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Citation

Bintliff, J. L. (2003). Searching for structure in the Past - or was it 'one damn thing after another'? In M. H. D. G. Bentley R.A. (Ed.), *Complex Systems and Archaeology* (pp. 79-83). Salt Lake City: University of Utah Press. Retrieved from <https://hdl.handle.net/1887/8443>

Version: Not Applicable (or Unknown)
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Downloaded from: <https://hdl.handle.net/1887/8443>

Note: To cite this publication please use the final published version (if applicable).

Searching for Structure in the Past—or Was It “One Damn Thing after Another”?

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From the confident belief in overriding, or even mathematical, trends underlying the mechanics of past communities characteristic of the New Archaeology in the 1960s and 1970s, theoretical perspectives in the 1980s and 1990s shifted violently toward particularism, historicism, and relativism, characteristic of postprocessualism (Bintliff 1991, 1993, 1995). Both traditions in retrospect offer unrealistic models of human society that defy even commonsense awareness. More than one commentator on the recent history of archaeological theory has thus been led to see our discipline as tending to move crabwise, sideways through built-in redundancy of theory, rather than achieving progressively wider and deeper methodologies and understandings.

Alternatives to these polarized scenarios have included structuration theory (cf. Barrett 1994—but this has tended to privilege agency rather than structure) and (in my opinion, more fruitfully) Annales's structural history (Bintliff 1991; Knapp 1992). Problems with understanding the articulation of the multitemporal processes (short-, medium-, and long-term), and multiformal processes (technologies, mentalities, etc.) analyzed in the Annales's approach can be solved through the application of more recent methodological and theoretical perspectives, such as contingency theory (cf. Gould 1989; Bintliff 1999) and especially chaos and

complexity theory (cf. Chapter 1 of this volume; Bintliff 1997a; Lewin 1993; Reed and Harvey 1992; van der Leeuw and McGlade 1997). This chapter explores the specific ways in which complexity helps us to have greater flexibility and openness to the “messiness” of the past, while still offering a viable pathway to reinstating structural form and trend, devoid of determinism and also sensitive to both human individualism and culture-historical uniqueness.

I have recently dealt with specific difficulties of the archaeology of agency (Bintliff n.d.1), and this is also Layton's focus in Chapter 8 of this volume. Here I prefer to focus on the archaeology of structure: the ways we can look at past human phenomena such as social classes, chiefdoms, whole societies, empires, economic or technological systems, cities, etc. In our approaches to such large-scale objects of study, there are powerful reasons for limiting the role of the “active individual” as the key point of investigation, and I shall briefly introduce these considerations one by one.

1. CONSCIOUS, ACTIVE INDIVIDUALS

As a single explanatory factor this appears totally inadequate to account for persistent trajectories in human history and prehistory. Despite claims to the contrary, each of us hardly ever (if ever) challenges the institutions of social life on a daily basis.

2. MEMORY

Historical and anthropological studies show that the ploy of stretching individual human action into the long term through the role of memory is fallacious, since (a) memories are rarely continuous or reliable, as shown, for example, by anthropologist Edmund Leach's (1954) classic story about variant interpretations of a treaty among the Burmese Kachin, and (b) conscious decisions and even consciousness itself determine human behavior only partially, as studies in human psychology and cognitive neuroscience have shown.

3. NEURAL NETS

A major paradigm in cognitive research argues that the highly developed self-consciousness of humans has evolved to monitor the functioning of the body ("system manager") rather than to step out of the body and achieve existentialism. Our growth into living in the structures of everyday life is not a form of conscious opting-in, but in neural net theory we automatically register strong behavioral patterns around us from the womb onwards, through automatic reinforcement of the associated neural pathways linking memories in the brain (see Cogito [1991] for an accessible introduction to the wider implications). This raises intriguing parallels to Bourdieu's (1977) theory of *habitus*, but for now consciousness is considered negligible for behavioral entrainment.

4. GENETIC MEMORY

The likely regional origins for each of us may be quite lost from our own family memories. Concerning Europe, for example, the genetic analysis assembled at Oxford University by Bryan Sykes in his Oxford Ancestors project (see www.oxfordancestors.com) is used to show how the ethnic and other claims of identity of European populations diverge from the very different set of more accurate genetic affiliations.

5. ARCHAEOLOGICAL CULTURES

Shennan (n.d.) has recently pointed out that the discovery that the archaeological culture is not the same as people's sociopolitical or

folk-ethnic identity has led us to forget that this reveals another kind of complementary patterning or divergence in material culture, into which archaeologists have a special insight. David Clarke (1968) long ago made a similar point by challenging what could possibly be meaningful about terming the Acheulean artifact complex a "culture," with its more than one-million-year and multicontinent parameters.

What these recent considerations lead to is the realization that the structures (institutions and trends) in human life are only partly those of conscious shaping, partly unconscious human shaping, but also in large part the result of our merging with the limited alternative community trajectories we assimilate through neural net imprinting. Here the theory of chaos-complexity can be introduced as a critical body of ideas at this stage of the redefinition of human individual and group behavior. Chaos-complexity is particularly about the nondetermined, unpredictable interplay between innumerable constituents of a collective phenomenon, e.g., people, events in societies, and the slowly or rapidly changing shapes of those larger structures. Aspects of this perspective have been anticipated in the structural history of the *Annales* historians, and also in punctuated-equilibrium theory.

I shall focus on the need to alter our current perspectives toward persistent structures in landscapes of the past, and through specific examples. First, there is now widespread evidence for modes of European land occupancy over very long periods of time, transcending many varied cultures and societies—hardly then Bourdieu's (1977) "*habitus*," more like the French geographers' "*modes de vie*." This emerges through, for example, factor analysis of long-term settlement history in the Czech Republic from prehistory up to the Middle Ages (Kuna 2000), showing that favored areas of settlement persisted for long periods, constituted by small-scale, dispersed, and even family-scale rural sites with semi-mobile farming strategies rotating around recurrent sectors of an otherwise unbounded wider landscape. Similar phenomena have

been identified in much of Northwest Europe in Neolithic and Earlier Bronze Age times (Edmonds et al. 1999, with refs.), and have been suggested for the same period in Southern Greece (Bintliff et al. 1999). Time-transgressive across Europe is a quite different mode of landscape occupancy, emphasizing nucleation and territorial boundaries, "parishes," linked to heightened social ranking and especially apparent in many regions by the later Bronze Age and the early Iron Age.

A second example is a very contrasted one in scale and cultural complexity: one of the great structures of the past, the Roman Empire. In a classic analysis, historian Fergus Millar (1977) argued that the individual emperor could usually do little to favor or degrade the running of the imperial community (however mad), because the empire functioned through delegation of management to innumerable elite-dominated provincial towns, whose origins frequently lay in those local Iron Age or later Bronze Age power structures just discussed.

Another case-study example where structures of life break our preconceptions of conscious decision or memory is that of Australian Aborigine rock art and the phenomenology of symbolic landscapes. Initially it can be stated that we can indeed identify individual Aborigine artists (Mulvaney 1996), but their work is closely tied to the context of a recurrent "attractor" of small-group, dispersed hunter-gatherer societies. Bob Layton and others have shown that over time the sacred places that mark the traditional activity foci of a particular local group are reinterpreted by quite different groups, due to the empirical observation that there is a continual process of group displacement, extinction, or merger for any specific sector of landscape (Layton, personal communication; Layton 1985; Stanner 1965). The persistent element is a structured lifestyle or mode de vie that is not spatially fixed except in the short term, but has commonly (although not always) recurrent properties of group size and the practice of using art to decorate nodal points in habitual territory. What is *not*

important (contrary to the favored, cultural determinist ideology of Tilley [1994] and Bender et al. [1997]) is long-term continuity of understanding of these symbolic places or memory of the stories associated with them within each sequent group using them.

In much the same way, the landscape project that I have been codirecting with Anthony Snodgrass in Boeotia, Central Greece, can contribute a complementary story for a series of small landscapes (Bintliff 1996, 2000). The settlement history, as revealed by complete intensive surface survey, is seemingly one of some 5,000 years of human settlement with all the signs of continuity of occupation, much of which centers around a rotation between a limited number of adjacent locations used by nucleated communities. However, available archives allow us to confirm for at least two historic periods a major new ethnic group arriving to dominate the settled population: the Slavs, in late Roman times, and the Albanians, at the close of the Middle Ages. Since the material culture record fails to respond to these known group composition transformations, I would suggest that similar replacements or dominant colonizations are very probable during the much longer periods of farming prehistory in the region, and perhaps on many occasions. The underlying "attractors" that give rise to recurrent use of closely placed settlement sites are naturally favored sectors of the cultivable landscape, cyclical preferences for nucleated settlement, the availability of prime resources such as water, and defensive advantage. These recurrent preferences resemble the concept of *Siedlungskammer* in German historical geography or *Landeskunde* (e.g. Lehmann 1939) and the more recent concept of Czech prehistorians: the community area (e.g., Kuna 1991; Neustupny 1991).

Equally important in applying chaos-complexity and punctuated-equilibrium perspectives to the past is the role of *disjunction*—changes into multiple potential pathways for a given society or landscape. Such bifurcations, where a limited set of choices may be amenable to prediction, yet the precise pathway taken is not determined

but operationalized by specific historical and contingent circumstance, can be illustrated through reference to some recurrent properties exhibited by nucleated communities in the preindustrial past (Bintliff 1999). Anthropological, historical, and archaeological evidence points to a recurrent tendency for nucleated communities living in low-level or absent social ranking to fission when community size pushes beyond a level of 200 people, as a reaction to social stress. This tendency, which may even reflect the influence of human biology (Dunbar 1992, 1996), gives rise to two contrasting attractors. One promotes waves of colonization and landscape infill. The other, through the social strains created by the growth of a nucleated community beyond the face-to-face level, subdivides the residential society either horizontally, into more manageable social groups, or vertically, through the erection of power structures.

The very different consequences that tend to follow from such community transformations are fundamental to the emergence and special character of phenomena such as Bronze Age Levantine, Archaic Greek, or Medieval North Italian city-states. But the degree of elaboration associated with this kind of corporate community depends critically on what chaos theory terms "sensitivity to initial conditions": The limitations imposed by extra-community, preexisting power structures account for the more modest expression of these tendencies in the villages of high Medieval England and the intermediate expression in those of early Medieval Brittany, for example (Davies 1988).

I have tried to explore similar interactions of attractors and disjunctions in a comparative study (Bintliff 1997b) of regional growth patterns in the Greco-Roman Aegean region. In explaining the particular trajectory of development in any one region of the Aegean, tendencies toward recurrent responses to the spread of technical innovation, to recurrent neo-Malthusian boom-bust cycles of overpopulation and land-use, to the cyclical rise and fall of complex sociopolitical systems (often components in core-periphery sys-

tems), whose sustainability beyond the short-to medium-term is weak, although all frequently identifiable as time-transgressive properties operating in almost all regions, have always to be counterbalanced by sensitivity to initial local conditions. The latter include not just the role of previous historical circumstances but particular regional modes de vie or *mentalités* with potential gravitational powers of their own, e.g., persistent "archaic" social structures in Crete or the Laconian-Messenian Peloponnese.

A final aspect of chaos-complexity theory with significant applicability for archaeologists is "self-organized criticality"—the theory that complex systems operate close to breakdown, or the "edge of chaos" (Bak 1996). To apply this concept to a prehistoric example, let us consider the widespread evidence in the eastern Mediterranean and Near East for stagnation or collapse in many regions among complex communities around the final centuries of the third millennium B.C. Although there is much evidence for severe environmental problems (climate, erosion) in close association with societal downturn (Pope and van Andel 1984; Rosen 1995; Weiss 1993), it appears unlikely that a single catastrophic ecological event is responsible for such widespread destabilization and its persistence for centuries (Bintliff 2002), and indeed destructive warfare is also certainly attested at this time. A deeper understanding is offered by Tony Wilkinson's (1994) careful analysis of the dynamics of early complex societies in one of the severely affected regions (North Mesopotamia), where he convincingly demonstrates the inherent fragility of city-state networks in semi-arid climates.

STRUCTURE-AGENCY: BACK TO BASICS

I have emphasized the subtle potential of chaos-complexity, in combination with related theory such as Annales's structural history and punctuated-equilibrium, to deploy in the search for the mechanisms underlying the creation and dynamics of structures in past human life, as well as to give ample space for the impact of events, individuals, perceptions, local, and time-limited historical

circumstances of every kind. Interestingly, the importance of combining these complementary sets of processes emerges clearly from a much-publicized debate between the best-known of the creators of punctuated-equilibrium or contingency theory, the late Stephen Jay Gould, and one of his sources for proving the centrality of that theory for the evolution of life on earth, Simon Conway-Morris. While, for Gould (1989), the best-laid plans of Darwinian evolution to create complex communities of parallel-niche adapted species get entirely disrupted through rare but devastating global catastrophes, from which survivors emerge by chance rather than adaptation, Conway-Morris (1998) prefers to remind us that the immensely longer phases of equilibrium that lie between the short-lived punctuations are typified by exactly the kind of gravitational at-

traction of adaptive species-formation and renewal that Darwinian theory proposes. In retrospect it seems that both are right: The "attractors" are a continual, limited set of pathways into which species and genera get tracked, but the choice of pathway and the forms of life available are certainly historically contingent. The message for archaeologists and historians is plain: People and events *do and did* matter to the paths past societies took; nothing was predetermined and predictable. And yet it is equally true that there are overriding tendencies toward comparable structures to organized human life, in widely different times and places, which bear witness to recurrent "attractors" whose origins, maintenance, and disintegration or transformation require much more than individual or group decisions or consciousness to allow us to analyze and comprehend them.