Comment on Pugh & Rice, Comment on Pugh and Rice, "Early Urban Planning, Spatial Strategies, and the Maya Gridded City of Nixtun-Ch'ich', Petén, Guatemala." In *Current Anthropology* 58 (5). In press, 2017

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Nixtun-Ch'ich' is a fascinating site that will force us to rewrite the history of Maya urbanism. Who could have predicted that the earliest grid layout in Mesoamerica would be found at a Preclassic Maya center? Like Teotihuacan in central Mexico many centuries later, Nixtun-Ch'ich' was evidently a failed experiment in orthogonal planning. While these two unique cities each thrived for several centuries, once they declined their successors rejected orthogonal plans and returned to older planning principles. If archaeologists can explain the development of orthogonal planning at Nixtun-Ch'ich'—and its sociopolitical context and significance—this would be a major breakthrough in understanding early Maya cities.

Unfortunately the theoretical and epistemological choices made by Pugh and Rice all but rule out achieving an adequate explanation for these questions about Nixtun-Ch'ich'. In fact, their paper is an exemplar of the kind of faulty argument I criticize elsewhere (Smith 2015). Here I focus on two components of this paper's logical structure: the use of the social theory of Michel Foucault, and the lack of any attempt to determine whether the interpretations are correct or not.

Highly abstract theories and concepts—such as Foucault's governmentality, power and discipline—describe the operation of the world on a very general level. This kind of approach, termed "grand theory" by C. Wright Mills, is "so general that its practitioners cannot logically get down to observation. They never, as grand theorists, get down from the higher generalities to problems in their historical and structural contexts" (Mills 1959:33). This is a basic pillar of social science epistemology: grand theory is so abstract that it cannot explain individual cases or variation among cases (Abbott 2004:218, Ellen 2010, Mjøset 2001, Smith 2011). Foucaultian power and governmentality simply exist—presumably for all societies—so how can they explain change and variation?

In Abend's (2008) classification of types of theory in sociology, Foucault's concepts are examples of either theory type 3 (a statement about the meaning of social phenomena, an interpretation, a reading, or a way of making sense) or type 5 (a *weltanschauung*, an overall perspective from which one sees and interprets the world). What this means is that Foucault's concepts—as used by Pugh and Rice—are of limited utility in explaining specific social phenomena, and their empirical adequacy cannot be tested. In the words of Fisher (2009:440), abstract theory like this "does not offer the tools needed to analyze the material remain on the ground."

Pierre Bourdieu recognized this problem with Foucault's work. As reported by Callewaert (2006:92), Bourdieu complained that "the philosophical method was used [by Foucault] for answering questions that are basically empirical sociological questions." Foucault's methods of both history and social science were faulty (Garland 1987). Indeed, his method of social analysis has been called "politically engaged journalism" (Vallois 2015). If one is interested in abstract, philosophical notions about the human condition, then the work of Foucault is full of insights. But if one is interested in a social-scientific explanation of the dynamics of cities, one has to look elsewhere for concepts and models.

In the social sciences, theory that is more grounded and testable is termed “middle-range theory” (Hedström and Udehn 2009, Merton 1968:39-72, Sampson 2010). In Abend’s (2008) scheme, this corresponds to theory type 1 (a general proposition about the relationship between two variables) and type 2 (an explanation of a particular social phenomenon). In this approach explanation consists of identifying the causal mechanisms responsible for observed changes: “to explain a fact is to exhibit the mechanism that makes the system tick” (Bunge 2004:182).

To their credit, Pugh and Rice do not rely exclusively on Foucault’s concepts. Their theory discussion also draws on several more empirically grounded urban scholars such as Spiro Kostof, Jill Grant, and Luis Bettencourt. But their theory section is phrased in a highly generalized fashion—cities are like this; grids imply that; states do this—that prevents specific propositions from being tested. One does not have to be a strict Popperian falsificationist to recognize that social science arguments are more convincing if expressed in a fashion that can be tested. In the words of Haber, “The fundamental question of all serious fields of scholarly inquiry [is]: How would you know if you are wrong?” (Haber 1999:312). Methodological works in social science routinely stress this aspect of argumentation (Abbott 2004:216, Bunge 2013:153, Gerring 2007:74, Gerring 2012:30-31, Luker 2008:53, Ragin and Amoroso 2011:39).

If I were confronted with the puzzles of Nixtun-Ch’ich’ and asked to work with the collection of concepts and theories employed in this paper, here are a few propositions I might want to test:

- Was the layout of the city “diagrammatic” or not? To me, a grid does not fit Kostof’s (1991) concept of a diagram layout, but one should be able to test the claim of diagrammatic design.
- Was the polity responsible for creation of the grid an expansionist state?
- Where would it fit on Blanton and Fargher’s (2008) scale of premodern collective governance?
- To what extent was the grid starting to break down late in the life of the city?
- Did any of the principal street or building orientations align with a specific measurable solar phenomenon? Instead of assuming a solar orientation, this can be tested (Smith 2003).

As it stands, the reader has no idea whether the proffered interpretations are correct or not, in part because of the abstract nature of the theory and in part because there is no testing or explicit evaluation of alternatives.

I urge the authors to reconsider their epistemology and to look at some of the empirical urban theory available to archaeologists (Moore 1996, Rapoport 1990, Smith 2011). Foucault is fine for cultural studies, but anthropological archaeology in a social-science vein requires more attention to concepts that can be clearly operationalized. Nixtun-Ch’ich’ is a particularly important early city for understanding ancient Mayan and Mesoamerican cities and polities. I am thankful to the authors for their fieldwork and reporting on the site, but I really think it deserves better theory and better epistemology.

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