TRAVAS: Theorizing Resilience and Vulnerability in Ancient Studies
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Paul Erdkamp answers Questions on Resilience and Vulnerability

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Q. At which institution are you currently affiliated and what is your field of expertise?

I work at the Department of History at the Vrije Universiteit Brussel. My field of expertise is Roman history, and I have published mostly on economy, food supply and social and environmental aspects of Roman war, but I have also published on Roman historiography and cultural aspects of food.

Q. What sparked your interest in researching resilience and vulnerability?

I have always been interested in environmental aspects of human society, and I have published on food riots and the various societal mechanisms that were devised to cope with harvest shocks and the limitations of market channels. However, it was the grand narratives that linked the rise and fall of the Roman Empire – and in particular the positive response outside history with which these ideas were widely met – that involved me in the academic debate on this issue. I felt the need to engage in the debate, as historians who are sceptical of grand narratives are denounced as intuitively rejecting the role of environmental factors in human history.

Q. Is the history of humankind a history of resilience and vulnerability? What are the sources and approaches with which you investigate vulnerability and resilience? What are the future challenges in resilience and vulnerability research?

'Vulnerability' and 'resilience' have become buzzwords in the debate on the impact of environmental factors on societies in the past, present and future. However, these terms by themselves lack definition and are therefore not very useful as such. Vulnerability and resilience are important aspects of the functioning of society, but as analytical tools they require refinement and specificity. To begin with, much depends on the scale of both the environmental factor and the entity whose vulnerability or resilience one discusses. On a seasonal or annual scale, floods, periods of extreme cold and drought did, directly or indirectly (through their effects on harvests), cause massive mortality. Societies devised means to reduce the risks or to alleviate the impact, but it is clear from history that disasters occurred. However, it is a different question when one asks whether societies were vulnerable to climate change, the relatively long-term nature of which allows societal adaptations at a different level in agricultural practices and institutions. One may think of a change of crops, the construction of terraces, or societal changes that affect distribution and the entitlement to food. So, the temporal scale needs to be defined when using 'vulnerability' and 'resilience' as analytical tools, and the

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same goes for geographical or societal scale. Are we talking about the vulnerability or resilience of individual households, villages, states, or civilizations? Moreover, approaching this issue with the idea that societies deliberately and unitedly intended to increase their resilience leads to misleading results. We must realize that none of these entities is a uniform block, so we have to ask who exactly is vulnerable or resilient?

One particular definition of 'resilience' defines it as "the ability to maintain, or quickly restore conditions considered highly desirable". However, this leads to the question "desirable to whom?" 'Desirable' features are inevitably a question of perspective, as no household, village or state is a uniform entity with one goal. What is desirable or beneficial to the one need not be so to the other. To put it more strongly, the resilience of the one societal structure or institute may increase the vulnerability of the other. To give an example: the Roman Empire as a state may have been resilient to harvest shocks for much of its history, and the same goes for the cities on which the functioning of the Roman Empire as a state was based, but whether this went hand in hand with the resilience against harvest shocks of smallholders is a different matter. The combined interests of imperial authorities and the urban ruling elites (in themselves very broad labels, hiding much diversity) meant that urban consumers were privileged at the cost of rural smallholders. Of course, in the long run the survival of the people working the land was essential for the cities, but faced with the immediate threat of hunger and starvation, urban dwellers were in a better – or less bad – position than country dwellers. Hence, one could argue that the political status that strengthened the resilience of cities was detrimental to that of the dwellers in the countryside.

Hence, the interaction of vulnerability and resilience is a very complex matter. If some activities or institutions produce benefits for resilience, the question is whether they rely on elements that are negative for others. Many historians and archaeologists agree that, in a very broad and general sense, the growing trade in staple foods in the Near East and Mediterranean in the first millennium BCE lowered the vulnerability to harvest shocks within these societies. The emerging trade in staple foods relied on the ability by elites to control surpluses. The same also applies to the command economy of the state. So, if trade increased resilience, we also have to understand that it may have increased the vulnerability of cultivators, who lost control of part of their produce. However, at the same time, the imposition of levies and the distribution of surpluses may have increased the incentives to produce larger harvests. So, we have to take into account many variables. Easy solutions that fit diverse societies are not possible, as the resilience of one part of a society may only be achieved at the cost of the vulnerability of another part of that society.

The growing awareness among people in modern society of current environmental degradation and climate change has given rise to numerous publications on the collapse of past societies, whether these be the Old Kingdom of Egypt, the Roman Empire or the Maya's. However, the way the

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question is often phrased in research reflects a distorted view of societal processes. As we have just emphasized, societies or political units are not uniform blocks that have a single goal. Equally important is the realization that societal processes are never-ending, driven by continuous changes in society. In other words, societal processes are the result of the constant interaction between various elements, which are also multi-layered and diverse. We are touching here upon a fundamental debate in the discipline of history, and it would lead too far to go into this debate in detail. As an inspiring example, I would like to point to Sheilagh Ogilvie's conflict-model of society, in which the entities are largely defined by their economic and social position. Ogilvie, who is a social-economic historian specializing in European history of the second millennium CE, responded to theories that regarded societies as entities governed by a single goal. While we (that is, archaeologists, anthropologists and historians working on early societies) do not have the quality and quantity of sources that she has, her conflict-model can be applied to the analysis of the vulnerability vs. resilience of various groups in early societies. As various groups try to improve their position, often but not inevitably at the cost of others, their vulnerability is changed as well. The important point is that we have to see this not only as a response to some outside force, but as a continuous process, in which environmental forces are one element. This is fundamentally different from an approach that is based on an environmental cause and a societal effect.

Data never interpret themselves; you need models and theory to do so and to establish causal links. Scarcity of data, certainly in comparison with second-millennium Europe, places historians and archaeologists working on early societies in a dilemma. Interpreting scarce data increases the role of interpretative models (tools). While it is never the case that the data speak for themselves, the less data you have, the more you rely on models and theories to interpret them. However, one needs to avoid a situation in which the argument is based on the model and brings in some data that seem to confirm the theory. Where actually is the tipping point between the (in)appropriate use of theories and models? How many data do we need to avoid speculative theorizing? Are many data always sufficient to prove a point?

The discussion of generalized models touches upon our fundamental notions regarding the nature and driving forces of human history. Individual differences aside, scholars working within archaeology and anthropology tend to look for recurring patterns and mechanisms underlying them more often than historians. Many archaeologists aim at identifying and explaining repeating patterns in the course of history, as it are these repeated patterns that help them to interpret the sparse data. Environmental factors in human history are linked to these repeated patterns. The emphasis within the discipline of history on the uniqueness of societies and on the complexity of societal processes is seen as not really helpful. To put it more strongly, historians are sometimes condemned as being unwilling to broaden their perspective and accept the role of environmental factors in human history.

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If, for the sake of convenience and clarity, I may put it in rather black and white terms, the difference of approach between these disciplines is centered on the issue of causality, in particular on the role of endogenous or environmental factors in human history. Without good and chronologically precise data series on environment and society, it is difficult to disentangle the causal links between all the variables involved. Not even on the basis of the relatively plentiful second-millennium European data is it easy to determine causal links. Take, for example, 16th- and 17th-century English legislation on the grain market or the poor laws. Traditionally, this legislation was explained on the basis of changing governmental structures and the role of the state, but recent studies link these laws to the Little Ice Age. Palaeoclimate data on 16th- and 17th-century England have a much better temporal resolution and cover a much wider spectrum of climatic conditions than anything we have on prehistory and classical antiquity. Nevertheless, it is impossible to demonstrate that there is a link between the Little Ice Age and English legislation. It is the same with volcanic eruptions during the Late Roman Republic. There will always be debate on the exact configuration of the causes of the political crisis that led to civil war and the emergence of autocratic rule, but until recently none of these explanations took into account climatic causes. A recent publication (drawing much attention in popular media, but finding little adherents among Roman historians) suggests a distant volcanic eruption in 43 BCE as a contributing factor to the failure of republican rule in Rome. Of course, it cannot be ruled out that the detrimental impact of this eruption on Mediterranean harvests (for which there is actually no evidence but, famously, absence of evidence is not evidence of absence) put additional pressure on an already stressed political situation. But maybe there was no impact on the events in the Roman Empire at all. How does one prove causality or lack of causality when coincidence (i.e. temporal proximity) is the only link one can establish?

The point is that even with relatively ample data on climate and society, it is far from easy to disentangle the various factors at play. So, as a historian I am often surprised how readily causality is ascribed to climatic factors in early societies on the basis of sparse data that, moreover, only have a very limited bandwidth.

It is clear that the approach to theory and models differs between the disciplines of history, archaeology and cultural anthropology. To some extent, the difference in data may explain the different approaches to societal processes and the role of the environment therein. Is it the result of the different approaches to models and theory by the different disciplines that early societies may appear to have been more subjected to environmental forces than later pre-industrial societies? Is there a tendency to overstress the effect of environmental factors on societies for which we have fewer data? This leads to another question: why do we see so little reference to early -modern European cases in such periodicals as *Reviews in Anthropology* or the *Journal of Archaeological Method and Theory*, when we have so much more data to

analyze causality? Why are comparisons made between Bronze Age Greece, the Roman Empire, the Mayas etc., but not with medieval or early modern Europe? The difference in societal complexity is surely not of a greater degree than between Bronze Age Greece and the economically and politically complex world of the Roman Empire. I think it would enrich the debate if we were to expand the range of comparisons on issues of 'resilience' and 'vulnerability'. The answer to the question just posed may lie, at least in part, in the tendency of archaeologists to see themselves as more closely related to anthropologists (and vice versa) than to historians, in particular to historians almost exclusively working on textual sources. While it would be wrong to imply that historians, archaeologists and cultural anthropologists can be lumped together as three uniform categories, it is clear that approaches to models and theory and to the nature of societal processes differ between these disciplines.

Many studies on the impact of climate change on early societies employ the Adaptive Cycle Model to support their argument, although one rightly also sees much critique of this model. In theory, the Adaptive Cycle Model combines various aspects of societies and their environment; in the practice of prehistoric research, these aspects have to be translated into proxies that are visible in archaeology. In reality, very few proxies often stand for the variables that the model requires, leading to simplification. At least in the eyes of a historian, this sometimes leads to a complex societal process in practice based on extremely limited data. One cannot imagine that societal processes in early-modern Europe can be reduced to a single variable, such as textile consumption or visual arts. The danger of the Adaptive Cycle model is that it becomes a 'one size fits all' model that is used not so much to interpret the empirical data, but to replace the data where they are missing. In other words, not the data, but the model leads the interpretation. Too much is based on simplifications and inapplicable generalizations in order to confirm preconceived ideas about environmental impacts and existing periodizations.

To conclude, archaeology and paleoclimatology offer data on population, settlement, political structure, environment and climate. Even though these data are imperfect and limited, data are available. The difficulty arises when trying to link the data causally. Scenarios of causality regarding the rise and decline of societies or states are, in my view, too often based on a priori assumptions. In such cases, the factors 'resilience' or 'vulnerability' are not solidly based on empirical data, but on a priori assumptions and the need to fit the scenario.

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