

Environment and Society in Roman North Africa: Studies in History and Archaeology, by Brent D. Shaw. Collected Studies Series; Aldershot: Variorum, 1995. xii, 271 pp.

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Environment and Society in Roman North Africa is a collection of seven essays written by historian Brent Shaw between 1976 and 1991. These essays focus on three issues pertaining to the relationships between Romans and indigenous peoples in North Africa: climatic change (or lack thereof) between Roman times and the present, the role of the camel in an arid landscape, and systems of water management. All of these topics have contemporary resonance and Shaw's insights are useful in historical and modern contexts.

Shaw's opening essay, a description of the state of archaeological research in North Africa in 1976, is an interesting and thoughtful account. It was satisfying, for once, to read a manifesto of this sort and realize that the nature of research has in fact changed in the intervening twenty years. Shaw has two major observations. First, he laments the separation of historical and archaeological research, and exhorts historians to make more profitable use of archaeological data in their research. He rightly observes that archaeological data are particularly relevant to economic and agricultural history and points out how, even so, very few historians make use of archaeological data even when writing about these very topics. There are two observations to be made on this point. Shaw's own work, as seen in this volume, sets an example for others in his responsible use of archaeological sources (especially essays II, V, VII). He is not alone; archaeological data of all sorts have become much more standard as evidence in historical and economic accounts of North Africa (and other regions of the Roman empire). D.J. Mattingly's account of Roman Libya, for instance, creates an excellent synthesis of material and literary evidence (D.J. Mattingly 1995).

Shaw's second complaint is that archaeologists devote too much attention to urban sites and ignore the archaeology of the countryside. The latter, he argues correctly, has more evidence pertaining to questions such as how agricultural prosperity was achieved. In particular, he urges that archaeologists concentrate more on field survey, the systematic collection and analysis of surface finds. Field surveys provide broad evidence for the locations and nature of occupation of a large territory (a river valley, for instance) over time, evidence that cannot be obtained through any other method. With respect to field survey, the archaeological profile of North Africa has changed notably since 1976. Field survey is now an established component of Mediterranean archaeology generally, and North Africa is no exception. Several important survey projects have investigated or are now investigating rural landscapes in North Africa, especially in Libya and Tunisia. The UNESCO Libyan Valleys Survey (ULVS) of the 1980s, soon to be published in full, is one of the most important, as the survey has mapped systems of walls, terraces, and farms in selected sections of the Libyan pre-desert. This surface survey was accompanied by select excavations and a full program of study of seeds, bones, and ancient pollen samples; the latter will be crucial for studying ancient environmental and climatic conditions. The results from ULVS are very important for studying farming methods in a marginal environment. Shaw himself makes use of preliminary reports from ULVS in his final essay (VII). Other smaller scale Libyan projects are reported regularly in the *Journal of Libyan Studies*. Another extensive and influential survey is R.B. Hitchner's investigation of the olive producing Kasserine area of southern Tunisia (e.g. R.B. Hitchner 1990). Again, by the time

of his final essay in 1991, Shaw has been able to make use of this information as well. A Danish team has recently completed a survey of the Segermes region of coastal Tunisia (S. Dietz et al. 1995). Their findings include several production sites. Urban and rural field survey led by D.J. Mattingly, D. Stone, and N. Ben Lazreg at the coastal Tunisian city of Leptiminus will yield important information about production and the interrelationships of town and country (N. Ben Lazreg and D.S. Mattingly 1992). Other archaeological research possibly of interest to readers of the *Journal of Political Ecology* includes D. Peacock's survey of kiln sites in coastal Tunisia (D. Peacock et al. 1990) and joint Tunisian and French work on the "coastline project" (for instance, M. Bonifay et al. 1992; F.R.Chelbi et al. 1995). A broad survey of all types of current archaeological work in North Africa appeared recently in the *Journal of Roman Studies* (Mattingly and Hitchner 1996). Varied in their methods, objectives, and results, all the above-mentioned projects provide new data that will be valuable to archaeologists and historians alike.

After the introductory essay on methods and evidence, the first main theme is "Climate and Environment." Shaw provides two papers arguing against the widely held view that there has been significant climatic change in North Africa since Roman times. In one essay (II) he argues that osteological remains of certain mammals (hippopotami, rhinoceroses), which have been used to argue for a significantly wetter environment in the Maghrib's past, are in fact localized within certain geographical pockets where specific and recognizable factors combined to create a favorable microenvironment. Most of these species are attested into the ninetieth century, and their demise is due more probably to human agency than to climatic change. In the other essay (III), he attacks the myth of significant climatic change on several more fronts. He explains historiographic reasons why colonial powers such as the French preferred to envisage a decline since Roman times. He evaluates such ancient literary sources as exist for their testimony on the climate and agricultural prosperity within Africa. He points out ninetieth century events, such as logging, that accelerated aridity long after the Roman period was over. The strength of these essays is the scrutiny of a wide variety of modern primary sources including administrative documents and archaeological reports of the modern colonial period. Moreover, sound historiographic analysis tempers his reading of all sources and is clearly explained.

The next essay (IV) debunks another popular myth about Roman Africa: the supposed Roman reintroduction of the camel and that animal's alleged superiority for use in warfare and agriculture. Again, the historiography is illuminating, and Shaw uses a combination of ancient literary testimonia, archaeological data, ethnographic evidence, and modern scientific findings to make his point. The multifaceted, overall argument is convincing, although the archaeological evidence is incomplete at best. When Shaw discusses the archaeological record, he cites only prehistoric contexts where camel bones have been found and does not name examples of archaeological sites of the early historical period (679-80). Full archaeological continuity is not demonstrated, but negative material evidence does not disprove his other arguments.

The final section of the volume focuses on "Water and Power." All three of these essays define aspects of the contrast between "consumptive" urban water usage and "productive" rural water usage, and work to move our eyes beyond the romantic dazzle of the urban aqueducts to less glamorous but more agriculturally productive methods of water management. Shaw also tackles the recurring opinion that Romans introduced more advanced farming methods, vastly increasing the region's agricultural prosperity during the Roman period. Essay V, "Water and Society in the Ancient Maghrib," has been very influential since its publication in 1984. In it, Shaw begins by articulating the difference between "consumptive" and "productive" water usage and discusses both the historiography and the methodology of the issue (pp. 121-42). He then focuses primarily on "productive" rural water systems: defining agricultural needs, describing how select systems met these needs (pp. 142-50), and evaluating how Romans interacted with this indigenous

technology (pp. 151-67). He makes a persuasive case that the methods of arid agriculture seen in the Maghrib predated Roman arrival. In the final section, he explores how the exploitation of water as a valuable commodity affected social structure and interactions (pp. 167-71). Shaw returns to the theme of water and society in essay VI, a case study of the irrigation community of Lamasba.

The final essay (VII) returns to the theme of consumptive and productive water use and takes a close look at the role of aqueducts. Although the aqueducts seem to many modern viewers to epitomize Roman pragmatism, in actual fact they were astronomically expensive to construct, gave much of their supply to extravagant public fountains and baths rather than productive uses, and in many cases significantly postdate a city's main phases of expansion. This form of "consumptive" use of water did not create the prosperity of a city or region, but instead acted as a conspicuous symbol of the success a city had already achieved.

Despite its origin as a collection of reprinted essays, this compendium forms a coherent volume. On the whole, the essays work fairly well together, though there is a certain amount of repetition within the articles and some odd sequences of information resulting from the thematic rather than chronological arrangement of the papers within the book. Where a conventional book would have an introduction and a conclusion, this compendium commences with a brief new introduction by Shaw (1994), followed by a manifesto on the types of archaeological information available and the ways in which the historian can use such information (essay I). The final essay (VI), which also happens to be the most recent, works fairly well in place of a summary chapter, although it does not touch much on the questions of climatic change or the so-called introduction of the camel by the Romans. The essays remain in their original and varied typesets, and retain their original pagination. There is not new pagination for the book. An index has fortunately been provided, and entries cite the essay number and page number for each reference.

Over two decades, Brent Shaw has contributed enormously to our understanding of ancient North Africa and the present volume will make his papers, many of them influential, more accessible to students and to a wider audience.

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The Trail of the Hare: Environment and Stress in a Sub-Arctic Community. Second edition. By Joel S. Savishinsky. Langhorne, PA: Gordon and Breach, 1994, 294 pp. map, illustrations, tables, bibliography, index.

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First published in 1974, this second edition of Savishinsky's monograph of the Hare Indians of the Colville Lake area of the Canadian Northwest Territories provides an expanded, updated portrait of stress and stress management among the Athabascans (Dene) of this harsh region. As a basic ethnography on the Hare, this work is quite detailed and comprehensive, with chapters on "Ecology and Community," "Kinship and History," "Stress and Mobility," "The Missionary and the Fur Trader," and finally "The Hare and the Dog," a probing look at the complex involvement of dogs in Hare economic, social, and emotional life. Savishinsky attempts to derive a generalized model for evaluating the environmental, social, and psychological stresses that confront Hare villagers.

To mitigate the varied sources of stress that affect them--including scarcity of resources, extreme weather, reciprocal obligations, periodic bush isolation and village "crowding," poor health, drinking, etc.-- the Hare employ a repertoire of coping mechanisms or "response features" including: mobility, respect for individual autonomy, generosity and sharing, and emotional restraint and displacement (often onto dogs). These traits are legendary among Interior Athabaskan groups and in the case of the Hare have persisted despite the acculturative forces of missions, towns, schools, wage labor, and other incursions. In the late 1960s, and even today, many Hare still follow an annual cycle of dispersal (for hunting and trapping) and "ingathering" (for fishing, wage jobs, and holidays). Stress is viewed not only as a negative force but also as a positive source of motivation to adapt and develop more varied approaches to the ambiguities of their existence.

The value of Savishinsky's multidimensional approach is that stress and responses to stress are not reduced to one sphere or currency. Thus, whereas an optimal foraging theorist might evaluate a hunter's decision to strike out into the bush on his own (or in a particular group) as an economic decision based on maximizing utility/fitness, Savishinsky finds that many decisions concerning residence and mobility are motivated as much by social factors--particularly interpersonal stresses--as economic ones. Thus, "the size of groups at different times of the year has its psychological as well as its ecological significance" (p.146). Similarly, mobility is not simply a response to stress but a positive state of being, and the trail a "metaphor for life" (p.145).

Yet, while the focus on stress provides a unifying theme to the narrative, as a theoretical construct it ultimately sags under its own weight. Savishinsky is guilty of what Giovanni Sartori calls "conceptual stretching," extending the label of "stress" to so many