

# The Birthday Present: Censorinus' *De die natali*\*

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## ABSTRACT

*This paper contextualises and interprets a text seldom addressed in Anglophone scholarship: De die natali ('On the birthday'), written by Censorinus to celebrate his patron Caerellius' birthday in 238 C.E. By exploring both gestation (natis) and time measurement (dies), the work seeks to elucidate and isolate Caerellius' birthday in time; it is the ultimate guide to his dies natalis. Despite a seemingly narrow focus, De die natali is best understood as part of a broad 'spectrum' of encyclopaedic texts, exemplifying the 'totalising' impetus of knowledge ordering in the Roman Empire, while simultaneously exposing the limits of such efforts. An interlocking set of tensions underlie the text, which resonate with other encyclopaedic projects — tensions between unity and plurality, centre and periphery, and the relationship between nature and culture. De die natali is both a product of, and commentary on, the conditions of human knowledge and the Empire's cultural diversity in the early third century.*

**Keywords:** Censorinus; birthday; birth; time; encyclopaedism; compilation

## I INTRODUCTION

By the time Censorinus wrote *De die natali* (henceforth, *DN*) — in the late 230s C.E. — the Julian calendar had been in use for nearly three centuries. Although it solved many problems that had plagued its republican predecessor, Caesar's revolutionary calendar remained just one among many in use throughout the Roman Empire. Censorinus explains, 'quanta sit uarietas facile est cognoscere, si quis uel in unius Italiae gentibus, ne dicam peregrinis, uelit inquirere' ('it is easy to recognise how much diversity there is, if anyone should wish to inquire among the peoples of Italy alone, not to speak of foreigners').<sup>1</sup> This *uarietas* extended beyond calendars to other tools used to measure and mark the passage of time. Outside Rome, many cities retained their own civic calendars, sometimes adapted to function alongside the Julian, solar year, sometimes not.<sup>2</sup> In daily life, many Greeks and Romans also used tools called *paraepgmata* to track and coordinate non-calendrical cycles (seasons, astronomical phenomena, market

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<sup>1</sup> *DN* 20.1. All translations are my own, unless noted otherwise.

<sup>2</sup> Adherence to lunar calendars could be 'dissident' argues Stern 2012: 299–53; 2017; cf. Dench 2018: 134–47. On calendars generally, see also Samuel 1972; Bickerman 1980; Hannah 2005; Rüpke 2011.

periodicities and so on), keyed to their particular needs and customs.<sup>3</sup> Even as Rome and the Julian calendar exerted a kind of gravitational force, regional diversity and an overall lack of standardisation (in a modern sense) meant that tools used to achieve precision and accuracy in timekeeping remained highly variable.

Given this diversity, there were also many ways one could record and commemorate a birth, positioning it in the history of a family, city or empire, or in relation to astronomical cycles or environmental events. Birthday customs, like dating conventions, were not uniform. For a long time, many Greeks celebrated birthdays on a monthly basis — birthdays were tied to a particular day of the month (for example, since I was born on 18 November, each month my birthday would be celebrated on the 18th).<sup>4</sup> With calendar years of divergent lengths ('*quanta sit uarietas*'), different groups likewise celebrated anniversaries at variable intervals. This variability also applies more generally to the birthday's significance, affected by constructions of the significance of a person's *birth* in particular cultural contexts and interpretive frameworks — an observation which is also applicable, more generally, to constructions of time.

Censorinus' *DN* explores precisely these issues, a text he composed as a gift (*munus, natalicium*) to celebrate the birthday of his patron, Quintus Caerellius, an upwardly mobile equestrian. In Anglophone scholarship, *DN* has been largely relegated to footnotes, seen as a source for (Varronian) fragments, while in other languages, the corpus of editions, translations and articles continues to grow.<sup>5</sup> *DN*, however, was well regarded throughout late Antiquity and the medieval period; to the brilliant Joseph Scaliger, it was an 'aureolus libellus' ('golden little book').<sup>6</sup> As a tribute, Giovanni Battista Riccioli even labelled a lunar crater 'Censorinus' in his 1651 map of the moon.<sup>7</sup> This article is one attempt to demonstrate how much we can learn from taking the text seriously as a unified whole. It is also an invitation to further study — indeed, *DN* is truly a gift that keeps on giving.

The work's title speaks to its dual structure: the first part focuses on topics related to birth, the second on time — *natalis* and *dies*. Though filling barely sixty pages in Sallmann's Teubner edition, *DN* casts a wide net, blending philosophy, science, medicine, astrology and history. Censorinus first presents various Greco-Roman opinions about human generation within the overarching structure of the cosmos; these

<sup>3</sup> The 'Latium' *paraepagma*, for example, collates the hebdomadal week, nundinal days, lunar cycle and four seasons. On *paraepagmata* overall, see Lehoux 2007, the 'Latium' *paraepagma*, at 32–5, figs. 2.2–3. Inscribed *paraepagmata* are collected in Degraffi 1963.

<sup>4</sup> Englhofer 2003; Feeney 2007: 148.

<sup>5</sup> For example, '[*DN*] is derived from different sources, above all Varro, and also Suetonius ... and is valuable for its mainly competent transmission of these' (Hudson-Williams and Nutton 2012 in the *Oxford Classical Dictionary*). There is only one contemporary English translation, with a commentary accessible to non-specialists (Parker 2007). I want to acknowledge that citing Parker's work brings with it painful, difficult questions, on which I recommend Scullin 2016. Editions, translations and commentaries in French, German and Italian are more plentiful (to which this study is indebted), mostly recently, the new Budé: Freyburger 2019. It is preceded by Rocca-Serra 1980; Rapisarda 1991; Fontanella 1992–1993. Brodersen 2011 is a German translation without Latin, but he has also published a Latin–German edition (Brodersen 2012), superseding Sallmann 1988. Sallmann 1983b has been criticised for its overzealous inclusion of later MS traditions (Grafton 1985a). Prior definitive editions were Jahn 1845 and Hultsch 1867; see also Kholodniak 1889.

<sup>6</sup> Scaliger drew on *DN* in *De emendatione temporum*. On his life and works, Grafton 1983–1993. On Scaliger and Censorinus, Grafton 1985b; Grafton and Swerdlow 1985. The fifth-century writer Sidonius Apollinaris honoured Censorinus among other luminaries (including Varro), calling *DN* 'volumen illustre' (Sid. Apoll., *Carm.* 14, *praef.* 3). In the early sixth century, Cassiodorus recommended readers to study *DN* for its teachings on music and celestial phenomena (Cassiod., *Inst.* 2.5.1, 2.6.1; cf. Brodersen 2012: 11–12). *DN* was first printed in Bologna (1497), but this preceded the discovery of the earliest manuscript, the eighth-century *Coloniensis* 166 (C). The debate is still open, but Freyburger and others have argued that C shares a 'common ancestor' with the ninth-century Vatican Lat. 4929 (V); see Freyburger 2019: lxxix–lxxxix (building on Rapisarda 1991); Reynolds 1983: 48–50.

<sup>7</sup> Brodersen 2012: 13; 2013: 7.

topics fall under the heading *natalis*, insofar as the adjective refers to the ‘birthday’ or more generally, ‘origin/birth/birth-related’.<sup>8</sup> The remainder of the work surveys approaches to categorising, coordinating and historicising units of time in Rome and beyond, topics that might go well under the heading *dies*. Censorinus collects information necessary to explicate and isolate Caerellius’ *dies natalis*, and in doing so, also makes it possible to date his birthday to the turbulent summer of 238 C.E. The text, however, contains no discernible allusion to the political instability of that year. But this does not mean *DN* is apolitical. On the contrary, its key themes (including reciprocity, cosmic order and time) and its encyclopaedic features evoke a range of political issues.

With this in mind, let us turn to the complex dynamics of Censorinus’ project and its embeddedness in the intellectual world of his time. Censorinus himself is an elusive figure, living in an elusive historical moment. Indeed, we do not even know his full name. Later authors, including Priscian and Cassiodorus, class him among the top-tier experts in Latin grammar.<sup>9</sup> It is possible he was a professional *grammaticus* (that is, a tutor to adolescent boys), and his reliance on the patronage of an equestrian would not be atypical in this regard.<sup>10</sup> *DN* itself contains hints at his pedigree through references to members of the old, consular family of the Marcii Censorini, but it is impossible to discern the nature of his relationship to this *gens*.<sup>11</sup> Perhaps he was simply a scholar of Latin grammar, a member of a once prosperous family now down on its luck (hence his pursuit of Caerellius’ patronage). Either way, we should imagine Censorinus as a scholar emerging from a thriving, agonistic world of Severan literary production, when the study of Latin was flourishing.

These skills (and perhaps his family background) would have made Censorinus a valuable client for Caerellius. As I discuss in more detail below, Caerellius rose from provincial origins to attain equestrian status, acquired a priesthood in his native city and (so we are told) earned the respect of senators in Rome and the imperial court (*DN* 15.4–6). Although the *gentilicium* ‘Caerellius’ appears throughout literary and epigraphic sources, at times connected with elite families and ambitious men of the High Empire, we still lack the evidence to place him in a particular kinship network or native city.<sup>12</sup> His ability to support Censorinus as a client certainly suggests he was a man of

<sup>8</sup> The ambiguity of the term *natalis* is examined below.

<sup>9</sup> Priscian, *Inst.* 1.17 (ed. H. Keil, *Grammatici Latini*, vol 2, Leipzig, 1855, p. 13.19–20) calls Censorinus ‘doctissimus artis grammaticae’, noting that he wrote a treatise on accents. Cassiodorus, *Inst.* 2.1.1 indicates Censorinus was well regarded, even famous, listed with experts such as Probus and Phocas (cf. 2.5.1, 2.5.10, 2.6.1); see Zetzel 2018: 289. The term *grammaticus*, however, can be used rather loosely by late antique scholars, and may also refer to authors of technical treatises on *grammatica*, not only teachers.

<sup>10</sup> Freyburger 1988 argues for Censorinus’ status as *grammaticus* in this sense, noting *DN*’s inclusion of nearly all the poets Jerome lists in the schoolboy’s curriculum (*Adv. Rufinum* 1.16 (CCSL 79: 14–15); cf. Freyburger 2019: xv–xix). He also compares *DN*’s content to Quintilian’s *Institutio oratoria* (which includes geometry and arithmetic in the grammarian’s syllabus, 1.10.34–49; Freyburger 1988: 151). Music plays a key role in Quint., *Inst.* 1.10.9–16, as in *DN*; cf. Hoces Sánchez 2009, who asks if Censorinus was a *rhētor*, based on his praise of Caerellius (a *grammaticus* could certainly hone his skills by studying rhetorical handbooks). *Grammatici* achieved enhanced status in the imperial period, usually classed among *honestiores*; some received public support, in addition to fees from private lessons (Kaster 1988: 99–134). On Severan-age *grammatici*, Trapp 2007: 479–81.

<sup>11</sup> Censorinus is an old, aristocratic *cognomen*: for example, Gaius Marcius Censorinus, cos. 8 B.C.E. (named at *DN* 22.16) and Lucius Marcius Censorinus, cos. 149 B.C.E. (*DN* 17.11). See Freyburger 2019: vii–xix and also *PIR*<sup>2</sup> C 654–8, M 222–3.

<sup>12</sup> *PIR*<sup>2</sup> C 154–64 (Censorinus’ dedicatee, *PIR*<sup>2</sup> C 156). Our evidence for late second-/early third-century Caerellii includes, for example, dedications from Alba Julia in Dacia by Gaius Caerellius Sabinus and his wife Fufidia Pollitta (*PIR*<sup>2</sup> C 161; *CIL* 3.1111, 1074–6). Their son (it would seem), Gaius Caerellius Fufidius Annius Ravus Pollitianus, had an illustrious career, commemorated in Rome by his ‘nutritores’ (Amycus Fufidius and Chrestina Fufidia, probably freed by his mother; *PIR*<sup>2</sup> C 157; *CIL* 6.1365). The Quirina branch of Caerellii were active in Rome during the triumviral period and early Principate (*PIR*<sup>2</sup> C 155). Cicero had a close female friend Caerellia with philosophical inclinations (for example, *Att.* 13.21a.5 = *CLA* 237); they jointly owned

means. By gifting *DN*, Censorinus may have hoped to provide a form of in-group, antiquarian knowledge for a ‘new man’ about town, someone with little time for leisure. Miscellanies, compendia and synopses — and encyclopaedic texts in general — could be especially useful for readers ‘interested in acquiring a veneer of specialist knowledge, but too busy to do the reading required to master it’, as Fitzgerald has argued.<sup>13</sup> This suggestion adds another layer of significance to the text’s status as a *munus* and the positivity (socially, intellectually) of *DN*’s author and recipient.

The text thus operates, at one level, within the realm of patronage and gift exchange. As a gift, it is designed to locate and elucidate Caerellius’ birth/day at the juncture of various social, biological and temporal cycles. This requires multiple layers of negotiation between competing ideas (which may remain unresolved) and different temporal systems, a task well suited to his encyclopaedic (often antiquarian) approach. In doing so, this study argues, Censorinus illustrates the plurality, fallibility and complexity of these ideas and systems, ultimately revealing the contingency of his own undertaking. Whether or not he was aware of this when he composed *DN*, the text also operates at another level: as an epistemological exercise, exploring the relationship between cycles in nature and the situated, varied concepts and tools used to comprehend them. In its aims and tensions, then, *DN* is a logical outcome of the diffuse, imperial project of ‘totalising’ knowledge and bears out its contradictions.

What follows is a journey through *DN*, in which the text and argument unfold simultaneously. Section II analyses its organisation and explores how the work builds tension between plural and unitary philosophical/scientific explanations. Next, I turn to *DN*’s rhetorical and generic hybridity, foregrounding its encyclopaedic features in relation to (roughly) contemporary texts; in doing so, this section contextualises tensions that emerged in Section II, while introducing another — between centre and periphery. Section IV further elaborates these binaries, examining *DN* 16–24, which focus on time. In these chapters, Censorinus introduces both the multiplicity and insufficiencies of tools for time measurement, effectively destabilising the birthday, even as he works to pin it down. The birthday thus emerges as an effective topos for exploring the relationship between nature and culture, and the extent to which Roman power, embodied by Caesar’s calendar, can mediate between the two.

## II CYCLES AND STRUCTURE

*DN*’s form is inseparable from its content (see Table 1). The text is almost a ring composition as it stands, beginning with the smallest form of human life, the embryo, then taking the reader all the way out to the cosmos, and ending with the smallest units of time structuring daily life. The organisation thus enacts the lifecycle, which can also be linked to its status as a *munus* in cycles of reciprocity among friends. Emerging from a polyphony of views on human generation, the teachings of Pythagoras are singled out as the most credible, in particular the notion that three musical harmonies govern our gestation (micro scale) and the music of the celestial spheres (macro scale). This relationship, illustrated through an excursus on Pythagoreanism, rearticulates the text’s

property (*Att.* 15.26.4 = *CLA* 404). These individuals were of senatorial rank, while Quintus Caerellius acquired equestrian status in his lifetime. They may be connected, but evidence does not permit firm conclusions.

<sup>13</sup> Fitzgerald 2016: 164; cf. Johnson 2010: 98–136, arguing that debates about minutiae in Gellius determine the ‘gatekeepers’ of learned society, a point that might be compared to Kelly 2018: 544–7, treating Macrobius’ *Saturnalia*. See also Horster and Reitz 2018: 434, observing ‘the topos of the important and hard-working magistrate or emperor who, pressed for time, has to rely on all kinds of shortened texts’.

TABLE I *DN's Contents*

CHAPTER	TOPIC
1	Dedication to Caerellius
2	Honouring the <i>genius</i>
3	The nature of the <i>genius</i>
4	Seed and human creation
5	Seed and generation
6	The formation of the foetus
7	The duration/stages of gestation
8	Astrology and duration of gestation
9	Pythagoras on the duration/stages of gestation
10	Pythagorean musical harmony/ratios
11	Pythagorean musical harmony/ratios and the duration/stages of gestation
12	Music, divinity and birthdays
13	Pythagorean cosmic harmony (music of the spheres)
14	Life stages and 'crisis' years
15	Praise of Caerellius
16	Eternity
17	Ages ( <i>saecula</i> )
18	'Great years'
19	Years
20	Calendars
21	History and synchronisation
22	Months
23	Days
24	Divisions of day

structure, but also subtly suggests the contingency of an individual's experience as they pass through these cycles.

The very first word of *DN*, *munera*, evokes a complex of ideas around cycles — social, political and temporal. The term *munus* is multidimensional: its meanings include 'gift', 'duty' and 'obligation', encompassing at once the private, civic and divine spheres.<sup>14</sup> First and perhaps foremost, however, *munus* indicates the reciprocities that structure Roman social life: the obligations binding friends to one another (including patrons and

<sup>14</sup> *TLL*, s.v. *munus*, 1662.57–1667.63. It can also refer to games, specifically funeral games (1665.66–1666.12), another type of duty or obligation, as Tertullian (Censorinus' rough contemporary) describes at *De spect.* 12.

clients), the responsibilities of citizens to the state and vice versa, and the duties humans undertake to honour the gods.

In the late Republic, *munus* began to be used, specifically, as a term for a book-gift (often designated a ‘libellus’).<sup>15</sup> In this context, *munus* indicates ‘a path of circular reciprocity’, Stroup argues, as the objects exchanged no longer constitute a ‘monetary transaction’ and enter a different sphere; the gift takes on the status of ‘pricelessness’, since its monetary value can no longer be determined by comparison with similar objects.<sup>16</sup> The first sentence of *DN* activates these associations:

Munera ex auro uel quae ex argento nitent, caelato opere quam materia cariora, ceteraque hoc genus blandimenta fortunae inhiat is qui uulgo diues uocatur: te autem, Quinte Caerelli, uirtutis non minus quam pecuniarum diuitem, id est uere diuitem, ista non capiunt...

There are gifts made of gold or those which shine with silver, gifts more valuable for their workmanship than their material. May the man commonly called ‘rich’ gape at this kind of thing and the rest of fortune’s delights. You, however, Quintus Caerellius, who are rich in virtue no less than in money, that is, truly rich — these enticements have no hold over you...

Because of Censorinus’ own limited means, he has created a gift for Caerellius using his own ‘wealth’ (‘comparatum meis opibus’, 1.5), his knowledge, which is, in a sense, priceless. The book is part and parcel of Censorinus’ own sacrifice to Caerellius’ *genius* (another *munus*, in the sense of ‘duty’), all to thank his patron for a friendship that has brought him honour, respect and protection (3.6), gifts by their very nature classed outside the realm of monetary value. *DN* portrays the *genius* as divine, and to sacrifice to one’s *genius* constitutes an annual duty, ‘munus annale’ (*DN* 2.2). By writing *DN* and sacrificing to Caerellius’ *genius* on his birthday (3.5–6), Censorinus suggests a parallelism in reciprocity at a human and divine level.<sup>17</sup>

Reciprocity and cyclicity also emerge in *DN* 1’s echo of Horace’s *Carm.* 4.8, a birthday poem dedicated to a man named Censorinus, either Lucius Marcius Censorinus (cos. 39 B.C.E.) or his son Gaius Marcius Censorinus (cos. 8 B.C.E.).<sup>18</sup> Their ancestor, likewise, Lucius Marcius Censorinus (cos. 149 B.C.E.), appears at *DN* 17.11, the very same chapter in which Horace’s *Carmen saeculare* is quoted directly, tying the intertextual knot even tighter.<sup>19</sup> Like *DN* 1, *Carm.* 4.8 also begins with luxurious objects (bowls, bronzes, tripods) Horace would present to Censorinus on his birthday if he were a different — wealthier — kind of artist (4.8.1–8). He explains, ‘sed non haec mihi uis, nec tibi talium / res est aut animus deliciarum egens: / gaudes carminibus; carmina possumus / donare, et pretium dicere muneri’ (‘but these things are not in my power, and you are not concerned with such luxuries, nor do you have a mind that needs them. You enjoy songs; we can give you songs and assign a price to the

<sup>15</sup> Stroup 2013: 114–15.

<sup>16</sup> Stroup 2010: 68–9.

<sup>17</sup> Varro, Censorinus’ chief source (Freyburger 2004; 2019: xxxi–xl) provides an etymology that emphasises ‘duty’: *Ling.* 5.179, cf. 5.141. Note Censorinus cites Varro’s lost *Atticus* at *DN* 2.2 on the ‘munus annale’. At 16.1, *DN* is called ‘meum munus’. Cf. Tib. 1.7.49–54, describing wreathing the statuette of Messalla’s *genius*, bathing its locks with unguents, offering incense and cakes. On birthdays and patron–client relations, Argetsinger 1992; on the *genius* more generally, Schmidt 1908: 22–4; Stuijver 1976: 220–6; Schilling 1978; Maharam 2004; Salzman 2012. Personal *genii* are to be carefully distinguished from *lares* (Flower 2017: 6–17; pairing of *genius* and *iuno* at 59–60; more generally at 6–75). See also Rapisarda 1992, who analyses *DN*’s preface from the perspective of its peculiar generic features, arguing that Caerellius is presented as a Stoic sage of sorts (at 707).

<sup>18</sup> The latter is explicitly mentioned at *DN* 22.16. There are good arguments for both identifications. On Horace’s recipient in *Carm.* 4.8, Mitchell 2010: 72; Thomas 2011: 187–8. *DN*’s reference to *Carm.* 4.8 is observed by Rapisarda 1992: 707–8 (also pointing to Mart. 5.18); Brodersen 2012: 11–12; Freyburger 2019: viii–xii.

<sup>19</sup> *DN* 17.9; Hor., *Carm. saec.* 21–4; the reference may also serve as a subtle reminder of Censorinus’ pedigree, suggesting he wishes the reader to draw a connection.

gift').<sup>20</sup> *Carm.* 4.8 thus plays with similar themes, especially the trope of the literary *munus* and its value in a cycle of reciprocity. Censorinus, the client-author, now fills Horace's position, while Caerellius is implicitly likened to the illustrious, consular Censorinus.<sup>21</sup> The configuration suggests how family fortunes may rise and fall — the descendant of consuls becomes a new man's client, a new man ascends to the ranks of bygone heroes.

Going forward, the text then moves chronologically through the process of generation, employing a doxographic approach to questions about gestation. After conception come competing views on pregnancy, foetal development and birth (4–7). On the origin of human seed, for example, 'inter sapientiae professores non constat' ('there is no agreement among teachers of philosophy'), listing Parmenides, Hippon, Anaxagoras, Democritus and Alcmaeon, Diogenes, Empedocles and Epicurus (5.2–4); he offers no resolution. The same is true of the formation of the foetus, its nourishment, the origins of sexual difference, family resemblance and twins (*DN* 6). Yet *DN* soon abandons this doxographic style and moves outward to the zodiac and astrology (8), the music of the spheres, how cosmic harmony ties into our bodily systems and growth in the womb (10–13) and, finally, numerology and the lifespan (14). In these fourteen books, Censorinus takes us on a journey from the microcosm of the womb out to the farthest reaches of the universe, beginning with conflicting views (esp. *DN* 5–7), then valorising Pythagorean teachings on embryology, music and the cosmos (9–13), before turning to 'crisis' years in the lifespan.

Pythagoreanism forms the central axis of these chapters, the only philosophical viewpoint *DN* explicitly endorses.<sup>22</sup> As Freyburger contends, this preference may be an index of Neopythagoreanism's contemporary popularity.<sup>23</sup> Censorinus probably read works (or summaries thereof) that privileged Pythagoras as a mythical initiator of the philosophical tradition, and observed how Pythagorean numerology, astronomy and music theory project a coherent vision of the cosmos and its building blocks.<sup>24</sup> Perhaps Censorinus was also influenced by the prestige awarded to Pythagorean figures by the Severans. Not long before *DN* was written, Philostratus published the first Neopythagorean biography, the *Life of Apollonius of Tyana*, purportedly commissioned by the empress Julia Domna herself.<sup>25</sup> Third-century texts also suggest heightened interest in Pythagoras, who became the subject of a spate of biographies.<sup>26</sup>

Immersed in this intellectual milieu, Censorinus delights in the opportunity to elucidate for his patron Pythagoras' incredible discovery (*DN* 10.8), that is, the relationship between harmonics and birth. The topic emerges from a dispute on gestational duration at 7.5–7 (that is, in what months of pregnancy is a foetus viable?). He draws on Varro's (now

<sup>20</sup> Hor., *Carm.* 4.8.9–12. The poem, however, does not quite deliver on this promise. Translation adapted from Thomas 2011: 190.

<sup>21</sup> Freyburger 2019: xi–xii.

<sup>22</sup> On Pythagoreanism generally, see Burkert 1972; Huffman 2014. Helpful surveys include Philip 1966; Kahn 2001; Riedweg 2005; Zhmud 2012. On Neopythagoreanism, Freyburger 1998; Flinterman 2014; Volk 2015.

<sup>23</sup> Freyburger 1992. Censorinus is writing in the period just before the Neoplatonic movement emerges. In 238 C.E., Plotinus was still in Alexandria studying with Ammonius Saccas.

<sup>24</sup> From an early date, Pythagoras had a quasi-Italian status due to his association with Croton and Metapontum. In one mythical tradition, Pythagoras taught Numa (despite the chronological impossibility, see Cic., *Rep.* 2.28–9; Humm 2014). Pythagoras' status as a philosophical *primus inuentor* (Cic., *Rep.* 1.16 hints at this tradition) later took on a life of its own and emerges in imperial-era sources, including (subtly) *DN*. 'It is but a slight exaggeration to claim that Pythagoreanism is an "invented tradition" ...', argues Volk 2009: 35.

<sup>25</sup> On Philostratus and imperial patronage, Whitmarsh 2007: 31–4 (urging caution, especially regarding Julia Domna's intellectual 'circle', cf. Smith 2014: 4); see also Flinterman 1995: 24–6; Kahn 2001: 142. Apollonius, a first-century C.E. Pythagorean sage, was worshipped as divine. In 215, Caracalla dedicated a shrine to him in Tyana (Cass. Dio 78 [77].18.4). On the historical and biographical tradition surrounding Pythagoras, Burkert 1972: 97–217; Zhmud 2012: 61–103.

<sup>26</sup> Biographies were written by Diogenes Laërtius (roughly contemporary with Censorinus; see Warren 2007; Laks 2014) and later in the third century, by the Neoplatonists Porphyry and Iamblichus.

lost) *Tubero, de origine humana* to explain Pythagorean teachings on this topic: ‘quae quidem ratio praecipue recipienda ad ueritatem proxime uidetur accedere’ (‘that position should certainly be accepted as it seems to come closest to the truth’).<sup>27</sup> According to Pythagoras, there were two types of pregnancies, seven and ten months, each corresponding to a different harmonic ratio, which guide the successive stages of foetal development. Compared with Diogenes’ and Hippon’s opinions, Pythagoras’ view is ‘credibilis’ (‘more believable’).<sup>28</sup>

This relationship between foetal development and music — illustrated using arithmetic — creates the opportunity to present birth/days as embedded in a stable, harmonious cosmos. Censorinus explains, ‘qui secreta naturae seruando repperit phthongos musicorum conuenire ad rationem numerorum’ (‘by observing the secrets of nature [Pythagoras] discovered that musicians’ notes [i.e., harmonies] correspond to numerical ratios’).<sup>29</sup> The musical harmonies of the fourth, fifth and octave (in our terms), the three ‘symphoniae simplices ac primae’ (‘simple and primary harmonies’),<sup>30</sup> correspond, respectively, to the ratios of 4:3, 3:2 and 2:1, which he proved with experiments on stringed and wind instruments.<sup>31</sup> Pythagoras explained how these same ratios and harmonies govern the time it takes a foetus to gestate, so birth is keyed to an overarching, harmonic structure in nature. Doctors have confirmed these timelines, verifying the Pythagorean numerological understanding of ‘nature’s secrets’ (‘arcana naturae’).<sup>32</sup>

For Censorinus, musical harmony’s effect on birth is a by-product of its power over bodies, souls and immanence in the universe. As with gestational stages, doctors also offer a kind of proof for the relationship between music, soul and body. The Greek physician Asclepiades healed mentally ill patients ‘through harmony (‘per symphonian’), and Herophilus, too, believed that our pulse responded to musical rhythm (DN 12.4). Censorinus concludes, ‘Itaque si et in corporis et in animi motu est harmonia, procul dubio a natalibus nostris musica non est aliena’ (‘And so if there is harmony in the movement of both our body and soul, there is little doubt that music is related to birthdays’).<sup>33</sup> We can piece together the chain of connections as follows: (1) harmony pervades the body and soul; (2) it affects the time of our birth; and (3) is therefore important to birthdays as well.<sup>34</sup>

The connections among bodies, music and the stars receives its clearest articulation when Censorinus turns to the ‘music of the spheres’, a popular idea throughout Antiquity and long after.<sup>35</sup> The distance of the seven planets (‘septem stellae’) from one another corresponds precisely to the musical ratios outlined above. Pythagoras

<sup>27</sup> DN 9.2. On *Tubero*, Cardauns 2001: 75–6; cf. Moatti 2015: 69.

<sup>28</sup> DN 9.2–3.

<sup>29</sup> DN 10.8.

<sup>30</sup> DN 10.6.

<sup>31</sup> These ratios are borne out in the triangular figure, *tetractys*. Sources on Pythagorean music are collected in Barker 1989: 28–52. On music in general, West 1992 (esp. 233–42 on harmonic ratios); see also Landels 1999: 172–205. The notion of musical harmonies governing the cosmos and life on earth was important not just to (Neo)pythagoreans, but also Platonists and Stoics (for example, Balbus in Cic., *Nat. D.* 2.19).

<sup>32</sup> DN 11.10. These two ‘Pythagorean’ gestational periods are rooted in the numbers six and seven, respectively, keyed to the duration of the initial period when foam transforms to blood in the womb. Censorinus explains doctors have observed that ‘semen conceptum’, ejected six or seven days after conception, is always ‘milky’, called ἔκρυσις (efflux). What comes out after this period is bloody, ἐκτρωσμός (miscarriage/abortion), signifying the process has moved into the next phase.

<sup>33</sup> DN 12.5.

<sup>34</sup> Camón Fernández de Ávila 1991 focuses on DN 12, demonstrating the tight connection between music, the gods and human life.

<sup>35</sup> cf. Pl., *Resp.* 616c–617d (esp. 617b–c); Cic., *Rep.* 6.18.18–19. Bakhouché 2001 explores Censorinus’ Pythagorean harmonics in relation to Pl., *Tim.* 35a–36a. ‘The health of the body or of the soul could be explained as dependent on proper “attunement”, on harmonic relationships ultimately reducible to numbers’

'measured' the distance from the earth to every *stella* (DN 13.2), and as Censorinus proceeds planet by planet, we learn that the distance from earth to the vault of the heavens corresponds to a musical octave, from the earth to the sun, a fifth, and from the sun to the moon, a fourth (13.2–4).<sup>36</sup> As the planets move, they harmonise to create 'dulcissimam... melodiam' ('the sweetest melody'), which human ears cannot detect.<sup>37</sup> Thus the same set of intervals that govern foetal development and birth exist among earth, sun and moon, with the sun serving as the pivot. This vision is also deeply rooted in astrology, which becomes explicit when Censorinus explains that the 'septem stellae' govern the natiuities ('geneses') of humans (13.1).<sup>38</sup>

DN's Pythagorean turn mostly — but not completely — suppresses dissenting views. Censorinus appears committed to conveying an image of a regular, perfect cosmos, glossing over messy arithmetic and abandoning the heavily doxographic style of earlier chapters. In doing so, he works towards a kind of 'harmony' by moving from a plural to a unitary interpretative framework. He shows not only how three basic harmonic ratios affect our earliest beginnings, from conception to birth, but also how they operate at the level of the 'septem stellae' in relation to the sun. Pythagoras 'showed that the whole universe is harmonic' ('hunc omnem mundum ἐναρμόνιον εἶναι ὅστωσιν').<sup>39</sup> At the same time, however, careful attention to his language, particularly in DN 9, suggests he is working with ideas that are more or less credible ('credibilis'). He ultimately endorses the Pythagorean interpretation in terms of competitive plausibility ('ad ueritatem proxime uidetur accedere').<sup>40</sup>

On the most basic level, DN takes us from the moment of conception through the growth of a foetus and out to cosmic space/time and eternity, before narrowing down gradually to the smallest units of time. The micro–macro features of these early chapters on generation and Pythagoreanism are rearticulated in the text's overall structure. Having demonstrated how birth figures in a harmonious cosmos, Censorinus guides us into a discussion of the marking and dividing of time, as he moves towards fulfilling the promise to elucidate his patron's birth(day). DN 16–24 provides a wealth of antiquarian information to aid in this endeavour, an effort that involves coordinating, layering and nesting systems and units. DN 16 begins with the concept of eternity (*aeuum*), mirroring the vastness of DN 13 on the Pythagorean universe. From here, we encounter diminishing spans of time: the 'age/century', *saeculum* (17), 'great years', *anni maiores*, (18) and the year, *annus* (19). The cultural contingency of these units prompts a chapter on calendars, especially the Roman calendar (20) and another on 'global' historical chronology (21). Having provided this background, he then treats shorter and shorter spans of time, with chapters on months (22), days (23) and divisions of a day (24). The structure suggests the lifecycle through its largely symmetrical construction.

The text's symmetrical features may have been even more obvious in its original form. In DN 16–24, Censorinus lays the groundwork for an explicit discussion of the *day* of

(West 1992: 234). Cf. Bouvet 1933; Lehoux 2012: 181–93. On the evolving role of Pythagoras and Pythagorean harmony in the *longue durée*, Joost-Gaugier 2006; Heller-Roazen 2011.

<sup>36</sup> Freyburger 1996 helpfully compares Censorinus and Pliny (*HN* 2.83–4), exploring how both discuss the music of the spheres *spatially* (in stades), and then contextualises this exercise vis-à-vis Pythagoreanism.

<sup>37</sup> DN 13.1. Pythagoras could hear the music of the spheres, according to Iamblichus, *VP* 65.

<sup>38</sup> On *genitura* and *genesis*, Bettini 2008: 318–20. Censorinus' list of planets (Moon, Mercury, Venus, Sun, Mars, Jupiter, Saturn) reproduces the 'Chaldean' order, cf. Macrobius, *In Somn.* 1.18 (Rocca-Serra 1980: 54). See also Ptolemy's *Harmonics*, connecting the musical ratios directly to the zodiac, 3.8–16 (ed. I. Düring, *Die Harmonielehre des Klaudios Ptolemaios*, Göteborg, 1930, pp. 100.16–111.14); Lehoux 2012: 193–8. Astrology played a role in Severan ideology, manifested in building projects such as the Septizodium and imperial iconography, suggesting world domination and projecting the emperor as *kosmokrator* (Lichtenberger 2011: 263, more generally at 250–68).

<sup>39</sup> DN 13.5.

<sup>40</sup> DN 9.2.

Caerellius' birth(day), which emerges clearly in an articulation of his interlocking goals (16.1):

Nunc uero quatenus de die natali scribo, meum munus implere conabor, tempusque hodiernum, quo maxime flores, quam potero lucidissimis notis signabo; ex quo etiam primus ille tuus natalis liquido noscetur.

But now since I am writing about birthdays, I will try to complete my gift and signify as clearly as I can the present moment in which you flourish so brilliantly, and from this, clarify that first day of your birth.

The phrase 'tempus... hodiernum' here refers to Caerellius' birthday, when Censorinus means him to read the *uolumen* he sent as a gift. By elucidating the time of Caerellius' birthday, it is possible then to work one's way backward (based on Caerellius' age), and thus make known the precise date of his birth.<sup>41</sup> In a way that is hard to capture in an English translation, the passage highlights the ambiguity of the word *natalis*, which can mean both 'birthday' and '(day of) birth'.<sup>42</sup> While Censorinus does discuss the current year (DN 21), the fact that he never discusses the *day* explicitly may suggest we are missing some final sections, despite the work's overall cohesion as it stands.<sup>43</sup> If the text is indeed incomplete, its original ending likely delivered on Censorinus' promise to make known the precise time of his patron's *dies natalis* and perhaps discussed features of his horoscope.<sup>44</sup> Given the way DN 24 drops off rather abruptly, lacking the deferential conclusion one would expect from the rest of the work, I would suggest that the original ending might have praised Caerellius in the manner of DN 1 and 15, completing the symmetrical structure. This (hypothetical) ending, however, was lost or excised sometime before the eighth century, because from that time onwards DN is transmitted in the twenty-four chapters that have come down to us.

There are many ways we might think about the cyclical organisation of DN.<sup>45</sup> As a *munus*, it is implicated in a gift-exchange cycle of patronage and friendship. The discussion of the zodiac and the music of the spheres reinforces the power of circles in nature. The work's arrangement suggests the lifecycle, the process of growing up and growing old, as we begin with the cradle of human life, the womb and conception, and gradually come to recognise the individual's place in the cosmos and in human institutions — as time gradually runs out.<sup>46</sup> Censorinus himself explicitly articulates a

<sup>41</sup> Censorinus clearly knows Caerellius' age (DN 14.10–14, 15.1).

<sup>42</sup> At DN 4.1, 14.1, for example, *dies natalis* explicitly means 'day of birth', rather than 'birthday'. *Natalis* might also be used for the founding of temples or cities (Argetsinger 1990: 2–6; cf. Englhofer 2003: 672). On imperial birthdays, Salzman 1990: 139–41; Argetsinger 1990: 64–89 (Augustus' birthday, specifically). On imperial anniversaries more generally, Grant 1950; anniversaries in relation to calendar reform, Feeney 2007: 138–66.

<sup>43</sup> Hoces Sánchez 2009 remarks on this surprising feature (at 332). Most editors do believe some final chapters were lost. At the same time, DN's two parts are separate but form a coherent whole (cf. Sallmann 1983a: 244). Freyburger argues the ending makes sense as it stands: he focuses on the last words of the treatise, 'media nox' (midnight), which offer a natural terminus, and suggests that Censorinus may well have wished to align the ending of the work — especially his treatment of time — with the ending of the day (Freyburger 2019: xxix–xxx). The phrase 'media nox' is certainly fitting, but as I argue here, DN's twenty-four chapters do not fully deliver on Censorinus' promise to make known Caerellius' date/time of birth.

<sup>44</sup> Greek rhetorical guides to birthday speeches recommend a discussion of the date's significance — for example, Menander Rhetor, 412–13 (ed. L. Spengel, *Rhetores Graeci*, vol. 3, Leipzig, 1856). DN 8 on astrology lays the groundwork for this kind of discussion.

<sup>45</sup> The same can be said for its push towards 'harmony' in more than one sense: DN's impetus to bring order or unity is attributed to Stoic influences by Rapisarda 1992: 700–2, 'un progetto di unificazione del sapere' (at 700). This is a helpful view, but I would argue DN's Pythagorean ideas deserve more scrutiny, as the only philosophical position Censorinus explicitly endorses and explores in detail.

<sup>46</sup> cf. Artemidorus' *Oneirocritica*, dating to the late second/early third century c.e. (Bowersock 2004: 56), which loosely reproduces the lifecycle in books one and two, beginning with pregnancy/birth, human customs, ending with gods and death. My thanks to Calloway Scott for pointing out this parallel.

cyclical view of life, citing philosophers from Pythagoras to Theophrastus, ‘aiunt principium fuisse nullum, sed orbem esse quendam generantium nascentiumque, in quo uniuscuiusque geniti initium simul et finis esse uideatur’ (‘they say that there was no origin point, but that there is some sort of cycle of things generating and coming to birth, in which the beginning and end of each living thing seem to exist at the same time’).<sup>47</sup> The text’s journey through smaller and smaller units of time (*DN* 19, 22–4) is also reminiscent of a conventional style of funerary epitaph, wherein the deceased’s life is measured out quite literally in years, months, days and even hours.<sup>48</sup> Cosmic, social and biological cycles are thus interwoven.

While Censorinus endorses Pythagorean ideas, his terms subtly impart an element of contingency to *DN*’s tidy picture of the universe and the nesting or interlocking cycles discussed above. In a way, Pythagoreanism does too — through the doctrine of metempsychosis or transmigration, with its implication of the soul’s variable, situated experience of biological cycles. In other words, death means rebirth in another body, as suggested by the cycle (*orbis*) posited at *DN* 4.4. Ovid’s Pythagoras of *Metamorphoses* 15 comes to mind, where he expounds on the ‘variability of being’<sup>49</sup>: ‘morte carent animae semperque priore relicta / sede nouis domibus uiuunt habitantque receptae’ (‘our souls are deathless, and as ever, when they have abandoned their previous resting place, inhabit the bodies that have received them and dwell in their new homes’).<sup>50</sup> Although Censorinus does not explicitly address metempsychosis, the philosophical centrality of this idea is inescapable, particularly since the question of ensoulment was so central to ancient debates about foetal development, a subject to which *DN* devotes considerable attention.<sup>51</sup> In this regard, the harmony of the Pythagorean cosmos and the stability of this cycle belie the instability of our flesh, or the variable, changeable ‘home’ where souls reside. Like the epistemic uncertainty of his chapters on generation, this notion rearticulates the tension between unity and plurality and resonates with *DN*’s encyclopaedic features, to which we now shall turn.

### III CATEGORISING DE *DIE NATALI*

Variability also characterises *DN*’s experimentation with genre. To achieve a comprehensive understanding of the *dies natalis*, the text moves from encomium to doxography to Pythagorean tutorial to antiquarian exposition. *DN* belongs to a ‘spectrum’ of encyclopaedic texts from the Roman Empire, among antiquarian miscellanies, compendia and florilegia. In their own unique ways, these texts promote ‘itemisation, analysis, ordering, hierarchisation, synthesis, synopsis’, often engaging mimetically with large-scale phenomena they seek to elucidate (from literary culture to

<sup>47</sup> *DN* 4.4.

<sup>48</sup> This was a widespread practice. ‘Our sweetest son’, reads one inscription from Rome, ‘who lived for six years, eight months, sixteen days and six hours’ (‘filio nostro dulcissimo, qui uixit annis VI, mensibus VIII, di(e)b (us) XVI, horis VI’, *CIL* 6.10791). See Stüber 1976; Shaw 1996: 103–5, on dating conventions in non-Christian and Christian funerary commemoration. Non-Christians prioritised the individual’s lifespan, Christians, the time of death (beginning of a new life, as it were). One wonders to what extent this contrast in outlook was generally known in Censorinus’ milieu.

<sup>49</sup> Flinterman 2014: 351.

<sup>50</sup> *Ov.*, *Met.* 15.158–9.

<sup>51</sup> There were three competing views of ensoulment: at conception, birth or through a gradual process. An overview is provided by Kapparis 2002: 33–52. These debates certainly persisted during Censorinus’ lifetime. Pythagorean ideas about transmigration were well known, emerging in some of our earliest sources on Pythagoras (for example, Xenophanes fr. 7, dissected by Schäfer 2009; cf. Huffman 2009), and those closer to Censorinus’ time (Porph., *Vita Pythagorae* 19).

the animal kingdom).<sup>52</sup> *DN*'s approach to comprehensiveness and heterogeneity comes into focus by comparison with other (roughly contemporary) projects on this 'spectrum'. At the same time, the text's outward-looking perspective contrasts with its centripetal focus on Caerellius and Rome.<sup>53</sup> The following section explores these generic and structural features and how they contribute to *DN*'s message and orientation in light of the analysis in Section II.

While Censorinus assiduously cleaves to his main themes, birth and time, *DN* exemplifies the literary and cultural value placed on *uarietas* ('variety'), an observation which extends from his content to genre and diction.<sup>54</sup> Indeed, the work is not so much 'zwischen Rhetorik und Wissenschaft', as *both and more*.<sup>55</sup> To make his point, Censorinus brings together a range of ideas and information (antiquarian, philosophical, religious, astrological, medical, scientific), and to a certain extent, genres as well. The overall impression is one of abundance, *copia*, sometimes even messiness (when authorities are not in agreement), which contrasts with the text's rather tight structure.<sup>56</sup> As a comprehensive guide to the *dies natalis* (particularly, Caerellius' *dies natalis*), *DN*, like many other encyclopaedic texts of the time, may be understood as a response to 'the fragmentation of knowledge and the collapse of the authority of books by reuniting, within a single text or set of texts, materials otherwise scattered through many others'.<sup>57</sup> We should see Censorinus' reliance on Varro, one of Rome's *ur*-compilers, in this context. Roman encyclopaedism was a response to the conditions of ancient book culture and proliferating knowledge, one with a range of political implications.

By the end of the second century, the encyclopaedic impulse was generating a range of expansive, imaginative works, from Aulus Gellius' *Noctes Atticae* in Latin to Athenaeus' *Deipnosophistae* and Aelian's *De natura animalium* in Greek. These works often include self-conscious reflection on the scholarly process of assembly. Gellius, for example, opens with a description of his (seemingly) unsystematic research and writing method, revealing a world of intellectual and literary profusion. Anything interesting he heard or read was simply jotted down in his notes ('... indistincte atque promisce annotabam...', *praef.* 2). During long winter evenings in Attica (hence the title), Gellius explains that he assembled his notes into *commentarii* ('collections', 'commentaries', 'compendia'), reproducing the haphazard ordering of their initial reception.<sup>58</sup> Much can be (and has been) said of this preface, but for our purposes, one observation is helpful: Gellius, at times self-deprecating, presents his work as the product of culling and compiling bits and pieces of knowledge for later use, when his original sources are not at hand. His method is part of his aesthetics of *uarietas* (or *poikilia*). If there is an organising

<sup>52</sup> König and Whitmarsh 2007a: 38; see also Potter 2004: 173–80 (and on early third-century intellectual culture generally, at 173–213); Trapp 2007: 484–5; Smith 2014: 47. The notion of a 'spectrum' of encyclopaedic works (rather than ancient 'encyclopaedias', an anachronism) is advanced by König and Woolf 2013 ('we need to think of ancient encyclopaedism rather as a cluster of different approaches and claims, which different texts make use of to a greater or lesser degree', at 49).

<sup>53</sup> Sallmann 1983a: 246, uses similar language, musing on Censorinus' 'centripetal' configuration of an individual's existence in the present as it relates to the past and future.

<sup>54</sup> On *DN*'s language, Freyburger 2019: lx–lxv, who notes (at lx) that 'Censorinus takes care to vary his vocabulary' ('Censorinus prend soin de varier le vocabulaire...'). Note here too Censorinus' use of *uarietas* at 20.1 on calendrical diversity.

<sup>55</sup> Sallmann 1983a; the italics are mine. Sallmann compares *DN*'s genre with compilatory tendencies among Severan-age jurists and grammarians, ultimately arguing the text is unique. Rapisarda 1992: 718 observes the novelty of *DN*'s genre, calling it 'la monografia scientifico-filosofica', but as I argue here, it is more than that.

<sup>56</sup> On *uarietas*, Fitzgerald 2016. He links *copia*, '*uarietas* in the rhetorical tradition, and the topos that "nature rejoices in variety"' (at 2). The Latin *uarietas* is closely related to the Greek *poikilia* tradition.

<sup>57</sup> König and Woolf 2013: 35. They discuss a range of authors including Varro, Pliny the Elder, Celsus, Suetonius, Aulus Gellius, Plutarch and Athenaeus.

<sup>58</sup> *Praef.* 3–4. See Gunderson 2009: 18–44, esp. 27–9 (on the *commentarius*). On Gellius, see also Holford-Strevens 2003; Keulen 2009; Howley 2018.

principle, the preface suggests the answer lies in Gellius' practice of listening, reading, thinking and recording.<sup>59</sup>

Censorinus also begins with a meta-commentary, both swearing off traditional birthday encomium and including a bit of it too. Praise of Caerellius is quite literally sandwiched in the middle of his explanation, subtly reproducing the overall structure of the work (1.6):

In quo non, ut plerisque mos est, aut ex ethica parte philosophiae praecepta ad beate uiuendum, quae tibi scriberem, mutuatus sum, aut ex artibus rhetorum locos laudibus tuis celebrandis persecutus — ad id enim uirtutum omnium fastigium ascendisti, ut cuncta ista, quae uel sapienter monentur uel facunde praedicantur, uita moribusque superaueris — sed ex philologis commentariis quasdam quaestiunculas delegi, quae congestae possint aliquantum uolumen efficere...

In [DN], I have not borrowed, as is the custom, precepts for the good life from the ethical part of philosophy to write to you, nor have I copied passages from rhetorical treatises to celebrate your praises. For you have ascended to such a height of every virtue, that through your life and morals, you have surpassed all those things which are wisely taught or eloquently recommended. Instead, I have selected certain trifling questions from learned compendia (*commentarii*), which, when gathered together, might form a book of some size.<sup>60</sup>

Censorinus situates himself in a similar intellectual ecosystem to Gellius, but as a user of *commentarii*, rather than a producer. His self-deprecating description of his method and *DN*'s scope curtail anticipation of traditional thematic material and genres, as well as any expectation of comprehensiveness ('aliquantum uolumen', 'quasdam quaestiunculas'), even as the work implicitly presents itself as a complete guide to Caerellius' birth/day.<sup>61</sup>

The interplay between content and form in *DN* benefits from comparison with other contemporary, Greek language encyclopaedic projects. For example, Aelian's *De natura animalium*, a close contemporary to *DN*, is a seeming hodgepodge of anecdotes about animals that appears to deny any formal, organising principle. But this would be to miss the point: the structure mirrors nature's variety, not unlike Gellius' world of literary profusion.<sup>62</sup> Within this abundance, the author himself appears ('I'), exerting his own kind of 'centripetal' force, comparable in some ways both to Censorinus' role as compiler and Caerellius' function as anchor of *DN*. Smith argues that Aelian's text should be seen as 'a compelling illustration of the tenuousness of a singular authority as it struggles to assert itself, constantly at risk of being overwhelmed by the chorus of voices from the past' — in other words, it is fundamentally 'suspended between the individual and the multiplicity'.<sup>63</sup> The tension between unity and plurality, or 'the individual and the multiplicity', also characterises *DN*, as Section II argued. Censorinus' enumeration of philosophical and scientific viewpoints suggests 'the impossibility of totalisation', to quote König and Whitmarsh, an acknowledgment of the range of

<sup>59</sup> Gunderson 2009: 26.

<sup>60</sup> 'Philologi commentarii' refer to collections of scientific and philosophical ideas, formally akin to *placita* (cf. Trapp 2007). For an overview of *DN*'s sources, Freyburger 2019: xxxi–xlvi.

<sup>61</sup> cf. König and Woolf 2013: 8, 'It is in fact a standard feature of encyclopaedic rhetoric to undermine or throw doubts on its own claims to totality'; see also Kneebone 2017, on the tension between 'careful selectivity' and the 'totalising impulse of didactic poetry' (at 209), here referring to Ps.-Oppian, *Cynegetica*.

<sup>62</sup> Smith 2014: 51. This mimetic feature is similar to Athenaeus' *Deipnosophistae*, which imitates a feast in its abundance, structured around the sequence of courses (Murray 2015: 37); cf. Carey 2006: 19, on Pliny, *HN*: '...the arrangement of information in a text seems to mirror what the text itself describes. Through this relationship between structure and content, a particular literary presentation of the world can appear directly to reflect the world itself'. As noted above, this idea is applicable to Artemidorus' *Oneirocritica*, books 1–2 (another text with comprehensive aspirations).

<sup>63</sup> Smith 2014: 7.

potentially conflicting responses to important questions.<sup>64</sup> Encyclopaedic texts are fertile ground for exploring the contours of authority, the proliferation of knowledge and the human capacity (asymptotic though it may be) to capture the non-human environment using our words and ideas.

Ordering knowledge always has political stakes. Indeed, numerous studies have argued that encyclopaedic projects are inherently imperial.<sup>65</sup> The conditions of knowledge in Censorinus' milieu and the totalising projects of his contemporaries align with attitudes towards the Roman Empire as encompassing the *oikoumenē*. In this regard, a Latin text by Lucius Ampelius, *Liber memorialis*, is a worthwhile comparandum, especially given its structure and scope.<sup>66</sup> The work begins with a brief dedication to someone named Macrinus, possibly the emperor of 217–218 C.E., who was, incidentally, the first equestrian emperor.<sup>67</sup> Although not explicitly stated, Ampelius' dedication suggests the text was some kind of gift, perhaps from teacher to pupil:

Lucius Ampelius Macrino suo salutem. Volenti tibi omnia nosse scripsi hunc librum memorialem ut noris quid sit mundus, quid elementa, quid orbis terrarum ferat, uel quid genus humanum peregerit.

Lucius Ampelius to his dear Macrinus, greetings. I have written this 'Book of Memory' for you who wishes to know everything, so that you might know what the universe is, what the elements are, what the earth bears or what humankind has accomplished.

This statement basically maps the text's organisation, which is also cosmic in scope.<sup>68</sup> Ampelius begins with the four elements (1), then describes the zodiacal signs and cosmos (2–5), earth (6), oceans (7), gods (9), empires (10–16), culminating in Rome, then Roman history (17–29), Roman victories (30–47) and finally its civic institutions (48–50). Like Censorinus, he similarly experiments with scale; *Liber memorialis* moves from the outermost reaches of the cosmos to the earth, then narrowing to empires and 'great' men, with Rome as the teleological endpoint.

Ampelius' selection of material also encompasses basic astrology, theology, anthropology and history, but unlike *DN*, his text demonstrates no sense of epistemic tension or uncertainty. It omits any diversity of opinion or perspective. Instead, the work is a 'vehicle of authoritative, uncontentious, definitive knowledge', projecting a vision of a static imperial order.<sup>69</sup> It covers little of Roman history after Augustus (a quasi-messianic figure), though composed well over a century after his death.<sup>70</sup> The work's stable, teleological outlook may be a reaction to the profusion that stimulated

<sup>64</sup> König and Whitmarsh 2007a: 13. On 'totality' (and its limits) in Pliny, see, for example, Carey 2006: 75–101, and also Kneebone 2017: 210–11 (comparing Pliny and Artemidorus).

<sup>65</sup> This line of argument has been highly developed in scholarship on Pliny's *Natural History*, for example, Conte 1994; Murphy 2004; Carey 2006; Nass 2011. 'Because it is so bound up with issues of power, compilatory literature tends to be produced in imperial societies' (Whitmarsh 2007: 44, cf. König and Whitmarsh 2007a).

<sup>66</sup> Although professing a broader scope than *DN*, it is roughly 2,000 words shorter.

<sup>67</sup> Arnaud-Lindet 2003 argues for dating *Liber memorialis* to the late second century C.E., possible but uncertain. The recipient is not necessarily the (future) emperor Macrinus. We can definitely place *Liber memorialis* after 131–132 C.E., because Hadrian's Olympeion is mentioned at 8.25 (Whitmarsh 2007: 44 n. 62).

<sup>68</sup> cf. Kneebone 2017 on similar features in imperial Greek didactic poems, 'structured around a tension between the vast scope of their subject matter and the necessarily bounded nature of their individual poetic projects'; Dionysius' *Periegesis* serves as a useful example, encompassing the *oikoumenē* in just over 1,000 lines (at 206; see also 213–14, 219–20 on Oppian's construction of his own limited knowledge).

<sup>69</sup> Whitmarsh 2007: 45.

<sup>70</sup> Perhaps reproducing 'the peculiar timelessness of Antonine literature' (Kemezis 2014: 37). See *Liber memorialis* 18.21 (on Augustus); Trajan tidies the loose ends (47.7), '[Populus Romanus] per Caesarem Augustum, Dalmatas, Pannonios... totumque orbem perpacavit exceptis Indis, Parthis, Sarmatis, Scythis, Dacis, quod eos fortuna Traiani principis triumphis reseruauit' ('through Caesar Augustus, the Roman people subdued the Dalmatians, Pannonians... and the whole world, except for the Indians, Parthians, Sarmatians, Scythians and Dacians, because fortune left these for the triumphs of the emperor Trajan').

the encyclopaedic impulse in authors such as Gellius, Athenaeus or Censorinus. *Liber memorialis* offers up to its dedicatee a static vision of the world and its knowledge as something one can package up and *possess* (after all, it too is a gift of sorts). The political implications of this observation become especially rich should the dedication in fact refer to the Macrinus who briefly ruled Rome.

The ‘world of knowledge’ is an apt phrase to describe the preoccupation of Censorinus and these other authors, whose texts often have mimetic features (imitating nature, literary profusion etc.), in which the boundaries of imperial space and knowledge are always under negotiation. I would suggest this is part of the ‘reality’ and impetus beneath Ampelius’ listicle. In these texts, Rome and Roman power are often at issue in some way, whether from the perspective of an outsider looking in or insider looking out.<sup>71</sup> Encyclopaedic texts show us intellectuals from across the Empire working out the contours of their worlds, reproducing and exploring tensions that arise under the conditions of knowledge in an empire stretching from Britain to the Middle East.<sup>72</sup> The choice to write in an encyclopaedic genre can also serve as a meta-commentary on their experiences of *knowing* in this imperial context.

Censorinus locates his patron at the very centre of a vast empire — of knowledge, space and time. By reserving *DN 15* for praise of Caerellius, the central hinge between the chapters on *birth* and *time*, he places him in the most ‘cosmic’, exalted site in the work, essentially sandwiched between the stars and eternity.<sup>73</sup> This chapter, which departs in tone and content from surrounding chapters, also provides some tantalising details about Caerellius’ career, concluding with a *praeteritio*, which points to the topic of time and time measurement (*DN 15.4–6*):

Quis tuis laudibus se postponi erubesceret? Illud certe, ut arbitror, dignum est praedicatione quod, cum illis ferme omnibus quamuis prudentissimis et procul a re publica amotis non contigerit sine offensione et odio plerumque capitali uitam degere, tu tamen officiis municipalibus functus, honore sacerdoti in principibus tuae ciuitatis conspicuus, ordinis etiam equestris dignitate gradum prouincialium supergressus, non modo sine reprehensione et inuidia semper fuisti, uerum etiam omnium omnino amorem cum maxima gloria consecutus es. Quis a te nosci aut ex amplissimo senatus ordine non expetiit aut ex humilioribus plebis non optauit? ... Quare et ego his nunc commemorandis supersedebo. De eloquentia quoque sileo, quam omnia prouinciarum nostrarum tribunalia, omnes praesides nouerunt, quam denique urbs Roma et auditoria sacra mirata sunt. Haec se et ad praesens et in futura saecula satis ipsa nobilitat.

Who would blush to be second to you in praise? What is certainly worthy of commendation, I believe, is the fact that, while almost all of these [great philosophers] were unable to pass their lives without offence and hatred (often deadly in nature), though they were most prudent and far removed from the affairs of state, you, nevertheless — who served in municipal offices, distinguished by the honour of a priesthood among the first men of your city, even surpassing provincial status through the dignity of the equestrian order — you have always lived not only without fault and envy but have also attained love from absolutely everyone, along with the greatest glory. Who from the most distinguished order of the Senate does not seek to be known by you, or from the humbler order of the plebs, wish for this too? ... And so now I will omit things that ought to be commemorated. I also pass over your eloquence in silence, which every tribunal in our provinces, every governor has recognised, which,

<sup>71</sup> Sometimes both at once, for example, Aelian (aka. Claudius Aelianus), a member of the Roman elite born in Praeneste turned virtuoso Attic prose stylist, rejecting a public career in favour of scholarship. On Aelian’s ‘countercultural’ literary persona, Smith 2014: 11–28.

<sup>72</sup> Cf. Lehoux 2012 on Roman approaches to knowledge; also Barchiesi 2005 on ‘centre and periphery’ in Roman literary production.

<sup>73</sup> The structural significance of *DN 1* and *15* is also recognised by Rapisarda 1992: 698, 719–20.

finally, the city of Rome and its sacred halls have admired. Your eloquence is sufficient to ennoble itself both for the present and into future ages.

Despite reproducing certain conventional features of birthday literature, the manner in which *DN* praises Caerellius is devoid of the kind of biographical information one might find in a birthday speech.<sup>74</sup> Through a series of rhetorical questions, the rest of *DN* 15 vaguely sketches the trajectory of Caerellius' upward mobility, but not a word as to basic questions of origin and identity — not even the name of his native city. In this way, Censorinus effectively glosses over another meaning of 'birth', that is, parentage and kinship. Traditional elements of Roman birthday celebrations are not primarily the focus. What is important, *DN* suggests, is *when* you are born, not to *whom* you are born, perhaps a cleverly oblique strategy for honouring someone who rose high from provincial origins. In these final sentences, then, Caerellius quite literally travels from the provinces, hailed by their highest officials, to *urbs Roma* and the adulation of *auditoria sacra*, probably the imperial court.<sup>75</sup> In seemingly hyperbolic terms, Censorinus locates his patron in the very nucleus of Roman power, and his attainment of nobility achieves an almost immortal fame. By ending *DN* 15 with a reference to 'futura saecula', he also points directly to the subject of the rest of the book, time.

The encomium highlights a tension inherent to *DN*: while the text offers Caerellius a kind of immortality through praise (and *DN* more generally), its structure and themes remind us that everyone who is born will eventually die. In fact, given its overall structure, *DN* plays with linear and circular conceptualisations of time, here, the arrow-like temporality of a lifetime and the cyclical temporality of cultural memory and (literary) 'immortality'. The subject of *DN* 14 drives home the notion of time's linearity by focusing on the human life span.<sup>76</sup> Yet with 'futura saecula', Censorinus is indicating that while 'great' men may live only a short time, their glory will continue to circulate through words — defying the temporality of a human life. This notion reactivates *DN*'s connection to Horace, *Carm.* 4.8, which promises, 'dignum laude uirum Musa uetat mori: / caelo Musa beat' ('The Muse keeps the praiseworthy man from death: the Muse blesses him with heaven').<sup>77</sup> Rome itself participates in this tension: later in *DN*, Censorinus repeats from Varro's *Antiquities* an augur's prediction the city will last 1,200 years after its founding (17.15), so a little more than two centuries are left by the time *DN* was composed.<sup>78</sup> The final *envoi* of *Metamorphoses* 15 evokes a similar problem: as long as Rome stands, Ovid's fame will ensure his immortality throughout 'omnia saecula' (15.878). But this comes on the heels of Pythagoras' memorable speech, prophesying Rome's greatness but also, by implication, its own subjection to flux and change.

<sup>74</sup> For example, Menander Rhetor 412 emphasises the illustrative comparison (σύγκρισις) for each topic in the *genethliakos logos*, a strategy Censorinus adopts here with readiness. Cf. Hoces Sánchez 2009: 329–31, comparing *DN* 1 and 15 to rhetorical works including *Rhet. Her.* 3.10. See also Rapisarda 1992: 703–5, who notes how the preface deviates from dedications in other technical works (and likewise draws on *Rhet. Her.* for context).

<sup>75</sup> On the provincialisation of the Roman elite, Madsen 2013.

<sup>76</sup> Censorinus' views on the lifespan are analysed in Brodersen 2013; critical years in Brodersen forthcoming; cf. Bradshaw 2002: 9–10 (critical stages in Horace).

<sup>77</sup> ll. 28–9.

<sup>78</sup> This is reminiscent of Florus' description of Rome as a living body passing through successive stages of maturation (1.praef.4–8). Florus skirts the problem of Rome's death by asserting it got a second wind under Trajan (1.praef.8). I am grateful to Frederic Clark for suggesting this comparandum. Freyburger 2019: xxii argues the notion of Rome's demise would have been intolerable to Rome's ruling elite, particularly in light of the prevalence (for example, on coins) of *Roma aeterna*. The prophecy was controversial in light of imperial propaganda — unacceptable, harder to say. Its inclusion (and Varronian derivation) should be understood in the context of Censorinus' encyclopaedism and perhaps Romans' fragmented views of the future (Shaw 2019).

Caerellius and his extraordinary qualities ostensibly provoked Censorinus to complete his *munus*. *DN* 15 compels the reader to consider the man at the heart of the project, while simultaneously signalling a departure from the perspective of form and content. Caerellius himself recedes in the intervening sections, and even when we do encounter him in *DN* 15, the terms of praise efface his history. Caerellius is both at the text's core and *not*, he is both its centre *and* periphery. If we view this contradiction through *DN*'s encyclopaedic features, the text begins to look more and more like a meditation on the limitations of human efforts to describe both *nature* (as in Aelian's *De natura animalium*) and *natures* (for example, the 'nature' of power, knowledge or history in Aulus Gellius' *Noctes Atticae* or Ampelius' *Liber memorialis*). Rome is at the centre of the text, but simultaneously, *DN* compels the reader to contemplate a diversity of viewpoints and by implication, the vastness of the Empire.

#### IV TIME AND ITS LIMITS

*DN*'s final chapters on time (16–24) evoke the tension between unity and plurality, between centre and periphery, and especially between what we know and what exists out in nature. Rome and Roman history are also at the heart of these chapters — Censorinus is explicit that his narrative begins with the founding of the city ('a conditu urbis Romae', 16.7), and he takes special care to valorise the power of the Julian calendar. Yet the dynamics of what we might call the imperial 'timescape' push against this centring impetus. In these chapters we find a commentary on overlapping, nesting cycles, the variability of which, he explains, is multiplied by the Empire's diversity and territorial extent. Censorinus draws a parallel between the multiplicity of calendar years and opinions among philosophers, 'cum <in> his conditorum uoluntates non minus diuersae sint quam opiniones philosophorum' ('since on these points the inclinations of their founders differed no less than the opinions of the philosophers').<sup>79</sup> The process of locating a birthday in time requires the coordination of many systems and time frames (recall the *parapegma* as a conceptual tool); at the same time, understanding the contingency and plurality of those systems destabilises the birthday in *DN*. The deeper Censorinus goes, the more *DN* raises questions about the variability and inconsistency of available systems and metrics, and what it means to locate a time with accuracy and precision.

The transformative power of Caesar's calendar underlies Censorinus' conceptualisation of the birthday as an anniversary. In the first century B.C.E., Romans underwent an extraordinary transition in how they thought about time.<sup>80</sup> Before the calendar reform, the year was elastic in length because of the variable insertion of an intercalary month. Nominally seasonal holidays, such as harvest or vintage festivals, did not necessarily coincide with the appropriate season. The reform fixed this problem, as Caesar 'made the civil year match up with the sun's course' (*DN* 20.8), taking care to add an extra day every four years to keep the two cycles in line.<sup>81</sup> This shift affected the nature of anniversaries too. Previously, anniversaries derived significance from the particular *day* on which they occurred, not through their recurrence at precise, fixed intervals, since the

<sup>79</sup> *DN* 21.12. The chiasmus is striking (noted by Rapisarda 1991: 259), mirroring the division between *DN*'s halves.

<sup>80</sup> The first century was host to major developments in the historiographical tradition, which shaped and reflected shifting approaches to empire, commemoration and time. The bibliography is vast. On the Republic, Walter 2004 provides a comprehensive treatment; see too Rawson 1985: 215–32; Levene 2007. On the development of approaches to time in ancient historiography, see, for example, Grethlein and Krebs 2012.

<sup>81</sup> For overview and analysis, Rüpke 2011: 109–24; Hannah 2005: 112–14, 116–24; 2016.

year was anywhere from 355 to 378 days.<sup>82</sup> With the introduction of Caesar's calendar, an anniversary also acquired the significance of occurring at an interval of fixed length after its last celebration; in other words, rather than simply the *day* itself bearing significance, *precise, fixed intervals* came to characterise anniversaries too.<sup>83</sup> This notion emerges in *DN* through Censorinus' articulation of his goal as elucidating Caerellius' birthday, and thus his birth (16.1, see above). This ordering is counterintuitive to a modern reader, but what it suggests is that Censorinus sees the birthday as a fixed date from which one can loop back to birth. Knowing Caerellius' birthday and his age enables the calculation of the number of days between his birthday and birth.

By the time Censorinus presented *DN* to his patron, the Julian calendar had been in use for nearly three centuries. He reserves pride of place for the Julian calendar as the closest a 'civil' device can come to capturing 'natural' time ('*ciuilis*', 'naturalis').<sup>84</sup> The notion that the best calendar is consistently accurate in its approximation of a natural cycle (in this case, the sun's course and thus seasonal change) is a thoroughly post-Caesarian idea. Indeed, the way the treatise lays out the history of time measurement reveals that the Roman calendar continued to be a locus for the examination of the relationship between 'nature' and 'culture'. Apropos this precise distinction in *DN*, Feeny argues, 'the fascination of the interplay between the natural and the constructed underpins much of the Romans' engagement with the Caesarian calendar, which invited appraisal as the most successful attempt by any society to capture the natural world's rhythms in a human construction. The calendar thus becomes indispensable to Roman thinking on the problem of culture.'<sup>85</sup> Caesar's calendar exercises a profound conceptual power over Censorinus' perception of time and anniversaries; it also plays a key role in *DN*'s broader (and subtler) exploration of accuracy, the limitations of human metrics to track phenomena in nature and Roman exceptionalism.

While the paths of celestial bodies follow predictable patterns, Censorinus recognises that human perception of time is unstable. Drawing on Varronian categories, he subscribes to a tripartite division of history: (1) ἄδηλον, 'unclear', i.e. pre-history, 'from man's origin to the first flood'; (2) μυθικόν, 'mythical', named for the mythical, outlandish things reported from that epoch, 'following the first flood to the first Olympiad'; (3) ἱστορικόν, 'historical', which spans 'from the first Olympiad to us' and is so called 'because events that happened in this period are contained in true histories' (21.1).<sup>86</sup> Historical time is stable insofar as it is recorded in trustworthy sources, although Censorinus acknowledges they too have their share of inconsistencies. These inconsistencies extend to the measurement of time, based on metrics that have been applied unevenly or are defined in slippery ways.

Spans of time, such as the *saeculum* ('age' or 'century'), may have varying lengths, a function of the complex interplay of 'natural' and 'civil' time. Censorinus explains, '*saecula aut naturalia sunt aut ciuilia*' ('*saecula* are either natural or civil').<sup>87</sup> To clarify what he means, he turns to Varro, attesting to the tradition found in Etruscan ritual

<sup>82</sup> Days in the Roman calendar could acquire layered, sometimes competing meanings. See, for example, Beard 1987 (Parilia); Barchiesi 1997: 123–30 (Ides of March).

<sup>83</sup> This contrasts sharply with what came before: 'The Republican year, then, is a flexible unit, and it is hard to see how [Romans] could have a highly developed sense of an invariably fixed span between one birthday and the next, or from any one date in the year to the next' (Feeny 2007: 157). The Roman tradition of birthday poetry probably took hold in the aftermath of Caesar's reform (popularised by the Greek poet Crinagoras), as Romans reconsidered the nature of anniversary time (Feeny 2007: 157–8; *pace* Burkhard 1991: 142–5). See *Anth. Pal.* 6.227, 6.261, 6.345. On Latin birthday poetry, see also Cairns 1971 (Propertius); Argetsinger 1990; 1992; Hinds 2005 (Ovid); more generally, Cesareo 1929; Burkhard 1991.

<sup>84</sup> Censorinus explicitly cites this division at *DN* 17.1, 19.4, 22.1, 23.1.

<sup>85</sup> Feeny 2007: 202.

<sup>86</sup> These divisions are examined by Feeny 2007: 77–8, 81–2; cf. Moatti 2015: 68–76.

<sup>87</sup> *DN* 17.1.

texts (17.5), which explain that in each city the ‘natural’ *saeculum* is the lifespan of the longest-lived individual born on its founding-day. The second *saeculum* begins on the day of that person’s death, lasting until the death of the longest-lived person born on that day, and so on. Within and among cities, then, the ‘natural’ *saeculum* would be variable in length. Such a definition confounds the categories of ‘civil’ and ‘natural’, insofar as it relies on the existence of a state.

Censorinus further confounds these categories by noting that some Romans consider a ‘natural’ *saeculum* to be the span of time between the Secular Games (17.7–12). Citing a range of authorities, he emphasises the highly variable number of years between each performance and notes that inconsistencies also exist in the historical records attesting to the celebrations (for example, 17.11 details controversy about the date of the fourth Secular Games, not to speak of the fact that the *saeculum* was frequently reckoned at 100 years, but redefined under Augustus as 110).<sup>88</sup> Because of all this confusion, he explains, ‘nostri maiores’ (‘our ancestors’) set the ‘civil’ *saeculum* at 100 years (17.13), an approximation meant to create consistency, not without some basis in the ‘natural’ environment (17.13–14). Even as he defines a ‘historical’ period as one in which events ‘are contained in true histories’, we are reminded that our records can be unstable and flawed, limiting humans’ ability to measure or inscribe time with precision and accuracy.<sup>89</sup>

In addition to historical inconsistencies and the complex interplay of natural and civil, metrics also vary according to different experts and cultural contexts. For instance, Censorinus observes that the precise amount of time constituting a solar year is up for debate — whether it is 365 and one-half days, or 365 and one-eighth — and lists eight different authorities with eight different opinions (19.2). He eventually throws up his hands (19.4–5):

Igitur cum tanta inter uiros doctissimos fuerit dissensio, quid mirum si anni ciuiles, quos diuersae ciuitates rudes etiam tum sibi quaeque statuebant, tam inter se discrepent quam cum illo naturali non congruant? Et in Aegypto quidem antiquissimum ferunt annum menstruum fuisse, post deinde ab Ison rege quadrimenstrem factum, nouissime Arminon ad XIII menses et dies quinque perduxisse. Item in Achaia Arcades trimestrem annum primo habuisse dicuntur...

Therefore, when so much disagreement exists among the most learned of men [about the length of the natural, solar year], is it a surprise that civil years, which different undeveloped states established in their own way, each for their own purposes, differ as much from each other as they fail to match up with the natural year? For example, in Egypt, they say that in earliest times the year was a month long, then later King Ison made it four months, and finally Arminon increased it to thirteen months and five days. Likewise, in Achaia, the Arcadians are said to have first had a three-month year...

As we see here, particularly ‘ancient’ civilisations had years of widely varying lengths. In cultures with such a radically different perception of what constitutes a year, how were birthdays conceived and celebrated?

All these questions come to a head when Censorinus turns to calendars in *DN* 20, opening with the acknowledgement of their *uarietas*, with which this paper began: ‘it is easy to recognise how much diversity (*uarietas*) there is, if anyone should wish to inquire among the peoples of Italy alone, not to speak of foreigners’ (*DN* 20.1). The cultural diversity within the Empire, then, is reflected in the work’s own *uarietas* — in style, structure and content, as discussed above. While Censorinus makes it clear he will

<sup>88</sup> Censorinus cites Varro’s *De scaenicis originibus*, the annalists Antias, Piso, Livy and *commentarii* of the *quindecimviri*. Rapisarda 1991: 210 provides a table listing the dates for the games *DN* mentions. On the Secular Games and reckoning the *saeculum*, Dunning 2020.

<sup>89</sup> The *lustrum* presents a similar problem (*DN* 18.14); cf. Moatti 2015: 136–40.

only focus on the Roman calendar, this acknowledgement serves as a reminder that birthdays may be reckoned differently even among proximate towns and cities, not to speak of variable practices in Greece and across Rome's empire. Not only were birthdays celebrated based on different, local conventions, as Censorinus is well aware, but the variety of local calendars means that one's birthday could be celebrated at different times in different places, even within Italy. Calendars are very variable and very political — in other words, they are human.<sup>90</sup>

As Censorinus acknowledges this range of cultural traditions, Rome and Roman customs continue to exert a gravitational pull in the narrative. In a sense, this reflects the Julian calendar's own status as a tool for both 'the assertion of, or allegiance to, Roman political hegemony' among cities under Rome's influence, who accommodated it (or not) to varying degrees.<sup>91</sup> In *DN*, Caesar's calendar offers an escape hatch from problems raised by other calendrical systems (no doubt those produced by so-called *ciuitates rudes*). Censorinus explains that Caesar realised the republican calendar's months did not correspond to the lunar cycle, nor did the year to the solar cycle (*DN* 22.8). Now with a 365-day year, and a leap day inserted in February every four years (20.8–11), the 'Julian' year is fitted, as well as possible, to the 'natural' solar year.<sup>92</sup> In this regard, a potent symbol of imperial power, centred in Rome, is naturalised — but not quite. The need for a leap day (20.10) means that the civil calendar year is an *approximation* of the solar year, and the best approximation is still an approximation. In this way, *DN* both naturalises — and more subtly undermines — Roman exceptionalism. Indeed, Censorinus' explanation serves as a reminder that any calendar is a human invention, and while the Julian calendar is the best, it is still but one of many useful tools. Furthermore, it cannot be used *alone* to define Caerellius' *dies natalis*. Isolating events in time was a process of synchronising different frames and systems. Caerellius' birthday exists at the juncture of different cycles, and the way they are measured and understood (and celebrated) is culturally contingent. *DN* thus portrays the Julian calendar as the 'best', but it does not *alone* suffice to define Caerellius' *dies natalis*, given the nature of time-telling.

By turning to Varro's chronology of the period he calls ἱστορικόν, Censorinus performs a feat that has made the text invaluable for later chronographers, including Scaliger. He provides readers with a range of tools to locate Caerellius' 'present', which in turn reveals how regions outside Italy quite literally synchronise with the imperial centre.<sup>93</sup> Censorinus isolates Caerellius' birthday in relation to key events and modes of annual reckoning, including the Roman consular year, years since the first Olympiad, the Julian year, Augustan year (and Egyptian equivalent), indigenous Egyptian year (Nabonassar), Philippic year and the years elapsed since the last Egyptian 'solar canicular' (i.e., 'great') year.<sup>94</sup> Leading to the next chapter on months (*DN* 22), we learn that, unlike the Julian year, beginning on 1 January, Egyptian years begin on 1 Thoth, which, in the year *DN* was presented to Caerellius, fell on 25 June, 'ante diem VII kal. Iul.' (*DN* 21.10). 25

<sup>90</sup> Censorinus likewise observes that calendars can be sites for corruption: priests tasked with fixing the republican calendar exploited their power by adding or subtracting days when convenient (20.6–7), also noted at Suet., *Iul.* 40.1.

<sup>91</sup> Stern 2017: 34. Dench 2018: 140 recommends we see 'local engagement with modes of marking time associated with the Roman center on a sliding scale'. See also Stern 2012: 259–94, esp. 277–8.

<sup>92</sup> cf. Macro., *Sat.* 1.14.2.

<sup>93</sup> On synchronisation and 'new beginnings' under the Empire, Dench 2018: 143–4.

<sup>94</sup> In *DN* 21.6–12 we learn the year's consuls are Pius and Pontianus; it is 1,014 years since the first Olympiad, 991 since Rome's founding, 283 Julian years, 265 Augustan years (*anni Augustorum*, since Octavian was voted the title 'Augustus'), in Egypt, reckoned as 267 Augustan years. For Egyptians, the year is 986 Nabonassar (that is, since the beginning of the eponymous Egyptian king's reign) and 562 *anni Philippi* (years since Alexander's death). It is 100 years since the last 'solar canicular year', which only returns every 1,461 years (*DN* 18.10). Egyptian years, according to *DN* 18.10, contain 365 days with no leap day (on related problems, O'Mara 2003).

June 238 is thus the *terminus post quem* for the work. As the start of 268 in (Egyptian) Augustan years fell on 29 August, we are also left with a *terminus ante quem*, so the treatise's dedication — and thus Caerellius' birthday — can be dated between 25 June and 28 August 238 C.E.<sup>95</sup> The process of synchronisation requires an acknowledgement (or exploration) of cultural differences, an observation that holds true for overarching universal chronology too (as in the case of Eusebius and Jerome).<sup>96</sup>

As *DN* narrows down to months, days and hours, the final three chapters continue to toggle between the plurality of systems for measuring time (for example, among Albans, March has thirty-six days, *DN* 22.6) and the civil-natural distinction (explicitly evoked again at 22.1, 23.1). The demarcation of a 'civil day' involves a choice about which aspects to privilege in the natural transition from light to darkness, and Censorinus compares the natural day, *dies* (sunrise to sunset, 23.2), to the ways Babylonians, Romans, Umbrians and Athenians reckon the civil day (23.3). Again, this comparison emphasises the diversity of approaches to the problem of marking time. The same is true for his examination of different ways the day is divided into parts (24); hours only emerged in more recent historical time, with the arrival of the sundial and water clock in Rome, the appropriation of Greek scientific technology (23.7). Indeed, hours are absent from the Twelve Tables, he notes (23.8), attesting to how much has changed in Romans' understanding of time as their city grew and transformed into the capital of a vast global empire, bringing Greek science into their sphere of influence.<sup>97</sup> Human understanding of 'natural' time is shaped by imperialism and technological appropriation.<sup>98</sup>

These final chapters, then, leave us with an understanding of the variety of tools and measures available for locating Caerellius' *dies natalis* — not only the year, month and day, but down to the hour. As Censorinus works to complete his task, he introduces the reader to the plurality of people's strategies for dividing time. Natural and civil grow tangled as he moves along. The superiority of the Julian calendar embodies a form of Roman imperial pre-eminence in the narrative — how Romans, of all peoples, have come closest to capturing the cycles of nature. In this regard, Caesar's calendar exerts its own kind of centring force, both in the unfolding of Censorinus' narrative, and in the way it binds together the natural and civil. Even this calendar, however, remains one system among many in a world of relational time, in *DN* it is both exceptional and not — like Rome itself. The text's depiction of the imperial 'timescape' creates an opposing, centrifugal force, sending the reader outwards to consider the diversity of approaches and measures in the Empire, revealing a tension — even contradiction — in Censorinus' configuration of Rome's place in the world.

<sup>95</sup> Put another way, Censorinus explains they are currently in year 267 of the Egyptian 'Augustan' era (*DN* 21.9). 28 August 238 appears to be the last day of that year, which also makes it the *terminus ante quem* for *DN*. See Grafton 1985a: 47; Grafton and Swerdlow 1985: 460. Brodersen 2013: 5 provides a concordance.

<sup>96</sup> cf. Grafton and Williams 2006: 166, more generally, at 133–77; Feeney 2007: 7–42, esp. 28–32. Christian chronology and the Eusebian tradition were vital to Joseph Scaliger's project and thus *DN*'s early modern reception.

<sup>97</sup> On hours, Remijsen 2007 argues they were of little use in civilian life, but crucial in postal and (likely) military administration. This may explain why *DN* 24 features periods beginning with 'nox media' ('midnight'), 'gallicinium' ('cockcrow'), 'mane' ('morning') etc., ending back at midnight. See also Bonnin 2015 (overview of divisions of a day, at 29–39); Talbert 2017: 6–9 ('sundial thinking').

<sup>98</sup> cf. Bonnin 2015: 60–9; also Talbert 2017: 111–36, on the relationship between geography and space in the use of portable sundials; Talbert's discussion of error and inaccuracy is also relevant (at 141–6).

## V CONCLUSIONS

A century or so after Censorinus sent *DN* to Caerellius, Macrobius wrote the *Saturnalia*, another encyclopaedic project that self-consciously opens with an emphasis on producing *harmony* in our understanding of the past. He describes this process with a range of metaphors: creating a well ordered body ('in ordinem instar membrorum,' *praef.* 3), blending 'various nectars into a single taste' ('suum uarium in unum saporem,' *praef.* 5).<sup>99</sup> Late antique antiquarian texts, Kelly contends, 'are deliberately polyphonic', prodding the reader to work hard to achieve a 'single harmony' in their interpretation.<sup>100</sup> In his own way, Censorinus works towards a kind of harmony through Pythagorean science and synchronisation. Yet on close inspection, harmony, *as it exists in nature*, also appears to lie just beyond our grasp in *DN*. Tensions between unity and plurality (whose opinion *actually* describes generation?), centre and periphery (is Rome truly the cosmic 'centre', even when it too has a lifespan?) and nature and culture (can human tools fully describe phenomena in the environment?) underlie the text each step of the way. Censorinus' careful assemblage highlights the contingency of human knowledge.

While *DN* seems to have a stabilising mission in its celebration of Caerellius' *dies natalis*, the conditions of knowledge and the imperial timescape ultimately *decentre* the birthday. The epistemic tensions inherent to the doxographic style of *DN*'s early chapters contrast with the impetus towards a unifying Pythagorean worldview, just as the *uarietas* of calendars in Italy and beyond militates against a unitary understanding of calendrical time. Pythagoreanism and Caesar's calendar, furthermore, are both characterised by their own contingencies: in the former case, through his own cautious perspective ('credibilis') and the soul's transmigration, and the latter, its constructed, approximate aspects. For Censorinus — and other inhabitants of the Roman Empire — 'knowing' the time means coordinating and layering different frames, using anchoring points to create a structure for understanding events' relationship to one another. Censorinus' narrative does something similar, working to isolate the *dies natalis* and stabilise it at the juncture of different systems. Under such conditions, what does it mean to 'signify', *signare*, 'tempus... hodiernum', as he promises at 16.1?

Although superficially simple, *DN* turns out to be epistemically complex. In its own subtle ways, the text engages with problems addressed in much more expansive encyclopaedic projects — about nature, knowledge and Roman power. *DN* is one scholar's experimentation with genre, form and the compilatory tradition, a work riddled with subtle contradictions. The breadth and diversity of the Empire, its varied knowledges and practices push the focus of *DN* outwards, just as the harmonising, synchronising features pull the reader back to Rome, to Caerellius and his birthday. In its pursuit of a seemingly narrow goal — elucidating Caerellius' *dies natalis* — *DN* channels the 'totalising' impulse of knowledge ordering, a project that ultimately reveals its own inadequacies and the limits of human perception.

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<sup>99</sup> Note the language of *uarietas*. Later, reducing cacophony 'to a single harmony' ('in unam concordiam', Macrobi., *Sat.* 7.1.13) in the context of a dinner party.

<sup>100</sup> Kelly 2018: 550 (more generally, at 548–50, covering Macrobius). In this case, he refers to late antique scholars, looking to bridge a pagan past and a Christian present.

## BIBLIOGRAPHY

- Argetsinger, K. 1990: 'Dies natales: self, patron and city in Roman religion', unpublished Ph.D. thesis, Princeton University.
- Argetsinger, K. 1992: 'Birthday rituals: friends and patrons in Roman poetry and cult', *Classical Antiquity* 11, 175–93.
- Arnaud-Lindet, M.-P. 2003: *Aide-Mémoire (Liber memorialis)*, Paris.
- Bakhouché, B. 2001: 'Arithmologie et cycles temporels. L'hebdomade de Censorinus', *Euphrosyne* 29, 267–75.
- Barchiesi, A. 1997: *The Poet and the Prince: Ovid and Augustan Discourse*, Berkeley, CA (first published as *Il poeta e il principe. Ovidio e il discorso augusteo*, Rome, 1994).
- Barchiesi, A. 2005: 'Centre and periphery', in S. Harrison (ed.), *A Companion to Latin Literature*, Blackwell Companions to the Ancient World, Malden, MA, 394–405.
- Barker, A. (ed.) 1989: *Greek Musical Writings, Vol. 2: Harmonic and Acoustic Theory*, Cambridge.
- Beard, M. 1987: 'A complex of times: no more sheep on Romulus' birthday', *The Cambridge Classical Journal* 33, 1–15 (= C. Ando (ed.), *Roman Religion*, Edinburgh, 2003, 273–88).
- Bettini, M. 2008: 'Weighty words, suspect speech: *fari* in Roman culture', *Arethusa* 41, 313–75.
- Bickerman, E. J. 1980: *Chronology of the Ancient World*, revd edn, Ithaca, NY.
- Bonnin, J. 2015: *La mesure du temps dans l'Antiquité*, Paris.
- Bouvet, C. 1933: 'Censorinus et la musique', *Revue de Musicologie* 14, 65–73.
- Bowersock, G. W. 2004: 'Artemidorus and the Second Sophistic', in B. E. Borg (ed.), *Paideia: The World of the Second Sophistic*, Berlin, 53–63.
- Bradshaw, A. 2002: 'Horace's birthday and deathday', in A. J. Woodman and D. C. Feeney (eds), *Traditions and Contexts in the Poetry of Horace*, Cambridge, 1–16.
- Brodersen, K. 2011: *Censorinus, Das Geburtstagsbuch*, Darmstadt.
- Brodersen, K. 2012: *Censorinus, Über den Geburtstag. Lateinisch und deutsch*, Darmstadt.
- Brodersen, K. 2013: '*De gradibus aetatis humanae* (Censorinus 14,1 ff.) – oder: 75 ist doch kein Alter!', in P. Mauritsch and C. Ulf (eds), *Kultur(en). Formen des Alltäglichen in der Antike. Festschrift für Ingomar Weiler zum 75. Geburtstag*, Graz, 3–18.
- Brodersen, K. forthcoming: 'The critical years of life: Censorinus on the right time of death', in M. Gligor (ed.), *Homines, Funera, Astra 4: Time and Cause of Death from Prehistory to Middle Ages*, Oxford.
- Burkert, W. 1972: *Lore and Science in Ancient Pythagoreanism* (trans. E. L. Minar, Jr), Cambridge, MA (first published as *Weisheit und Wissenschaft. Studien zu Pythagoras, Philolaos und Platon*, Nürnberg, 1962).
- Burkhard, K. 1991: *Das antike Geburtstagsgedicht*, Zürich.
- Cairns, F. 1971: 'Propertius 3, 10 and Roman birthdays', *Hermes* 99, 149–55.
- Camón Fernández de Ávila, E. 1991: 'Los beneficios de la música según Censorino', in L. Ferreres (ed.), *Treballs en honor de Virgilio Bejarano. Actes del IXè Simposi de la Secció Catalana de la SEEC: St. Feliu de Guíxols, 13–16 d'abril de 1988*, Barcelona, 167–71.
- Cardauns, B. 2001: *Marcus Terentius Varro. Einführung in sein Werk*, Heidelberg.
- Carey, S. 2006: *Pliny's Catalogue of Culture: Art and Empire in the Natural History*, Oxford.
- Cesareo, E. 1929: *Il carne natalizio nella poesia latina. Con una parte introduttiva su i precedenti del carne in Grecia*, Palermo.
- Conte, G. B. 1994: 'The inventory of the world: form of nature and encyclopedic project in the work of Pliny the Elder', in G. B. Conte, *Genres and Readers: Lucretius, Love Elegy, Pliny's Encyclopedia* (trans. G. W. Most), Baltimore, MD, 67–104 (first published as 'L'inventario del mondo. Ordine e linguaggio della natura nell'opera di Plinio li Vecchio', in A. Barchiesi, R. Centi et al. (eds), *Gaio Plinio Secondo. Storia Naturale I. Cosmologia e geografia, libri 1–6*, Turin, 1982, xvii–xlvi = 'L'inventario del mondo. Forma della natura e progetto enciclopedico nell'opera di Plinio il Vecchio', in G. B. Conte, *Generi e lettori. Lucrezio, l'elegia d'amore, l'enciclopedia di Plinio*, Milan, 1991, 95–144).
- Degrassi, A. 1963: *Inscriptiones Italiae, vol. 13.2. Fasti anni Numani et Iuliani, accedunt ferialia, menologia rustica, paraepemata*, Rome.
- Dench, E. 2018: *Empire and Political Cultures in the Roman World*, Cambridge.
- Dunning, S. B. 2020: 'The republican *ludi saeculares* as a cult of the Valerian *gens*', *Historia* 69, 208–36.
- Englhofer, C. G. 2003: 'Birthday', in *Brill's New Pauly* 2.670–3.

- Feeney, D. C. 2007: *Caesar's Calendar: Ancient Time and the Beginnings of History*, Berkeley, CA.
- Fitzgerald, W. 2016: *Variety: The Life of a Roman Concept*, Chicago, IL.
- Flinterman, J.-J. 1995: *Power, Paideia and Pythagoreanism: Greek Identity, Conceptions of the Relationship between Philosophers and Monarchs and Political Ideas in Philostratus' Life of Apollonius*, Amsterdam.
- Flinterman, J.-J. 2014: 'Pythagoreans in Rome and Asia Minor around the turn of the common era', in Huffman 2014, 341–59.
- Flower, H. I. 2017: *The Dancing Lares and the Serpent in the Garden: Religion at the Roman Street Corner*, Princeton, NJ.
- Fontanella, V. 1992–1993: *Censorino, Il giorno natalizio*, 2 vols, Bologna.
- Frede, D. and Reis, B. (eds) 2009. *Body and Soul in Ancient Philosophy*, Berlin.
- Freyburger, G. 1988: 'Le savoir «philologique» du grammairien Censorinus', *Ktèma* 13, 149–54.
- Freyburger, G. 1992: 'Un païen du III<sup>e</sup> siècle. Censorinus, auteur du *De die natali*', *Revue des études latines* 70, 215–27.
- Freyburger, G. 1996: 'L'harmonie des sphères calculée en stades (Pline, N.H. II, 83–84 et Censorinus, 13, 2–5)', in B. Bakhouché, A. Moreau and J.-C. Turpin (eds), *Les astres. Actes du colloque international de Montpellier, 23–25 mars 1995*, Montpellier, 2 vols, 1.283–92.
- Freyburger, G. 1998: 'Le pythagorisme sous le Haut-Empire', in C. M. Ternes (ed.), *Actes du colloque 'Le pythagorisme en milieu romain'*, Luxembourg, 20–34.
- Freyburger, G. 2004: 'I referimenti a Varrone in Censorino', in G. Abbamonte, F. C. Bizzarro and L. Spina (eds), *L'ultima parola. L'analisi dei testi. Teoria e pratiche nell'antichità greca e latina. Atti del terzo Colloquio italo-francese, Napoli 13–15 marzo 2003*, Naples, 123–32.
- Freyburger, G. 2019: *Censorinus. Le jour anniversaire de la naissance*, Paris.
- Grafton, A. 1983–1993: *Joseph Scaliger: A Study in the History of Classical Scholarship*, 2 vols, New York.
- Grafton, A. 1985a: 'Censorinus' Aureolus Libellus', *Classical Review* 35, 46–8.
- Grafton, A. 1985b: 'From *De die natali* to *De emendatione temporum*: the origins and setting of Scaliger's chronology', *Journal of the Warburg and Courtauld Institutes* 48, 100–43.
- Grafton, A., and Swerdlow, N. M. 1985: 'Technical chronology and astrological history in Varro, Censorinus and others', *Classical Quarterly* 35, 454–65.
- Grafton, A. and Williams, M. 2006: *Christianity and the Transformation of the Book: Origen, Eusebius and the Library of Caesarea*, Cambridge, MA.
- Grant, M. 1950: *Roman Anniversary Issues: An Exploratory Study of the Numismatic and Medallion Commemoration of Anniversary Years, 49 B.C.–A.D. 375*, Cambridge.
- Grethlein, J., and Krebs, C. B. (eds) 2012: *Time and Narrative in Ancient Historiography: The 'Plupast' from Herodotus to Appian*, Cambridge.
- Gunderson, E. 2009: *Nox Philologiae: Aulus Gellius and the Fantasy of the Roman Library*, Madison, WI.
- Hannah, R. 2005: *Greek and Roman Calendars: Constructions of Time in the Classical World*, London.
- Hannah, R. 2016: 'Roman calendars', in G. L. Irby (ed.), *A Companion to Science, Technology and Medicine in Ancient Greece and Rome*, Blackwell Companions to the Ancient World, 2 vols, Chichester, 2.906–22.
- Heller-Roazen, D. 2011: *The Fifth Hammer: Pythagoras and the Disharmony of the World*, New York, NY.
- Hinds, S. E. 2005: 'Dislocations of Ovidian time', in J. P. Schwindt (ed.), *La représentation du temps dans la poésie augustéenne = Zur Poetik der Zeit in augusteischer Dichtung*, Heidelberg, 203–30.
- Hoces Sánchez, M. C. 2009: 'Censorino, «doctissimus artis rhetoricae»?', in T. Arcos Pereira, J. Fernández López and F. Moya del Baño (eds), 'Pectora mulcet'. *Estudios de retórica y oratoria latinas*, 2 vols, Logroño, 1.321–34.
- Holford-Strevens, L. 2003: *Aulus Gellius: An Antonine Scholar and His Achievement*, Oxford.
- Horster, M., and Reitz, C. 2018: 'Handbooks, epitomes and florilegia', in S. McGill and E. J. Watts (eds), *A Companion to Late Antique Literature*, Blackwell Companions to the Ancient World, Hoboken, NJ, 431–50.
- Howley, J. A. 2018: *Aulus Gellius and Roman Reading Culture: Text, Presence and Imperial Knowledge in the Noctes Atticae*, Cambridge.
- Hudson-Williams, A. and Nutton, V. 2012, 'Censorinus', in S. Hornblower and A. J. Spawforth (eds), *Oxford Classical Dictionary*, 4th edn, Oxford, 296.

- Huffman, C. 2009: 'The Pythagorean conception of the soul from Pythagoras to Philolaus', in Frede and Reis 2009, 21–43.
- Huffman, C. A. (ed.) 2014: *A History of Pythagoreanism*, Cambridge.
- Hultsch, F. 1867: *Censorini De die natali liber*, Leipzig.
- Humm, M. 2014: 'Numa and Pythagoras: the life and death of a myth', in J. H. Richardson and F. Santangelo (eds), *The Roman Historical Tradition: Regal and Republican Rome*, Oxford, 35–51.
- Jahn, O. 1845: *Censorini De die natali liber*, Berlin.
- Johnson, W. A. 2010: *Readers and Reading Culture in the High Roman Empire: A Study of Elite Communities*, New York, NY.
- Joost-Gaugier, C. L. 2006: *Measuring Heaven: Pythagoras and His Influence on Thought and Art in Antiquity and the Middle Ages*, Ithaca, NY.
- Kahn, C. H. 2001: *Pythagoras and the Pythagoreans: A Brief History*, Indianapolis, IN.
- Kapparis, K. A. 2002: *Abortion in the Ancient World*, London.
- Kaster, R. A. 1988: *Guardians of Language: The Grammarian and Society in Late Antiquity*, Berkeley, CA.
- Kelly, C. 2018: 'Antiquarian literature', in S. McGill and E. J. Watts (eds), *A Companion to Late Antique Literature*, Blackwell Companions to the Ancient World, Hoboken, NJ, 539–53.
- Kemezis, A. M. 2014: *Greek Narratives of the Roman Empire under the Severans: Cassius Dio, Philostratus and Herodian*, Cambridge.
- Keulen, W. H. 2009: *Gellius the Satirist: Roman Cultural Authority in Attic Nights*, Leiden.
- Kholodniak, I. 1889: *Censorini de die natali liber*, St Petersburg.
- Kneebone, E. 2017: 'The limits of enquiry in imperial Greek didactic poetry', in J. König and G. Woolf (eds), *Authority and Expertise in Ancient Scientific Culture*, Cambridge, 203–30.
- König, J., and Whitmarsh, T. 2007a: 'Ordering knowledge', in König and Whitmarsh 2007b, 3–39.
- König, J., and Whitmarsh, T. (eds) 2007b: *Ordering Knowledge in the Roman Empire*, Cambridge.
- König, J., and Woolf, G. 2013: 'Encyclopaedism in the Roman Empire', in J. König and G. Woolf (eds), *Encyclopaedism from Antiquity to the Renaissance*, Cambridge, 23–63.
- Laks, A. 2014: 'Diogenes Laertius' *Life of Pythagoras*', in Huffman 2014, 360–80.
- Landels, J. G. 1999: *Music in Ancient Greece and Rome*, London.
- Lehoux, D. 2007: *Astronomy, Weather and Calendars in the Ancient World: Parapegmata and Related Texts in Classical and Near Eastern Societies*, Cambridge.
- Lehoux, D. 2012: *What Did the Romans Know? An Inquiry into Science and Worldmaking*, Chicago, IL.
- Levene, D. S. 2007: 'Roman historiography in the late Republic', in J. Marincola (ed.), *A Companion to Greek and Roman Historiography*, Blackwell Companions to the Ancient World, Malden, MA, 275–89.
- Lichtenberger, A. 2011: *Severus Pius Augustus. Studien zur sakralen Repräsentation und Rezeption der Herrschaft des Septimius Severus und seiner Familie (193–211 n. Chr.)*, Leiden.
- Madsen, J. M. 2013: 'The provincialisation of Rome', in D. Hoyos (ed.), *A Companion to Roman Imperialism*, Leiden, 305–18.
- Maharam, W.-A. 2004: 'Genius', in *Brill's New Pauly* 5.756–8.
- Mitchell, E. 2010: 'Time for an emperor: old age and the future of the Empire in Horace Odes 4', *Materiali e discussioni per l'analisi dei testi classici* 64, 43–76.
- Moatti, C. 2015: *The Birth of Critical Thinking in Republican Rome* (trans. J. Lloyd), Cambridge (first published as *La raison de Rome. Naissance de l'esprit critique à la fin de la République (II<sup>e</sup>–I<sup>er</sup> siècle avant Jésus-Christ)*, Paris, 1997).
- Murphy, T. M. 2004: *Pliny the Elder's Natural History: The Empire in the Encyclopedia*, Oxford.
- Murray, O. 2015: 'Athenaeus the encyclopedist', in J. Wilkins and R. Nadeau (eds), *A Companion to Food in the Ancient World*, Blackwell Companions to the Ancient World, Chichester, 30–42.
- Nass, V. 2011: 'Imperialism, mirabilia, and knowledge: some paradoxes in the *Naturalis Historia*', in R. K. Gibson and R. Morello (eds), *Pliny the Elder: Themes and Contexts*, Leiden, 57–70.
- O'Mara, P. F. 2003: 'Censorinus, the Sothic Cycle and Calendar Year One in ancient Egypt: the epistemological problem', *Journal of Near Eastern Studies* 62, 17–26.
- Parker, H. N. 2007: *Censorinus, The Birthday Book*, Chicago, IL.
- Philip, J. A. 1966: *Pythagoras and Early Pythagoreanism*, Toronto.
- Potter, D. S. 2004: *The Roman Empire at Bay, A.D. 180–395*, London.
- Rapisarda, C. A. 1991: *Censorinus, De die natali liber ad Q. Cærellium. Prefazione, testo critico, traduzione e commento*, Bologna.

- Rapisarda, C. A. 1992: 'Il Proemio del «De die natali»', in N. Scivoletto and A. Santini (eds), *Prefazioni, prologhi, proemi di opere tecnico-scientifiche latine*, Vol. 2, Rome, 694–721.
- Rawson, E. 1985: *Intellectual Life in the Late Roman Republic*, London.
- Remijsen, S. 2007: 'The postal service and the hour as a unit of time in Antiquity', *Historia* 56, 127–40.
- Reynolds, L. D. (ed.) 1983: *Texts and Transmission: A Survey of the Latin Classics*, Oxford.
- Riedweg, C. 2005: *Pythagoras: His Life, Teaching, and Influence* (trans. S. Rendall), Ithaca, NY (first published as *Pythagoras. Leben, Lehre, Nachwirkung. Eine Einführung*. Munich, 2002).
- Rocca-Serra, G. 1980: *Censorinus, Le jour natal*, Paris.
- Rüpke, J. 2011: *The Roman Calendar from Numa to Constantine: Time, History and the Fasti* (trans. D. M. B. Richardson), Chichester (first published in part in *Kalender und Öffentlichkeit. Die Geschichte der Repräsentation und religiösen Qualifikation von Zeit in Rom*, Berlin, 1995).
- Sallmann, N. 1983a: 'Censorinus' "de die Natali". Zwischen Rhetorik und Wissenschaft', *Hermes* 111, 233–48.
- Sallmann, N. 1983b: *Censorini De die natali liber ad Q. Caerellium. Accedit anonymi cuiusdam epitoma disciplinarum (fragmentum Censorini)*, Leipzig.
- Sallmann, N. 1988: *Censorinus, Betrachtungen zum Tag der Geburt = De die natali*, Leipzig.
- Salzman, M. R. 1990: *On Roman Time: The Codex-Calendar of 354 and the Rhythms of Urban Life in Late Antiquity*, Berkeley, CA.
- Salzman, M. R. 2012: 'Birthday', *Encyclopedia of Ancient History* 3.1131–2.
- Samuel, A. E. 1972: *Greek and Roman Chronology: Calendars and Years in Classical Antiquity*, Munich.
- Schäfer, C. 2009: 'Das Pythagorasfragment des Xenophanes und die Frage nach der Kritik der Metempsychosenlehre', in Frede and Reis 2009, 45–69.
- Schilling, R. 1978: 'Genius', *Reallexikon für Antike und Christentum* 10.52–83.
- Schmidt, W. 1908: *Geburtstag im Altertum*, Giessen.
- Scullin, S. 2016: 'Making a monster', *Eidolon* at <https://eidolon.pub/making-a-monster-3cd90135ef3f> (accessed 14 July 2020).
- Shaw, B. D. 1996: 'Seasons of death: aspects of mortality in imperial Rome', *Journal of Roman Studies* 86, 100–38.
- Shaw, B. D. 2019: 'Did the Romans have a future?', *Journal of Roman Studies* 109, 1–26.
- Smith, S. D. 2014: *Man and Animal in Severan Rome: The Literary Imagination of Claudius Aelianus*, Cambridge.
- Stern, S. 2012: *Calendars in Antiquity: Empires, States and Societies*, Oxford.
- Stern, S. 2017: 'Calendars, politics and power relations in the Roman Empire', in J. Ben-Dov and L. Doering (eds), *The Construction of Time in Antiquity: Ritual, Art and Identity*, Cambridge, 31–49.
- Stroup, S. C. 2010: *Catullus, Cicero and a Society of Patrons: The Generation of the Text*, Cambridge.
- Stroup, S. C. 2013: 'Without patronage: fetishization, representation and the circulation of gift-texts in the late Roman Republic', in M. Satlow (ed.), *The Gift in Antiquity*, Chichester, 107–21.
- Stuiber, A. 1976: 'Geburtstag', *Reallexikon für Antike und Christentum* 9.218–43.
- Swain, S., Harrison, S. J. and Elsner, J. (eds). 2007: *Severan Culture*, Cambridge.
- Talbert, R. J. A. 2017: *Roman Portable Sundials: The Empire in Your Hand*, New York, NY.
- Thomas, R. F. 2011: *Horace: Odes, Book IV and Carmen Saeculare*, Cambridge.
- Trapp, M. 2007: 'Philosophy, scholarship and the world of learning in the Severan period', in Swain, Harrison and Elsner, 470–88.
- Volk, K. 2009: *Manilius and His Intellectual Background*, Oxford.
- Volk, K. 2015: 'Roman Pythagoras', in G. D. Williams and K. Volk (eds), *Roman Reflections: Studies in Latin Philosophy*, Oxford, 33–49.
- Walter, U. 2004: *Memoria und res publica. Zur Geschichtskultur im republikanischen Rom*, Frankfurt am Main.
- Warren, J. I. 2007: 'Diogenes Laërtius, biographer of philosophy', in König and Whitmarsh 2007b, 133–49.
- West, M. L. 1992: *Ancient Greek Music*, Oxford.
- Whitmarsh, T. 2007: 'Prose literature and the Severan dynasty', in Swain, Harrison and Elsner 2007, 29–51.
- Zetzel, J. E. G. 2018: *Critics, Compilers and Commentators: An Introduction to Roman Philology, 200 BCE–800 CE*, Oxford.
- Zhmud, L. 2012: *Pythagoras and the Early Pythagoreans* (trans. K. Windle and R. Ireland), Oxford (first published in Russian in 1994).