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## Ancient Gods Going Digital: On the First Steps of the on-Going ERC Project “Mapping Ancient Polytheisms”

Élodie Guillon and Fabio Porzia<sup>1</sup>

This paper describes the theoretical and methodological frameworks of an on-going experience between historians of Greek and North-West Semitic religions and specialists in Digital Practices (DP). The framework within which this venture is taking place is the five-year European Research Council (ERC) Advanced Grant, entitled “Mapping Ancient Polytheisms – Cult Epithets as an Interface between Religious Systems and Human Agency” (MAP).<sup>2</sup> Since October 2017, at the University of Toulouse–Jean Jaurès, a group of five post-doctoral researchers and one research engineer,<sup>3</sup> led by Corinne Bonnet, have been working on the marriage between ancient religions and DP. Our specific objective is to study the inscriptions attesting the possible ways human agents called upon and addressed the gods, or at least those published to date in paper and/or online corpora or scientific articles. By analysing and formalising these “divine naming strategies,” our final goal is to investigate how people chose, built, and combined different elements known in specialised literature as divine names or theonyms, titles, epithets, epiclesis, etc. By individuating the divine naming strategies and entering them into a relational database, our team is scrutinising the entire epigraphic production between 1000 BCE and (248) 400 CE in Greek and North-West Semitic languages (the latter including, for instance, Phoenician and Punic, Hebrew and other Levantine dialects, as well as Aramaic in its different phases from Old to Late Aramaic and local scripts such as Palmyrenian, Nabatean, etc.). This *longue durée* and multilingual approach provides a large body of source material, estimated to reach several thousand occurrences of onomastic entries (over 20,000).

However, since our participation in the Symposium was prepared during the first year of the project, and given the broad audience and purpose of this publication, this chapter will not contain an in-depth analysis of specific case studies. This phase of the project was, on the contrary, dedicated to the conception of the database and the collection of the relevant inscriptions which, in the case of the North-West Semitic languages, are scattered among hundreds of publications and

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<sup>1</sup> This article is the fruit of the activities of the project “Mapping Ancient Polytheisms – Cult Epithets as an Interface between Religious Systems and Human Agency.” This project has received funding from the European Research Council (ERC) under the European Union’s Horizon 2020 research and innovation programme (grant agreement No. 741182). The article is co-authored, Fabio Porzia is the author of the first section (*A perspective from History of religions*), while Élodie Guillon authored the second section (*A perspective from DP*).

<sup>2</sup> The bilingual website (French and English) is available at this address: <<https://map-polytheisms.humanum.fr/>> (accessed December 10, 2018). For a more detailed presentation, see Bonnet 2017.

<sup>3</sup> Besides the two authors of this chapter, Élodie Guillon, who is also the project manager, and Fabio Porzia for the North-West Semitic pole, the team is composed of Maria Bianco, subsequently replaced by Aleksandra Kubiak-Schneider (North-West Semitic pole), Thomas Galoppin (Greek pole), Sylvain Lebreton (Greek pole), and Antoine Laurent (Research Engineer).

articles, besides the known general or local corpora.<sup>4</sup> This chapter, therefore, highlights how DP and, in particular, an approach of “Big Data” and “Network modelling tools”<sup>5</sup> can foster and improve the way historians conceive and conceptualise the human interaction with the divine.

If it is true that the Mediterranean basin in Antiquity was “a world full of gods,”<sup>6</sup> today it has become possible to apprehend such an extraordinary divine proliferation with the help of DP. However, these new approaches face many difficulties that must be overcome. On the one hand historians are generally sceptical towards DP and are especially concerned about losing an analytical and fluid interpretation of specific data when it is amassed together in huge collections and processed with the aid of abstract algorithms. On the other hand, digital specialists may also express some reluctance when it comes to adapting their tools to our field. For instance, the material records and the sources we have at our disposal, especially for North-West Semitic religions,<sup>7</sup> are quite modest compared to the modern or contemporary data digital specialists are used to processing;<sup>8</sup> not to mention the huge debate as to whether social sciences are, in actual fact, able to grasp cognitive aspects in ancient societies.<sup>9</sup> After all, ancient religions and DP are distant fields, but to portray a (249) rigid opposition between them and their methods would be misleading. As we argue in this chapter, having the option to use digital practices not only serves to facilitate our research, but also helps to reformulate old questions in new terms and thus could lead to a paradigmatic shift and create a new approach to the discipline.<sup>10</sup>

From this broader perspective, the aim of this chapter is twofold: on the one hand to encourage neophytes to study ancient religions as a fertile laboratory for new approaches and, on the other hand, to show historians (especially historians of ancient religions) the major gains and challenges in applying DP to their field. The first part offers a general presentation of an ERC project, which is the framework of this research, and the relevance of its methodology from the perspective of the history of religions. The second part is more closely related to the DP, presenting some problematic aspects of the data treatment, and the tools the project uses.

## ***1. A Perspective from History of Religions***

### *1.1. Gods in Pantheons*

One of the first applications of a DP approach lies in understanding and organising the existing relations between different gods through their shared or exclusive names and titles. Such a systemic approach disregards, for instance, the binary opposition between the notions of polytheism and monotheism, that is to say between religious systems considering many gods or only one god,

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<sup>4</sup> Such as *Corpus Inscriptionum Semiticarum* (CIS), *Répertoire d'épigraphie sémitique* (RÉS), *Kanaanäische und aramäische Inschriften* (KAI), *Die alt- und reichsaramäischen Inschriften* (ARI), *Corpus Inscriptionum Iudaeae/Palæstinae* (CIIP), *Palmyrene Aramaic Texts* (PAT), etc.

<sup>5</sup> See footnotes 84 and 88.

<sup>6</sup> Hopkins 1999. Moreover, his title recollects Plato, *Laws* 10, 899b 9.

<sup>7</sup> The notion of North-West Semitic covers the Syro-Palestinian region. For historical reasons, we also include the northern part of the Arabian Peninsula in our study.

<sup>8</sup> The case is different for ancient Mesopotamia, for instance, where the documentation is much richer and DP projects are flourishing. See, for instance, Alstola et al. 2019.

<sup>9</sup> For a general formulation of this problem see Renfrew and Bahn 2012, 381–420.

<sup>10</sup> Guillon 2020, 85–90.

which is polemic as we will show below.<sup>11</sup> In order to understand the relation between the two (as the Italian historian of religions Angelo Brelich pointed out) the problem is not so much the difference between many and one as the misuse we make of the notion of godhood in the two cases.<sup>12</sup> We tend to consider the notion of godhood identical in polytheistic and monotheistic systems though, in fact, it is profoundly different. For instance, polytheistic gods are not *stricto sensu* omnipotent, omniscient, perfect (from a metaphysical or ethical perspective), or completely abstract in the same way as the God, for example, (250) of Judaism, Christianity and Islam. Therefore, a polytheistic god and a monotheistic god share the notion of godhood only by analogy. This is especially true in some academic traditions, where the notion of god is deeply shaped by two millennia of Christian theology, regardless of whether scholars believe in it or not. Subsequently, we need a notion of godhood appropriate to polytheistic religions. This is especially important since in the ancient Mediterranean basin of first millennium BCE (with the exception of Judaism, the monotheistic tendencies of which start only at the end of the sixth century BCE)<sup>13</sup> polytheistic religions were the norm. We will see how DP can help historians of religions to attain their goal.

Moreover, neither “monotheism” nor “polytheism” are endonyms or self-imposed terms of any ancient religion from an emic perspective.<sup>14</sup> In other words, no member of a polytheistic religion ever defined themselves as polytheistic, just as no Jew, Christian or Muslim for centuries ever considered themselves monotheistic. This certainly does not mean that a phenomenon cannot exist before its term. However, the role of polemic definitions and academic notions in the crystallisation of boundaries should not be underestimated. Both notions were established much later than the emergence of the phenomena they aimed to define and subsequently became part of the academic jargon used to discuss them. In fact, it is no surprise that the very notion of polytheism was born in a monotheistic context, created by the Jewish Philo of Alexandria during the first half of the first century CE.<sup>15</sup> Only in modern times did the notion gain visibility, first with Jean Bodin *De la démonomanie des sorciers* (Paris, 1580) and, especially later in the eighteenth century with the *Dictionnaire philosophique* by Voltaire and the *Encyclopédie* by D’Alembert and Diderot. As for the notion of “monotheism,” it was coined as a neologism first by Henry Moore in 1660 and later systematically used in opposition to “polytheism.” In any case, both terms were created in an apologetic Jewish or Christian—we could therefore say “monotheistic”—context in order to prove its superiority over “pagans.”

Related to the notion of polytheism, is the one of “pantheon,” intended as a structured, but moving ensemble of different gods in a given space and time. The very notion of pantheon goes back to the Rome of the first century CE, especially to the description of the Roman Pantheon, the monument built by (251) Agrippa, related by Pliny the Elder (23–79)<sup>16</sup> and Cassius Dio (*circa* 155–

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<sup>11</sup> Moreover, this polarisation does not take into account the notions of “henotheism” and “monolatry,” often erroneously regarded as an intermediate step in an evolutionary development from polytheism to monotheism. Henotheism refers to the centrality of one god among others, concentrating in his hands the power; monolatry refers to the cult of only one god, notwithstanding the existence of many others. For an application of such a development for Judaism, see Soler 2002.

<sup>12</sup> Brelich 2007, 20–21.

<sup>13</sup> Römer 2014, 285–290.

<sup>14</sup> Frevel 2013, with further bibliography.

<sup>15</sup> For the word *πολυθεϊα*, see *De mutatione nominum*, 205; and for *πολύθεος*, see *De Decalogo*, 65; *De officio mundi*, 171; *De Ebrietate*, 110; *De Confusione linguarum*, 42, 144; *De migratione Abrahami*, 69.

<sup>16</sup> *Naturalis historia*, xxxiv, 13.

235).<sup>17</sup> However, whether this was the name already given by Agrippa in 27 BCE is an open question. Before this period, only two mentions of the term are attested. One is, once again, Philo of Alexandria who employs the term *pantheion* to define a celestial divine ensemble, made of stars and planets. This occurrence is often linked to the other one, from a pseudo-Aristotelian minor work, where the term refers to the Pantheon of Athens.<sup>18</sup> However, the dating of this work is debatable, spanning from the third century BCE to the second century CE, although it is clear that part of it, especially chapter 51, underwent many modifications.<sup>19</sup> What is certain is that the notion of pantheon as the ensemble of the gods in a particular community is consistently attested from the first century CE Roman Empire. This is clearly the case with the inscription of Akmonia in Phrygia,<sup>20</sup> where the term refers for the first time to an ensemble of statues representing gods, but also divinised human institutions, as well as the mentions in the *Description of Greece* by Pausanias (*circa* 110–180). The dissemination of this notion is possibly strengthened by the alleged refoundation of the Pantheon of Rome and the building of a similar monument in Athens by Hadrian, who reigned between 117 and 138.<sup>21</sup>

In any case, the origin of the concept of pantheon both as a building and as a defined ensemble of divine figures seems to date back to the Roman Empire, as recently brought back into the spotlight by Jörg Rüpke.<sup>22</sup> However, its fortune in the field of the study of religions is a product of the Modern Age, just like the aforementioned notions of monotheism and polytheism. Thus, the concept of pantheon is, in turn, an attempt to take a picture of a phenomenon, the existence of a limited group of deities that were instituted in order to cover the most important needs of a given polity, rather than a situation of departure.

In any case, the notion of pantheon adopted by historians of religions implies open groups: susceptible to gaining or losing members, to modify those already existing, to create or to delete links among them, to generate new narrations (myths), which can be different, contradictory, and in competition with each other.<sup>23</sup> Furthermore, the pantheon is not only reflected in the different version of myths, but also in the organisation of the time and the (252) space of a particular social group, such as the way the festivals and the sacred spaces are arranged in the calendar and in the urban space. Also, particular ritual norms or iconographic conventions concerning a god can reflect a more general statement regarding his nature and his relation with other gods. To put it simply, all aspects of a polytheistic religion are permeated by the complex net of relations between the different gods.

For these reasons, working with pantheons means dealing with complexity, since a pantheon is, essentially, an attempt to think about complexity and bring some order to it. In this regard, in terms of Levi-Strauss' thinking,<sup>24</sup> religions can be regarded as forms of science in the sense that they try to organise reality, and polytheisms, in particular, offer more complex and parallel classifications than monotheisms, where everything hierarchically descends from one principle. As a consequence, although often regarded as more rudimentary than monotheisms, polytheisms can be considered complex explanations of reality. At the same time, this is also the main danger with

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<sup>17</sup> *Historia Romana*, liii, 27.

<sup>18</sup> *De mirabilibus auscultationibus*, 51.

<sup>19</sup> Vanotti 1981.

<sup>20</sup> *Supplementum Epigraphicum Graecum* (SEG), 56: 1490.

<sup>21</sup> Carandini and Papi 2019, 126–134.

<sup>22</sup> Rüpke 2007 and especially 2018.

<sup>23</sup> Bettini 2014.

<sup>24</sup> Especially Lévi-Strauss 1962.

polytheistic systems since the equilibrium between the different gods is always moving and adapting. However, this does not imply that in monotheism everything is “simple:” for instance, the theological discourse about the unique god also changes and gets adapted, especially when one needs to explain how a god tied to a particular place and a particular social group can achieve in a short span of time the role of universal god, creator of everything and of the whole humankind. In monotheism, what is difficult to explain is how multiplicity derives from unity. In other terms, some things are more difficult to explain from a monotheistic perspective than they are from a polytheistic one, such as the complexity of our world, the existence of good and evil but also how history is possible, given that everything depends on a unique principle with no history behind it, not being generated, as is usually the case in monotheism.

The tension between unity and multiplicity is the real problem in every religion. While, as we mentioned, in monotheism it is difficult to explain multiplicity, in polytheism it is difficult to explain unity: the unity of the divine nature of multiple divine figures, and the unity of their individual will, which should always be in equilibrium, resulting in the maintenance of reality and preventing chaos. This is the reason why the first generations of historians of religions argued about whether polytheism or monotheism was the first religious system developed by humans. Voltaire, himself, in the beginning of the entry “Polytheism” of his *Dictionnaire philosophique* (Paris 1879) wrote:

(253) “The plurality of gods is the greatest reproach of which the Romans and the Greeks are accused today; but let be shown to me in all their histories a single fact, and in all their books a single word, from which it may be inferred that they had several supreme gods; and if neither this fact nor this word is found, if on the contrary everything is full of monuments and passages which attest to a sovereign God, superior to all other gods, let us confess that we judged the ancients as boldly as we often judge our contemporaries.”<sup>25</sup>

Today, this question is somehow at the margins of the discipline, since it is clear that there is not such an original, primitive, religious system for all humans, all around the world. However, we should always be aware of the risk of simplifying, as Voltaire did, the complex, fluid and moving balance between the different forces in a given pantheon.

### 1.2. From Shoe Box to Database

This complexity that, as we argued, permeates all the aspects of a polytheistic religion, is first and foremost mirrored in the variety of ways the gods are called, giving rise to different naming strategies and to what we call “onomastic sequences.”<sup>26</sup> By this expression we mean that there is a variety of possibilities as to how a god may be called, undoubtedly encompassing “proper names” (theonyms), but also composing numerous and different elements, such as adjectives, substantives, participles, which scholars define randomly as epithets, epiclesis, titles, appellations, designations, etc. However, a god can be also defined and called by more complicated elements, encompassing relative sentences or entire phrases. In other words, it seems somewhat more judicious to consider that gods are often called not by the means of simple names but by having recourse to “onomastic sequences.” This is not only true for polytheistic religions where, for example, we meet gods qualified by the attribute of *myrionymos*, “with multiple names,” such as Isis,<sup>27</sup> but for the monotheistic ones as well. The unique Gods also have plenty of names according to their sacred

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<sup>25</sup> English translation from the French text in Voltaire 1879, 252.

<sup>26</sup> An exhaustive discussion of the terminology adopted can be found in Bonnet et. al 2018.

<sup>27</sup> Bricault 1993.

scriptures and their ancient commentators. This is, for instance, the case with the importance of the ninety-nine names of Allah in Islam, but similar phenomena are also attested in the Jewish tradition, and not only in the Kabala. The same is true for Medieval Christian theology, where, for instance, the mystic approach of the Negative Theology stated that, at the same time, no name is (254) suitable for God and that God bears all the possible names.<sup>28</sup> The question of the nature and the number of divine names is also essential in monotheisms because a name identifies, not only in the sense of distinguishing someone from someone else, but also in the sense of communicating someone's inner nature and qualities.<sup>29</sup> Accordingly, from a worshipper's perspective, it is not superfluous to know whether or not a god is called "Merciful," regardless of the polytheistic or monotheistic context.

Two questions arise when facing this situation. First, how to understand and appreciate such a vast documentation of onomastic sequences resulting from so many different naming strategies? And second, how to process and organise this large amount of information? The first question is answered by historians of religions. In the framework of the MAP project, the North-West Semitic field suffers a significant delay in this respect, lacking a comprehensive and updated corpus of inscriptions. On the contrary, in the context of Greek religion, the other field of interest to the MAP project, the question of the multiple names of gods is a well-known topic. It was first studied in light of the opposition between theonyms and the umbrella-term of epithet, that is to say, studying the couples formed by a proper name to which, most of the time, an adjective is added as in the case of Zeus *kerainios*, "Zeus of thunderbolt."

Splitting the divine through epithets generated strong internal tensions between unity and plurality and has defied scholars' understanding.<sup>30</sup> This raises poignant questions: What is a god? Is it the same god in each manifestation? How did people manage these sprawling ensembles of divine manifestations?

In 1893 and 1902, in the frame of the *Lexikon der Mythologie* edited by Wilhem H. Roscher, Karl Friedrich Bruchmann and Jesse Benedict Carter, was published the first compilation of literary epithets, understood as poetic ornamentation. In 1896, Hermann Usener published the ambitious *Götternamen*.<sup>31</sup> Here, the importance of divine names and epithets as a means to gain access to "religious concepts"<sup>32</sup> was highlighted for the first time. At the turn of the twentieth century, various forms of experimentation emerged as part of a redefined polytheism.<sup>33</sup> A vast question came to the fore: how did the ancients conceive of, organise, and manage the plurality of the divine? Pierre Brulé then proposed the concept of a "divine landscape of epiclesis," meaning that (255) each multifaceted god constituted a micro-network revealed by epithets.<sup>34</sup> He stressed the need for a new scale: we must have all the extant evidence to be able to work both on local and global contexts through an extensive approach to religious systems. Yet such a comprehensive, systematic approach is still lacking today. In the same period, Robert Parker published many contributions where he argued that the epithet is a central, but little discussed aspect of Greek polytheism.<sup>35</sup>

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<sup>28</sup> See, for instance, Byrne 2011; Boulnois and Tambrun 2016.

<sup>29</sup> Zirah 2019 and Porzia 2020.

<sup>30</sup> DuBois 2014; Versnel 2011.

<sup>31</sup> Usener 1896.

<sup>32</sup> Scheid and Svenbro 2005.

<sup>33</sup> Detienne 2009a.

<sup>34</sup> In the Introduction of Belayche et al. 2005.

<sup>35</sup> Parker 2003; 2017.

While many studies mention isolated examples,<sup>36</sup> Greek epithets have never been explained as a system. Even the most recent works on the Greek religion entirely neglect epithets.<sup>37</sup> A notable exception is Henk Versnel, who deals extensively with the tensions internal to polytheism between unity and diversity or in his words, “order and chaos.” He considers epithets to be some of the “ingredients for chaos,”<sup>38</sup> or traces of “multiperspectiveness,” which means that “various different conceptions of the unity or diversity of gods with one name and different epithets or different residences are stored in the mind of a person.”<sup>39</sup> A similar conclusion can be drawn for the two other big reservoirs of epithets in Antiquity: Egypt and Mesopotamia, besides the compilation of important dictionaries of deities and their epithets.<sup>40</sup> The logic behind such a developed system of exclusive and shared onomastic elements has been barely explored and conceptualised.

Notwithstanding the general new reappraisal and interest in the topic, the study of the different divine naming strategies deserves further attention. In particular, there is the need to put some order to what appears to be a chaotic nebula of epithets and to shed some light on how people chose in each context the “right” epithet for each god. We have, in fact, reason to believe that in ritual contexts, people navigated the repertoire of divine names and epithets with some expertise, generating combinations of names and epithets charged with meaning and effectiveness. Far from using epithets randomly, people made choices informed by knowledge.

In order to gain access, albeit partially, to this knowledge what we must do is organise the extensive amount of documentation. Therefore, here we deal with our second question, how to organise such a vast documentation. As we (256) mentioned, the main attempts consisted in compiling long lists of epithets, or every other element that was added to divine proper names.<sup>41</sup>

A more flexible attempt than a written list is the one known as the “shoe box,” that is to say an archive consisting of many papers, each one registering a particular epithet and ordered inside a box. An example of this is kept in the *Akademie der Wissenschaften* in Berlin, attributed to Friedrich Hiller von Gärtringen (1864–1947), the *Epitheta deorum dearumque*. In this repertoire, the German epigraphist has recorded the epigraphic attestations of divine epithets present in the *Corpus Inscriptionum Graecarum* (CIG, 1828–1877). The repertoire takes the form of a cardboard box measuring around 30 × 10 cm with about 2132 thin paper cards measuring approximately 10 × 3 cm. Each card contains an epigraphically attested divine onomastic sequence. On the front of each card is the text of the attestation and the bibliographical reference of the inscription. On the back, is recorded eventual details on the identification of the deity of interest or on the reading of the inscription. Cards are subject to a double alphabetical classification. The first deals with the theonyms of the deities listed, which are thus divided into sixty headings separated by dividers. Within each of these headings, the cards are then arranged in the alphabetical order of each epithet.<sup>42</sup>

In more recent times we must mention the creation of the online “Greek Epiclesis Database” (*Banque de données des épicleses grecques*, BDEG), initiated by Pierre Brulé at the beginning of the 2000s, and which went online more than ten years ago. This work signified an undeniable advance in the

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<sup>36</sup> See, for instance, Pirenne-Delforge and Pironti 2009; Paul 2016.

<sup>37</sup> Graf 2010, 67–74 offers several interesting ideas about the “many names of the gods.”

<sup>38</sup> Versnel 2011, 60–87.

<sup>39</sup> Versnel 2011, 83.

<sup>40</sup> See, for instance, Tallqvist 1938 and Leitz 2002.

<sup>41</sup> See, in recent times, Dee 1994.

<sup>42</sup> For more details, see Lebreton and Bonnet 2019.



treatment of the abundant material constituted by the divine epithets of Hellenic polytheism in the perspective of DH. The BDEG aimed to record every cult epithet attested in all Greek written sources, focusing on literary and epigraphic sources. Its structure is as follows: a record corresponds to a theonym + epithet combination in a given place.<sup>43</sup>

So far, the study of the complex divine naming strategies has suffered because of two limitations: the lack of a comparative perspective, also regretted recently by Parker;<sup>44</sup> and, consequently, the reduction of all the possible (257) naming strategies almost exclusively to the simple form combining a proper noun and an adjective, leaving aside all the others.

### 1.3. *The MAP Project: Shifting from Gods to Onomastic Sequences*

Although seeking a new perspective from which to examine the field of ancient religions may seem arduous, the MAP project relies on some methodological aspects that, up until now, have not been systematically combined. This requires a long-term project and a multidisciplinary group of researchers, combining the Greek world and the North-West Semitic world, as Parker suggested, from the beginning of the first millennium BCE to the fourth century CE. In particular, the MAP team's approach is the fruit of a change in perspective: the shift from gods to the naming strategies adopted by worshippers.

This approach marks, as we saw, an open discontinuity with the previous long tradition. Moreover, the influence of Christian theology should not be underestimated in the study of other forms of religion. Two conventional notions, in particular, should be radically reassessed from a true perspective of history of religions: the one concerning the uncontrolled proliferation of the divine, and the one of “person” that served as the foundation for the elaboration of the Trinitarian dogma.<sup>45</sup> The spread of Christianity throughout the Mediterranean was gradual in space and time, and reacted in different ways to the polytheistic societies according to the various regions. However, the final predominance of Christianity had the consequence of reducing polytheisms to the rank of false religions, considering their gods as idols or false gods. Polytheism, thus, became synonymous with fragmentation and confusion. Some Church Fathers could be considered to be the last to attempt to understand ancient polytheisms. Their failure to do so,<sup>46</sup> which often led to ferocious criticism and sarcastic scorn, had long-lasting effects. In fact, scholars largely gave up trying to understand the architecture of the various polytheistic religions of Antiquity, regarded as “inconceivable,” until the early twentieth century.<sup>47</sup> It was only the renewed interest in “other” beliefs and practices, developed in ethnography and more generally in anthropology, that motivated scholars to compare religions as they did languages.<sup>48</sup>

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<sup>43</sup> For more details, see Brulé and Lebreton 2007. The database is online at the following address: <<https://epiclesesgrecques.univ-rennes1.fr>> (accessed April 22, 2020).

<sup>44</sup> “One can also try to look more broadly at forms of divine naming throughout the polytheisms of the ancient Near East, on the assumption that they had all been in direct contact or mediated interaction since at least the second millennium B.C. A detailed survey of these various comparanda would be a huge task, and one requiring a team of specialists” (Parker 2017, 80). Valuable exceptions are Porter 2000 or Stevens 2019.

<sup>45</sup> The Christian doctrine of the Trinity states that God is one God, but three coeternal consubstantial persons or hypostases—the Father, the Son (Jesus Christ), and the Holy Spirit—as one God in three Divine persons.

<sup>46</sup> The Church Fathers are the first influential Christian theologians and writers, who established the intellectual and doctrinal foundations of Christianity from its beginnings until around 700 CE.

<sup>47</sup> Schmidt 1988.

<sup>48</sup> Comba 2008.

(258) This long-lasting criticism, combined with many testimonies already in ancient literature, contributed to the history of ancient religions being written, starting with individual gods, telling of (or better retelling, using the ancient sources) their vicissitudes as we do with human actors. Consequently, from the early dictionaries of mythologies to the recent concept of the “society of gods,”<sup>49</sup> the organisation of the divine world has been approached using the concept of pantheon, but without taking the aforementioned complexity into account. The divine figures in this collection are described as persons or personifications linked together by kinship or affinity.

Traditionally, historians of religions have been content with such static definitions and have drawn up genealogies that have oversimplified, even distorted, our understanding of religions in Antiquity. To put forward just one counter-example, we find ourselves moving towards a field close to the North-West Semitic one. In the Mesopotamian religion, and without pretending to be exhaustive, the case of Ištar is highly constructive in this regard,<sup>50</sup> since the goddess’ profile is resistant to all kinds of rigid labelling. Ištar is characterised by: fluctuations in kinship relations, where the same goddess, according to different traditions, can alternatively be the daughter of the god Anu or Šin or Ea; considerable shifts in her domains of action (basically, sexuality and war); an unstable connexion to a restricted cluster of gods, such as the so-called “astral triad” created by Ištar herself, Šamaš and Sin; multiple identities, as portrayed in the well-studied case of Ištar of Niniveh and Ištar of Arbela, which seem to be two different goddesses rather than the same one worshipped in two different cities;<sup>51</sup> overlapping connections with stranger counterparts or sisters,<sup>52</sup> such as the Sumerian Inanna, the West Semitic Astarte,<sup>53</sup> Anat or even Ašerah,<sup>54</sup> as well as the Greek Aphrodite.<sup>55</sup> A brisk survey of the academic literature, specifically focussing on Ištar-Inanna or Ištar-Aphrodite, is sufficient in order to show the limits of the traditional interpretation when it comes to coping with her “contradictory traits.”<sup>56</sup>

(259) “It is likely that Inanna-Ishtar is an amalgam of several different Sumerian, or southern Mesopotamian, goddesses as well as a fusion of this amalgam with a Semitic goddess, Ishtar. [...] But although the goddess has evolved from different figures, she nevertheless seems to possess a believable, even coherent personality.”<sup>57</sup>

“Consideration of the Cypriot goddess reveals that she embraced a complexity of associations, so much so that one might rightly question whether she was one divinity or was conceptualized as many.”<sup>58</sup>

The case of Ištar is not isolated. All of these alternative possibilities, each of them (and some of them simultaneously) plausible in a given source, should prevent us from drawing genealogical trees of gods, from describing the history of a particular god or of an intercultural cluster of gods

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<sup>49</sup> For the Semitic world, see Black and Green 1992 or Toorn, Becking, and Horst 1999. Uehlinger 2015.

<sup>50</sup> For the Mesopotamian gods, see <<http://oracc.museum.upenn.edu/amgg/index.html>> (accessed April 22, 2020). Although the bibliography for this deity and the other is consequent, we limit the references to the AMGG project or to Toorn, Becking, and Horst 1999 to give only some basic information for beginners.

<sup>51</sup> Porter 2004.

<sup>52</sup> This terminology is, for instance, used by Serwint 2002.

<sup>53</sup> Toorn, Becking, and Horst 1999, 109–114.

<sup>54</sup> Toorn, Becking, and Horst 1999, 36–43, 99–105.

<sup>55</sup> Toorn, Becking, and Horst 1999, 64–68.

<sup>56</sup> Toorn, Becking, and Horst 1999, 454.

<sup>57</sup> Toorn, Becking, and Horst 1999, 453.

<sup>58</sup> Serwint 2002, 343.

in a linear and evolutionary way. It should also dissuade us from remaining faithful to gods' general and essentialist definitions such as DN (divine name), the “god/goddess of x,” provided with local manifestations and hypostasis.

Refraining from classifying everything into fixed categories, it is possible to recognise that these ambiguities and fluctuations are peculiar to the religious language. Moreover, this is especially true for the multiform strategies of naming, organising, and calling upon the gods.<sup>59</sup> For these reasons, rather than in the clear and static façade of divine names or theonyms, such as Ištar, Inanna, Astarte, Aphrodite, etc., the MAP project is interested in the rich set of additional information attached to these names, or sometimes replacing them, usually known as epithets, epiclesis, titles or even appellatives: “Lady,” “Great Lady,” “Queen,” “Queen of Heavens,” “Lady of the evening,” “Lady of the morning,” “Life-giving goddess,” “Who multiplies (all) living creatures and peoples,” and many others.

It is, indeed, these kinds of elements of information that, beyond the divine names *stricto sensu*, were pivotal in ritual communication: they served to identify and qualify the gods being addressed. At the same time, the fact that these elements could be shared among many different gods also reveals the links at work in the organisation of the clusters of gods that could be activated together in a given religious context or that, between different religious contexts, could give rise to phenomena such as *interpretatio*.

(260)

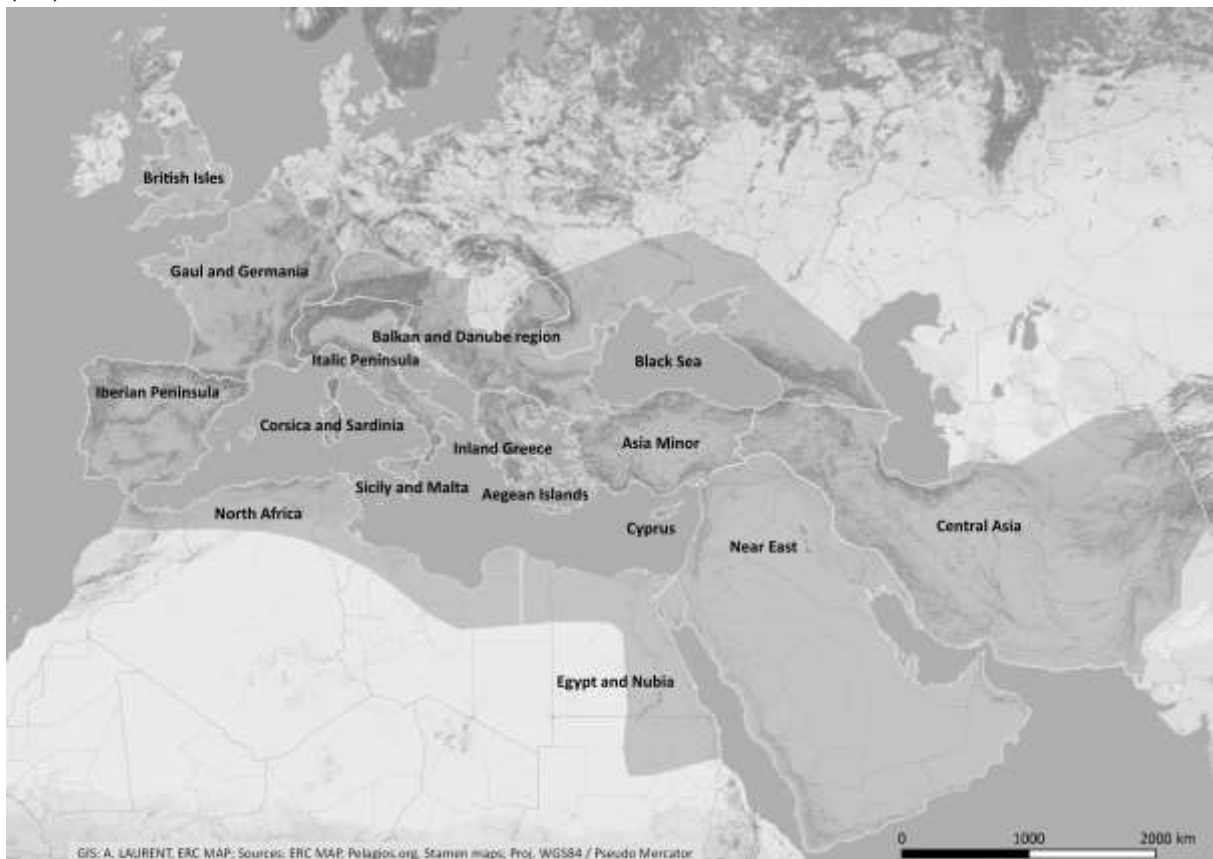


FIGURE 8.1. NORTH-WEST SEMITIC WORLD AND GREEK WORLD. IMAGE: ERC MAP PROJECT

<sup>59</sup> On the contrary, in ritual or cultic descriptions, for instance, it is in the worshipper's interest that the language be precise and clear, since a potential misunderstanding would invalidate the act and thus prevent them from obtaining the desired effect.

#### 1.4. *The Virtues of Comparatism: Other Mediterranean Shores*

As emphasised above, the MAP project adopts a Mediterranean dimension by means of a comparative approach of two geographical and cultural areas that have previously been considered separately: the North-West Semitic world and, the Greek world in all its extension (Fig. 8.1).

These two regions, which are far from unified or uniform,<sup>60</sup> have interesting similarities and differences in terms of their political, social, and religious organisation, which make fruitful comparison possible. Moreover, historically they had a great deal of contact and interaction, and thus certain cities became multicultural “laboratories” in which the onomastic elements for divine names in the different cultures cross-pollinated. Thus, the MAP project aims to understand the Mediterranean in Antiquity as a whole – a vast space characterised by intense “connectivity” within which cults moved and adapted, took hold in new territories, and created relational networks that were often multicultural. (261) In consequence, our chronological limits are also broad: from the beginning of the first millennium BCE to the fourth century CE.

The choice to integrate the North-West Semitic documentation deserves some consideration. Today, albeit in many ways reduced, forgotten or unconscious, the Eurocentric and Classical heritage—Greek and Roman—is overwhelming, and requires no discussion here. The etymology of the very same categories of our thought is often in ancient Greek or Latin. In several parts of the world, not only in Europe, many cultural aspects from art to philosophy, not to mention Eurocentric history (imposed as paradigmatic far beyond Europe), are based on the reading, study, and veneration of the Classics. Even though in the recent decades, a “scientific turn” has taken place in our societies, it is still (not only in the field of Humanities but also in common sense and among intellectuals) the Classics which firmly hold onto their hegemony. For instance, the creativity of the Greek language and literature is often opposed to the hieratic formalism of North-West Semitic languages. It is not only in the reading of Ernest Renan but also in that of many other contemporary authors,<sup>61</sup> such as Marcel Detienne or Maurizio Bettini,<sup>62</sup> that the idea of opposing civilisations is continually suggested, along with the fact that Modernity—the European notion of Modernity at least—would be closer to Athens or Rome than to Jerusalem. In this frame only one shore of the Mediterranean, the northern one, is relevant. But the Mediterranean Sea is larger: new configurations might be considered and our conventional way of zoning it might be revised.

In this regard, the MAP project aims to change the current trend of parallel and independent research in the different fields (Greek and North-West Semitic), strengthening the impulse for a broader and comparative reflection. This is not an easy task given that each discipline has its own history, tradition and, one must admit, its own “pride.” A true comparatist approach, however, must be capable of freeing itself from preconceived ideas, oversimplifications, misleading oppositions, and ambiguous convergences as well. Moreover, comparatism means neither to systematically juxtapose a Greek example with a Semitic one, nor to process the same kind of data, nor to process data in the same way. On the contrary, the challenge is in adapting—without perverting—the interpretative tools, the corpora, and the sensitivity peculiar to each discipline.

In relation to the project’s comparatist nature, a final consideration can be dedicated to the inclusion of Israelite monotheism in a project focussing on polytheisms, and of the Hebrew Bible among epigraphic sources. Besides (262) the historical considerations about the internal

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<sup>60</sup> We talk here abstractly of “Greek/North-West Semitic/Mesopotamian religion” just for convenience and to refer to broader geographic regions rather than to fixed religious structures.

<sup>61</sup> For a relevant evaluation of his production, see Kouloughli 2007.

<sup>62</sup> Detienne 2009b; Bettini 2014.

development of the Israelite monotheism,<sup>63</sup> we should be aware that polytheism and monotheism are later constructs, often overlapping, and formulated from a monotheistic point of view. These notions, therefore, need to be reconsidered,<sup>64</sup> rather than uncritically opposed. Furthermore, although particularly fitting for polytheistic societies, it would be simplistic to consider the proliferation of gods discussed at the beginning of this chapter as simply the result of polytheistic religions, often considered more creative and open than monotheistic ones. Monotheisms contributed to this phenomenon, too, challenging antagonistic gods and questioning the theological thoughts beyond them.

On a methodological level, while acknowledging the relevance of epigraphy, it should not be forgotten that epigraphical data can vary according to the disciplines and attest different sorts of literary genres. For instance, Greek epigraphy is different from Near-Eastern epigraphy, where thousands of clay tablets transmit texts which are closer to the Hebrew Bible or some papyri than to Greek inscriptions. In this case, a comparatist approach should aspire to conserve the differences and adapt the methodology, rather than smoothing out the available documentation.

### 1.5. DP and the Redefinition of “God”

In true comparative spirit, a similar question can be posed in different cultural contexts. For instance, the one-million-dollar question for each historian of religions—what is a god?—has been extensively discussed for Classic religions,<sup>65</sup> and has recently aroused interest in the field of Mesopotamian religion, but is barely addressed in the discussions of North-West Semitic religions.<sup>66</sup> There, the habitual focus on local pantheons or certain deities is still prevailing,<sup>67</sup> although scholars are keen to identify common type-gods, such as the “weather god,” the “smiting god,” etc., or acknowledging a common backdrop to Levantine religions.<sup>68</sup> Furthermore, despite the significant bibliography attached to Greek religion,<sup>69</sup> up until now North-West Semitic studies have largely also disregarded the variety of divine naming strategies and their heuristic value for better understanding cross-cultural (263) contacts.<sup>70</sup> Once again, the limited bibliography available is devoted to the compilation of lists and etymologies or thematic essays.<sup>71</sup>

In the field of Greek religion, the so-called French School—including scholars like Georges Dumézil, Louis Gernet, Jean-Pierre Vernant, and Detienne—<sup>72</sup> emphasised that gods are not persons but rather “systems of notions”<sup>73</sup> or “divine powers” (*puissances divines*),<sup>74</sup> or even that each

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<sup>63</sup> Smith 2002; Römer 2014; Oorschot and Witte 2017.

<sup>64</sup> Frevel 2013.

<sup>65</sup> Recently for the Greek religion, see Henrichs 2010; Parker 2011, 64–102; Schmitt 2013; Pirenne-Delforge and Pironti 2015.

<sup>66</sup> Porter 2009; Pongratz-Leisten and Sonik 2015.

<sup>67</sup> Lipiński 1995; Niehr 1998; Olmo Lete 2008; Zevit 2001; Bonnet and Niehr 2010.

<sup>68</sup> Xella 2014, 530.

<sup>69</sup> Belayche et al. 2005, Parker 2017 to quote just a few recent titles.

<sup>70</sup> With rare exceptions such as Smith 2008; Sommer 2009; Allen 2015. For Septuagint Studies, see Passoni dell’Acqua 1998; Aitken 2007.

<sup>71</sup> See, for example, Rose 1992.

Mettinger 1988; Niehr 1990 and 2003; Rahmouni 2008; Zerneck 2013.

<sup>72</sup> In dispute with it, Henk S. Versnel qualifies it as “a ‘Paris fashion’ of constructing a divine world” (Versnel 2011, 77).

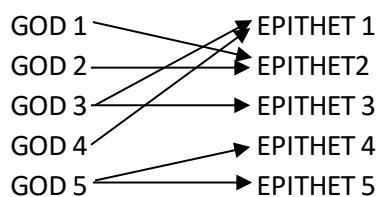
<sup>73</sup> Gernet and Boulanger 1932, 265–276.

<sup>74</sup> Vernant 1965, 79.

god should be regarded as a “mini-pantheon.”<sup>75</sup> For Mesopotamian religion, the large spectrum of entities—animate and inanimate—that can be considered divine in cuneiform sources, leads scholars to pose the notion of agency as a central focus when defining gods, rather than one of person or anthropomorphism.<sup>76</sup> According to this view, Beate Pongratz-Leisten defined deity in the polytheistic systems of ancient Mesopotamia as entities that could act with intention and which were responsible for maintaining the cosmic order (and thus effective and “powerful” as proposed by Vernant). Such a system includes not only the major (anthropomorphic) gods, but also all kinds of cultic paraphernalia, statues, symbols, and celestial bodies: in defining a god, “agency is what counts.”<sup>77</sup>

In the historiography of Greek and Mesopotamian religions, therefore, a shift started to take place from the study of gods “per se,” as individuals (264) or persons, to the apprehension of gods as a dynamic relational system of notions and effective powers. To strengthen this point, the fact that the MAP project has resorted to DP stems neither from accessory nor is just a matter of fashion or practicality. DP are far more than a transparent glass placed over our documentation; they provide an essential contribution to the research. In particular, the creation of a relational database for the divine onomastic sequences in Greek and North-West Semitic documentation is aimed not only at stocking this considerable amount of data but also at organising and processing said data anew.<sup>78</sup> In this frame, gods’ names are no longer considered to be the organisational base around which epithets and other elements are, eventually, added: gods are not stands upon which epithets are hung like coats (see Table 8.1).

TABLE 8.1. RELATIONAL WAY OF ORGANISING DATA



This relational way of organising our data responds not only formally, but also substantially to the topic around which the MAP project revolves, that is, the definition of the divine, the

<sup>75</sup> Durand 1991. As Dominique Jaillard summarises: “Un dieu est déjà en lui-même un mini-panthéon, non seulement parce que son agir s’inscrit dans le champ d’autres puissances auxquelles il est lié, mais aussi parce que d’autres forces divines sont ‘en lui’ impliquées, susceptibles de former, notamment par le jeu des épicleses, la figure d’une autre divinité, ou, à l’inverse, de se révéler, discrètement, à travers un attribut, un artefact, un végétal, un espace aux qualités suggestives...” (Jaillard 2007, 16).

<sup>76</sup> Many definitions of agency have been proposed recently but, on a general level, all of them concern the role of individuals when they act independently and make their own free choices. In this perspective, divine agency refers to the gods’ free and effective power to change reality as acknowledged by their worshippers. From a sociological perspective, agency is defined as “the temporally constructed engagement by actors of different structural environments – the temporal-relational contexts of action – which, through the interplay of habit, imagination, and judgment, both reproduces and transforms those structures in interactive response to the problems posed by changing historical situations” (Emirbayer and Mische 1998, 970).

<sup>77</sup> Allen 2015, 35.

<sup>78</sup> See in this volume: Nurmikko-Fuller (342n29) for further information on relational database; Roßberger and Kurmangaliev (119-121) who have developed a simplified schematic model of the relational database for West Asian seals. For an example of a non-relational (NoSQL) database, see in this volume, Prosser (376-379).

organisation of pantheons, and the translatability of gods in different religious contexts. In order to show how the MAP project processes documentation, a simple example is presented below. At the Tophet of Carthage (from the fifth to the second century BCE),<sup>79</sup> the following dedicatory formula in Punic language is attested thousands of times on limestone stelae:<sup>80</sup>

*lrbt ltnt pn b'l wl'dn lb'l ḥmn*

(265) To the lady Tinnit face of Ba'al and to the lord Ba'al Ḥammon

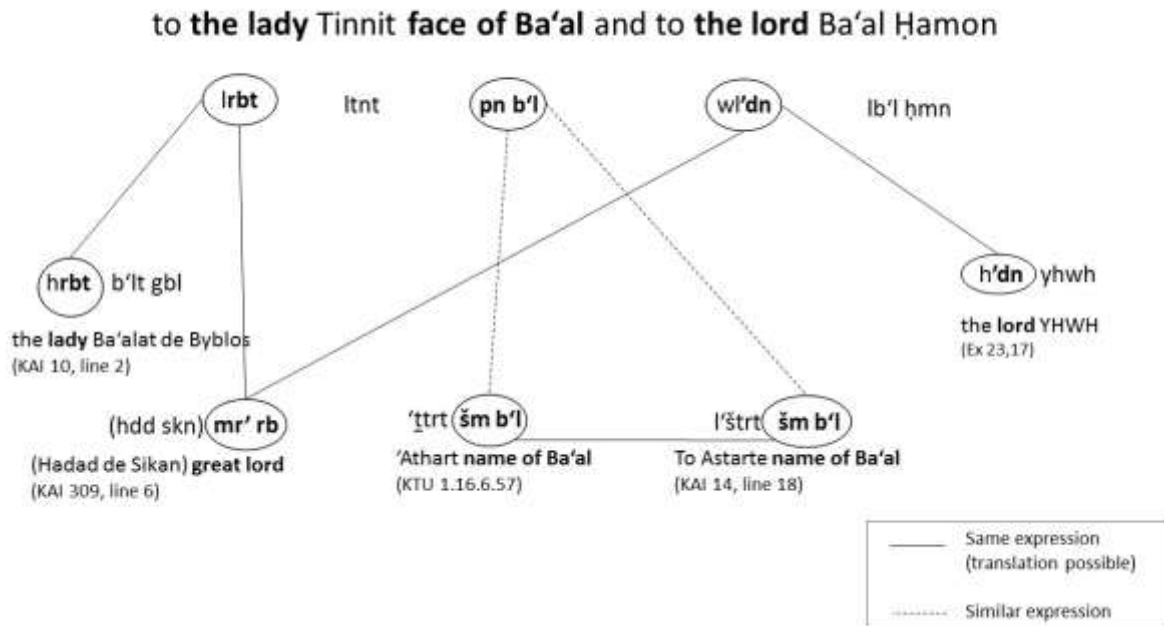


FIGURE 8.2. EMBRYONIC EXAMPLE. IMAGE: ERC MAP PROJECT

Considering only the gods Tinnit and Ba'al (or Ba'al Ḥammon)<sup>81</sup> would be reductive. The two onomastic sequences (see Fig. 8.2, “the lady Tinnit face of Ba'al” and “the lord Ba'al Ḥammon”) share some of their elements with other inscriptions or even with other nomenclatures that can be interpreted together, as can be seen in this model covering just a few possible parallels (from Phoenician and Aramaic inscriptions, but also from Ugaritic and Biblical literary texts).

This embryonic example provides a glimpse of the potential results that can derive from entering the available documentation digitally, documentation which can be more articulated and complex than the tophet inscriptions. Much larger and new networks are, therefore, expected to emerge from the magmatic and apparently uncontrolled proliferation and combination of onomastic elements in different religious and linguistic contexts. By the end of 2022, the MAP database will contain a complete collection of all the onomastic sequences attested in the published epigraphic material in ancient Greek and North-Western Semitic languages. It will, therefore, be

<sup>79</sup> The tophet is an open sacred precinct usually located outside cities. It is characterised by small cult places and urns containing the incinerated remains of children and/or small animals, often signaled by stelae. This space is typical of Punic settlements of the central Mediterranean. For a recent reappraisal of this phenomenon see D'Andrea 2018.

<sup>80</sup> Amadasi Guzzo and Zamora López, 2103.

<sup>81</sup> Lipinski 1995, 199–215, 251–264.

possible for the first time to produce overall studies within a specific linguistic corpus or to compare some of them thanks to the semantic categorisation and translations provided as metadata in the database. From a Semitic perspective, this will provide evidence to substantiate the fact that in the interconnected world of North-West Semitic languages the religious language developed in a way that was both porous and interconnected.

(266) In doing so, DP not only provide a practical way to store all the information, but also tools to organise and represent it. Moreover, they help researchers to approach these phenomena from a more neutral stance once again, disregarding the formal opposition between polytheism and monotheism and all the nuances in between, and addressing the whole extant evidence as a “big pantheon,” made by both shared and exclusive traits. Ultimately, DP enables us to restore the complexity and fuzziness which is peculiar to our documentation, much more so than the printed tables and texts to which historians have become accustomed.<sup>82</sup> The goal is not to provide a limpid or monolithic organisation of ancient pantheons but, on the contrary, to produce a high-resolution photograph of ancient religious landscapes. Subsequently, by sinking into a sea of epithets, epiclesis, titles and appellations, more specifically, into a sea of onomastic elements, it will hopefully become clearer that the core notion of god is relation. Although neighbouring on the Christian Trinitarian dogma, at least at first glance, the relational nature of gods reveals them as concepts or items (it) rather than persons (he/she).

## **2. A Perspective from DP**

### *2.1. Gods in Databases*

Although the inscriptions at the Tophet of Carthage are relatively concise, that does not make them any less abundant. Studying some of them, from a given era or section of the Tophet—if that were at all possible considering the absence of a precise stratigraphy before the excavations carried out over the last few years—<sup>83</sup> remains within the reach of any specialist. However, putting the whole body of the corpus into perspective, identifying each nuance, finding the patterns, is an extremely difficult exercise, impossible even if all the inscriptions must be analysed by means of comparison with those of other tophets. And what of the more complex, longer, bilingual documents? Those which contain a great number of onomastic sequences?

(267) Given that the corpus continues to grow, it is no longer simply a matter of putting together a data group to analyse, but rather creating an inner coherence which allows the presentation to be standardized in order to exploit the different aspects. Therein lies the turning point. Digital practices are not simply fashionable, or faster; they are indispensable when one is searching for a tool that is able to deal with the corpora implied by the Big Data of historical sciences,<sup>84</sup> such as

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<sup>82</sup> “For the traditionally trained epigrapher (classicist, humanist) an EpiDoc or a more general DP training leaves the sense of a distinct change of methodology. This change, however, is usually perceived as an improvement, the ‘scientific’ methodology adding more detail and nuances to the publication, though sometimes it can leave an uncomfortable feeling of not being allowed any fuzziness” (Bodard and Stoyanova 2016, 63).

<sup>83</sup> The stratigraphy is the analysis of the order and position of layers of archaeological remains. Without a study of the stratigraphy of the Tophet, it is impossible to contextualize the stelae that come from it.

<sup>84</sup> Big Data are literally data sets that have become so large that they go beyond the intuition and human analytical capacities; data sets characterised by such a high volume, velocity and variety that they require specific technology and analytical methods in order to be transformed into value/information. In Humanities, the quite recent development of digital technologies created an explosion in the number of datasets. This number grew so fast that the human brain is not able to process these data sets any more. That is what we call the *Big Data*.



that of the MAP project. Subsequently, the database naturally came about from the moment that the project was created, it being the only one capable of processing such a large amount of data. The choice of such a tool inevitably modified the relationship between historians and their data, tending to make it more dynamic: at any given time, in fact, information can be modified, updated or deleted. The hypotheses drawn, as a consequence, can be conveniently reformulated, modified or discarded.

## 2.2. *A Database of Divine Names*

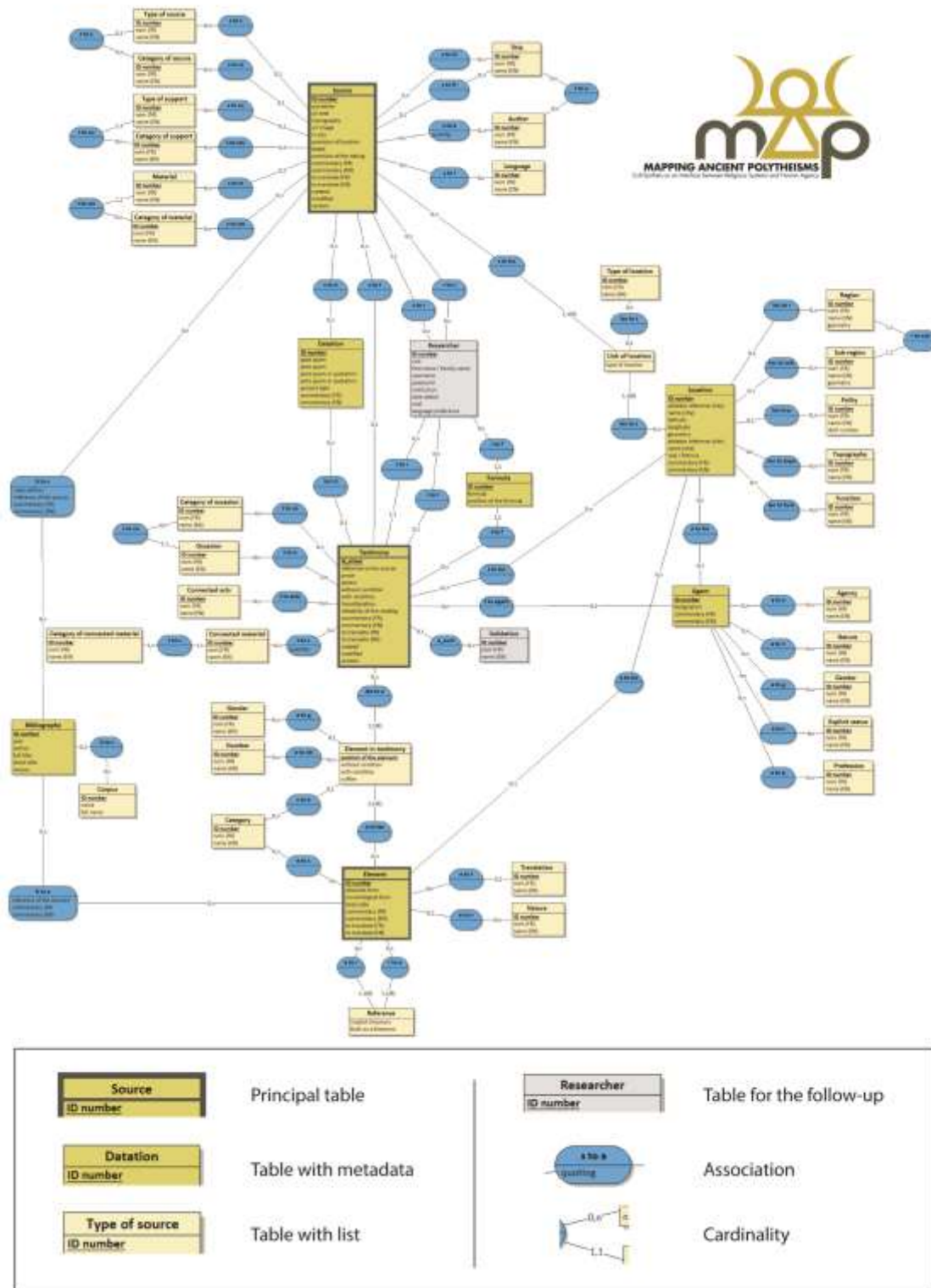
While choosing a database may be quite straightforward, the series of decisions which ensue are less so. Indeed, registering historical data of an incomplete and disparate nature in a digital tool requires effort in terms of formalisation. The comparative dimension of the MAP project makes the construction of the database all the more complex, each corpus (i. e. Greek and North-Western Semitic) with its own specifications. Formalisation is, therefore, an essential stage, which subsequently gives way to the possibility of cross-referencing the data: data retained (see Fig. 8.3), as text, as figures, the choice of transcription and translation... it all has to be decided.<sup>85</sup> This stage, although long and often tedious, is nonetheless useful in drafting out the guidelines for future users.<sup>86</sup> Indeed, the European Council strongly recommends publishing

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<sup>85</sup> For instance, for the source, we decide to enter the material (stone, metal, etc.) and specify it (marble, limestone, basalt, etc. for stone or silver, gold, lead, etc. for metal), but we do not register the size of the letters of the inscription. MAP is not actually meant to produce an epigraphy online corpus, although links to online existing corpora are systematically provided among the metadata.

<sup>86</sup> The guidelines of MAP database (for entering, searching and web mapping interfaces) are available online: <<https://hal.archives-ouvertes.fr/MAP-ERC/>>.

(268)



Source : 2019/02/07 version, realized by Antoine LAURENT (ERC MAP) with LOOPING - MCD

FIGURE 8.3. CONCEPTUAL DATA MODEL OF THE MAP DATABASE. IMAGE: ERC MAP PROJECT

(269) results in Open Access.<sup>87</sup> That is the philosophy of the project, and the options chosen are compatible with the accessibility of the data, its interoperability with other tools—notably the network modelling tools which we are currently testing—,<sup>88</sup> as well as its re-utilisation by other members of the scientific community.<sup>89</sup> Another question, which is crucial, is therefore that of the sustainability of access to said data. The database is hosted by Huma-Num, the TGIR developed by the CNRS and has been created thanks to free tools.<sup>90</sup>

The database is, in effect, a relational database in SQL,<sup>91</sup> built using PostGre.<sup>92</sup> The choice was made in accordance with two major criteria. The first was the willingness, from the beginning of the project, to deal with the (270) spatial dimension of the data (firstly, being aware of its geolocation)<sup>93</sup> and PostgreSQL to a PostGIS extension which makes said processing possible.<sup>94</sup> The

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<sup>87</sup> Open Access: a set of principles and a range of practices through which research outputs are distributed online, free of cost or other access barriers. Open access does not mean no rules: in 2001, rules were explicitly established for the attribution of authorship, citation, re-use and modification of results and works published in open access, thanks to specific licenses, the open or free licenses. About the European Research Council open access policy: <<https://erc.europa.eu/managing-project/open-access>>.

<sup>88</sup> The network modelling tools we are testing are tools inspired by sociology, in particular social network analysis. They are tools that allow the creation, from the database, of networks whose vertices are the names of gods and whose edges are the links between them (co-presence, assemblages, etc.).

According to the principles of FAIR Data, i.e., the approach that makes data Easy to Find/Findable, Accessible, Interoperable and Reusable. Data interoperability is fundamental, because it enables systems and services that create, exchange and consume data to have clear, shared expectations for the contents, context and meaning of that data. For us, this means working with systems and formats that allow our data to be reused even by different databases or analysis tools.

<sup>89</sup> The code used for database interfaces (entering, search and web mapping) and for network modelling tools is available on Github ([github.com](https://github.com)). We also make extensive use of Creative Commons licenses to preserve the authorship of the tools created while making them accessible to and modifiable by other researchers.

<sup>90</sup> Huma-Num is a TGIR, *Très Grande Infrastructure de Recherche* (Very Large Research Infrastructure) based in France. The infrastructure enables researchers from all disciplines, in France and abroad, to create a shared environment for carrying out large-scale research in advanced fields. It provides a set of services for the storage, processing, presentation, notification, dissemination and long-term preservation of digital data from research in the humanities and social sciences (<<https://www.huma-num.fr/>>).

CNRS: the French National Centre for Scientific Research.

<sup>91</sup> Structured Query Language (SQL): a domain-specific language used in programming and designed for managing data held in a Relational Database Management System (RDBMS).

<sup>92</sup> Postgre or PostgreSQL: a free and open-source relational Database Management System (DBMS), i.e., it is a computer programme used to store, handle and share information in a database (guaranteeing the quality, durability and confidentiality of the information). A DBMS is used to enter, retrieve, modify, sort, transform information in the database and print them. See in this volume, Maiocchi and Milano (325-326), who used PostgreSQL to early cuneiform texts of Ebla.

<sup>93</sup> Guillon and Laurent, 2021. The database integrates an API (Application Programming Interface), *Pleiades*, a website that maps ancient sites in the Mediterranean (<<https://pleiades.stoa.org/>>). The advantage of this is the quick integration of the coordinates and the standardised designation of the site. But, for the Middle East, there are two common difficulties: many sites are not mapped. Those that are are entered using their Greek or Latin names. For example, Jerusalem is entered under the name Jerusalem/Hierosolyma/Col. Aelia Capitolina. Thus, researchers have the option of entering a location manually.

<sup>94</sup> PostGIS, a PostgreSQL plugin, is an open-source software programme that enables the manipulation of geographic (spatial) information, allowing the processing of spatial objects and the storage of graphical objects in PostgreSQL database. In other words, it enables PostgreSQL to become a spatial database management system which can subsequently be used by Geographic Information Systems (GIS), i.e., computer instruments for storing, analysing and communicating geospatial information. Simply speaking, it allows us to manage and process geographical (spatial) information registered in our database.

second criterion, the SQL language, that is the language of prime relational databases, fits perfectly with the team’s requirements: to create the database, the tables, to add records, search the database, update it, manage the rights of the different users. Considering that the majority of the data is made up of epigraphic inscriptions, we could have opted for XML language,<sup>95</sup> a way of writing information, largely used nowadays to annotate texts online and, notably, ancient, “literary” or epigraphic texts. However, given that the project is not aimed at editing whole texts but at delivering a database of divine onomastic sequences, SQL appeared to be more appropriate.<sup>96</sup>

Conceptual data model of the MAP database composed of entity types (our epigraphic data and metadata)<sup>97</sup> and relationships that can exist between them (for instance “a source containing one or more testimonies” is one of these relationships).

The construction of the database is simple—it is based around three main tables which represent the three primary levels of information: the source, the (271) testimony and the element.<sup>98</sup> The source is the document—epigraphic, glyptic, numismatic, papyrological or of manuscript tradition—which contains one or more testimonies of divine onomastic sequences. The testimony is a group of several onomastic elements that refer to one or several divine beings and are combined to form the onomastic sequence. Finally, the element is the minimal “unit of meaning” within the testimony. It is a semantic and non-grammatical category. Two or more elements constitute a testimony. For example,

*lrbt lnt pn b'l wl'dn lb'l ḥmn*

To the lady Tinnit face of Ba'al and to the lord Ba'al Ḥammon is a Punic testimony (see Fig. 8.5) that counts seven elements: the lady, Tinnit, face (of), Ba'al (twice), the lord and Ḥammon.<sup>99</sup> The database works on this basic idea: One source contains one or more testimonies, which contain one or more elements.

What makes this architecture more complex is the consideration of a certain number of metadata which allow the presence of an onomastic sequence to be analysed, answering the following questions (see Figs. 8.4, 8.5 and 8.6):

- The date: when is the onomastic sequence used?
- The location: where is this onomastic sequence used?
- The actors: who are the people who use this sequence (origin, social status, etc.)?
- The context: under which circumstances (a prayer, an offering, a song...), on what occasion (a celebration, a victory, a death...) is the sequence used? Is the onomastic sequence linked to an object, an animal (specifically in the case of offerings)?

The metadata of the onomastic elements must also be added, namely a brief linguistic, syntactic and, above all, semantic analysis.

<sup>95</sup> Extensible Markup Language (XML): a computer language for description, i.e., it allows a set of data to be described and structured according to a set of rules and defined constraints. See also in this volume, Maiocchi and Milano (321n23), Nurmikko-Fuller (338n16) and more specifically Boschetti et al. (173, 173n4, 180n45) who use XML for multipurpose annotation system to ancient texts.

<sup>96</sup> The disadvantage is that the selection of data is never made by an automatic search. It is based on the reading of the epigraphic corpus by specialists in the geographical areas involved. Moreover, in the case of West-Semitic epigraphy, the references are scattered and rarely available online. Then, the same specialists enter the data into the database.


<sup>97</sup> Metadata: data that define or describe other data. For instance, for an ancient inscription, the metadata are its language, location, support, etc.


<sup>98</sup> Guillon and Laurent, 2021.

<sup>99</sup> Another example in Greek: Ἀπόλλ[λωνος] Πυθίου καὶ Ἀπόλλωνος Κεδριέως/Apollo Pythios and Apollo Kedrieus is a testimony that counts four elements (Apollo, twice, Puthios and Kedrieus).

As we mentioned above, the architecture had to take into account the disparity of corpus and bibliographical references, as well as the specificities and practices of the Hellenic and West Semitic fields of study. As a result, the extensive task of harmonising data entry was necessary in order to unify the entry of data from such different practices. This work is based on: existing ontologies, (272)

**View Source #14**

 [Direct link: https://base-map-polytheism.huma-nan.fr/source/14](https://base-map-polytheism.huma-nan.fr/source/14)

<b>Project</b>	ERC MAP Project		
<b>Source Category</b>	Epigraphy		
<b>Source Types</b>	Dedication		
<b>Languages</b>	Punic		
<b>Main Title</b>	None		
<b>Author</b>			
<b>Material Category</b>	Lithic		
<b>Material</b>	Limestone		
<b>Medium Category</b>	Stele / Clippis		
<b>Medium</b>	Stele		
<b>Text URL</b>			
<b>Bibliography</b>	<b>Bibliographic Reference</b>	<b>Main Edition</b>	<b>Source Reference</b>
	 10.1017/COL1	✓	180
<b>Dating</b> <small>FRONTON 5</small>	<b>Post Quam</b>	-450	
	<b>Ante Quam</b>	-150	
	<b>Commentary</b>	Not archaic, nor neopunic Né archaïque, ni néopunique	
<b>Discovery / Original Location</b> <small>FRONTON 2</small>	<b>Isal ?</b>	Yes	
	<b>Political Entity</b>		
	<b>Region</b>	North Africa	
	<b>Sub-region</b>	Africa proconsularis	
	<b>Place</b>	Carthago	

[View all Records](#)

[← Previous 10/118](#)

FIGURE 8.4. EXTRACT FROM A “SOURCE” ENTRY IN THE MAP DATABASE. IMAGE: ERC MAP PROJECT



FIGURE 8.5. EXTRACT FROM A “TESTIMONY” ENTRY (“TO THE LADY TINNIT FACE OF BA’AL AND TO THE LORD BA’AL HAMMON”) IN THE MAP DATABASE. IMAGE: ERC MAP PROJECT

(273)

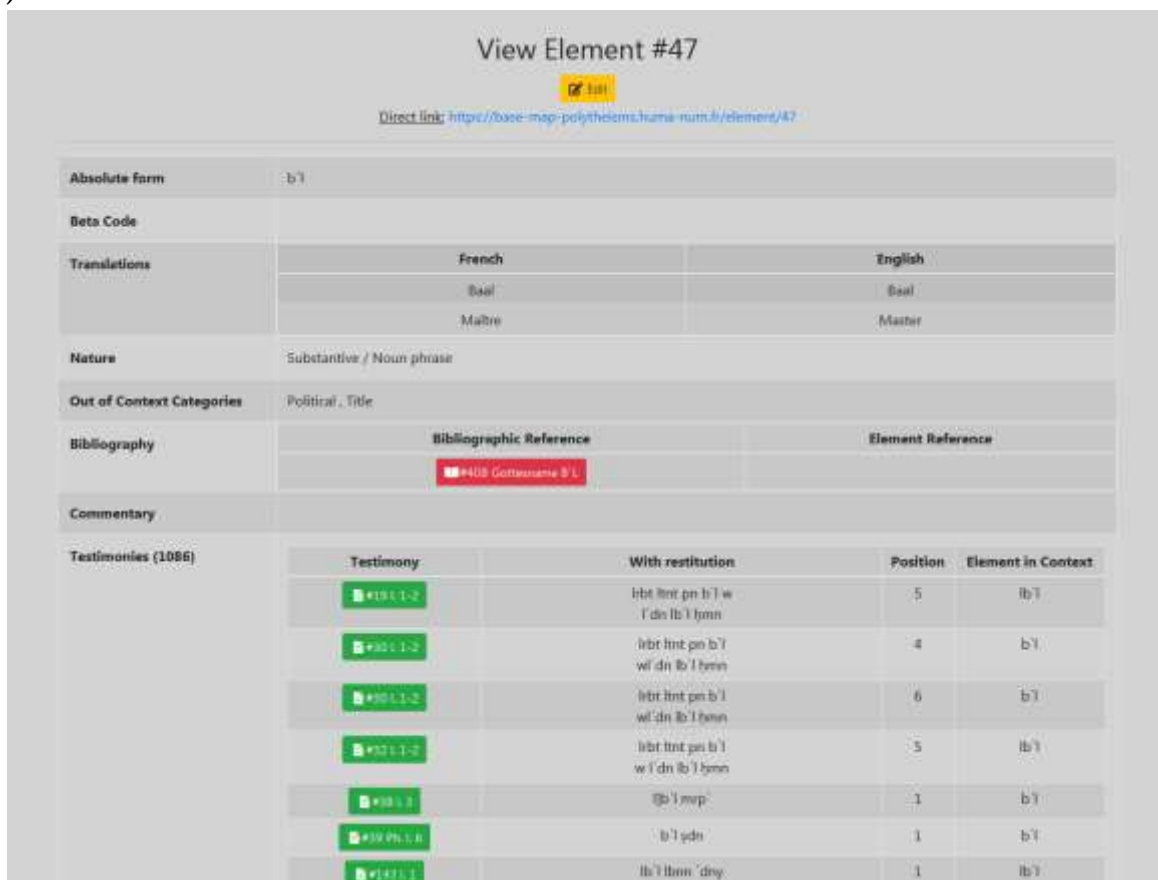


FIGURE 8.6. EXTRACT FROM AN “ELEMENT” ENTRY (BA’AL) IN THE MAP DATABASE. IMAGE: ERC MAP PROJECT

allowing the creation of closed value lists;<sup>100</sup> the reduction of the mandatory fields to a minimum;<sup>101</sup> the writing of precise guidelines explaining each step of the data entering process.<sup>102</sup>

The entirety of the data, duly regrouped according to each onomastic sequence, with the obvious limitation of gaps in sources, should, therefore, allow us to classify, challenge or become more familiar with the elements and the sequences, to study them “in a series” in order to draw conclusions from them which reach beyond those of an uncontrolled proliferation of divine names in the polytheisms, which is simplistic. Also, the use of a relational database allows us to simultaneously carry out synchronic and diachronic (274) studies, local and regional. This play on spatial and temporal scales is essential to achieve fine-tuned knowledge of such a vast and diverse corpus. In fact, the data are retrievable thanks to queries. The user, by choosing general queries (which onomastic elements were used in a certain era?) or more specific ones (for example, regarding corpus limited in space and in time) will be given access to more or less restricted corpora.<sup>103</sup>

The development of a web mapping application,<sup>104</sup> linked to the database, equally enables the consultation of onomastic sequences per region and per site, and provides subsequent access to the detailed data for each sequence. It is a first view of the data within the study area, a spatial approach to the corpus.

### 2.3. *The gods are Perfect, not the Data*

Contemplating such a vast corpus and seeking thoroughness also presents a chance to define the data and incorporate its “imperfections” in the sense of Cyril de Runz.<sup>105</sup> In other words, we aim to evaluate the precision and reliability of the data and to subsequently combine it with our regional, diachronic, thematic studies. The idea is to work with full awareness of the potentials of our corpus, of the quality of its data and, at the same time, of the inherent uncertainty in this type of corpus. Such an approach, although it may seem cartesian and inflexible is, in fact, the historian adapting the evaluation of their data to a larger scale: here, they propose an interpretation as their data are reliable, there it remains in the realm of hypothesis as the gaps render certainty impossible. Digital practice does not change the evaluation process on the part of the specialist, except for making it more explicit: the choices made are explained in the database, the selection of metadata, the precision of the latter. This approach has already been applied in many subdivisions of archaeology since the birth of post-processualism, including spatial archaeology, with promising

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<sup>100</sup> For example, the use of PACTOLS (Peuples et cultures, Anthroponymes, Chronologie, Toponymes, Œuvres, Lieux et Sujets) for the description of source medium and material: <<https://pactols.frantiq.fr/opentheso/>>, further information on PACTOLS <<https://www.frantiq.fr/pactols/le-thesaurus/>> (both accessed April 20, 2020).

<sup>101</sup> For the description of the source, the mandatory fields are *Source category*, *Language* and *Main Edition*.

<sup>102</sup> They are available online, in English and French: <<https://hal.archives-ouvertes.fr/MAP-ERC/browse/doctype>> (accessed April 20, 2020).

<sup>103</sup> The data consultation tools (query interface and web mapping application) have been available in open access since the beginning of 2021.

<sup>104</sup> Web mapping: the form of digital cartography that uses the Internet to produce, design, process and publish geographic maps (for instance, Google Maps, the biggest web mapping service online). The MAP project adopted this tool from the start for the analysis and dissemination of its research and results. The interface is developed with *Géo Générateur* from Business Geographic, which produces cartographic software and Geographic Information Systems. <<https://www.business-geografic.com/fr/ressources/documentation.html#geo-technologies-business-geografic-geo-generateur>>.

<sup>105</sup> Runz 2010.

results.<sup>106</sup> We are proposing an adaptation within problematic (275) data of the history of religion: in the MAP project, we have chosen to evaluate the precision of three types of data: the location of the source, the date of the testimony and the reading quality of the latter. This evaluation is achieved by applying a coefficient of 1 to 3, 1 to 4 or 1 to 5, 1 representing certainty and this latter figure representing absolute uncertainty (see Table 8.2).

With regard to the location, this includes four levels: a source belonging to a site (archaeological), an agglomeration, a sub region and a large region (see Fig. 8.1).<sup>107</sup> All of these levels of precision are required in order to be able to regroup the sources, at least, into major geographical areas (Table 8.2) when no more details are provided and, on the contrary, in order to be able to register all of the information on one source as soon as we become aware of it. The coefficient 1 is applied here to a source for which we know each spatial level, whereas the coefficient 4 is applied to a source that we are unable to geolocate specifically. As for dating, currently one has to return to the question of formalisation: all of the dates are registered in Arabic numerals, with the sign “-” if they are BCE dates. Furthermore, dating is registered in two fields (boxes) in order to determine an interim and be able to express specific dates, like the expressions: at the beginning of such and such century, in mid such and such century, etc. We have enforced twenty-five-year brackets in order to “translate” these expressions. For example, the mid-fifth century BCE becomes -450, the beginning of the same century is registered as -500 -475, etc. Thus, the coefficient is applied according to the precision of the date (just as for the location): specified at less than five years, less than a half century, one century, two centuries and more than two centuries.<sup>108</sup> The precision of the location and that of the date of the testimony are two automatic fields, calculated according to what is registered in the location and date fields.

The final evaluation criterion is a little different, as it concerns the reading quality of the testimony (see Fig. 8.5). This evaluation relates to the quality of the published data and the onomastic sequence contained in the testimony. It, therefore, involves the specialist’s judgement and scientific responsibility, bearing in mind that the aim is, primarily, to allow the users of the database to (276) sort through their results and to distinguish the onomastic sequences where the testimony is certain from those where it is not. This evaluation criterion is difficult to define, as it is necessary to distinguish the evaluation of accuracy from that of data reliability. Indeed, the project only works with data that have already been published and does not intend to publish ancient sources. Recording the data does not, therefore, include the systematic examination of each original source (the database already has almost 3400 registered sources and 4600 attestations), especially when the corpora does not provide any quality photographs or reproductions of the source.

We would thus base the evaluation of reliability on second-hand documents, reproductions of data, sometimes old and whose sources have sometimes even disappeared (archiving mistakes, wars, etc.). Furthermore, we believe that the evaluation of the reliability of data should involve the “producers” of the data, archaeologists or epigraphists, who know the context in which these data

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<sup>106</sup> Favory et al. 2008; Desachy 2012; Fusco 2016. More recently, about the quality of data from textual sources, see Binder et al. 2014. The issue is not new (Eppler and Wittig 2000), and is widely covered in the field of DP. We revisit the main points of it here. Moreover, the originality here comes from the systematisation of the evaluation of an original kind of data, the onomastic sequences, as well as the published data, for which the evaluation process is therefore inevitably incomplete.

<sup>107</sup> As is conventional, the definition of sub-regions corresponds to Roman provinces around 117 CE (Trajan-Hadrian era).

<sup>108</sup> This is, for example, the case with dates like “from the Hellenistic age” which we regularly come across in the eastern Mediterranean. This expression refers to several centuries, between the middle of the fourth century BCE and the middle of the first century BCE.



were discovered. This type of evaluation must, therefore, be defined in advance, with the specialists involved, by determining data gathering methods, methods for comparing data from different contexts, etc.

Once again, in the case of our project, this is impossible. However, the reading quality of the onomastic sequence can quite easily be implemented and represents a first step in the evaluation of the data we are working on. Thus, we defined the following coefficients to help the team to evaluate the testimonies they register (see Table 8.2): 1 is a confident reading; 2 is a probable reading; and 3 an uncertain reading. A confident reading means an onomastic sequence that is legible and complete according to the edition taken as reference, or legible on the whole with the editor's renditions in consensus or is probably incomplete, but where each element figuring in the edition is clearly readable. A probable reading means an onomastic sequence that is legible on the whole with restitutions indicated as uncertain by the editor using the conventional signs (square brackets, etc.) or in the review/comments section or with the editor's restitutions not in consensus. It can also mean an onomastic sequence that is probably incomplete with one or several restituted elements where the restitutions are not in consensus. Finally, an uncertain reading means an onomastic sequence restituted by the editor, but where the restitutions are signalled as uncertain by the editor or the restitutions seem uncertain/adventurous without another edition to which we can refer.

Of course, the evaluation of the data is not complete, but these initial coefficients already provide users with a clear idea of the quality of the data on which to base their research. All these coefficients will enable the calculation of an overall score, which can be used independently according to the (277) type of research that one is intending to undertake. For example, one might decide only to take into consideration the onomastic sequences geolocated precisely within the Southern Levant (or those from Attica, for example) or even the sequences dating from the Persian era/Hellenistic era transition (i.e., mid-fourth century BCE – beginning of third century BCE). The idea is, therefore, to examine accurate data while being able to identify trends between one place and another, between one period and another. In contrast, to obtain a more global view of the corpus, one could include the onomastic sequences from the Roman era in the analyses without specifying the century, or rather decide not to worry about questions of dates and location in order to examine the onomastic elements used in a specific language, such as Phoenician or Hebrew.

TABLE 8.2. TABLE OF EVALUATION COEFFICIENTS FOR THE ACCURACY OF DATA

Type of data evaluated/Coefficient	Location	Date of testimony	Reading of testimony
1	Specified at the site	Less than 5 years	Confident reading (without or with renditions)
2	Specified at the agglomeration	More than 5 but less than 50 years	Probable reading (without or with renditions)
3	specified at the sub region	More than 50 but less than 100 years	Uncertain reading
4	Specified at the region	More than 100 but less than 200 years	
5		More than 200 years	

The description of the corpus and quality of the data, therefore, provide two great advantages: first, that of becoming aware and explaining the inherent uncertainty of the historical data in order to better express the hypotheses and working paths; second, that of participating in this game of scales, of foci, which is vital in order to get to know our corpus, both generally and in detail. The

ideal would be to incorporate an evaluation process of the data right from the beginning of the project at the very time of registration, as this involves an evaluation of the data, and not at all the accuracy of the registration which is decided throughout the construction of the database. This process, which is essential, is often looked down upon by certain specialists who see it as a criticism of their methods and their thoroughness, which is absolutely not the case. (278) Therein lies the challenge in the use of digital tools; most of the time, the barrier is not technical, but methodological, or even psychological: What are the issues? What are the objectives of the tool? This is the question to be asked and outlined to historians who are cautious of digital practices.

The MAP project is, after all, an innovative project which is intended to renew our knowledge of ancient religions by grasping material which has still scarcely been examined: divine onomastic sequences. For the first time, epigraphic (exhaustively) and a selection of textual data are grouped together in a complex relational database in order to be studied, challenged and compared. The *longue durée* and geographical scope of the corpus allows the divine onomastic material to be grasped in its complexity and its interactions with the human environment, in the broad sense. Within this research context, resorting to digital practices becomes essential. The magnitude of the tools used is the only one able to support our thorough examination of the corpus and our research. There is no revolution here, and the domain of the gods fits well with that of “digital humanities,” the digital tools never replacing the reflection of the historians of religions, their knowledge, and their “traditional” methodologies. However, they change their approach, in the sense that many more possibilities open up to them—the first of which being the possibility to contemplate an increasingly vast corpus—and strengthening their connection with the sources. In fact, digital practices imply constant toing and froing among the historians formulating their assumptions and their registered data. Entry errors can always be corrected, new information registered progressively in line with new knowledge and interpretations.

The first obstacle when using a database or any other digital humanities tool is not technical,<sup>109</sup> it is all too often ideological. The historian must conform to the harmonisation of their corpus – never misinterpreting the data –, to the formalisation, to the explanation of their journey and choices, their objectives and expectations regarding their tools and methods. The set of choices that (279) they make may often seem to be impoverishing the information in relation to a description in a “natural” language that they would otherwise give; however, it is precisely this set of choices which allows the data to be compared and challenged, thus permitting the reinstatement of complexity and finesse throughout the analysis of each query that they subsequently examine.

After almost three years, the MAP project has an operational database with almost 10,000 records, between sources, testimonies and elements. It is the fruit of a collective and progressive reflection along with tests carried out on samples of the corpus. It is the result of a certain number of choices, discussions, strategies seeking to construct a set of data which can be challenged, which

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<sup>109</sup> Especially when, as is the case in the MAP team, a research engineer is employed to construct the database and create the interfaces—i.e., the spaces where interactions between the users and our computer tools occur—make it easy to use and friendly for non-specialists. Furthermore, for some years now, we have seen a trend in the production of Open Access tools and facilitating interfaces, by historians and human science specialists, access to digital practices: TANAGRA (an open-source software for teaching and research, which implements data mining methods, an interdisciplinary process involving methods from statistics, machine learning and database systems to extract information and knowledge from these huge datasets. See <<http://eric.univ-lyon2.fr/~ricco/tanagra/fr/tanagra.html>>), Gephi (an open-source network analysis and visualization software. See <<https://gephi.org/>>), etc.

is interoperable and accessible in order to provide a response to the afore mentioned questions. Digital practices resonate with our problems, supporting reflection, complementing approaches. While what we have discussed here is the database, it is not the only tool used in the study of ancient gods. Multivariate statistical analyses, networks and graphs, spatial analysis tools, etc. equally participate in the regeneration of knowledge and the vision that we have of ancient religions.

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