

FAMINE AND PESTILENCE
IN THE LATE ROMAN AND
EARLY BYZANTINE EMPIRE

DIONYSIOS CH. STATHAKOPOULOS

Για τους γονείς μου, Δόξα και Μπάμπη, και τη γιαγιά Στεφανία

Για την Ελισάβετ και τον Αχιλέα Κομινού

Στη μνήμη της Ντόρης Παπαστράτου

It should, after all, be common ground that in a scientific subject every positive statement is simply a hypothesis.

Marc Bloch, in the Introduction to his *French Rural History*

Τέχνη κρατούμεν ὧν φύσει νικώμεθα
Antiphon, author of tragedies, 4th century BC

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About the book:

This book presents the first analytical account in English of the history of subsistence crises and epidemic diseases in Late Antiquity. Based on an catalogue of all such events in the East Roman/Byzantine empire between 284 and 750, it gives an authoritative analysis of the causes, effects and internal mechanisms of these crises and incorporates modern medical and physiological data on epidemics and famines. Its interest is both in the history of medicine and the history of Late Antiquity, especially its social and demographic aspects. Dr Stathakopoulos thus provides both a work of reference for information on particular events (e.g. the 6th-century Justinianic plague) and a comprehensive analysis of subsistence crises and epidemics as agents of historical causation. As such he makes an important contribution to the ongoing debate on Late Antiquity, bringing a fresh perspective to comment on the characteristic features that shaped this period and differentiate it from Antiquity and the Middle Ages.

About the author:

Dionysios Stathakopoulos read Byzantine and Medieval History at the Universities of Münster and Vienna, and has carried out research at the Centre for Byzantine, Ottoman and Modern Greek Studies at the University of Birmingham. He has taught at the Institute for Byzantine and Modern Greek Studies at the University of Vienna and at the Central European University in Budapest. He has written extensively on the Justinianic Plague and also on Hagiography and Material Culture, and is currently in Vienna doing research on medicine and society in the Palaiologan period

**FAMINE AND PESTILENCE IN THE
LATE ROMAN AND EARLY
BYZANTINE EMPIRE**

**A SYSTEMATIC SURVEY OF
SUBSISTENCE CRISES AND EPIDEMICS**

BIRMINGHAM BYZANTINE AND OTTOMAN MONOGRAPHS

Volume 9

General Editors

Anthony Bryer

John Haldon



Centre for Byzantine, Ottoman and Modern Greek Studies
University of Birmingham

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Preface and Acknowledgements

Since Late Antiquity one of the central parts of the liturgy consists of supplications: God is asked to deliver humans from famine and pestilence as well as earthquakes, submersion into the sea, fire, sword, enemy incursions and civil war. Famine and pestilence, a recurring pair, must have been grave and constant companions of past peoples to have gained such a prominent position in their fears. This was the intellectual point of departure for my undertaking to study the presence and the interaction of these two phenomena over the long Late Antiquity. The present book began as a doctoral thesis in Vienna (and one of its chapters, even earlier as a Master's dissertation in Münster), but by now it is something completely new. The following people have been instrumental in this process, whose shortcomings, naturally, are entirely my own.

My research has profited greatly from the constant debates with the two supervisors of my thesis at the University of Vienna, Johannes Koder and Ewald Kislinger, as its objective surpassed the limits of a catalogue of such crises and concentrated in an equal effort to analyse them using tools long established in other disciplines. Their advice and creative impulse provided me with the means to pursue this attempt and often liberated me from being stuck in unfruitful dead-end cases. Without them I may very well have never brought this task to completion.

For their counsel during various stages of my work I would also like to thank Horst Aspöck, the late John Laskaratos, Karl-Heinz Leven, Telemachos Lounghis, Brent D. Shaw, Robert Sallares, Argyro Tataki and Ioannis Telelis. The library of the Institute of Byzantine and Modern Greek Studies in Vienna with its rich collection has been the ideal workplace.

A short stay in Birmingham in early 2000 marked the beginning of a return to my school-day Anglo-Saxon roots and this book is partially the product of this interaction. Leslie Brubaker, Anthony Bryer, Marianna Spanaki and especially Ruth Macrides accompanied three wonderful and productive months that saw (almost) the end of the thesis and since then

have been present – if nowhere else – in my thoughts and plans. I (and this book in particular) owe a great deal to John Haldon. He was enthusiastic about my research at a time when even I did not know in what direction it would take or if it was really any good altogether. His encouragement was often the drive that helped me pick myself up and go back to my desk during the endless last summer.

Lester Little and Michael McCormick as well as the participants of the Justinianic Plague conference in Rome led me to fully conceptualize my own understanding of this phenomenon after reading and writing about it for more than five years. Judith Herrin saved the day on more than one important occasion.

For someone writing in a language which is and is not his own there is a thin line between sentences that feel right or even ring right, but are actually grammatically (or otherwise) wrong. Caroline Robinson mastered the task of making what felt right to also read right and she did this with speed and modesty. John Smedley has been the quiet force behind this project all along; without his help and advice I would still be struggling to piece things together. My thanks are also due to Kirsten Weissenberg and everyone at Ashgate.

My friends Agorita Bakali, Michael Grünbart, Lutz Humpert, Daniel Meyer, Natalie Moustakli, Stratis and Sam Papaioannou, Domna Paschalidou, Vaso Seirinidou, and Maria Stassinopoulou acted (if you would pardon the analogy) like Virgil in the Underworld, offering the right amount of inspiration, guidance, advice and support that helped me to find the way out of the Inferno of writing and rewriting, through the Purgatory of proofreading to the Paradise of completion. The pleasant task of reading the product of this struggle will be shared with a certain someone from the *contrada della civetta*.

My studies in Vienna were made possible by the generous scholarship awarded to me by Elisabeth and Achileas Kominos. Their constant presence at my side, the frequent discussions we had and the confidence they instilled in me not only enabled me to pursue this enterprise but also brought out the best in me both personally and academically. For that they have my everlasting gratitude.

Last, but most certainly not least, I would like to thank my parents who supported me in all possible ways throughout my life so far. Our bond is beyond stereotypes and for that we will continue to inspire each other to strive for excellence in all fields of life.

Abbreviations

ACO	Acta Conciliorum Oecumenicorum
AG	Anno Graecorum, i.e. Seleucid era beginning on 1 October 312 BC
AH	Hejira, beginning on 622
AM	Annus Mundi, beginning on 1 September 5493
<i>AnBoll</i>	<i>Analecta Bollandiana</i>
<i>Annales ESC</i>	<i>Annales: Économies, Sociétés, Civilisations</i>
<i>BMGS</i>	<i>Byzantine and Modern Greek Studies</i>
<i>BWHO</i>	<i>Bulletin of the World Health Organisation</i>
<i>Byz</i>	<i>Byzantion</i>
<i>BZ</i>	<i>Byzantinische Zeitschrift</i>
CCL	Corpus Christianorum Series Latina
<i>CJ</i>	<i>Codex Justinianus</i>
CMG	Corpus Medicorum Graecorum
cos / coss	consul / consuls
CSCO	Corpus Scriptorum Christianorum Orientalium
CSEL	Corpus Scriptorum Ecclesiasticorum Latinorum
<i>CTh</i>	<i>Codex Theodosianus</i>
<i>DHGE</i>	<i>Dictionnaire d'histoire et de géographie ecclésiastiques</i>
<i>DOP</i>	<i>Dumbarton Oaks Papers</i>
<i>EHB</i>	<i>The Economic History of Byzantium</i>
<i>EI</i>	<i>Encyclopédie de l'Islam</i>
GCS	Die griechischen kirchlichen Schriftsteller der ersten Jahrhunderte
<i>GdU</i>	<i>Geschichte des Untergangs der antiken Welt</i>
<i>GRBS</i>	<i>Greek, Roman and Byzantine Studies</i>
<i>HE</i>	<i>Historia Ecclesiastica</i>
<i>HLRE</i>	<i>History of the Later Roman Empire</i>
<i>JÖB</i>	<i>Jahrbuch der Österreichischen Byzantinistik</i>

<i>LRE</i>	<i>Later Roman Empire</i>
MGH AA	Monumenta Germaniae Historica Auctores Antiquissimi
MGH SS	Monumenta Germaniae Historica Scriptores
<i>MMWR</i>	<i>Morbidity and Mortality Weekly Report</i>
ÖAW, Phil.-hist.	Österreichische Akademie der Wissenschaften,
Kl. Sb	Philosophisch-historische Klasse, Sitzungsberichte
<i>PG</i>	<i>Patrologia Graeca (Migne)</i>
<i>PL</i>	<i>Patrologia Latina (Migne)</i>
<i>PLRE</i>	<i>Prosopography of the Later Roman Empire</i>
<i>PO</i>	<i>Patrologia Orientalis</i>
<i>PS</i>	<i>Plague Studies</i>
Prokopios, <i>BV</i> ,	<i>Bellum Vandalicum, Bellum Persicum, Bellum</i>
<i>BP, BG</i>	<i>Gothicum</i>
<i>RAC</i>	<i>Reallexikon für Antike und Christentum</i>
<i>RE</i>	<i>Paulys Realencyclopädie der classischen Altertumswissenschaft</i>
SC	Sources Chrétiennes
<i>ZPE</i>	<i>Zeitschrift für Papyrologie and Epigraphik</i>

A note on Names and Place-Names

Following a trend that has been gaining acceptance in the previous years, I have decided to use the following system for rendering Greek names and place-names. Standard anglicized forms of personal names (Theodore, George, John, Thessalonica) shall be used; all other names will be transcribed as literally as possible avoiding the latinized versions established mostly in the nineteenth century. Thus Prokopios and not Procopius, Nikephoros, not Nicephorus and so on.

Introduction:

Negotiating with the Dead

The title above derives from Margaret Atwood's essay of the same name in which the author suggests that 'not just some, but *all* writing of the narrative kind, and perhaps all writing is motivated, deep down, by a fear of and a fascination with mortality.'¹ What would that suggest about a book on mortality, which is motivated by this intriguing relation to mortality? In any case, the voice of the dead has always been used by those who survived a particular incident to explain, justify, condemn or move to repentance. This is an attempt to seek out this voice (especially of those who have not left us a transcription of it in their writings), listen to it and record the information it offers in a more sober and detached manner than the one adopted by the contemporaries of those survivors, avoiding at the same time the style of doom and catastrophe that is so successful among many modern reports on such phenomena of the past.

Subsistence crises of varying degrees and epidemics are at the centre of this enterprise. The latter have formed a respectable topic in history since the nineteenth century.² Tastes and trends in historical topics as a rule reflect preoccupations and anxieties of the society that produces them. Indeed the interest in epidemics of the past was initially sparked by the cholera epidemics that swept through Europe in the 1830s. This fascination has been a lasting one. The actual historical discourse does not neglect big killers of the past, above all the plague (and within the history of this disease above all the Black Death). Books such as W.H. McNeill's *Plagues and Peoples* (New York 1976) have drawn attention to diseases as a considerable factor in human history and indirectly helped to somewhat draw the focus of historical writing away from the exclusive retelling of

¹ M. Atwood, *Negotiating with the Dead: A Writer on Writing* (Cambridge 2002) 156.

² See the excellent overview of early books on the plague by F.M. Getz, 'Black Death and the Silver Lining: Meaning, Continuity, and Revolutionary Change in Histories of Medieval Plague', *Journal of the History of Biology* 24 (1991) 265–89.

political, diplomatic and military events. This was both necessary and fruitful, judging from the absence of any mention of the Justinianic Plague in one of the most important books on Byzantine history, G. Ostrogorsky's *History of the Byzantine State* (first German edn 1943, third edn 1963, English translation Oxford 1968). However, we are now dealing with the opposite extreme. Works such as D. Keys' *Catastrophe* (London 1999) and M. Baillie's *Exodus to Arthur* (London 1999) suggest that natural phenomena, such as the Dust-veil event (see No. 92 in the Catalogue), comets or the advent of the plague are the driving forces of historical causation.³ This book is an attempt to find equilibrium between these two extremes: to place famines and epidemics within the overall context of the political history of Late Antiquity and to discuss to what extent and along with which other phenomena they were responsible for changes within this period.

This is the first book to examine Late Antiquity from the point of view of the subsistence crises and epidemic diseases that occurred during this time frame. It is based on an exhaustive catalogue recording all such phenomena from 284 to 750 that has been assembled especially for this study and forms its second part. It is meant to offer a complementary view of this period beyond the turmoil of political and military history, and comments on themes such as continuity and change of social and economic structures and mentalities.

The phenomena recorded and analysed in this book may have taken place in a world quite different than the one we inhabit today, but they are far from being irrelevant to our everyday discourse. In some developing countries of the modern world such phenomena continue to occur and to be perceived in the same manner as thousands of years ago. The recent outbreak of malaria and cholera along with widespread occurrence of starvation during the flood-induced crisis in Mozambique in late February–March 2000 is only one characteristic example that clearly illustrates the validity of such a suggestion.⁴ Even the extreme news about the occurrence

³ This deterministic neo-historicism which sets epidemics in the role traditionally occupied by kings and generals is, of course, not new. A negative peak in the production of this sort is occupied by F.F. Cartwright's *Disease and History* (London 1972) which is advertised with lines such as 'Malaria, smallpox, and other plagues conquered the Roman Empire. Haemophilia was at least partly responsible for the Russian Revolution' and so on.

⁴ Anyone familiar with the recent publication of *Living with Risk: a Global Review of Disaster Reduction Initiatives* (Preliminary version, July 2002, United Nations, Secretariat

of cannibalism in poverty-stricken Moldova conveys images that are not essentially different than the bleak reality reflected in Late Antique famines as discussed in this book.⁵ The developed world may now be free from the menace of catastrophic subsistence crises, but it is still endangered by epidemic diseases migrating, intentionally or unintentionally, from less developed countries. Diseases such as diphtheria or tuberculosis have resurfaced mostly through dissemination from countries of the former Eastern bloc.⁶ However, the most serious threat derives from bioterrorism. Even before the dramatic events of September 11 2001 a vivid debate on the use of contagious diseases as biological weapons had evolved.⁷ The U.S. government conducted an exercise which revolved around the alleged release of *Yersinia pestis*, the causative agent of the plague, in aerosol form at the Denver Performing Arts Center in Colorado.⁸ As the exercise was terminated after four days, conflicting reports ranged between 950 and 2,000 deaths, about 4,000 cases of pneumonic plague, while infected patients had been reported as far as London and Tokyo. After September 11 the debate on deadly diseases as biological weapons naturally took a grim, realistic turn. The deliberate spread of anthrax failed to develop into an epidemic, but fear of plague and/or smallpox was great. In August 2002 the state of Israel conducted a large-scale smallpox inoculation campaign, a disease which had been triumphantly declared eradicated by the World Health Organisation in 1979,⁹ while the United States government has been

for International Strategy for Disaster Reduction) will instantly recognise an important number of structural similarities between this and the present book.

⁵ See the report by K. Connolly, 'Cannibalism is symptom of Moldova's decline', *The Guardian* 5 April 2001.

⁶ See A. Eftstratiou, et al., 'Diphtheria', in D. Armstrong and J. Cohen, eds, *Infectious Diseases*, vol. II (London et al. 1999) Section 6. 34.12.

⁷ See T.V. Inglesby, et al., 'Anthrax as a Biological Weapon: Medical and Public Health Management', *Journal of the American Medical Association* 281 (1999) 1735–45; D. A. Henderson, et al., 'Smallpox as a Biological Weapon: Medical and Public Health Management', *Journal of the American Medical Association* 281 (1999) 2127–37; T.V. Inglesby, et al., 'Plague as a Biological Weapon: Medical and Public Health Management', *Journal of the American Medical Association* 283 (2000) 2281–90.

⁸ The exercise, termed TOPOFF, took place in May 2000. It is described in detail in T.V. Inglesby, et al., 'A Plague on Your City: Observations from TOPOFF', *Biodefence Quarterly* 2 (2000) 1–15. See also B. Vastag, 'Experts Urge Bioterrorism Readiness', *Journal of the American Medical Association* 285 (2001) 30–32, for the evaluation of this exercise and the fears expressed about the possibility of such actions taking place in reality.

⁹ P. Brennan, 'Israel Preparing for Worst: Begins Smallpox Vaccinations', *NewsMax.com* 19 August 2002. For more information on smallpox see Chapter 5.

pursuing a policy of alert regarding the infection since late 2002.¹⁰ It becomes obvious that the study of epidemics and subsistence crises of the past is firmly related to the actual anxieties and debates of the present.

Epidemics and subsistence crises may in fact constitute the basis of this book. Its scope, however, is not to collect and discuss them *per se*, but to place them in a discernible context and to deprive them somewhat of their uniqueness as a means to analyse how their actual presence was perceived in the *longue durée* of Late Antiquity.

Epidemics and famines have often been set in narratives as a pair since ancient times.¹¹ Thucydides made a pun concerning the use of both words as contained in a Delphic oracle that stated that 'a Dorian war shall arrive and an epidemic'.¹² As the oracle was transmitted the word (*loimos*) was understood as meaning pestilence, since such a disease was ravaging Athens at the time. But Thucydides assumed that if some years later a famine (*limos*) were to emerge in connection with a war, people would interpret the oracle as meaning that a famine would occur together with the military actions. Although we cannot be certain if both words were pronounced identically in the fifth century BC (as Thucydides' remark would suggest), in the period we are about to study they certainly were. Furthermore, the ideological context for the joint use of epidemics and famines was set in the so-called 'Synoptical Apocalypse' (Matt. 24, Luke 21), where both phenomena, together with earthquakes and warfare, constitute the signs of the imminent Judgement Day.¹³ As we shall see in the course of this work these two phenomena did in fact often occur side by side and were frequently interconnected; nevertheless the phonetic and most certainly the eschatological context they were embedded in favoured their joint recording.

At this stage it is essential to define and discuss the objects of study around which this book evolves. The first are subsistence crises. According to their intensity and effects they may be divided into two major categories. A shortage 'is a short-term reduction in the amount of available foodstuffs,

¹⁰ See now H. Epstein, 'Bugs without Borders', *The New York Review of Books*, January 16, 2003, 20–23 and the information at the Centers for Disease Control and Prevention at: <http://www.bt.cdc.gov/agent/smallpox/index.asp>

¹¹ Cf. H. Hunger, *Die hochsprachliche profane Literatur der Byzantiner* (Byzantinisches Handbuch V/1-2 = Handbuch der Altertumswissenschaften XII/5, 1-2. Munich 1978) I 269 n. 69; Patlagean, *Pauvreté*, 85.

¹² Thucydides, *Historiae*, ed C. Hude (Leipzig 1925) II 54 (177).

¹³ Luke 21:11; Matt. 24:7.

as indicated by rising prices, popular discontent, hunger, in the worst cases bordering on starvation'. Famine 'is a critical shortage of essential foodstuffs leading through hunger to starvation and a substantially increased mortality rate in a community or region'.¹⁴ In ideal cases our sources include information that explicitly points to the gravity of a particular subsistence crisis, therefore making its distinction possible. However, there is a large number of cases where the recorded data do not suffice in order to do so. As a result the characterization can only be made using modern scholarly criteria such as those given above. In this process the margin of misinterpretation grows larger in opposite analogy to the availability of information. Ultimately the distinction between more and less serious subsistence crises is a result of the personal judgement of the reviewer. Throughout the book I have decided to characterize as famines a number of subsistence crises for which, although no mortality is recorded, the overall accompanying circumstances led me to believe it had been a serious one.

The next object of study is the occurrence of infectious diseases that is the invasion and multiplication of micro-organisms in a host.¹⁵ There are three types of outbreak for such diseases. Endemics signify the constant occurrence of a disease in a particular locality or population, a disease with geographical but not chronological limitations. Epidemics indicate the massive, unexpected, chronologically and geographically limited occurrence of a particular disease. Finally, pandemics denote the massive occurrence of a disease with chronological, but no geographical limitation. The interaction of these aspects, chronological and geographical dispersion, is the decisive factor for the differentiation of these forms of occurrence. It should be noted that the three types are not equally represented in the sources. Pandemics are rare, a fact which probably reflects the actual reality. Endemic diseases were as a rule not recognized and therefore not recorded as such in our material; they are discernible only through a long-term observation of disease-related incidents in a particular region. Epidemics, on the contrary, are explosive events that attract the attention of contemporaries and as such they are recorded. Furthermore, when outbreaks of these diseases occur for the first time, as perceived within the

¹⁴ Both definitions taken from Garnsey, *Famine*, 6.

¹⁵ This and the three subsequent definitions (endemics, epidemics, pandemics) are taken from H. Moegle, 'Allgemeine Epidemiologie der Zoonosen', in *Bakterielle Zoonosen bei Tier und Mensch. Epidemiologie, Pathologie, Klinik, Diagnostik und Bekämpfung* (Stuttgart 1993) 1–14.

mind of a particular author, we can safely expect an amount of detailed description to be given. On further occasions, as a disease grows to be more familiar and its occurrences obtain some regularity, information in the sources becomes increasingly sparse. This is certainly the case for the plague, as we shall see in the course of the book.

To identify infections recorded in our sources with ones that have been described and analysed by modern epidemiology is certainly not an attempt to speculate on the presence or absence of these diseases in the period in question. Furthermore it is not intended to use modern data about these epidemics and uncritically transpose this data to the past. Caution and an ever accompanying sense of relativity are necessary.¹⁶ Nevertheless we cannot use caution and relativity *ad absurdum* denying any and every remark on past infections, which is seemingly what an actual trend in the history of medicine does. At first we must stress that the scope of the history of medicine and that of a historical work dealing among other things with medical issues are not identical. The aim of this book is not to establish a retrospective diagnosis of past epidemics *per se*, but to place them in a frame that will be discernible, and therefore suitable for interpretation today. If we refrain from issuing statements about any past medical conditions, knowing and accepting *a priori* that they cannot be considered anything but plausible hypotheses, we will be thrown back into a state where our work will be limited to merely critically reproducing the contents of our sources. In this way we will not offer answers or solutions to the problems connected with the information given in those sources, but will only – in the best case – be asking more questions. Yet, this has been done over a very lengthy period of time so far. I believe that the fragmentary and often audacious answers furnished by historians today are more valuable in this particular field than the extremely cautious, and thus often very limited, scope of argumentation coming from the natural sciences. This is mainly a difference in the level of discourse and it certainly cannot be easily overcome.¹⁷ If historians were made to meet the

¹⁶ G. Rath, 'Moderne Diagnosen historischer Seuchen', *Deutsche Medizinische Wochenschrift* 81 (1956) 2065–9, *passim*; K.-H. Leven, 'Krankheiten – historische Deutung versus retrospective Diagnose', in N. Paul, T. Schlich, eds, *Medizingeschichte: Aufgaben, Probleme, Perspektiven* (Frankfurt and New York 1998) 153–85, *passim*.

¹⁷ It is noteworthy that this discussion is beginning to manifest itself within the history of medicine itself as scholars are asking whether history of medicine as a discipline must be expected to fulfil criteria of the conventional medical science, cf. C. Hummel, *Das Kind und*

same criteria as doctors, then the history of disease would be silenced. By working with hypotheses, however, historians offer plausible explanations for many of the past's catastrophic epidemics by incorporating in their work the accounts of contemporary witnesses along with the remains of the material civilization of the period. Their results fill in a vast space that would otherwise be left empty, since modern medicine would often choose not to comment on it on account of the lack of data, or data as modern medicine perceives it.

The chronological frame of the book has been set between Diocletian's ascent to power in 284 and 750.¹⁸ The choice of the first date as the conventional beginning of Late Antiquity is obvious and it has already proved its efficacy in a number of important works on this period such as A.H.M. Jones' *The Later Roman Empire* (1964), Alexander Demandt's *Die Spätantike* (1989) and Averil Cameron's *The Later Roman Empire* (1993). The final date needs some explanation as it has been selected in order to include the last, dramatic outbreak of the Justinianic Plague that ravaged the Mediterranean around 750. The emergence of Islam and the loss of vast territories for the Empire around the mid-seventh century are usually perceived as the demarcation between the Early and the Middle Byzantine period. Indeed from a political, economical and social point of view we can safely admit that they fulfil this function, as has been shown by John F. Haldon in his *Byzantium in the Seventh Century*. Hence it would seem preferable to limit the discussion on this period to the years around the middle of the seventh century. But our perspective is different inasmuch as it is centred on phenomena whose perception and effects remained largely unchanged from Antiquity until the advent of the technical innovations brought by the Industrial Revolution. Epidemics and famines were often quite dramatic events that had an immediate impact on the lives of the contemporary populations. Yet, their significance emerges from the fact that they occurred – in various forms and combinations – over and over again. As such, their study must be attempted over a long period of time only to realize that they remain almost immotile or immovable within this frame.¹⁹

seine Krankheiten in der griechischen Medizin (Medizingeschichte im Kontext 1. Frankfurt am Main 1999) 7.

¹⁸ For a chronological overview of the period see chapter 1.

¹⁹ Cf. F. Braudel, 'La longue durée', *Annales ESC* 4 (1958) 734; furthermore the discussion in E. Le Roy Ladurie, 'History that Stands Still', in *The Mind and Method of the*

An additional reason for the termination of the period we will study in 750 is that no information on epidemics and/or famines is included in the major Byzantine sources from 750 to the beginning of the ninth century. The texts in question are: Theophanes, the Patriarch Nikephoros, early Byzantine *Short Chronicles*, the *Vita* of St. Philaretos and the *Parastaseis Syntomai Chronikai* – as these are considered the most important sources for this particular period.²⁰ The second half of the eighth century witnessed the intensification of the Iconoclast movement. We can assume that our sources, largely written by members of the opposing party to the imperial politics against icons, would have recorded any crisis that may have occurred in this period and used it as a means to illustrate the expression of divine wrath against the imperial policy that opposed icons, as they had done with the last outbreak of the Justinianic Plague. The absence of records must indicate the absence of such phenomena within this period.

Late Antiquity is a very rewarding period for the study of subsistence crises and epidemics. During these five centuries the early Byzantine Empire reached its widest expansion and highest population density only to experience a sharp decline in both of them. As such it incorporates a phase of expansion followed by one of decline giving us the opportunity to examine if and how these crises influenced or were influenced by the demographic, economic and social movement of that period.

The geographical frame of the book largely includes the territory under the political control of the Late Roman and Early Byzantine state: Italy, the Balkans, Asia Minor, Syria, Palestine, Egypt and North Africa. This is of course a tremendous simplification, since during the course of the period in question many of these regions were invaded, captured and subsequently governed by other political entities. Italy was controlled by the Ostrogoths from the late fifth century, and after a brief Byzantine interlude under Justinian I, was *de facto* lost to the Lombards save for a few strongholds of imperial power. Syria, Palestine, Egypt and North Africa were captured by the Persians in the first decades of the seventh century, regained by the Byzantines and subsequently completely lost to the Arabs from the 630s and 640s. Nevertheless all these territories have been included in my study as they constituted part of the Empire during the greater part of the period in question. Epidemics and, to a lesser extent, famines may only be

Historian (Chicago 1981) 1–27, *passim*, and É. Carpentier, ‘Autour de la peste noire: famines et épidémies dans l’histoire du XIV^e siècle’, *Annales ESC* 17 (1962) 1062–92.

²⁰ Cf. Karayannopoulos and Weiss, 318–40.

discussed in a wide geographical frame, since only in this way do their movements and effects for a network of regions become evident.

In order to pursue the task of analysing such phenomena the material had to be collected, as there was no similar work to draw upon. This collection is the catalogue comprising the second part of this book and the backbone of this enterprise. The analysis in Part I was only possible based on the bulk of accumulated information of the catalogue, which may also serve as an independent work of reference for anyone interested in subsistence crises and epidemics of that period. Both parts are interconnected through cross-referencing.

A number of studies served as models for the catalogue. Although they dealt with certain aspects of this topic, none of them, however, was exhaustive in either its chronological or geographical perspective, compared to the scope of the present work. Such works include Ruggini's study on subsistence crises in Italy (*Economia e società nell' 'Italia Annonaria'*, Milan 1961), Casanova's work on famines and epidemics in the Egyptian source material ('Epidemie e fame nella documentazione greca d'Egitto', 1984) and primarily Patlagean's pioneering book on poverty in Byzantium (*Pauvreté économique et pauvreté sociale à Byzance 4e-7e siècles*, Paris and The Hague 1977: 73–112), in which she has devoted a chapter on famines and epidemics as causes of mortality. Kohn's article in the *RAC* ('Hungersnot', 1994) provided ample material on famines in Late Antiquity up until the sixth century with particular emphasis on Italy. An additional note should be made of Telelis' doctoral thesis on climatic phenomena in the Byzantine Empire from 300 to 1500 (Μετεωρολογικά φαινόμενα και κλίμα στο Βυζάντιο, Ioannina 1995)²¹, as the author has collected data on a large number of climate-induced subsistence crises within that particular period. Supplementary material was gathered from several works referring to the Justinianic Plague.²² The groundbreaking article by Biraben and Le Goff published in 1969 represents the first – and so far the only – effort to establish a chronology of the waves of the pandemic drawing on a vast amount of source material; as such its importance is considerable. Additional texts referring to the plague were procured by Allen ('The "Justinianic" Plague', 1979) and

²¹ In press, Athens 2003.

²² For a detailed overview of literature on the plague see my critical study 'The Justinianic Plague revisited', *BMGS* 24 (2000) 256–76. Discussion in this section will be therefore limited to a brief presentation of the most important works.

Turner ('The Politics of Despair', 1987). Due to the lack of information referring to the Byzantine realm after the mid-seventh century (see below) additional data has been supplied by Arabic sources. These texts, written mostly after the ninth century but often preserving older, non-extant material, offer us ample information on those matters. The list of plagues that befell Islam (as a rule comprising five outbreaks before the Black Death) begins at the year 6 AH (627–28 AD) and terminates with the violent pandemic wave of 744–49. The information we can draw from these sources is unique. It concerns mostly the regions that had been recently captured by the Arabs in Syria, Persia and Palestine, but we can safely assume that these outbreaks will have reached, either through warfare, or commerce, the realms of the Byzantine Empire. The Arab sources will be cited in translation; furthermore their discussion will be limited to the results of the thorough studies of M. Dols and L.I. Conrad, as the leading authorities on the epidemics in the Islamic world.

After an initial corpus of crises had been collected from the above studies, data was supplemented by a direct search in the source material. Databases such as the *Thesaurus Linguae Graecae* and the *Data Base of Byzantine History* of the Centre of Byzantine Research in Athens were utilized as a point of departure, but their yield was quite limited. Finally, a selection of texts considered as valuable for including information on the subject matter was made and these were excerpted in detail.²³

The distribution of texts and the amount of information provided by them within the period from 284–750 is neither continuous nor homogenous. The book begins with 284 but the catalogue's first entry dates from 304–05. The Diocletianic era is indeed quite poor as far as primary sources are concerned. The principal writers of that period (Aurelius Victor, Lactantius, Eutropios, Eusebios and the Chronicle of Jerome) include no information concerning epidemics and/or famines for the period between 284 and *ca* 300. There is a steady flow of works from the fourth century onwards, reaching higher density in the sixth century. However, the seventh and eighth centuries are characterized by their lack of sources. From the few contemporary authors, Theophylaktos Simokattes ends with the ascent of Phokas in 602, the *Chronicon Paschale* reaches 628 and after

²³ These are (in chronological order): Philostorgios, *Ecclesiastical History*; Ps.-Joshua Stylites; Prokopios, *History of the Wars*; Marcellinus Comes; John Malalas; Agathias, *Histories*; Euagrius, *Ecclesiastical History*; John of Ephesos, *Ecclesiastical History*; *Chronicon Paschale*; Theophanes; Agapios of Menbidj; Michael the Syrian, *Chronicle*. For full references see the Bibliography.

that Theophanes and Patriarch Nikephoros, both authors of the ninth century, remain the almost exclusive sources of information. There are, of course, a number of other texts, mostly of local character, that offer supplementary data (the *Miracles of St. Demetrios*, George Pisides, John of Nikiu, Sebeos, John of Biclaro, Jacob of Edessa et al.). However, from the point of view of this study, the information they have to offer is often very limited, since epidemics and famines were probably not among their first rank of interest.²⁴

Apart from consulting the traditional written sources, an effort has been made to include epigraphical and papyrological material. The database *Phi*, which contains most edited papyri to date along with alterations taken from the ten volumes of the *Berichtigungsliste der griechischen Papyrusurkunden aus Ägypten* (Berlin and Leipzig 1922, and Leiden 1958–98) as well as a large number of Greek inscriptions, was used, but the yield again was quite limited. The works of Casanova on papyrology and Durliat ('La peste du VI^e siècle', Paris 1989) on epigraphics were of particular importance in providing additional material from these disciplines. As both epigraphical and papyrological texts are often not securely dated caution is necessary, as one of the most important premises of this work is to include securely dated incidents. In those cases where this is not provided the material has not been used.

Each catalogue entry has been arranged as follows. The first line provides the basic information of the entry: Number, Date, Location, and Type of phenomenon followed immediately by a presentation of the exact passage(s) of the source(s) referring to the phenomenon. In those cases when later sources merely repeat the information provided by older ones, these will not be cited or used. For example, Prokopios, writing over a century later, adds nothing to the information given by Jerome, Philostorgios, Sozomenos and Socrates on the Sack of Rome in 410 (No. 45) and as such he is not included. Bibliographical references dealing with the phenomenon are also presented in this section. The titles included therein are not exhaustive, but were chosen based on the criteria of

²⁴ On source-related problems see J. Haldon, 'The works of Anastasius of Sinai: A key source for the history of seventh-century east mediterranean society and belief', in A. Cameron and L.I. Conrad, eds, *The Byzantine and Early Islamic Near East I: Problems in the Literary Source Material* (Princeton, New Jersey 1992) 125–9. For a detailed overview of the written sources of the period see L. Brubaker and J. Haldon, *Byzantium in the Iconoclast Era (ca 680 – 850): The Sources. An Annotated Survey* (Birmingham Byzantine and Ottoman Monographs 7. Aldershot 2001) 163–307.

providing new or additional information on the particular subject. After that the content of the source(s) is paraphrased or cited entirely. The most important section is the one that follows, where various aspects of the data are discussed. An effort has been made to date all incidents in a thorough and clear manner and to present them in a way that will be discernible to the reader. In all possible instances adopting established dates without questioning their veracity has been avoided. Furthermore an effort has been made to present the general context of each crisis within this section. Other issues that are reflected on include the identification of stereotypical elements and the explanation of noteworthy, technical details as mentioned in the texts. Under the section 'Related with' I have noted possible relations between the crisis in question with previous or later ones.

The catalogue may appear at first to be a collection of various crises that seem to be unique, to occur randomly and without any particular pattern. The data, when placed in its overall context, can withstand modern interpretation and yield results. The first part of the book is an attempt to show that the material included in the catalogue is not amorphous, but can be analysed according to morphological criteria with the scope to reveal those regularities that pervade it. 'Regularity', a term often used by historians pertaining to the Annales-school (Fr.: *régularité*), is to be preferred over the terms 'norm' or 'historical law'. It designates patterns that occur repeatedly over a long, basically homogeneous period, a '*longue durée*', without, however, a given, normative periodicity. Regularities become apparent from the collection and the interpretation of data; they are not rigid and clearly defined *a priori*, but try to describe as closely as possible various phenomena that have a long presence in a given period. The general aim of the first part is to make these regularities evident, to collect and compare them, and show their evolution within the time frame of Late Antiquity. Each catalogue entry is broken down into the smaller morphological units that compose it; similar cases are collected and types of crises as they arise from this application are then formulated. Those units may refer to the causes and results of each crisis, taking at the same time into consideration the reaction of the people that were affected by it. A significant number of sources include plenty of information on the phenomena they have recorded and as such provide us with sufficient material for discussion. An even larger number of texts, however, only mention the occurrence of a subsistence or epidemic crisis epigrammatically. The data procured by each such source is of quite limited use by itself; it is impossible to draw conclusions from such a small amount

of information. If, however, discussion were to be limited to only those phenomena that are well represented in the sources, a misleading, patchy image would emerge. The material's limitations can be mastered by arranging such texts in a way that will reveal their innate similarities and by grouping and collecting these common factors together.

The methodological device that underlies this enterprise is borrowed from the brilliant work by V. Propp, *Morphology of the Folktale*.²⁵ Just as Propp had tabulated folktale motifs by breaking down narration motifs in abstract forms that overlap in similarity, I also developed an analogous system. I drew up several narration motifs covering the whole spectrum of crises from their causes, the social responses to them and the effects they had, and tabulated the actual recorded crises from the catalogue according to these motifs. As a result the similarities between seemingly unique and unconnected phenomena became instantly apparent. These common points of reference were then summarized and discussed, revealing the possible structures that pervade phenomena such as famines and epidemics recorded over a period of almost five centuries. In this way material of, very often, little qualifiable value could be included in the survey, broaden the spectrum of the discussion and make more abstract patterns of crises discernible. The use of this methodological device has been instrumental in the preparation of this work, although any visible traits have been edited out of its final form since they would only complicate and burden the reader.

The material basis that a scholar of Ancient and/or Byzantine history has to work with is fragmentary. There are well and less well documented periods, topics that are mentioned or not by our sources, stereotypes that obscure the historicity of certain statements – in short, data that at its best enables us a more or less partial view of these past realities. Furthermore we must reflect on the fact that in most cases the information recorded in the sources is closely interwoven with the author's interpretation, often extending beyond a critical separation of the historical fact from the stereotypical, edifying fiction. As a result we cannot anticipate producing laws of universal validity from this material. We can, however, expect that certain patterns concerning the causes, effects and reaction within the

²⁵ Second edition, revised and ed. with a Preface by L.A. Wagner (Indiana University Research Center in Anthropology, Folklore and Linguistics 10. Bloomington 1968, Reprint Austin 1998).

phenomenon, or combinations of the above that are common in many cases will emerge – in short, that a typology of crises will be revealed.

PART I
TYPOLOGY OF CRISES

Chapter 1

The Late Roman and Early Byzantine Empire

Late Antiquity was a period characterized by movement. The Roman Empire was still the most powerful state encircling the Mediterranean, the *mare nostrum*, but after some two centuries of stability and prosperity after Augustus it was thrust into a prolonged crisis in the third century.¹ Some 26 emperors, elevated to power chiefly by the army, succeeded one another in half a century characterized by anarchy, inflation and general social disarray. Diocletian (284–305) was the first ruler to undertake drastic reforms in an effort to stabilize the Empire. Conventionally the history of the Late Roman Empire begins with his reign. He divided the realm under Roman control first into two, then into four parts, to be ruled by a joint team of two *augusti* and two *caesares*. This division of the Empire into East and West was a *de facto* recognition of the different developments in each separate region; as time went by the division deepened and resulted in a permanent demarcation from the end of the fourth century onwards. Other significant reforms included the reorganization of the system of the provinces (they were increased in number and size), the army and the coinage. The gold coin created at the time, the *solidus*, was to remain the standard monetary issue throughout Late Antiquity. Regarding the specific

¹ This is only a brief summary of Late Antiquity intended to provide a background to the phenomena analysed in the book. As such, discussion is limited to those aspects that are relevant to the book's objects of study. For more extensive, detailed examinations of this period see (in chronological order): J.B. Bury, *A History of the Later Roman Empire from Arcadius to Irene (395 A.D. to 800 A.D.)*, 2 vols (London 1899, Reprint Amsterdam 1966); *ibid.*, *HLRE*; P. Brown, *The World of Late Antiquity: AD 150–750* (London 1971); Demandt, *Spätantike*; Av. Cameron, *The Later Roman Empire: AD 284–430* (Fontana History of the Ancient World. London 1993); B.H. Rosenwein, *A Short History of the Middle Ages* (Ontario 2002).

focus of this book, one of Diocletian's measures was of particular interest. To deal with inflation he issued a decree fixing the maximum prices for vital commodities and services. The result was not the expected one: goods vanished from the market and shortages ensued, turning the edict into a dead letter.

Constantine I (324–37) was the son of one of the principal *caesares* and after a career within this system of tetrarchy he rose to the throne after defeating all his opponents. Constantine's reign represents a turning point: by moving the imperial residence and capital of the Empire from Rome to Constantinople (the official dedication took place in 330) and by showing a marked (though not exclusive) preference for the Christian religion, he laid the foundation of what has been named the Byzantine Empire. There was now a clear shift of power towards the East. Situated strategically at the intersection between Europe and Asia, both by water and by land, Constantinople was designed to become a major urban centre: lavish public buildings and churches were built while the emperor took measures to attract a growing population, such as the distribution of free bread from 332. Constantine continued Diocletian's reform work, so that today scholars have trouble in ascribing specific measures to the one or the other ruler.

The Roman Empire still occupied a huge territory stretching from Britain to North Africa and from Spain to Mesopotamia. The Eastern frontier bordering the Sassanid Empire of Persia was in continuous flux; both states were in more or less a constant state of warfare punctuated by occasional periods of peace. This was to remain so until the destruction of the Persian state by the Arabs in the seventh century. Frontiers to the West and the North were persistently menaced by a number of peoples; as a rule the Eastern part of the Empire suffered less than its Western counterpart.

The short interlude of the pagan Julian (361–63), the last ruler who was a blood relative of Constantine, did not stop the successful course of Christianity. The Church emerged as a growing economic and social institution in the fourth century. Theodosios I (379–95) put an end to the tolerance of religions other than the Christian faith: pagans, Jews but also dissident Christian groups were gradually marginalized in a process that culminated in the reign of Justinian I (527–65).

Meanwhile developments in Eurasia seemed to follow the domino principle: under the pressure of the Huns, large numbers of Goths entered the imperial realm. The fifth century saw these Germanic peoples dominate the political scene in both parts of the Empire. In the East, Germanic

officials were integrated into the government and occupied important positions in the state machinery up until 474 when they were liquidated by the Isaurians, a mountainous people from Asia Minor, and their leader the emperor Zeno (476–91). Huns and Goths were either defeated or successfully held back from the Eastern territories and pushed towards the West. As a result, the West was overrun by these peoples and the Roman state ceased to exist. In 410, Alaric's Visigoths sacked Rome and then marched on through Gaul and conquered Spain. The Vandals crossed over to Africa, captured Carthage in 439 and established their own kingdom. In 476 the last nominal western emperor, Romulus Augustulus, was deposed by the Germanic chieftain Odoacer. Another chieftain, the Ostrogoth Theodoric was sent against Odoacer; he managed to defeat him and conquer Italy, which he ruled, nominally, in the Emperor's name. Gaul was captured and governed by the Franks and the Burgundians. The demarcation between East and West as it had been set by Theodosios I in 395, running roughly all the way from Belgrade to Libya, was now a true frontier separating two distinct entities. The Eastern Empire was an unbroken continuation of the Roman state; Greek was the dominant language and the official dogma followed the orthodoxy of the ecumenical councils. The West was now divided into several Germanic kingdoms; Latin was the dominant language and Christianity was as a rule of the Arian faith. The Eastern provinces in Egypt, Palestine, Syria and Asia Minor went through a phase of growth and affluence. A network of important urban centres, most of them existing since Antiquity but now experiencing a period of increase, held the countryside in their firm grip. A class of great landowners accumulated wealth and power and distinguished themselves and their class through donations and crisis management. Constantinople had grown to become the largest city in the entire Mediterranean. Its ecclesiastical head, the Patriarch of the New Rome, had risen to the second position in the hierarchy of the Church just below the old Rome.

Anastasios I (491–518) introduced a period of prosperity and expansion for the Eastern Empire. Through sound economic measures he managed to leave the state with an unprecedented surplus of gold coins at the time of his death. This became the basis for Justinian's I (527–65) ambitious reign. Hailed rightly as the most famous and accomplished ruler of Late Antiquity, Justinian rose to power through his uncle Justin I (518–27). In his time the Empire sought to regain the lost territories in a series of long wars. The Vandal kingdom in Africa was subdued in the 530s, but the

Ostrogoths were not as easy to deal with. The Reconquista in Italy lingered on from 535 until the final defeat and extinction of the Goths in 554. At the same time there was almost constant warfare with Persia from the time of Anastasios until the 560s, although imperial victories and territorial gains were not as decisive as in the West. It was in this world unified by sea and land communications that the plague appeared in recurrent waves from 541 to 750. At the end of Justinian's reign the elaborate new construct of an Empire possessing territory all around the Mediterranean began to collapse as a result of both demographic losses (plague, long wars) and economic hardships brought about by these two factors and the large-scale building activities of Justinian. Until the advent of Herakleios (610–41) much of the regained territory had been lost: the Lombards captured and held Italy from the late 560s, the Visigoths regained the few Byzantine holdings in Spain, while the Eastern front collapsed under renewed Persian attacks. Moreover, a new force emerged in the Balkans: the Avars and the Slavs. From the 580s onwards the Slavs began their settlement of the Balkans, gradually taking almost the entire peninsula *de facto* out of Byzantine control for the next two centuries. Large parts of the West now enjoyed a period of stability under the Frankish kingdoms in Gaul and Germany and the Visigothic kingdom in Spain.

During the reign of Herakleios territorial movement was again considerable. After initial success against the Persians, which led to the recovery of all Byzantine realms (Egypt, Palestine, Syria), the Arab expansion began in the 630s. Until the turn of the century Egypt, Palestine, Syria and Northern Africa were irrevocably lost to the Byzantine Empire, while the Sassanid state had been crushed. The seventh century was subsequently a period of massive restructuring and reorganization as the Byzantine empire fought for its survival. The massive loss of territory – especially Egypt, the ‘granary’ of the Empire – deprived the state of considerable human resources and commodities. From then on Byzantium concentrated on Asia Minor as an almost exclusive source for both. A large-scale reorganization of the army took place in that period, first in Asia Minor, spreading then to the entire Empire. Territory was organized into administrative and military units, the *themata*, in which both civil and military power was concentrated in the hands of one military commander. Soldiers were from then on recruited among the free peasant smallholders, who gradually offered their military service in exchange for land that enjoyed certain privileges.

The Arab foray seemed unstoppable. They menaced Constantinople in 678 and again in 717–18 (see No. 208), failing both times to capture the city. From 711 onwards they succeeded in taking Gibraltar, crossed over to Spain and gradually conquered it. Charles Martel managed to stop their course in the battles of Tours and Poitiers in 732. The new frontiers of the Mediterranean world were now fixed for a period that extended into the next century. The Islamic realms stretched from Spain through North Africa and Egypt to Arabia, Persia, Palestine and Syria. The Byzantine Empire held Asia Minor, (more or less directly) the Balkans and some minor parts of Italy, the rest of which was held by the Lombards. A new kingdom had emerged and was recognized by the Byzantines in 681, that of the Bulgars occupying territory south of the Danube, between the state of the Avars, the Black Sea and the Balkan mountains. The Frankish kingdom covered wide areas of modern western Europe.

When the Arab danger seemed to be under control, the Byzantine empire entered a slow, gradual course of recovery. During the reign of the first emperor of the Isaurian dynasty, Leo III (717–41), and the early years of his son and heir Constantine V (741–75), the constant Arab raids in Asia Minor were successfully met and some former Byzantine territory regained. The lasting civil war between the Umayyads and the ultimately victorious Abbasids (744–49) prevented them from attacking the Empire. This unrest was exploited by Constantine who used his newly-established army corps, the *tagmata*, to assault Arab territory successfully and capture some strongholds. It was precisely at that time that the last wave of the plague united the Mediterranean once more: from Syria to Egypt and North Africa it crossed over into Sicily and Italy and then returned via Greece to Constantinople and ran its full course back to Syria. Both states were decimated, bringing all other activities to halt. This is the final point of the *long* Late Antiquity discussed in this book.

The Byzantine society of the early eighth century was very different from that of one century before. With the loss of the Eastern provinces the fate of urban centres as focal points in the economy and society took the final downturn. Along with the ultimate disappearance of most cities the class that sustained them vanished as well. The senatorial, landowning elite was gradually replaced by a new military and civil service aristocracy sprung from the *thematic* armies and the court at Constantinople respectively. The capital itself, although holding a fraction of the population it had enjoyed under Justinian, grew in importance as the

struggling state sought to address its problems through a social and cultural introspection.

Chapter 2

A Quantitative Overview

The data collected in the catalogue can be used *per se* to date and characterize a subsistence crisis and/or epidemic that occurred within the chronological frame of this study. The main aim of this chapter is to put together and make evident certain trends that seem to emerge from the collection of the data. The conclusions reached below are based primarily on the mere number of phenomena in a given century, city or region. This can certainly lead to oversimplified results, but since a differentiated, detailed analysis of these phenomena will follow in the next chapters, emphasis has been placed here on those general lines of development as seem to emerge by the juxtaposition of the catalogue's entries.

From the 222 catalogue entries recording subsistence crises, 44 cases (respectively per century: 8, 10, 11, 5, 7) deal with the occurrence of such phenomena in close succession and as such are recorded in the same entry; these figures have been added to both respective categories. Additionally, there are five entries (Nos 27, 87, 92, 93 and 210) that do not refer to either famines or epidemics, but have been included in the catalogue because of their relation to preceding or subsequent phenomena; these have not been taken into consideration in Table 2.1.

Table 2.1 Phenomena per century

Century	Famines	Epidemics	Total
Fourth	31	14	45
Fifth	35	18	53
Sixth	37	52	89
Seventh	19	23	42
700–50	12	17	29
Total	134	124	258

The column 'Famines' includes all subsistence crises, both famines and shortages. An effort has been made to make a distinction between more and less severe subsistence crises following the criteria established by Garnsey, the most important of which is a dramatic rise in the mortality rate manifest in cases of famine and absent during shortages.¹ This can be and in fact has been used in a number of well-documented cases that have been characterized accordingly as famines or shortages in the catalogue. However, in a large number of other cases this mechanism cannot be used other than in an arbitrary way: where there is very little information about a crisis the scholar can only decide according to his/her judgement as to whether the particular crisis was more, or less, severe. If then the results of these categories were to be collected and presented in a chart, this would certainly present a false picture of the events. For these reasons I have decided to put all subsistence crises into one group in this and all subsequent tables. The reader is advised to consult the catalogue for a more detailed presentation of the various crises.

A further note should be made regarding the division of the various phenomena according to the centuries they occurred in. This is admittedly a purely conventional partition, as the phenomena on which this study focuses occur independently of such chronological limits. However, this same feature, the fact that these boundaries are conventional, ensures that the specimen we obtain from each century is more or less random and therefore more suitable for its use in this quantitative analysis than those samples we would have obtained by marking the periods in question according to qualitative criteria (e.g., a period beginning with the outbreak of the plague in 541).

The first feature to which we should draw our attention is the unequal distribution of famines and epidemics in the various centuries. The sixth century includes more or less twice as many phenomena than any other. This is at least partly due to the outbreak of the Justinianic Plague, an epidemic that caused a sharp demographical crisis throughout the whole Mediterranean, making its occurrence worth recording in a large number of sources. The seventh and the first half of the eighth centuries show a gradual decline in the number of the recorded phenomena. This certainly has to do with the extant source material, as an example shall demonstrate. Between 628 when the major, contemporary source for the seventh century, the *Chronicon Paschale*, stops, and 750 only 14 phenomena (Nos 183, 184,

¹ Garnsey, *Famine*, X, 37; see also above, *Introduction*.

188, 189, 190, 192, 199, 204, 206, 208, 215, 216, 220 and 221) out of 44 refer to cities and regions within the Byzantine realm. Even the Byzantine Chronicles (Theophanes, Patriarch Nikephoros) seem to record more crises occurring in the Islamic world than in the territory of the Empire. This cannot signify that Byzantium was not visited by many epidemics and/or famines in the course of the seventh and eighth centuries, merely the fact that we lack the sources that would record them. The prevalence of references to the sixth century certainly reflects both an increase in the occurrence of the phenomena in question – epidemics above all – and a more solid state of the source material compared to previous or later times. The first case is best supported by the example of the plague: scholars have not been able to offer a plausible explanation as to why its first historical outbreak occurred in 541 and why it disappeared after 750. The visitations of the pandemic certainly raised the number of the recorded epidemics in the sixth century and at the same time also the consciousness and the interest of the contemporary writers in such matters. Another possible cause for this interest was eschatological. According to the three prevailing world eras the completion of the year 6000 from the creation of the world fell between 492 and 508. This was the year which Christians held as the advent of Judgement Day.² According to the synoptical Apocalypse (Matt. 24, Luke 21, Mark 13), the end of days would be preceded by wars, famines, pestilences and earthquakes. Therefore it is not surprising to see that authors of the sixth century developed a particular interest in recording such natural catastrophes.³

In the second case, the matter of the density of source material, the sixth century is particularly rich in texts. An unprecedented number of historical works written by contemporaries has survived, transmitting a detailed picture of this period. Ps.-Joshua Stylites, Prokopios, John Malalas, Agathias, Euagrios, Marcellinus Comes, Menander, John of Ephesos and Theophylaktos Simokattes – to name but the most important ones – have included in their works a great deal of information on the visitation of epidemics and famines.

² E. Daley, *The Hope of the Early Church: A Handbook of Patristic Eschatology* (Cambridge 1991).

³ See P. Magdalino, 'The History of the Future and its Uses: Prophecy, Policy and Propaganda', in R. Beaton and C. Roueché, eds, *The Making of Byzantine History. Studies dedicated to Donald M. Nicol* [Centre for Hellenic Studies, King's College London Publications I. London 1993] 3–34; W. Brandes, 'Anastasios ho dikoros: Endzeiterwartung und Kaiserkritik in Byzanz um 500 n. Chr.', *BZ* 90 (1997) 24–63.

A more differentiated look at the recorded famines can also furnish us with valuable information. Of the 134 phenomena in the catalogue only 14 appear to have been general, interregional famines, results of larger-scale climatic anomalies that had an overwhelming effect on the food production system of the whole Mediterranean. These are Nos 4, 5, 29, 47, 64, 69, 125, 148, 167, 169, 170, 182, 187 and 222. The last three phenomena refer to famines that affected the Islamic realm and have been included in the catalogue for reference. These were indeed rare events, perhaps as rare as shortages of every kind were common.⁴

The general trends that seem to emerge from this table concern the relation of famines and epidemics over the course of this period. In the fourth and fifth centuries famines are significantly greater in number than epidemics. This suggests a growing population that created pressure on the available foodstuffs, causing a large number of subsistence crises. This is admittedly a Malthusian argument,⁵ but although a computation of the Empire's population at any time is impossible, scholarly opinion does agree on the general tendency of a rising population in the late fourth, fifth and early sixth centuries, both in the larger urban centres and the countryside.⁶ The advent of the plague in the 540s inflicted a sharp demographical crisis. From then on the number of famines drops continually and is finally outnumbered by the recorded epidemic cases during the first half of the

⁴ As Garnsey, *Famine*, 271, rightly concludes: 'Shortage was common, but famine rare, the outcome of abnormal conditions.'

⁵ Cf. for example: Th. Malthus, *An Essay on the Principle of Population*, sixth edition eds E.A. Wrigley and D. Souden (London 1986) 28: 'Population cannot increase without the food to support it', or 309 '[...] no more human beings can grow up than there is provision to maintain. [...] by [frequently obliging] the lower classes of people to subsist nearly on the smallest quantity of food that will support life, [this] turns even a slight deficiency from the failure of the seasons into a severe dearth, and may be fairly said, therefore, to be one of the principal causes of famine.'

⁶ See P. Charanis, 'Observations on the Demography of the Byzantine Empire', in *Thirteenth International Congress of Byzantine Studies, Main Papers XIV* (Oxford 1966) 11–12; Cameron, *LRE*, 114, 123, 179, 188; Treadgold, *History*, 139ff; J. Banaji, *Agrarian Change in Late Antiquity: Gold, labour and Aristocratic Dominance* (Oxford 2001) 16–22; J.H.W.G. Liebeschütz, *Decline and Fall of the Roman City* (Oxford 2001) 30–63. On the contrary, J. Koder, 'Historical aspects of recession of cultivated land at the end of late antiquity in the east Mediterranean. Evaluation of land surfaces cleared from forests in the Mediterranean region during the time of the Roman Empire', *Palaeoclimate Research* 10 (1994) 159–60, writes of 'a demographic and economic decline which took place in various stages starting at the end of the fifth century and taking place at the latest in the first half of the seventh century, at very different points in various regions'.

eighth century. Again, this could be interpreted in the same context: the substantial population decline must have relieved the tension on the food market resulting in a smaller number of subsistence crises.

Table 2.2 Famines and shortages per city and century

City	4th c.	5th c.	6th c.	7th c.	8th c.*	Total
Const.	1	9	4	4	2	20
Rome	8	6	6	2	1	23
Antioch	4	2	—	—	—	6
Alex.	—	1	1	2	—	4
Edessa	1	—	1	—	—	2
Thess.	—	—	1	2	—	3
Ravenna	—	—	1	1	—	2
Amida	—	—	2	—	—	2
Total	14	18	16	11	3	62

* 700–50

Tables 2.2 and 2.3 make evident that the information flow on famines and epidemics was concentrated on the two largest cities in the empire, Rome and Constantinople. The other cities have been included in the tables as figures for comparison. The number of famines and/or epidemics recorded for them throughout the period in question is far too small to enable us to draw any conclusions. Furthermore, we must again assume that this weak tradition reflects a lack of sources or a lack of interest in those cities in the extant sources rather than the actual reality as to the occurrence of these phenomena. Regarding Antioch in particular we can note that we have no information on subsistence crises in the city after the 440s (No. 55). This can be explained by a series of catastrophic phenomena that hit Antioch in the first half of the sixth century: a devastating fire in 525, a terrible earthquake in 526, followed by two less strong ones in 528 and 532, its capture and pillage by the Persians in 540 and the outbreak of the plague in 542.⁷ After all these visitations we can safely assume that the city was left

⁷ In general cf. Downey, *Antioch* (1961) 519–29 and Charanis, 'Observations' (as in n. 6) 6–7; on the earthquakes see Guidoboni, *Catalogue*, Nos 203, 206 and 209; on the Persian capture and the plague see Kislinger and Stathakopoulos, 'Pest', 79, 93.

depopulated and destroyed, never to gain the importance it had in earlier centuries.

It is clear from the presentation of the data that Rome underwent a drastic status-change in the fourth century. Eight consecutive subsistence crises in one century (seven of which are concentrated on its second half) signify severe problems with the city's provisions. With the foundation of Constantinople and the direction of the Egyptian *annona* towards the new capital around the 330s Rome experienced a gradual, but – taking into consideration the long tradition behind this measure – nevertheless quite sudden lack of grain.⁸ In the same period the population in Constantinople experienced only one case of shortage between 330–37 (No. 6): there the causes had been climatic. The absence of subsistence crises in fourth-century Constantinople indicates that the capital's growing population was as large as or, most probably, smaller than the amount the imported grain could sustain. Until the loss of Egypt and its grain to the Persians and then to the Arabs in the seventh century Constantinople remained quite safe from the menace of famine-induced mortality: one case in the fifth century (No. 61), two in the sixth (Nos 111, the first wave of the plague, and 148), one in the seventh (No. 173, as a result of the capture of Egypt by the Persians) and one in the eighth (No. 216). This last case is the only recorded siege-induced famine that Constantinople had to endure within the chronological frame of the catalogue. In a number of cases where the capital experienced sieges there have been no recorded cases of famine.⁹ On the contrary, Rome suffered a number of siege-induced famines that were often coupled with the outbreak of an epidemic resulting in massive mortality: Nos 37 (fourth c.), 42, 44, 44, 72 (fifth c.), 94 and 123 (sixth c.); there are no recorded cases for the seventh and eighth centuries. It is remarkable that this famine-induced mortality in Rome is concentrated in a 150-year-period between 397–98 and the 540s. This largely coincides with the long period of unrest that was unleashed upon Italy first by the Visigoths and then by the Ostrogoths. Rome depended on the African grain shipments after the Egyptian *annona* was directed towards

⁸ The Constantinopolitan *annona* officially began in May 332 according to the *Chronicon Paschale* (531). Cf. Dagron, *Naissance*, 530–31; Sirks, *Food*, 202; Durliat, *Ville*, 250–52.

⁹ In 626 (cf. Stratos II 491–542); in 674–78 (cf. Stratos V 35–45) and in 717–18 (cf. No. 208, where a famine ravaged the Arab army that had set the city under siege but not the population of the city itself; Treadgold, *History*, 346–9).

Constantinople.¹⁰ From 435 onward, as the Vandals conquered North Africa, but mostly in the sixth century, the fatal combination of imperial warfare against the Vandals in Africa (533–34) and against the Goths in Italy (535–44) produced a disastrous situation for the city. The Lombard incursion that followed did not apparently cause any famine-induced mortality. This can be seen as a result of the overall population decline that was brought about by the outbreak of the plague in the 540s. This is true for Rome as well as Constantinople: after the first visitations of the plague (Nos 118 and 139 for the former and 111 and 134 for the latter), the number of famines attested in those cities declined considerably. Once again this might be partly explained by the lack of sufficient sources in this period; however, the general tendency of the figures speaks in favour of a decline in the number of subsistence crises as such.

By comparing the subsistence crises that occurred in Rome and Constantinople we can obtain the following picture. Rome endured twelve famines from 284 to 750 compared to seven in Constantinople. The number of shortages in both cities is 11:12, whereas Constantinople endured the largest number. As noted earlier, Rome was also visited by more famines that resulted in mortality than Constantinople (7:5). There is a clear tendency of more famines in the old than in the new Rome. In my mind this reflects an effort of the imperial government to secure the provisions (mostly grain) for the capital as an utmost priority. The emperors lived in Constantinople in close proximity to the populace, which had to be provided for; if not food riots would occur, and these were to be avoided at any cost. There is a large recorded number of such phenomena in Rome studied by Kohns, *Versorgungskrisen*, passim (cf. also my own Nos 12, 31, 42, 71), but merely six in Constantinople (Nos 43, 51, 59, 132, 165, 176).

One case from the catalogue (No. 169) can illustrate the absolute priority of the provision of Constantinople over any and every other city in the Empire. Between 608–11, during the reign of Phokas, a famine ravaged Thessalonica. This famine was miraculously terminated by St. Demetrios, who allegedly appeared to an official in charge of the grain shipments to Constantinople and had him direct these shipments instead to Thessalonica. A wheat shortage was already manifest in the capital, probably as a result of the uprising of the Heraclids against Phokas, during which African and Egyptian grain shipments to the capital were held back.¹¹ Contrary to what

¹⁰ Sirks, *Food*, 146–8.

¹¹ J.H.W.G. Liebeschütz, *Decline and Fall of the Roman City* (Oxford 2001) 272–6.