Raționalitatea: cariera unui concept în cercetarea socială
Apel la contribuții

dr. Cătălin Pavel

I propose in the following to apply rational choice theory to archaeology, re-cast as a social science with a strong interpretational momentum. In focus comes the choice of the field archaeologist as to the next step in the excavation process. It must be borne in mind that excavation is destruction. Archaeology proper cannot be done without removal of soil, and this cannot be done without irreversibly destroying the macro- and microorganization of all strata, organization which is in turn the key to the stratigraphic, and thereby historical, sequence of ancient man's life at any given site. Archaeology is reputedly the only discipline that gathers knowledge by destroying its object of study. Worse than that: the object destroyed is non-repeatable and non-renewable, it is retrieved with methods, techniques and scientific aids that will seem primitive in a matter of decades, and the investigation is not carried out in front of the whole scientific community, but under the supervision of a single scholar.

My argument in this paper is that the gathering of scientific knowledge is only partly rational and it is often socially constructed. I am particularly interested in investigating archaeological reasoning against the background of rationality studies and within the larger paradigm of post-processual epistemologies. In analyzing the (often overlapping) mechanisms of description, interpretation, and explanation to which the field archaeologist resorts in the process of digging, I am interested in deconstructing archaeological understanding to the point of showing how it is rooted in irreducibly contradictory premises of objectivity and subjectivity and how it should actually best be defined in terms of negotiation of meaning and cultural production of the past.

Progress in archaeological interpretation cannot be achieved solely by reason, especially if one considers the practical aspects of theoretical reasoning (Harman 2004). I tackle this along three different lines of thought. Resorting to a certain action in the field (e.g., halfsectioning the fill of the pit), should thus be deemed rational if 1. it is optimal, given the beliefs of the archaeologist; however, other choices can be superior as well as inferior to this one in different points to this one (e.g., first flotate samples of the fill, or section in the Quadrant method, or excavate in arbitrary layers). Also, archaeologists do not ensure consistency of choice and often, using a mistaken transitive reasoning, "improve themselves to death" (Elster 1985; e.g. end up with non-interpretation or with deferral of interpretation to post-excavation stages instead of embedding it in the harvesting of data). Our evaluation of options is clearly subjective and is rooted in our risk aversion (approaching a stratigraphic unit so that it can yield the biggest interpretational outcome, or split it up safely in ten units) and marginal utility (the first clues often shape our whole understanding of a trench and all other evidence is only used to reinforce it). Rationality also would be grounded in 2. the fact that our beliefs are supported by evidence; however often evidence is a result of beliefs (hermeneutical spiral, Hodder 1999), and beliefs are

constantly revised. Finally, 3. the array of evidence considered must result from an optimal investment of effort in information gathering; but how much information archaeologists need depends on how much information they (and the social group/scientific school of thought of which they are part) need, and also on how the search itself proceeds. Elster's (1997) criticism against rational choice theory holds particularly well in archaeology: as an explanatory tool, this theory fails because it does not yield unique predictions about what researchers will do in certain situations; no two archaeologists will excavate in the same way. In the field, though, the archaeologists' behaviour exhibits strong patterns of preference, often shaped by education and running against reasoning "at the edge of the trowel". For example, they might privilege retrieving information from macro-structures as opposed to micro-structures (foundation walls as opposed to hammerscales), funerary as opposed to domestic (offerings vs. refuse), in situ as opposed to redeposited artefacts, or indeed, be more fond of information which helps to produce a more spectacular final report.

Archaeologists are both the object and the subject of the dig, retrievers and creators of data, and the way they reason often has to do with fuzzy sets and degrees of truth. I build my approach on alternative reasoning on three intellectual tools. One is a variation on Occam's razor: entities must not be multiplied without necessity. This should mean: postulate the least number of events which have **not** left traces in the archaeological record that is required to explain what cannot be explained on the account of the events that **have** left traces. The process of reconstructing such events is manifestly creative and harnesses both deduction and induction to the interpretative process. Another concept of heuristic value is borrowed from Mandelbrot's geometry and I propose to call it "fractal reasoning", defined as inductive pattern recognition. This again has a creative component to it, as it presupposes the ability to both see sites as results of infinite applications of natural and cultural transformations of stable content but infinitely variable form and move from stratigraphy to microstratigraphy. Finally, as my model is an explanationcentered approach, I emphasize that rationality in archaeology is belief-laden and meaning-dependent. It has been known since Popper that hypotheses cannot be proven, but only falsified. Moreover, particularly in new archaeology, hypotheses have tended to become a goal in themselves instead of being a means to, ultimately, the acquisition of meaning. As a third tool, therefore, I use again the respectably old (Peircian) inference to the best explanation, as redesigned by Harman (1965), van Fraassen (1993) and Lipton (1991), and applied specifically to archaeology by Fogelin (2007).

Choosing the next step of the excavation is in fact not conditioned by the need to achieve more, rather than less data, but ultimately by a strive for meaning and for an interpretation which best integrates all available evidence. As the evidence that will be uncovered when the spade hits next is not predictable, the quest for the best interpretation is always somewhat illusory and probabilistic. Also, while the benefits of digging here instead of there are unpredictable (will they bring irrelevant information, or help to corroborate the current explanation, or in fact crystalize a new coherent theory?), the costs are enormous, as explained in the first paragraph, since archaeology is destructive.

It should be noted though that these costs are not extrinsic, since archaeologists are parts and products of society, which is the true client of the excavation; I see here the rationality of individual behaviour as an integral component of rational social decisions (Sen 1995).

Cătălin Pavel este doctor în arheologie al Universității din București, Facultatea de Istorie (2010). Teza publicată în lb. eng., Describing and Interpreting the Past, European and American Approaches to the Written Record of the Excavation, Editura Universității din București, 2010. Bursier Erasmus în Münster (2001-2002), Chevening Fellow al Universității din Oxford (2005-2006), bursier al Colegiului 5oua Europă, București (2007-2008), Mellon Fellow al Albright Institute for Archaeological Research, Ierusalim (2010). Săpături arheologice în România, Franța, Germania, Anglia, Maroc, Israel și Turcia. Articole (d.p., "Excavating in Troy", Studia Troica 19, 2011) și recenzii, http://independent.academia.edu/CatalinPavel.