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# Introduction – Steps Towards an Environmental History of the Byzantine Empire

## Modern perceptions

> *That is no country for old men. The young*
> *In one another's arms, birds in the trees,*
> *—Those dying generations—at their song,*
> *The salmon-falls, the mackerel-crowded seas,*
> *Fish, flesh, or fowl, commend all summer long*
> *Whatever is begotten, born, and dies.*
> *Caught in that sensual music all neglect*
> *Monuments of unageing intellect.*

In his poem »Sailing to Byzantium« William Butler Yeats perceives all this vibrant vitality NOT as typically Byzantine. Instead, the poet pictures Byzantium as a place to which an old man tired of these distractions can flee – a world of the intellect, of the artificial, a transcendent inanimate world where his soul »fastened to a dying animal« can leave behind the earthly delights of the young and can be gathered »into the artifice of eternity«. The old man dreams of leaving his mortal biological nature and never again resuming his »bodily form from any natural thing, / But such a form as Grecian goldsmiths make / Of hammered gold and gold enamelling / To keep a drowsy Emperor awake; / Or set upon a golden bough to sing / To lords and ladies of Byzantium / Of what is past, or passing, or to come.«[1]

Indeed, in our modern perception this is what Byzantium stands for: a cultured empire of the intellect, a people that excelled in arts and crafts, an empire that used its skills to shape the history, politics, and economics of the eastern Mediterranean for a millennium. Books and exhibitions marvel at the theological treatises and the poems, the painted icons, illuminated manuscripts, the beautiful churches with their mosaics and frescos, the golden jewellery. As in Yeats's poem, if we take notice of Byzantine birds, we usually perceive them in their sublimated form – painted or gilded –, not in their mortal feathered nature. The animate world, the natural environment of the Mediterranean which formed the scenic backdrop of Byzantine culture, and which was shaped by it, seems to have perished with its people; it is not gathered »into the artifice of eternity« – and has always played a minor role, if any at all, in the modern perception of this Empire.

This of course is not per se lamentable; it is normal: History and Archaeology deal with past human cultures which are (in the case of complex societies) often instinctively seen as detached from their »natural« environment. The culture with all its achievements and qualities is what makes an Empire or a people unique and worth studying. Without culture, we are all the same.

## First steps – a subjective history of research

The dichotomous conception of nature and culture, which William Butler Yeats illustrated so beautifully with his poem, dominated 20th century research on these two realms. As history and archaeology are primarily dedicated to human action in the past, these research branches focused decidedly on the »culture« side and included environmental aspects only if necessary. In what follows, a sketch of the steps taken so far is outlined[2]. The first steps towards an environmental history were taken in the sphere where environment and human action overlap most: economy, first and foremost agriculture[3]. In the early works, this sphere was scrutinized primarily on the basis of written evidence and – due to the character of the sources used – often focused on Constantinople or remained spatially vague or undetermined. Within this approach, »nature« or »environment« was usually seen as a bundle of commodities, of resources which can and should be exploited efficiently and strategically according to the specific human needs of the time and place. The means

1 The golden birds of the last stanza certainly relate to the throne Liutprand of Cremona described in his memoirs of a trip to Constantinople in 949, a raisable automat of gilded bronze: »In front of the emperor's throne was set up a tree of gilded bronze, its branches filled with birds, likewise made of bronze gilded over, and these emitted cries appropriate to their species. … This throne was of immense size and was, as it were, guarded by lions, made either of bronze or wood covered with gold, which struck the ground with their tails and roared with open mouth and quivering tongue.«. – Mango, Art 209-210.

2 This sketch neither gives a detailed list of publications on the mentioned topics but highlights only some, nor does it take into account the numerous byways that were taken, thus omitting valuable pioneer work for the sake of brevity. This is due to two considerations: first, a conference volume like this is not the place for detailed, exhaustive bibliographies. And second, currently »A Companion to the Environmental History of Byzantium«, edited by Johannes Preiser-Kapeller, Adam Izdebski and Mihailo Popović in the Brill series, is in preparation which will probably, given its character as a handbook, give a more elaborate account of past research.

3 Teall, Grain Supply [1959]. – Ostrogorsky, Agrarian Conditions [1966]. – Lemerle, Agrarian History [1979]. – Teall, Agricultural Tradition [1971]. – Kaplan, Les Hommes et la Terre [1992]. – Fumagalli, Gli animali e l'agricoltura [1985]. – Koder, Gemüse [1993]. – Müller, Getreide [1993].

by which it is exploited and the reasons for exploitation represent the link between »nature« and »culture«, so far basically a one-way relationship.

With the upswing of biological and geological field methods in the late 1980s and the 1990s, a change of direction in Byzantine studies relating to environmental questions can be detected, even though the general paradigm did not initially change very much. In this period, the archaeologists began to engage in settlement studies in the Eastern Mediterranean which focused on Roman to Early Byzantine sites. These projects were linked to environmental questions while they focused on the economies of settlement areas. With the help of extensive field surveys and in-depth scientific analyses, archaeology aimed to gain an understanding of the functional organisation of micro-regions[4]. The Sagalassos project, initiated in 1990 by Marc Waelkens, the »Transition to Late Antiquity« project conducted by Andrew Poulter from 1996 on, and the Androna project by Marlia Mundell Mango which started in 1997 are methodological milestones as regards the application of interdisciplinary field work with the shared aim of understanding cities and their hinterlands as functional entities[5]. The widespread application of geographical information systems and new remote sensing techniques continuously stimulated the development of new methodologies, a trend still ongoing[6]. These new archaeological perspectives, certainly related in some way to the so-called »spatial turn«, were accompanied by historical studies that took the same direction[7]. The idea of an in-depth analysis of micro-regions culminated in Peregrine Horden's and Nicholas Purcell's seminal concept of connected Mediterranean micro-ecologies[8]. Such work shifts the attention away from imperial strategies to the role of small economic units whose agency shaped the history and the physical appearance of the Mediterranean.

At the same time (and partially within the aforementioned long-term projects), two aspects of modern debates regarding the environment crept into the field of scholarly attention and subsequently, after the turn of the millennium, became comparably large fields of interest: the impact of human activities on environments (now not only the cultivation of landscapes but [over-]exploitation)[9] and the role of the climate[10]. In the new millennium, with the progress of scientific analytical methods, particularly on a molecular level, paleopathological studies, too, experienced a boom[11]. In recent decades, research on the Justinianic plague has massively intensified and led to a new understanding not only of the disease itself but of its social implications[12]. This is a general feature of recent environmental studies: they increasingly take into account the reciprocity of environmental and societal aspects and incorporate a wide range of disciplines[13]. By now, Byzantine studies have become aware of how much cultures and the course of history itself were shaped by their respective environments and again shaped these. Perhaps it was the achievements in the interdisciplinary field of Environmental history, fuelled by modern ecological debates and observations[14], which led to the awareness that complex interrelations between societies and their environments exist, and that these were highly formative for all spheres involved. But how to approach and disentangle these?

## How can a conference or its proceedings contribute?

As that short historiography shows, research on the environmental history of Byzantium does not follow a master plan. A wide variety of different approaches is deployed throughout the eastern Mediterranean and in studies and libraries. All these contribute to the mosaic which forms the state of research. This book assembles a collection of these approaches – whether these are representative is for the reader to judge. As they are so variegated and follow different research questions, their findings are accordingly variegated as well: information is gained on land-use strategies and water management, on health and nutrition, on animal, plant, and mineral exploitation, and on the perception and appraisal of environments like gardens, deserts, or forests. Furthermore, these results apply only for certain areas of the vast Empire

4 Greene, Carthaginian Countryside [1986]. – Arthur, Napoli [1994]. – Bazzana, espaces agraires [1999]. – Bintliff, Reconstructing the Byzantine Countryside [2000]. – Cavanagh et al., Laconia Survey [2002]. – Much of the zooarchaeological data and the archaeobotanical data gathered in such settlement archaeology projects has found entrance in the respective meta-analyses by Anna Elena Reuter (p. 149-170) and me (p. 171-198).

5 See the articles by Andrew Poulter and Marlia Mango in this book. Johan Bakker, Elena Marinova and Bea De Cupere of the Sagalassos project also presented environmental aspects of their research at the conference, but unfortunately could not hand in a contribution.

6 See the methods mentioned in the contributions by Katie Green, Rainer Schreg, Marlia Mundell Mango and Andrew Poulter, which often include material culture and historical geography. – The Tabula Imperii Byzantini (TIB) series adapted to this development, too. They included field surveys which employ the Historical Landscape Characterisation HLC (see Katie Green's article) and make use of Google Earth.

7 Mango/Dagron, Constantinople and its Hinterland [1993]. – Belke et al., Byzanz als Raum [2000].

8 Horden/Purcell, The Corrupting Sea [2000].

9 For aspects of human impacts see Roberts, Human Induced Landscape Change [1990]. – Eastwood et al., Holocene Environmental Change [1999]. – Christie, Landscapes of Change [2004]. – Lucke et al., Decapolis Region [2005]. – Knipping/Müllenhoff/Brückner, Human Induced Landscape Changes [2008]. – Izdebski, Changing Landscapes [2012].

10 For climatic aspects see Alexandre, Le climat en Europe [1987]. – Neumann, Climate of the Black Sea Region [1991]. – Bottema/Woldring/Aytug, Late Quaternary Vegetation [1993]. – Koder, Climatic Change [1996]. – Bar-Matthews et al., The Eastern Mediterranean Paleoclimate [1999]. – Hirschfeld, A Climatic Change [2004]. – McCormick et al., Climate change [2012]. – Haldon et al., Climate and Environment [2014].

11 McCormick, Molecular Middle Ages [2016].

12 Stathakopoulos, Justinianic Plague Revisited [2000]. – McCormick, Rats [2003]. – Stathakopoulos, Famine and Pestilence [2004]. – Horden, Mediterranean Plague [2005]. – Little, Plague [2006]. – Harbeck et al., Yersinia pestis [2013].

13 As can be seen in the contributions by Stefan Albrecht, Johannes Koder, Klaus-Peter Todt and Bernd Andreas Vest. Recent studies on climatic aspects apply this to a remarkable degree: see for instance McCormick et al., Climate change. – Haldon et al., Climate and Environment.

14 For instance, the Great American Dust Bowl, see Paul Arthur's contribution.

and certain time spans. At the same time, the depth and resolution of the data is highly variable.

The aim of the conference held at Mainz was to gather information on such applied approaches to the environmental history of Byzantium, on the tool box we have to hand for this purpose. We wanted to fathom how much we already know, and how to proceed with this knowledge. A conference is a place of communication, a place of mutual inspiration and unexpected synergies. It aims to bring together people with different ideas rather than to cover a subject exhaustively. And it gives the opportunity to talk with each other and exchange ideas.

Accordingly, this conference volume, too, does not try to show all possibilities and to comprehensively review the state of the art, but to highlight some steps towards an environmental history of Byzantium that have already been undertaken. It reaches out to share the ideas with a wider audience than the conference and it provides the opportunity to follow some tracks in the bibliographies and to find promising connections in research which at first glance seem unrelated.

Such a synopsis, incomplete as it may be, can help to develop a more systematic framework for future studies and to identify obstacles and problems.

## Towards an environmental history of the Byzantine Empire

With the term »Environmental history« one associates linearity. More than that, an »Environmental history of the Byzantine Empire« suggests that the object of research is a confined system. Given not only the changing borders of the Empire but also the diversity of landscapes within these, it is self-evident that we do not have to write one, but multiple environmental histories. Will we, if all these little worlds are bound together and aligned chronologically in a distant future, find something linear, a story with a plot? The Byzantine Empire was a conglomerate of innumerable individual and different eco-systems, each of them already with a past inscribed in them. In each of these, individual »natural« and »cultural« factors interacted and constantly created something new. We are dealing with a multitude of complex systems which we cannot simply observe, but which we have to reconstruct in all their splendid fluidity. Peregrine Horden and Nicholas Purcell have demonstrated with their concept of micro-ecologies that this is not a problem but a chance for a fruitful approach[15]. All studies in this book with a spatial approach[16] split the empire into smaller parts either to compare these with each other[17] or to analyse them in depth[18].

But even if we split up the Empire into micro-ecologies, we still deal with complex problems for which there are no simple solutions. When we want to disentangle relations between a system that follows »natural« ecological laws and a system that follows »human societal« laws, it helps to treat them as subsystems of something larger. And it proves useful to incorporate a variety of methods that can help to identify agents and factors of the respective subsystems in a systematic way[19]. The existing research field of Environmental history, which has developed in the past decades between disciplines of the sciences and humanities, has a lot of theoretical frameworks to offer which include both worlds[20]. It is worthwhile to scrutinise them and to consider them in the light of specific research questions[21].

The strong interrelations of the »cultural« and the »natural« worlds of course demand that the sciences and the humanities join forces – which has already happened: The development of Byzantine studies since the 1990s is very promising in this regard!

What is crucial for these future tasks – and here I want to recur to the beginning of this chapter, William Butler Yeats's poem – is that we do not only focus on culture-specific action and agency but also on thought and sublimation. The title of the conference referred to a letter of Basil the Great to Gregory of Nazianzus. Basil describes the river behind his abode which »forms a most pleasant scene for myself or anyone else; and is an inexhaustible resource to the country people, in the countless fish which its depths contain«[22]. Apart from the profitability of a land- or seascape (»the inexhaustible resource«), its beauty (»a most pleasant scene«) or hazardousness was perceived and sublimated into an idea of nature, a social construction that formed behavioural patterns and mentalities and thus also influenced settlement patterns and land use strategies[23]. The spiritual attraction certain landscapes had for monastic communities and the establishment of self-sufficient monastic economies in these, as Johannes Koder has elaborated, reflects this dichotomy beautifully. While the monks sought solitude in landscapes and planted their vegetables, they also enjoyed the beauty of creation: in Basil's letter to Gregory he also names the typical aspects of the *locus amoenus*: birdsong, waters, flowers and

15 Horden/Purcell, The Corrupting Sea.
16 The contributions by Carolina Cupane, Johannes Koder, and Stefan Albrecht are studies not bound to particular spaces.
17 See contributions by Anna Elena Reuter, Henriette Baron, and Rainer Schreg.
18 See contributions by Klaus-Peter Todt / Bernd Andreas Vest, Paul Arthur, Marlia Mundell Mango, Andrew G. Poulter, Katie Green, and Riley Snyder.
19 See Rainer Schreg's article in this book.
20 For an overview and an introduction, see e. g., Winiwarter/Knoll, Umweltgeschichte.
21 This is not the place to discuss these in detail, as a discussion should reach out into their roots and their implications for different disciplines. Apart from Winiwarter/Knoll, Umweltgeschichte, see for disciplinary perspectives Winiwarter/Wilfing, Historische Humanökologie.
22 A Select Library of the Nicene and Post-Nicene Fathers of the Christian Church. Second Series. Volume VIII: Basil: Letters and Select Works. Translated into English with Prolegomena and Explanatory Notes. Edited by Ph. Schaff and H. Wace (Edinburgh, Grant Rapids Michigan 1895). Letter XIV, Translated by Blomfield Jackson. Cited after: http://www.ccel.org/ccel/schaff/npnf208.ix.xv.html (4.5.2017).
23 Paul Arthur, Johannes Koder, Stefan Albrecht in this volume.

shady trees. These manifestations of a desirable restrained nature, of a domesticated and controlled environment, find their most pointed expression in the planned gardens of the elites and the bionic fusions between nature and architecture which Byzantine romances conjure up, as Carolina Cupane's article reveals[24].

That means we should try to figure out in what way these concepts of nature fuelled or thwarted actions. Such considerations need to be taken into account when interpreting find spectra or landscape features that give evidence of consumption and production patterns, especially when analysed in a long-term perspective. Archaeology and its related disciplines tend to a utilitarian mode of explanation, which at times does not take into account mental factors, and the historical disciplines tend to underrate the power of environmental factors – hence, the disciplines can counterbalance each other.

And, more than that, Stefan Albrecht's article on the Byzantine cultural concept of the forest makes something else clear: it is not only that the Byzantine concept oscillated between useful, beautiful, and dangerous: Our modern and perhaps not necessarily Mediterranean notions which we unconsciously project on the Byzantine past, interfere with our interpretations. This compels some extra reflexion on our part. We are directly confronted with this problem when we want to understand responses to catastrophes, for instance, natural disasters, dust-veiled skies, extreme weather conditions or animal attacks[25]. We have to leave our modern all-knowing and science-based perspective behind and use all means we have to fathom how these cataclysms felt for the people who had no scientific explanations at hand and who knew little about their past and present, and nothing of their future.

The path to an environmental history of the Byzantine Empire is long and winding. This is not only because the empire was huge and long-lasting, and the results accordingly patchy, but because it takes some effort to make the sources talk. While we can readily reconstruct many aspects of the economy, the material culture, even the liturgies and monastic activities from an abundance of sources, information on environmental conditions and human-environment-interactions are more difficult to unlock and to disentangle.

If we want to further improve our knowledge of the complexity of Byzantine human-environment interactions, we have to adopt a thematic approach. Instead of listening to what the sources are willing to let us know, it requires us to question the sources about what we want to know and to find means to extract and interpret the data we need – interdisciplinarily. For this deductive endeavour, thorough source criticism and a certain degree of epistemological awareness is more necessary than ever. For this purpose, we need to know about the potentials of different disciplines, methods, and theoretical frameworks, and their modes of source criticism. Above all, that requires one thing: communication between the disciplines and flexible thinking!

If we achieve this, for Byzantium, too, we will begin to see »the birds in the trees / —Those dying generations—at their song, / The salmon-falls, the mackerel-crowded seas, / Fish, flesh, or fowl, commend all summer long / Whatever is begotten, born, and dies.«

## References


Alexandre, Le climat en Europe: P. Alexandre, Le climat en Europe au Moyen Age: contribution à l'histoire des variations climatiques de 1000 à 1425, d'après les sources narratives de l'Europe occidentale. Recherches d'histoire et de sciences sociales 24 (Paris 1987).

Arthur, Napoli: P. Arthur (ed.), Il Complesso Archeologico di Carminiello ai Mannesi, Napoli (Scavi 1983-1984). Università di Lecce, Dipartimento di Beni Culturali, Settore Storico-Archeologico, Collana del Dipartimento 7 (Galatina 1994).

Bar-Matthews et al., The Eastern Mediterranean Paleoclimate: M. Bar-Matthews / A. Ayalon / A. Kaufman / G. J. Wasserburg, The Eastern Mediterranean Paleoclimate as a Reflection of Regional Events: Soreq Cave, Israel. Earth and Planetary Science Letters 166, 1999, 85-95.

Bazzana, espaces agraires: A. Bazzana (ed.), CASTRUM 5. Archéologie des espaces agraires Méditerranéens au Moyen Âge. Collection de la Casa de Velázquez 811 (Madrid 1999).

Belke et al., Byzanz als Raum: K. Belke / J. Koder / F. Hild / P. Soustal (eds), Byzanz als Raum. Zu Methoden und Inhalten der historischen Geographie des östlichen Mittelmeerraumes. Österreichische Akademie der Wissenschaften. Philosophisch-Historische Klasse, Denkschriften 283 (Vienna 2000).

Bintliff, Reconstructing the Byzantine Countryside: J. L. Bintliff, Reconstructing the Byzantine Countryside. New Approaches from Landscape Archaeology. In: Belke et al., Byzanz als Raum 37-63.

Bottema/Woldring/Aytug, Late Quaternary Vegetation: S. Bottema / H. Woldring / B. Aytug, Late Quaternary Vegetation and Climate of Southwestern Turkey. Part II. Palaeohistoria 35/36, 1993, 13-72.

Cavanagh et al., Laconia Survey: W. G. Cavanagh / J. Crouwel / R. W. V. Catling / G. Shipley (eds), Continuity and Change in a Greek Rural Landscape. The Laconia Survey I. Methodology and Interpretation. Annual of the British School at Athens Supplementary Volume 26 (London 2002).


24 Carolina Cupane in this volume.
25 Klaus-Peter Todt / Bernd Andreas Vest in this volume.

Christie, Landscapes of Change: N. Christie (ed.), Landscapes of Change. Rural Evolutions in Late Antiquity and the Early Middle Ages (Burlington, Vermont 2004).

Eastwood et al., Holocene Environmental Change: W. J. Eastwood / N. Roberts / H. F. Lamb / J. C. Tibby, Holocene Environmental Change in Southwest Turkey: A Palaeoecological Record of Lake and Catchment-related Changes. Quaternary Science Reviews 18, 1999, 671-695.

Fumagalli, Gli animali e l'agricoltura: V. Fumagalli, Gli animali e l'agricoltura. In: L'uomo di fronte al mondo animale nell'alto Medioevo, 7-13 Aprile 1983. Settimane di studio del Centro italiano di studi sull'alto medioevo 31 (Spoleto 1985) 579-609.

Greene, Carthaginian Countryside: J. A. Greene, The Carthaginian Countryside: Archaeological Reconnaissance in the Hinterland of Ancient Carthage [unpubl. Diss. Univ. of Chicago 1986].

Haldon et al., Climate and Environment: J. Haldon / N. Roberts / A. Izdebski / D. Fleitmann, The Climate and Environment of Byzantine Anatolia: Integrating Science, History, and Archaeology. Journal of Interdisciplinary History 45, 2014, 113-161.

Harbeck et al., Yersinia pestis: M. Harbeck / L. Seifert / St. Hänsch / D. M. Wagner / D. Birdsell / K. L. Parise / I. Wiechmann / G. Grupe / A. Thomas / P. Keim / L. Zöller / B Bramanti / J. M. Riehm / H. C. Scholz, *Yersinia pestis* DNA from Skeletal Remains from the 6th Century AD Reveals Insights into Justinianic Plague. PLOS Pathogens 9/5, 2013, 1-8.

Hirschfeld, A Climatic Change: Y. Hirschfeld, A Climatic Change in the Early Byzantine Period? Some Archaeological Evidence. Palestine Exploration Quarterly 136/2, 2004, 133-149.

Horden, Mediterranean Plague: P. Horden, Mediterranean Plague in the Age of Justinian. In: M. Maas (ed.), The Cambridge Companion to the Age of Justinian (Cambridge 2005) 134-160.

Horden/Purcell, The Corrupting Sea: P. Horden / N. Purcell, The Corrupting Sea: A Study of Mediterranean History (Oxford 2000).

Izdebski, Changing Landscapes: A. Izdebski, The Changing Landscapes of Byzantine Northern Anatolia. Archaeologia Bulgarica 16, 2012, 47-66.

Kaplan, Les Hommes et la Terre: M. Kaplan, Les Hommes et la Terre à Byzance du VIe au XIe siècle. Byzantina Sorboniensia 10 (Paris 1992).

Knipping/Müllenhoff/Brückner, Human Induced Landscape Changes: M. Knipping / M. Müllenhoff / H. Brückner, Human Induced Landscape Changes around Bafa Gölü (Western Turkey). Vegetation History and Archaeobotany 17, 2008, 365-380.

Koder, Climatic Change: J. Koder, Climatic Change in the fifth and sixth Centuries? In: P. Allen / E. Jeffreys (eds), The Sixth Century: End or Beginning? (Brisbane 1996).

Gemüse: J. Koder, Gemüse in Byzanz. Die Frischgemüseversorgung Konstantinopels im Licht der Geoponika. Byz. Geschichtsschreiber, Ergänzungsband 3 (Wien 1993).

Lemerle, Agrarian History: P. Lemerle, The Agrarian History of Byzantium from the Origins to the Twelfth Century: The Sources and Problems (Galway 1979).

Little, Plague: L. K. Little (ed.), Plague and the End of Antiquity: The Pandemic of 541-750 (Cambridge 2006).

Lucke et al., Decapolis Region: B. Lucke / M. Schmidt / Z. al-Saad / O. Bens / R. F. Hüttl, The Abandonment of the Decapolis Region in Northern Jordan – Forced by Environmental Change? Quaternary International 135/1, 2005, 65-81.

Mango, Art: C. Mango, The Art of the Byzantine Empire 312-1453. Sources and Documents. Medieval Academy Reprints for Teaching 16 (Toronto, Buffalo, London 2009).

Mango/Dagron, Constantinople and its Hinterland: C. Mango / G. Dagron (eds), Constantinople and its Hinterland. Papers from the Twenty-seventh Spring Symposium of Byzantine Studies, Oxford, April 1993 (Aldershot 1993).

McCormick, Molecular Middle Ages: M. McCormick, Molecular Middle Ages: Early Medieval Economic History in the Twenty-First Century. In: J. R. Davis / M. McCormick (eds), The Long Morning of Medieval Europe, New Directions in Early Medieval Studies (Aldershot 2007) 83-98.

Rats: M. McCormick, Rats, Communications, and Plague: Toward an Ecological History. The Journal of Interdisciplinary History 34/1, 2003, 1-25.

McCormick et al., Climate Change: M. McCormick / U. Büntgen / M. A. Cane / E. R. Cook / K. Harper / P. Huybers / T. Litt / S. W. Manning / P. A. Mayewski / A. F. M. More / K. Nicolussi / W. Tegel, Climate Change During and After the Roman Empire: Reconstructing the Past from Scientific and Historical evidence. Journal of Interdisciplinary History 43, 2012, 169-220.

Müller, Getreide: A. E. Müller, Getreide für Konstantinopel. Überlegungen zu Justinians Edikt XIII als Grundlage für Aussagen zur Einwohnerzahl Konstantinopels im 6. Jahrhundert. JÖB 43, 1993, 1-20.

Neumann, Climate of the Black Sea Region: J. Neumann, Climate of the Black Sea Region Around 0 C.E. Climatic Change 18, 1991, 453-465.

Ostrogorsky, Agrarian Conditions: G. Ostrogorsky, Agrarian Conditions in the Byzantine Empire in the Middle Ages. In: M. M. Postan (ed.), The Cambridge Economic History of Europe from the Decline of the Roman Empire I. Agrarian Life of the Middle Ages (Cambridge 1966) 205-234.

Roberts, Human Induced Landscape Change: N. Roberts, Human-Induced Landscape Change in South and Southwest Turkey During the Later Holocene. In: S. Bottema / G. Entjes-Nieborg / W. van Zeist (eds), Man's Role in the Shaping of the Eastern Mediterranean Landscape: Proceedings of the Symposium on the Impact of Ancient Man on the Landscape of the Eastern Mediterranean Region & the Near East. Groningen, March 1989 (Rotterdam 1990) 53-67.

Stathakopoulos, Famine and Pestilence: 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).

Justinianic Plague Revisited: D. Stathakopoulos, The Justinianic Plague Revisited. BMGS 24, 2000, 256-276.

Teall, Agricultural Tradition: J. L. Teall, The Byzantine Agricultural Tradition. DOP 25, 1971, 33-59.

Grain Supply: J. L. Teall, The Grain Supply of the Byzantine Empire, 330-1025. DOP 13, 1959, 87-139.

Winiwarter/Knoll, Umweltgeschichte: V. Winiwarter / M. Knoll, Umweltgeschichte: Eine Einführung. Universitäts-Taschenbücher 2521 (Stuttgart 2007).

Winiwarter/Wilfing, Historische Humanökologie: V. Winiwarter / H. Wilfing, Historische Humanökologie: Interdisziplinäre Zugänge zu Menschen und ihrer Umwelt (Wien 2002).

## Zusammenfassung / Summary


### Schritte hin zu einer byzantinischen Umweltgeschichte

Dieser einführende Text beginnt mit der Beobachtung, dass die moderne Wahrnehmung des Byzantinischen Reiches massiv von seinen »kulturellen« Errungenschaften geprägt ist, während die Umwelten dieses Reiches kaum eine Rolle spielen. In einer kurzen Forschungsgeschichte werden sodann die Forschungsbereiche skizziert, im Rahmen derer bisher Kenntnisse zur byzantinischen Umweltgeschichte gewonnen wurden: von den ersten Arbeiten zur byzantinischen Landwirtschaft, größtenteils basierend auf schriftlichen Quellen, über die interdisziplinär angelegten siedlungsarchäologischen Projekte der 1990er Jahre, die mithilfe von Surveys auch die Landschaften erschlossen, bis zum Boom der naturwissenschaftlichen Techniken, der bis heute anhält und dessen Methoden zunehmend in einfallsreichen interdisziplinären Projekten Anwendung finden. Nachdem dies skizziert wurde, wird die Mission dieses Tagungsbandes und der Konferenz, auf die er zurückgeht, dargelegt: Es geht darum, Ideen und Zugangswege aufzuzeigen, Synergien zu erzeugen und eine Vorstellung zu entwickeln, wie es weitergehen könnte. Zum Schluss wird eine Perspektive umrissen, in der vor allem drei Aspekten eine Rolle zugewiesen wird: dass die Geistes- und Naturwissenschaften dieses Feld gemeinsam erforschen sollten, dass interdisziplinärer Austausch dazu der einzige Weg ist, und dass bei alldem die Rolle von Mentalitäten nicht außer Acht gelassen werden darf – die der Byzantiner und unserer eigenen.

### Steps Towards an Environmental History of the Byzantine Empire

This introductory text begins with the observation that the modern perception of Byzantium is strongly shaped by genuinely »cultural« achievements, while the environments of the Empire barely play a role. A short history of research then outlines those frames in which knowledge of the environments was primarily gained: from the earliest works on Byzantine agriculture, mainly based on historical sources, to the interdisciplinary settlement archaeology projects which unlocked landscapes with surveys, beginning in the 1990s, to the boom of scientific techniques and methodologies we still experience and which are increasingly applied in inventive interdisciplinary studies. This having been outlined, the mission of this book and the conference it relates to are stated: to present ideas and approaches, to create synergies and to gain a notion of how to proceed. In the end, a perspective is sketched that stresses mainly three points: that the sciences and humanities need to join forces in order to write environmental history, that interdisciplinary communication is the only way, and that we should not leave aside questions of mentality – Byzantine or our own.