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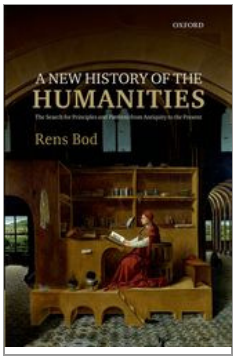

A New History of the Humanities: The Search for Principles and Patterns from Antiquity to the Present
Rens Bod

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Introduction: The Quest for Principles and Patterns

Rens Bod

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Abstract and Keywords

After a discussion of the concept of “humanities”, four major challenges are discussed in writing an overarching history of the humanities: the problems of demarcation, comparativism, presentism, and source selection. There are no straightforward solutions to these problems but one can make choices and see how far one gets. For this book, these problems are dealt with by focusing on an unbroken strand in the humanities that can be identified as *the quest for patterns in humanistic material on the basis of methodical principles*. This strand has not been the only thread in the history of the humanities, but it can be found in all disciplines, periods, and regions. It moreover gives the book a degree of cohesion alongside which other approaches that are not searching for patterns can be given a place

Keywords: Principles, Patterns, Comparativism, Presentism

This is the first overarching history of the humanities in the English language.[1] Unlike the sciences and the social sciences, the humanities lack a general history. This is puzzling if we realize that for many centuries there was no distinction between humanities and science. Whether one wanted to grasp the secrets of the human or the natural world, it was part of the same intellectual activity. Pythagoras investigated both music and mathematics, and al-Biruni was both a historian and an astronomer. Even the icons of the scientific revolution—Galileo,

Kepler, and Newton—were engaged in philology and the study of the natural world. This raises the question as to what extent the distinction between the humanities and science is essential or artificial. Where do their research methods differ? When did they develop in different directions? Is the famous Two Cultures debate sparked off by C. P. Snow in 1959 just a phenomenon of the last fifty years or has it existed before?[2] And have insights and discoveries in the humanities ever led to 'scientific' breakthroughs? A historiography of both the humanities and the sciences is indispensable in answering such questions.

What are the humanities? It is like the notion of 'time' in St Augustine: if you don't ask, we know, but if you ask, we are left empty handed.[3] Since the nineteenth century the humanities have generally been defined as *the disciplines that investigate the expressions of the human mind*.[4] Such expressions include language, music, art, literature, theatre, and poetry. Thus, philology, linguistics, musicology, art history, literary studies, and theatre studies all belong to the realm of the humanities, unlike (p.2) the study of nature, which belongs to the domain of science (such as physics, astronomy, chemistry, and biology). Similarly, the study of humans in their social context is one of the social sciences (such as sociology, psychology, anthropology, and economics). But these definitions are unsatisfactory. Mathematics is to a large extent a product of the human mind, and yet it is not considered a humanistic discipline. A pragmatic stance may be more workable: the humanities are the disciplines that are taught and studied at humanities faculties. According to this pragmatic 'definition', the humanities currently include linguistics, musicology, philology, literary studies, theatre studies, historical disciplines (including art history and archaeology), as well as more recent fields such as film studies and media studies. In some countries theology and philosophy are also taught in humanities faculties, whereas in others they are faculties in their own right.

The humanities come in different forms. They have a memory function by keeping alive the works from the past and the present, often through collections. They have an educational function by teaching these works to new generations. They also have a critical function by interpreting these works for the public at large. In addition to all this, the humanities have a research function by asking questions and posing hypotheses regarding humanistic artefacts. While often intertwined, these functions have not been equally prominent in all historical periods. Yet, as we will see, the research function of the humanities is conspicuous in all eras. It is exactly this *empirical* dimension of the humanities that forms the main focus of the current book.

This raises an immediate conceptual problem—to what extent can expressions of the human mind, such as language, literature, music, and art, be called 'empirical' if they are created by people? Is it not the case that the humanities study primarily 'the world in the mind' rather than an external one? Indeed, the products of the humanities have been created by people, but when the products manifest themselves in the form of manuscripts, pieces of music, literary works, sculptures, grammar books, plays, poems, and paintings, they are obviously just as open as other objects to empirical research and the development of hypotheses. We will see that since

Antiquity humanistic material has indeed been exposed to hypotheses and evaluation relating to assumed patterns and interpretations.

In this book I show how scholars, from the ancient world to today, have explored humanistic material—language, texts, music, literature, theatre, art, and the past—and what insights they gained from it. I want to stress, perhaps unnecessarily, that a history of the humanities is not about the history of music, art, or literature, but about the history of musicology, art theory, and literary theory. This history begins with the birth of the first humanistic activities in Antiquity. It is often assumed that the humanities did not form a separate field of study before the nineteenth century.[5] In part this is true—at least for musicology which was until the (p.3) eighteenth century (also) regarded as a mathematical activity in the so-called *quadrivium* of the *artes liberales* (see 2.4 and 4.4). But it should not be forgotten that already around 1700 the conceptual distinction between a science of the human and a science of the natural was worked out by Giambattista Vico (see 4.2). And as early as from the fourteenth century onwards, we find a branch of thriving disciplines known as the *studia humanitatis* from which the (early) modern humanistic disciplines emerged (see 4.1). We can even discern an unbroken tradition in the study of humanistic material that goes back to the Roman *artes liberales* and further to the Hellenistic curriculum known as *enkyklios paideia* (see 2.7). In writing a general history of the humanities, we thus need to start where we first find these studies—in Antiquity.

But what would be the reason to separate the history of the humanities from the history of other disciplines—be it the natural or social sciences or even from the general history of knowledge? The endeavour to write a history of *all* disciplines was attempted by George Sarton in the 1930s.[6] However, the result of his work, which was based on a highly positivistic concept of progress, did not go beyond the fourteenth century, and even within that period the humanities occupied an extremely marginal position in Sarton's history. Although he included linguistics and musicology to some extent, he left out other humanistic disciplines such as art history and literary theory. According to Sarton, unlike the study of music, the history of the visual arts (painting, architecture, and sculpture) only throws light upon scholarship from 'the outside' and does not contribute to academic 'progress'.[7] Sarton did not elaborate any further on this issue, but it seems that he was pointing to the history of art *itself* rather than art history as a discipline.

We will see that art history, like literary theory, is an essential component in the history of the humanities. From as early as the third century BCE, Alexandrian scholars tried to shed light on artists' quests for the 'correct' proportions when depicting reality. In the first century CE, Pliny described in detail how classical sculptors kept to exact proportions, for example between the sizes of the head and the body, and Vitruvius reported on the proportions in classical temples. Surprisingly enough, these ratios correspond with the proportions that were found in the study of musical harmony (by Pythagoras, Ptolemy, and others). Similar relationships were discovered in the study of Indian and Chinese art and music (for instance by Bharata Muni and Liu An). We should therefore include the study of music (musicology) and of art (art history) if

we want a proper understanding of the historical development of the humanities. Of these two, however, Sarton only addressed musicology, and then primarily because of its importance to scientific progress. Sarton's work is thus not a general history of scholarly disciplines, let alone the humanities. The same can be said of Hans-Joachim Störig's overview (p.4) of the history of science in 1953.[8] Although his work was not based on a positivistic belief in progress, Störig included only linguistics and historiography as humanistic disciplines.[9]

The general history of the humanities has thus remained underexposed in terms of both content and period. This is all the more striking because a large number of histories of science have been written from the nineteenth century onwards.[10] And, more recently, general histories of the social sciences have also been produced.[11] In other words, from a historiographical point of view, a general history of the humanities is conspicuous by its absence. How can this manifest gap in intellectual history be understood? One explanation, which will emerge from this book, is that the humanities have become increasingly fragmented over the last two centuries —unlike the sciences, where the opposite seems to have taken place. Current historiographies of science usually take physics as the central discipline, alongside which other sciences (chemistry, biology, and geology) are discussed and compared. Such an approach is much harder if not impossible to maintain for the history of the humanities. There is no central humanistic discipline on which all other disciplines can be modelled—although we will see in this book that there are common humanistic practices and methodologies. So far, the histories that have been written are almost exclusively of *single* humanistic disciplines, such as histories of linguistics,[12] histories of literary theory,[13] and histories of historiography.[14] Connections between methods and principles among different disciplines have rarely been made. This has led to peculiar situations. For instance, in seventeenth-century England, William Holder wrote both linguistic and musicological works that were interrelated, but he is usually treated as two different people. And during (p.5) the Chinese Han Dynasty, Sima Qian developed a narrative scheme that related to both historiography and poetics, yet he is only known as a historian.

This means that a *comparative, interdisciplinary* history of these fields is essential. And moreover, we cannot restrict ourselves to one region. It emerges that there is almost nowhere that the history of the humanities can be considered in isolation. Panini's Indian linguistics, for instance, first filtered through to China and Islamic civilization, and after that had profound effects on the study of language in Europe. As far as the discovery of patterns is concerned, historians in Greece (Herodotus and Thucydides), China (Sima Qian), and Africa (Ibn Khaldun) all 'discovered' the constantly recurring historical pattern of rise, peak, and decline. In spite of this, the historiographies of the separate humanistic disciplines are often confined to the Western tradition, with no attempt to unravel the fascinating interactions between the different areas.[15] This book endeavours to reveal this interplay at least to a degree, although a history of the humanities from a global perspective is difficult because many sources are not yet accessible or remain untranslated.[16] I realize that I devote a disproportionate amount of attention to the Western humanities in this book. But besides Europe and the USA I will also deal with the humanities in India, China, Islamic civilization, and Africa, with some excursions

to Byzantium and the Ottoman Empire. Any future world history of the humanities should also encompass other regions—from pre-Columbian America to Japan (which I only briefly discuss in chapter 6).

How, though, can we compare the different humanities disciplines not only across periods but also across regions? The contexts of these disciplines, as well as their concepts, can differ endlessly. While it seems problematic to directly compare linguistics, poetics, art theory, musicology, and historiography across regions and periods, we may be able to compare the underlying *methods* used in these disciplines as well as the *patterns* found with these methods. Humanities scholars typically employed one or more *methodological principles* to investigate their humanistic material. And in using these principles they searched for some kinds of *patterns* in the material. These principles and patterns were sometimes literally mentioned while at other times they remained implicit but could often be extracted from the texts. While the contexts of these humanistic studies differ immensely across disciplines, regions, and periods, there appear to be deep commonalities at the level of principles used and patterns found. A comparison between humanistic practices across disciplines, regions, and periods thus seems to be possible in terms of these two concepts.

(p.6) But there is another reason, too, why it makes sense to compare principles and patterns across cultural contexts. On the way, it became crystal clear to me that many of the methods invented in very specific disciplines had been applied by humanists to new problems in other disciplines (often from different periods and regions) *without* taking into account their original religious or cultural contexts. For example, Panini's formal grammar method (see 2.1) originally served the Vedic ritual practice, but when it was (re)discovered in nineteenth-century Europe, his grammar was stripped of its ritual connotations and was used by 'modern' linguists for their own theories of language (see 5.3). A similar thing occurred in the Arab world where the eighth-century *isnad* method of reconstructing the words and deeds of the Prophet (*hadith*) was later used by historians such as Al-Dinawari, Al-Tabari, and Al-Masudi as a successful method for historical source reconstruction without religious connotations (3.2). Their method may even have influenced textual criticism in Renaissance Europe (see 4.1). Thus, the sophisticated source reconstruction that initially had a religious purpose could be applied to non-religious source reconstructions as well, and this was done by scholars themselves. Very specific methods that were developed for solving one particular problem in the humanities in a specific context could be cut loose and reinserted into a different context for solving other, new problems.

The focus on principles and patterns also allows us to discern new patterns *not* found by humanities scholars themselves. These I will call *metapatterns*. For example, it appeared that there was a process from descriptive to prescriptive approaches in all humanistic disciplines in Antiquity. The regularities in Greek tragedies found by Aristotle were quickly turned into prescriptive rules by later poeticists such as Horace (see 2.8 for details). And the mathematical proportions found in classical Greek art and architecture by Pliny and Vitruvius were taken as

normative prescriptions by later art theorists (see 2.5, 4.5). The same can be observed in Chinese and Indian poetics and art theory. Surprising enough, this process was reversed at the end of the early modern period—that is, it went from prescriptive back to descriptive again, in Europe and China alike. Another meta-pattern that emerged, is that the time pattern in historical writings from a particular region corresponded with the time pattern used in the canonical texts of that region. This was found in China, Islamic civilization, Europe, Africa (Ethiopia), and India (see 3.2). Thus, by using the concepts of principles and patterns, it is possible to find novel metapatterns across disciplines and even regions. Next, these patterns can be interpreted again in the context of each specific region, and be understood by the cultural products themselves, e.g. the canonical texts of a civilization. But without the concepts of principles and patterns to begin with, it would be hard to find such metapatterns.[17]

(p.7) In this book I thus concentrate on the apparently unbroken strand in the humanities that can be identified as *the quest for patterns in humanistic material on the basis of methodical principles*. This strand has not been the only thread in the history of the humanities, but it can be found in all disciplines, periods, and regions. Moreover, it gives my historiography a degree of cohesion alongside which I can also find a place for other approaches that are not searching for patterns. One of the conclusions in chapter 6 will be that there is only a gradual differentiation between the humanities and the sciences, and that there is a continuum in the nature of the patterns and their possible 'exceptions'. The history of the humanities appears to be the missing link in the history of science.

My approach to the history of the humanities challenges a very dominant view in the *philosophy* of the humanities. This view, initiated by Wilhelm Dilthey, contends that the humanities (*Geisteswissenschaften*) are concerned primarily with *verstehen* (understanding), whereas science (*Naturwissenschaften*) is about *erklären* (explaining).[18] According to Dilthey, humanities scholars would be failing if they observed, counted, measured, or hunted for apparent regularities. What they should be doing is searching for the motives and intentions of important historical figures. Laying bare these *inner* mainsprings is more important than studying the *external* manifestations of the human mind. In this context one also uses the distinction introduced by Wilhelm Windelband between an *idiographic* approach to knowledge (which is the study of the unique, the special) and a *nomothetic* way of studying (which seeks to generalize).[19] Although this vision has been very influential in the philosophy of the humanities,[20] it proves to bear less relation to humanistic practice. Even when Dilthey's vision was gaining ground (in the late nineteenth and early twentieth century), there were both idiographic and nomothetic practices in every humanistic discipline, and the latter were often dominant. We have found nomothetic, pattern-seeking components not only in the linguistics of e.g. de Saussure and Jakobson but also in the philology of Lachmann, the musicology of Schenker, the literary theory of Propp, the art history of Wölfflin, and the historiography of the *Annales* school, just to name a few. In spite of Dilthey's and Windelband's constitutive recommendations, there was a boom in efforts to search for and find patterns in the humanities. The fact that the view of the humanities that Dilthey's and Windelband's works represented

was nevertheless influential springs primarily from the powerful identity it gave the humanities, which enabled them to differentiate and emancipate themselves from the up-and-coming natural sciences (see chapter 5). This book will, however, show that *the quest for principles and patterns in the humanities is a continuous tradition*. Historiography thus appears to be ideally suited to the refutation of philosophical visions.

(p.8) Our comparative approach calls for a few further decisions to be made. I have opted for a 'classical' division into periods, namely Antiquity, the Middle Ages, the early modern era, and the modern era. A classification like this is unsatisfactory when I come to describe the humanities in China, India, Islamic civilization, and Africa. I will therefore also refer regularly to periodization within a particular region, for example the dynasties in China. Obviously, any periodization falls short when we want to establish links between civilizations, whether we opt for Chinese dynasties, the Greek Olympiads, or the ages of al-Tabari. Working within the traditional periodization, I address the history of the humanities primarily chronologically and by discipline, but I try to make as many comparisons as possible between disciplines and regions. In so doing I have concentrated more on the internal development of the humanities and less on their external cultural context, although I have tried to integrate these two as much as possible. I have selected a chronological structure rather than a treatment based on themes since it appears that a sequential overview of the humanities is a requirement for recognizing themes that go more across history.[21] We will therefore only reveal the underlying themes as we go along and not specify them beforehand, with one major exception that we meet in all periods and regions—the ongoing search for methodical principles and empirical patterns in humanistic material.

Any intellectual history is faced with a terminological-conceptual problem—which designations can best be used to describe scholarly activities in the past? Can we refer to the study of music and the study of art in the ancient world by using contemporary terms like 'musicology' and 'art history' without lapsing into misleading anachronisms? If we squeeze historical intellectual activities into a straightjacket of present-day expressions, we run the risk of descending into an undesirable kind of 'presentism', in which the past is interpreted in terms of current concepts and perspectives. The preferred starting point is to use contemporary terms for an intellectual activity, for example *poetics* for the study of poetry and theatre in ancient Greece and *grammar* for the study of language. But sometimes these expressions are ambiguous, as is the case with *musica*, which can mean the study of music or the music itself (and more besides). Specific terms are lacking in other cases; for instance in the absence of anything better, the study of art was put under mineralogy and the application of materials in Pliny's *Naturalis historia*. In order to tackle these problems, at least to some extent, in many cases I mention the contemporary or regional designation of the humanistic activity concerned, and then replace it with what I consider to be the most coherent term. On some occasions this is historical (*poetics* for instance) and on others it is current (such as *musicology*). I do not believe that every form of presentism can be avoided—and it does not even need to be always avoided. It emerges that there is greater continuity between the humanities of Antiquity, the

Middle Ages, and the modern era than could originally be suspected, both with respect to questions asked, methods used, and patterns found. Such continuity was also remarked upon with regard (p.9) to the development of the natural sciences from the fourteenth century onwards (by Pierre Duhem and others), but it goes even further back in the humanities (see the conclusions of chapters 4 and 5). It is not just that 'humanities' reads and sounds better than the 'study of the products of the human mind' or the like—there also appears to be a historical justification for generalizing the term to cover different periods.[22] Some conceptual anachronisms are not only useful, they are also justifiable.[23]

The various different terms used to describe humanistic activities in regions outside Europe, for example India and China, are another problem. It is precisely for this reason that I will not so much focus on *disciplines*—the latter being a Western concept originating from the medieval universities—but rather on the *study* (or *studies*) of language, literature, art, music, theatre, and the past, which are found in all regions independent of whether these studies were carried out privately or academically, in a religious or in a secular context. It is only for convenience that I often refer to this activity (i.e. the study of language, literature, music or art, etc.) as a 'discipline'.

Thus as a whole, this book is about the history of *the methodological principles that have been developed and the patterns that have been found in the study of humanistic material (texts, languages, literature, music, art, theatre, and the past) with these principles*. The patterns found can consist of a regularity (often with exceptions) but they can also consist of a system of rules such as a grammar, or a system of interpretations, and they may even be similar to 'laws' such as the sound shift laws in linguistics and the laws of harmony in music. My concept of 'patterns' is in fact an umbrella that covers everything that can be found between inexact regularities and exact laws. For the time being I will not make this concept more specific because in my quest I do not want to exclude any 'pattern' in advance. The concept of 'pattern' will gradually crystallize, and will be compared with similar concepts in other sciences and disciplines. (I have given a more detailed description of my working approach in Appendix A.)

At this point it may be important to briefly come back to what this book is *not* about. In my history of the quest for principles and patterns I have not included the social sciences, not even those social sciences that have humanistic aspects, such as (parts of) geography, anthropology, sociology, and psychology. The reason is that there are already excellent books on the general history of the social sciences (see the references in footnote 11). What is missing in the historiography of knowledge is a general history of the humanities, which is exactly what the current work is about. This is not to say that I treat the humanities as a fixed bundle of activities that have remained unchanged since Antiquity. In fact, the study of language, texts, art, (p.10) music, literature, rhetoric, and the past has changed dramatically, also under the influence of the upcoming social sciences in the modern era. At various points I will therefore discuss the influences from sociology, anthropology, and psychology on the humanities—from

Comte, Weber, Ehrenfels, and Lévi-Strauss to Geertz. But I will not go into the history of these disciplines themselves. A general history of all sciences, i.e. of all knowledge-making disciplines, will have to await its publication.

My decision to focus on principles and patterns will, however, often lead to surprising choices. Many a famous humanist, historian, or philologist will be mentioned only briefly—if at all—while other scholars are dealt with at length. More than once I will describe a well-known work with a single sentence, not because I consider it unimportant or not influential, but because it did not contribute much to the quest for principles and patterns. Of course, another focus would lead to a different history of the humanities. Some humanistic activities will even fall largely outside the scope of my story. We find empirical searches less frequently in philosophy and theology, part of which I therefore do not address. For example, I go into the linguistics of Panini and Apollonius Dyscolus, but the 'language philosophy' of Confucius and Plato gets no more than an honourable mention. The part of theology that is concerned with investigating textual sources will be discussed in some detail, whereas speculative theology will only be mentioned in passing. Having said this, I will often go into the immense impact of theology and philosophy on the humanities, but these disciplines will not receive separate chapters—they simply play a role (almost) everywhere.

My concentration on principles and patterns does not mean that I omit once-only, fortuitous discoveries. Who can leave out from the history of the humanities the archaeological discovery of Troy by Heinrich Schliemann? A more interesting question, however, is whether this discovery was indeed coincidental or whether it was based on methodical principles. Additionally, I will also consider scholars who on the contrary sought to *refute* the concept of patterns—from the Pergamon *anomalists* in the third century BCE to the European *deconstructivists* in the twentieth century. Yet I will argue that seeking and finding patterns is timeless and ubiquitous, not only when observing nature but also when examining texts, art, poetry, theatre, languages, and music. Just as in all other scholarship, it is about trying to make a meaningful distinction between fortuitous and non-fortuitous patterns. Of course the humanities are also concerned with acquiring insights into our culture and its values, and through this, into our own humanity. This book shows that there is also a centuries-old humanistic tradition that seeks principles and patterns while at the same time giving us an understanding of what makes us human. For a long time this tradition was neglected and almost exclusively attributed to science.

My way of approaching the source material is explained in some detail in Appendix A. For the moment it suffices to say that when reading into the history of a certain discipline (of a certain period, region, and civilization), I usually started out with secondary material and worked from there to compare primary sources—which I read in their original languages as far as I could, otherwise in translations. I was surprised how much Chinese, Sanskrit, and Arabic, but also Ge'ez, Russian, (p.11) and Turkish material was available in English, French, or German. While many of these sources had already been translated more than a century ago, they had

never been brought together, let alone compared. They seemed to have remained in the specialized academic communities. My way of referring to these sources is as follows: if a source—primary or secondary—was not originally in English, I also tried to find an English translation to which I refer in the footnotes.[24] At the same time, I refer to the original source as well but only if I could read it, that is, when it was written in German, Dutch, English, French, Italian, Latin, or Spanish. For texts written in other languages, such as Sanskrit, Arabic, Russian, Chinese, Ge'ez, Fulani, Greek, and Turkish, I had to rely on translations. To verify the reliability of these translations, I consulted Arabists, Indologists, Sinologists, Africanists and other scholars, who also helped me out on a variety of other issues—I acknowledge them on the way and I have gratefully mentioned their names in the Preface.

In sum, in writing an overarching history of the humanities we are confronted with at least four major challenges: the problems of demarcation, of comparativism, presentism, and source selection. There are no straightforward solutions to these problems—if any at all—but we can make motivated choices and see how far we can get. For this book my choices have been the following:

Demarcation. No hard distinction can be made between the humanities, social sciences, and natural sciences. Yet since exactly those disciplines that make up the humanities have been historiographically neglected, we have to investigate their joint history before we can write a general history of science or knowledge.

Comparativism. While it seems problematic to directly compare the study of language, art, literature, music, theatre, and texts—the more if they come from different regions or periods—we can compare them at the level of *methods* used and *patterns* found. We can also do this because humanists themselves often (re)used methods and patterns from different disciplines, periods, and regions in new contexts.

Presentism. Using the present-day meaning of 'humanities' in earlier periods is a conceptual anachronism. But given the continuity between the 'humanities' in Antiquity, Middle Ages, and modern era, this conceptual anachronism is useful rather than harmful.

Source selection. If we want to write an overarching history of the humanities, as well as of other disciplines, it is practically impossible for a scholar to consult all sources in their original languages. We have to work together with other scholars to check the sources and to verify the reliability of translations.

Finally, for anyone who is puzzled by the word 'New' in my book's title, I have used it to contrast my work with previous histories. As I explained above, these previous works focus either on a single humanistic discipline or just on a couple of disciplines. Instead, this book covers eight humanistic disciplines, and several more from the twentieth century onwards. These disciplinary histories are intertwined, but to a certain degree they can also be read independently of one another. (p.12) Someone who is only interested in the history of the study

of music for instance, can confine themselves to reading the sections on musicology—a field for which no overarching historical overview has so far been written. But anybody who wants to experience the whole adventure of the quest for principles and patterns in the humanities from Antiquity till today will have to read the book from cover to cover. In order to give the reader something to go on, I end every chapter with a comparative conclusion of the period covered. If, after reading this book, someone feels the call to write a different history of the humanities, my objective will have been achieved. As the old Vossius said, 'after me there will be others, and again others, who will do it better than me.'[25]

Notes:

([1]) The term 'humanities' is ambiguous in the Anglophone world. While today's use of the term commonly refers to a branch of academic *disciplines* such as literary studies, historiography, musicology, art history, theatre studies, and the like, it can also be used to refer to the *subjects* studied by these disciplines, such as literature, music, art, theatre. And sometimes the two meanings are even conflated. In this book I will use the term humanities to refer to the disciplines, or better (as I will argue below) to the *studies* of literature, music, art, theatre, etc. This use of the term corresponds to the German *Geisteswissenschaften* ('sciences of the spirit'), the Italian *scienze umanistiche* ('humanistic sciences'), or the Dutch *alfawetenschappen* ('alpha sciences').

([2]) Charles Percy Snow, *The Two Cultures and the Scientific Revolution*, Cambridge University Press, 1959.

([3]) St Augustine, *Confessions*, Book XI, chapter XX.

([4]) Wilhelm Dilthey, *Einleitung in die Geisteswissenschaften: Versuch einer Grundlegung für das Studium der Gesellschaft und der Geschichte*, 1883, reprinted by Teubner, 1959. For an English translation, see Wilhelm Dilthey, *Selected Works*, volume 1, translated and edited by Rudolf Makkreel and Frithjof Rodi, Princeton University Press, 1991.

([5]) See e.g. Hans-Georg Gadamer, *Wahrheit und Methode: Grundzüge einer philosophischen Hermeneutik*, Mohr, 1960, translated into English as *Truth and Method*, by Joel Weinsheimer and Donald Marshall, Continuum, 1975, pp. 3ff. See also Albert Levi, *The Humanities Today*, Indiana University Press, 1970. And see also Jörg-Dieter Gauger and Günther Rüther (eds), *Warum die Geisteswissenschaften Zukunft haben!*, Herder, 2007.

([6]) George Sarton, *Introduction to the History of Science*, 3 volumes, Williams and Wilkins, 1931–1947.

([7]) Sarton, *Introduction to the History of Science*, volume 1, p. 5.

([8]) Hans-Joachim Störig, *Kleine Weltgeschichte der Wissenschaft*, Fischer, 1953.

([9]) Additionally there are the great works by Michel Foucault (*The Order of Things,* 1966) and Georges Gusdorf (*Les Sciences humaines et la pensée occidentale*, 1967), but these are more of a philosophical nature, and focus on the social or 'human' sciences rather than on the humanities: linguistics and historiography are included, but no other humanistic disciplines are.

([10]) Among the many histories of the natural sciences, one of the first is William Whewell, *History of the Inductive Sciences*, 3 volumes, Parker, 1837. Later classics are Stephen Mason, *A History of the Sciences*, Macmillan, 1962; William Dampier, *A History of Science and Its Relation to Philosophy and Religion*, Cambridge University Press, 1966. Some more recent ones include James McClellan and Harold Dorn, *Science and Technology in World History: An Introduction*, Johns Hopkins University Press, 1999; Frederick Gregory, *Natural Science in Western History*, Wadsworth Publishing, 2007; Patricia Fara, *Science: A Four Thousand Year History*, Oxford University Press, 2009; H. Floris Cohen, *How Modern Science Came into the World*, Amsterdam University Press, 2010.

([11]) Examples of histories of the social or human sciences (not be confused with the humanities) are Roger Smith, *The Norton History of the Human Sciences*, W. W. Norton, 1997; Scott Gordon, *The History and Philosophy of Social Science: An Introduction*, Routledge, 1993; Theodore Porter and Dorothy Ross, *The Cambridge History of Science, Volume 7: The Modern Social Sciences*, Cambridge University Press, 2003.

([12]) See e.g. R. H. Robins, *A Short History of Linguistics*, Longman, 1997; Esa Itkonen, *Universal History of Linguistics,* John Benjamins, 1991; Pieter Seuren, *Western Linguistics: An Historical Introduction*, Blackwell Publishers, 1998.

([13]) See e.g. Richard Harland, *Literary Theory from Plato to Barthes*, Palgrave Macmillan, 1999; Harry Blamires, *A History of Literary Criticism*, Macmillan, 1991.

([14]) See e.g. Ernst Breisach, *Historiography: Ancient, Medieval and Modern*, The University of Chicago Press, 2007; Markus Völkel, *Geschichtsschreibung: eine Einführung in globaler Perspektive*, Böhlau Verlag, 2006; Daniel Woolf, *A Global History of History*, Cambridge University Press, 2011.

([15]) Even the nine-volume *Cambridge History of Literary Criticism*, Cambridge University Press, 1989–2005, is restricted to Western literary criticism. Not all historical overviews suffer from Western limitation, for example Völkel, *Geschichtsschreibung: eine Einführung in globaler Perspektive*, Woolf, *A Global History of History*, and Itkonen, *Universal History of Linguistics*, aim at a worldwide coverage, albeit for one humanistic discipline only. In the history of the natural sciences, a worldwide perspective is also gaining ground, such as McClellan and Dorn, *Science and Technology in World History: An Introduction*, and Floris Cohen, *How Modern Science Came into the World*, Amsterdam University Press, 2010.

([16]) See e.g. Khaled El-Rouayheb, 'Opening the gate of verification: the forgotten Arab-

Islamic florescence of the 17th century', *International Journal of Middle East Studies*, 38, 2006, pp. 263–81.

([17]) My way of working thus differs from Geoffrey Lloyd and Nathan Sivin, *The Way and the Word: Science and Medicine in Early China and Greece*, Yale University Press, 2003, and from Geoffrey Lloyd, *Disciplines in the Making*, Oxford University Press, 2009. These authors do not introduce additional concepts in their cross-cultural comparisons, and consequently find more divergences than common patterns. If we remain too specific, we will not discover commonalities. On the other hand, we should of course make sure that even our most general concepts still remain historically meaningful.

([18]) Dilthey, *Einleitung in die Geisteswissenschaften*, pp. 29ff.

([19]) Wilhelm Windelband, *Geschichte und Naturwissenschaft*, 3rd edition, Heitz, 1904.

([20]) See e.g. Gadamer, *Truth and Method*, pp. 6, 56ff. See also the anthology of (abridged) texts in the philosophy of the humanities, in Gauger and Rüther, *Warum die Geisteswissenschaften Zukunft haben!*. And see Gunter Scholz, *Zwischen Wissenschaftsanspruch und Orientierungsbedürfnis: zu Grundlage und Wandel der Geisteswissenschaften*, Suhrkamp, 1991.

([21]) See e.g. John Pickstone, *Ways of Knowing: A New History of Science, Technology and Medicine*, Manchester University Press, 2000.

([22]) A justification of a generalization of the term humanities (*Geisteswissenschaften*) to other periods can also be found in Helmut Reinalter and Peter Brenner (eds), *Lexicon der Geisteswissenschaften*, Böhlau Verlag, 2011, pp. 258ff. And also in Julie Thompson Klein, *Humanities, Culture and Interdisciplinarity: The Changing American Academy*, SUNY Press, 2005, pp. 13ff.

([23]) Cf. David Hull, 'In defense of presentism', *History and Theory*, 18, 1979, pp. 1–15. Nicholas Jardine, 'Uses and abuses of anachronism in the history of the sciences', *History of Science*, 38, 2000, pp. 251–70.

([24]) I made an exception for texts by well-known Greek and Latin authors whose English translations can be easily found in the Loeb Classical Library. These texts are quoted without reference to their English translations.

([25]) Gerardus Vossius, *Poeticae institutiones*, Praefatio, in *Opera*, III, 1647 (without page numbers): 'Exsurgent post me alii, et alii, qui felicius conentur.'

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