

Anastasios K. ΣΙΝΑΚΟΣ, Άνθρωπος και περιβάλλον στην πρωτοβυζαντινή εποχή (4ος–6ος αι.). *Βιβλιοθήκη Ιστορικών Μελετών*, 3. Thessalonike, University Studio Press 2003. 193 S. Mit 2 Abb. ISBN 960-12-1178-0.

Although environmental history has emerged as a distinct historical field only since the late 1960s, it has a long ancestry. The idea that human society (and hence history) is affected by physical environment can be traced back as far as ancient Greece; ideas of climatic and geographical determinism were also widespread in the eighteenth and nineteenth century Europe. Modern environmental history has, however, been shaped by the development of historical geography and agrarian history, by attempts to establish a more scientific basis for history, and, more recently, by growing concern about environmental degradation. Modern environmental history can also be understood as part of a wider reaction against an older history of nations,

states and “great men and women”. Byzantine studies too, have not avoided this “environmentalism”. Since the early 1980s various studies concerning aspects of historical geography of the Byzantine period have appeared.¹

The volume under review, submitted as a doctoral thesis in 2000 (Department of History and Archaeology, Thessalonike University, Greece) and later revised for publication, is a good effort to reconstruct the relationship between man and environment – natural and anthropogenic – during the early Byzantine period (fourth through sixth centuries AD). In broad terms, its author aims to depict early Byzantine man’s approach to nature, as well as to draw – though unconsciously – the environmental history of early Byzantium.

The book consists of three well organized main sections: The Eastern Church Fathers’ view of environment (section A), human intervention in Constantinople and the provinces (section B), natural phenomena that formed the environment and affected human activity (section C). This structure shows the ambition of the author to cover a very broad spectrum of philosophical, historical and paleoenvironmental topics: analysis of theories concerning interpretations of and attitudes toward natural phenomena in early Byzantine thought on the one hand; human activities that formed urban and agrarian landscapes on the other; last, influence of natural phenomena upon human societies and societal responses. SINAKOS (hereafter S.) has divided each section into parts arranged under individual headings in chronological order, and has provided conclusions summarizing the important points.

In the Introduction (13–14), which serves as a very brief presentation of the work as a whole, S. states his aim to provide a picture, as complete as possible, of the interactive relationship between man and environment, as well as to depict the theoretical background of human intervention in nature and constructed environment for the early Byzantine period.

In the Bibliography (15–34) primary and secondary titles are presented unified in alphabetical order. A glance at the primary sources shows that S. consulted (more or less): 34 histories, ecclesiastical or pagan authors; 26 Church Fathers’ texts; 18 Saints’ Lives; 16 chronicles; 8 law texts; 5 ancient Greek authors; one epigraphic source.

Section A (37–43) surveys the complex pattern of ideas about nature prevailing among the intellectuals of the early Byzantine period. These ideas are exclusively based upon the thought of the Eastern Church Fathers, so the few pages of this section are a brief presentation of the view on nature from a Christian perspective. World’s and man’s creation, as well as man’s relations with “Cosmos” are highlighted. S. suggests that “man of that period is conscious of being part of nature, of the “whole”, and is not possessed by the idea of subduing the nature” (41–42).

Section B (47–112) is the largest of the book. Here S. explores human intervention in early Byzantine Constantinople and surrounding region from the fourth through the sixth centuries AD by dividing his material in chapters devoted to a particular area and century. A separate last part deals with interventions in countryside. The documentation of this section is based mainly upon legal and narrative sources, as well as upon a few general historical and archaeological studies. The use of legal sources is correctly emphasized in this section of the book while this kind of sources offers a clear view of the institutional framework that regulates the relation of man with natural resources and constructed environment in everyday life. Justinian’s building activity is presented in detail and based mainly upon Procopius’ work. A variety of matters concerning Constantinople (e. g. foundation, organization, urban design, decoration, water supply, drainage), as well as provincial urban and rural areas (e. g. irrigation systems, roads, threshing floors, fence constructions, housing, constructions for professional and manufactural use) are presented in special chapters. In the concluding part (111–112) S. combines human intervention in urban and

¹ For an updated report of trends in this field see Verena WINIWARDER et al., Environmental History in Europe from 1994 to 2004: Enthusiasm and Consolidation. *Environment and History* 10 (2004) 501–530. A systematic bibliographic presentation of studies concerning various aspects of the environmental history of Byzantium is still missing. One can search sections 5B, 6A, 7A and 7B of *BZ* for relevant bibliography.

rural landscape, as well as early Byzantine legislation with the concept of human “responsible dominance”, the religious perception of nature that was briefly exposed in section A.

Section C (113–169) is the author’s contribution to the environmental history of Byzantium. Natural hazards and their societal impacts are explored from the fourth through the sixth centuries AD mainly for Asia Minor and the vicinity. The material is divided in three main parts devoted to: i. “The earthquakes”; ii. “Famine, pestilence and the remaining catastrophes”; iii. “Other climatic perturbations and their influence upon man”. In separate chapters for each century natural phenomena are described in chronological order. S.’ historical narration is a detailed presentation of information gained from the sources. The documentation of this section is based mainly upon contemporary and posterior historiography (history, ecclesiastical history, chronography), as well as upon a few paleoenvironmental recent studies. An introductory subchapter (115–116) deals with “views for the interpretation of natural phenomena”, a topic that would better fit in Section A. Here S. describes the Late-Antique views about: earthquakes (Ammianus Marcellinus, Agathias), superstition and weather lore (Joannes Lydus), and religious interpretations of some weather events (with references to five Saints’ Lives and to Sozomenos). The earthquakes and their socio-economic consequences are described at length (117–142). Details from the sources are presented as an anthology of events in chronological order. Questions about dating, attribution and textual criticism are very scarce. The chapter concludes with some observations about the excessive seismicity of the Middle East during the sixth century AD, a period designated by S. as “the century of earthquakes and big catastrophes” (142). The issue whether the documentary sources are more biased to furnishing seismic evidence less for western Mediterranean than for Middle East is solved by S. with the help of the existence and activity of the area’s significant tectonic faults. Thus, “excessive damage caused by earthquakes shows that during these centuries natural environment prevails to man, who can hardly affect or alter it”. Famine, droughts and locust invasions (143–160) are explored in the same motive. The last part (161–169) is devoted to extraordinary climatic hazards (frosts, heavy rainfalls, floods, hailstorms, tides, volcano eruptions and abnormal phenological events). The “dust-veil” event of AD 536/7 is presented here at length and is explained by the use of the volcano-eruption theory. In a final part (171–172) S. questions the harshness of the Mediterranean physical environment in comparison to present conditions. His answer is negative: man’s dependence on environmental conditions during the early Byzantine period must be attributed to the technological and economic shortcomings of that period. Thus, natural factors – in correlation to financial causes – conduced to the crisis of the seventh century. The book also includes a list of earthquakes (fourth through sixth centuries AD), a summary in English, two figures (Constantinople during the age of Theodosius; Tectonic plates in Aegean and adjacent areas), and a general Index.

In this work the author keeps closely to his stated purposes of demonstrating the effect that humans had on their natural surroundings and the influence of the environment on humans. He also accomplishes the goal of providing a picture of the interactive relationship between man and environment in early Byzantium. The organization of the material is good, and the presentation clear, and easy to read. There are, nevertheless, a few aspects of the research that S. might have approached even deeper.

First, while S.’ listing of primary sources is adequate he should also have included some other important sources conducive to his aims. In section A sources relevant to the “scientific” models of nature developed by philosophers, the ecological perspective of Late-Antique writers, or theories for the influence of environment on human society could have been mentioned. The concisely exposed contribution of ancient Greek philosophy (Heracletus, Plato, Aristotle) to the interpretation of nature’s creation, might be supplemented by the presentation of later schools of thought (e. g. Stoicism, Neoplatonism, Ptolemaic system) or the formation of the early Christian natural philosophy (Diodorus, Seberianus of Gabala, Pseudo-Caesarius or Cosmas Indicopleustes). In section B the use of papyrological, numismatic and direct archaeological evidence would have added much to the information gained from legal sources and historiography. And in the introductory chapter of section C S. could have achieved a more systematic approach of the matter if he had incorporated earthquake explanations from the commentators of Aristotle (sixth century AD: Olympiodorus, Joannes Philoponos), and from Joannes Lydus “*De ostenti-*

is” c.53.² Among the religious interpretations,³ a reference to Basil of Caesarea, “Hexaemeron”, would also have been useful; the citations of accounts from Saints’ Lives could have been further analyzed, so that the distinction between the cause and the intention for the manifestation of a weather phenomenon might have been discerned.⁴

S. went through a good number of secondary literature concerning environmental issues. Nevertheless, he would have been profited in information and interpretation if he had taken account of some studies from the field of archaeological⁵ and paleoenvironmental knowledge concerning earthquakes,⁶ famine,⁷ droughts, and locust invasions.⁸

The methodology that S. applied is rather descriptive than analytical. In the Introduction the reader would expect a report of the “state of the research”: i.e. analysis of the studies made so far concerning the subject, gaps of the relevant knowledge, and perspectives of the research. Unfortunately S. did not put forward such a presentation, leaving aside significant part of specialized studies.⁹ Besides, detailed comments for the applied methodology would be greatly welcomed in the Introduction. Such comments could clarify the author’s view regarding to: i. The

² For the superstitious views on weather phenomena D. A. KREKOUKIAS, *Τα προγνωστικά του καιρού εις την αρχαίαν, την μεσαιωνικήν και την νεωτέραν Ελλάδα*. Αθήναι 1966, could have been used.

³ A good starting point could be D. WALLACE-HADRILL, *The Greek Patristic view of nature*. Manchester, Manchester University Press 1968.

⁴ For this distinction S. could have used from his bibliography the relevant chapter from my book (now I. TELELES, *Μετεωρολογικά φαινόμενα και κλίμα στο Βυζάντιο. Πονήματα. Συμβολές στην Έρευνα της Ελληνικής και Λατινικής Γραμματείας* 5/1, 5/2. Αθήναι, Ακαδημία Αθηνών 2004, 711–782).

⁵ For the water supply of Constantinople the specialized study of P. BONO/J. CROW/R. BAYLISS, *The water supply of Constantinople: archaeology and hydrogeology of an Early Medieval city. Environmental Geology* 40 (2001) 1325–1333 could have been used for material of archaeological and hydrogeological interest.

⁶ S. could have exploited a precious and updated tool for documentary evidence on Late-Antique Mediterranean seismicity if he had used E. GUIDOBONI/A. COMASTRI/G. TRAINA, *Catalogue of ancient earthquakes in the Mediterranean area up to the 10th century. SGA Storia Geofisica Ambiente*. Bologna 1994. This study would have provided him with evidence from western sources, so that he might avoid the somewhat arbitrary conclusion that “evidence from the sources concerning the western empire is sparse” (128). On the other hand, some striking cases – such as the AD 365 tsunami or the AD 551 earthquake in Eastern Mediterranean region – should have been analyzed by the help of specialized bibliography. For the AD 365 tsunami could have been used: F. JACQUES/B. BONSQUET, *Le raz de marée du 21 Juillet 365. Du cataclysme local a la catastrophe cosmique. Mélanges de l’École Française Rome* 96 (1984) 423–461; G. J. BAUDY, *Die Wiederkehr des Typhon. Katastrophentopoi in nachjulianischer Rhetorik und Annalistik: Zu literarischen Reflexen des 21. Juli 365 n. C. Jahrbuch für Antike und Christentum* 35 (1992) 47–82; G. H. WALDHERR, *Die Geburt der ‘kosmischen Katastrophe’*. Das seismische Großereignis am 21. Juli 365 n. Chr. *Orbis Terrarum* 3 (1997) 169–201; S. C. STIROS, *The AD 365 Crete earthquake and possible seismic clustering during the fourth to sixth centuries AD in the Eastern Mediterranean: a review of historical and archaeological data. Journal of Structural Geology* 23 (2001) 545–562. For the AD 551 earthquake (which S. 136–137 falsely dates in AD 554): R. DARAWCHEH et al., *The 9 July 551 AD Beirut earthquake, Eastern Mediterranean region. Journal of Earthquake Engineering* 4 (4) (2000) 403–414, where additional documentary evidence for the event could have been found.

⁷ For famine and pestilence the reader may now compare with the study of D. STATHAKOPOULOS, *Famine and pestilence in the Late Roman and Early Byzantine Empire. A systematic survey of subsistence crises and epidemics. Birmingham Byzantine and Ottoman Monographs*, 9. Aldershot 2004.

⁸ Basic studies: D. CAMUFFO/S. ENZI, *Locust invasions and climatic factors from the Middle Ages to 1800. Theoretical and Applied Climatology* 43 (1991) 43–73; D. NEVO, *The desert locust, Schistocerca gregaria, and its control in the land of Israel and the Near East in Antiquity, with some reflections on its appearance in Israel in modern times. Phytoparasitica* 24 (1) (1996) 7–32.

⁹ The book of J. KODER, *Der Lebensraum der Byzantiner; historisch-geographischer Abriß ihres mittelalterlichen Staates im östlichen Mittelmeerraum. Byzantinische Geschichtsschreiber. Ergänzungsband* 1. Graz/Wien/Köln 1984 remains the first and basic handbook for the historical geography of Byzantium, and a valuable starting point for anyone who wants to approach issues of the “environmental history” of Byzantium. This study would have helped S. much in principles and methodology.

chronological and geographical framework of the study; ii. The methodology in the approach and use of the primary and secondary sources. A more conscious application of certain methodologies in historical analysis would have benefited the presentation of various problems. For instance, in section A, a more profound examination of the decline of Late Roman Empire's cities – a still open issue in scholarship – would have guided S. to current research in Late Antiquity and would have given him the opportunity to expand the geographic framework of his study to areas further to the West, instead of confining himself in the eastern part of the Late Roman Empire.¹⁰ In section B (47–111), he could have expanded the interesting variety of sectors of human intervention in urban and rural areas further to: deforestation, wildlife depletion, overgrazing, role of machinery in exacerbating ecological degradation, and impact of farming practices on the ecological balance.

On the other hand, there are points in the interpretation of some events that would deserve more scrutiny. The lack of Nile's flood in AD 463 and 615 is attributed by S. (153 & 159) in excessive drought in Egypt. For this conclusion a significant geographical parameter failed to attract his attention: Nile's flooding is associated with the hydroclimatological regime of central Africa (3,000 km south of Egypt), where the sources of the river are.¹¹ Locust invasions are considered by S. (156) as forerunner of drought. But in the relevant literature there is still no satisfactory explanation why the numbers of locusts increased.¹² The conclusion that lack of rain in Constantinople in November AD 563 was caused by the blow of northern winds which caused drought in the region seems to be unreasonable, because the blow of northern winds in Constantinople is associated not with lack of rain, but with humidity.¹³ In some cases (156–157) S. deduces dry spells from the manifestation of food crises (AD 516 in Alexandria, 526 in Constantinople and 582 in Asia Minor). But such deterministic deductions ought to be based on more complex research models taken from historical geography and paleoecology. The absence of such models is also obvious in the concluding sections (151, 153, 159). The idea of the imposition of natural environment against man is repeated and, finally, a causal connection between the natural hazards of the sixth century with the breakdown of urban life of the seventh century AD is introduced, without further discussion. This is a crucial point of the book because it denotes the author's approach towards the role of environment upon human affairs. In the last chapters (167 and 171–172) despite the assertion that “absolute climatic determinism cannot be of course accepted”, S. suggests that the catastrophe caused by the AD 536/7 dust-veil event's magnitude was a turning point in history. Hun and Slavic invasions, as well as the outbreak of the AD 542 plague are causally associated with the AD 536/7 event.¹⁴ This insight should be perceived as more of a gesture to other historians to pursue this line of investigation than a fully developed argument. In which scale, ways, and levels of societal structure natural hazards have accounted for the widespread deterioration of conditions that led to the historical change of the seventh century? S. should have used sophisticated non-linear models of human

¹⁰ A few lines and one footnote with six references (49) cannot satisfy the approach of the Late-Antique urban decline. An update for the existing theories and methods for this would have been found in: L. LAVAN (ed.), Recent research in Late-Antique urbanism. *Journal of Roman Archaeology Supplement*, 42. Portsmouth 2001.

¹¹ S. could have used from his bibliography TELELIS, *Μετεωρολογικά* (n. 4) 63 n. 24 and 25.

¹² From his bibliography S. could have used H. H. LAMB, *Climate present, past and future*. Vol. 2. *Climatic history and the future*. London 1977, 234.

¹³ For the climatology of Constantinople S. BYZANTIOS, *Η Κωνσταντινούπολις*, τ. Α. Αθήναι 1851, 22 ff. could have been used. On the other hand, a closer look at Malalas' 492. 7–11 account makes obvious the association of the blow of northern winds with the fact that the fleet with the grain supply of the capital could not sail from Egypt.

¹⁴ For a systematic survey of all the available documentary and physical evidence concerning this event and at the same time a methodologically well balanced study that avoids simplistic theories and environmental determinism (an in-fashion trend in historical interpretation) see the forthcoming paper of A. ARJAVA, *The mystery cloud of AD 536 in the Mediterranean sources*. *DOP* 59 (2005).

response and adaptation to the environmental variable so that he could answer adequately this complex question.

In general, this study is a valuable tool in obtaining a concise outlook of the natural hazards that afflicted early Byzantium and an interesting starting point for further research in the field of environmental history. However, a comprehensive and updated study of the “environmental history” of Byzantium is still a desideratum.

Athen

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