discovering empirically at the same time (1967). 30 years later, Harrison ran into fellow physicist Duncan Watts at Cornell University who convinced him in an impromptu oral presentation that he had discovered the next piece of the small-world puzzle, and hired him as a post-doc straight out of graduate school, wisely tying the “new” science of networks (Watts 2004) to sociology. What makes this science new is the discovery that similar laws of self-organization apply to social as well as non-social systems. Under the roof of complexity science research is interdisciplinary with a focus on emergent properties, whereas classical social network analysis hardly studied systems large enough to show these.

Another element of the new perception of space, one not readily visible in the Notes, is the elegant weaving in of social time. Social structure is always dynamic, always born of action, such that structure and action are merely two sides of “social space-time”. This correlates with the *duality of emergence and constraint*, the second notion central to I&C already present in the Notes. “As the subset of ties among a subset of persons in the net reaches some threshold value, the subset will come to regard itself as having an identity.” (White 2008 [1965]: 8)³ “Person” as merely one possible instance of identity is hardly used in I&C. But sticking to it, emergence is the coupling of persons and simultaneous decoupling from previous contexts while embedding into higher-level context. At the same time, however, the emergent formation, say group, constrains, or feeds back on, its constituent persons. Identities are always embedded in disciplines, structural mechanisms that focus stories, while common culture provides repertoires of stories. It can be seen as strength of the theory that no preference is given to either emergence or constraint, a question that can only be answered empirically.

It is worth noting that Harrison uses space-time not as a pre-given coordinate system in which social processes happen, but as itself fluctuating and evolving structure in which everything is at some distance connected to everything else. Next to this description it is most importantly the notion of *scale invariance* that Harrison took over from physics. In writing that, following the identification of neighbourhoods of structural equivalence, “it is possible to make apparent the pattern of closeness among the neighbourhoods, so to speak the neighbourhood structure of the set of neighbourhoods,” (ibid.: 11) scale invariance is already hinted at in the Notes. In physics and mathematics scale invariance is the feature of a system that its properties are similar on different scales (Harrison prefers to call it self-similarity which is essentially the same). I&C consequently employs scale invariant concepts. Social structure is identities nested in identities with similar types of control projects operating on the full scale of socio-cultural organization. Of course scale invariance is an answer to the micro-macro problem. Besides these three central notions the Notes mention further issues currently at the heart of network science, (Newman *et al.* 2006) like upper limits for nodes’ edges, clustering methods, and boundaries of networks.

Since Schwartz revisited some past seminars with us, let me write a few things about the graduate seminars I was fortunate to attend. Harrison certainly did not turn formal over those 40 years (“I hate cute sociology!”). He is still driven by a “desire to change sociology” and create “a big picture for the whole field.” He confessed, “I was a little jealous about

³ Note that some passages in 2.5.1. Cliques and Catnets (White 2008b: 52-4) are burnished passages from the Notes.

Chuck Tilly and his book *Why?* which sold more than I have sold in my lifetime. So I wanted to do *How?*!” There are three types of the aforementioned disciplines: council, interface, and arena. The seminars were at the same time councils, because discussions were at eye level, interfaces, because there was so much respect in the air, and arenas, because if you were not in you were definitely out. Many students not in the seminar had tremendous respect for it, because they had either read some of Harrison’s material and had found it hard to access or they had heard from others that the theory was not a picnic.

At Harvard, Schwartz’s job was “‘translating’ Harrison’s impossibly complicated ideas into plain English for our suffering students.” (Schwartz 2008: 4) Some of us started with the same vision for the second edition, knowing that many readers had given up reading I&C because they did not have the time to get their head around it. I remember that one of the frequently asked questions in the first weeks was “Do I understand that correctly?” Often the answer was codified and brought up even more questions. I remember trying to introduce a fourth discipline – around a valuation order of power – because Harrison had once said there may be a fourth one. Harrison would neither give it a thumbs up nor down, just let me know that it needed more work. Now I think there is no need for a fourth discipline – interface structures domination processes.

As time passed by understanding grew with all of us... and we eventually said goodbye to our initial idea of making the second edition something entirely different. It is updated, it is more concise, and we hope it is more readable. But it does not try to impose linear readability because that would not have been Harrison’s style. Same examples are taken up in different chapters so you may want to jump around. And make use of the index that Don Steiny created in the final weeks. Understanding of concepts emerges from the reading of aspects scattered around the book.⁴ In a way, the book is a complex system, just as the social world it is offering to explain.

Where from here? Tangible application is Harrison’s goal. In the new chapter 8.2 he offers hints which paths he would take. Readers familiar with the first edition will notice that the second edition uses much more input from Luhmann’s system theory (1995), work that continues with co-workers (White *et al.* 2007). Luhmann’s system theory, of course, hardly produced any empirical studies and is still largely situated in theory, dealing with epistemic questions and theoretical paradoxes. It is the new science of networks (Watts 2004, Newman *et al.* 2006) that has finally started to broadly and empirically study complex systems.

Regarding complex social systems mainly physicists have started to occupy a new niche where they can apply their modes of thinking and sophisticated analytical capabilities. The arXiv preprint server of the mathematics/physics/computer science community grows by roughly three papers on “Physics and Society” day by day.⁵ This is no “invasion” (Bonacich 2004) but an emerging field of research that turns out to yield useful results. Social science would be wise to seek ties to the *sociophysics* community. Due to notions of social space-time, emergence, and feedback used in scale invariant ways I&C is excellently positioned to lead the way. In this regard anthropologist Doug White got a head start. In a recent blow together with physicist Jörg Reichardt he has shown that blockmodeling (White 2008: 51-57) and community analysis (Girvan & Newman 2002) are special cases of an overarching role modeling approach (Reichardt & White 2007).

As the computer revolution continues to transform our social space-times and force upon us ever shorter cycles of innovation, in explaining how socio-cultural networks block incoherent action, I&C offers important leads to fresh action. Finally, understanding of self-similar social processes is of paramount importance if there are indeed limits to innovation driven growth as Bettencourt *et al.* (2007) have found.

⁴ Figure 8.1 in the second edition tries to visualize this process.

⁵ arxiv.org/list/physics.soc-ph/recent

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