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PHYSIOLOGIZING (IN)FERTILITY IN THE ROMAN WORLD: LUCRETIUS ON SACRIFICE, NATURE, AND GENERATION

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SUMMARY

The present paper reassesses the intellectual background of Lucretius' treatment of infertility in 4.1233-1241, pointing out the author's ability to combine genuine Epicurean doctrine and Roman cultural patterns. Lucretius' denigration of religious mentality and his efforts to offer an entirely rational explanation of (in)fertility are interpreted in light of both internal evidence in the De Rerum Natura *(e.g. 1.1-20; 248-264; 2.581-660) and differents kinds of external evidence - including the so-called* Laudatio Turiae*, Rome's fertility cults, and underused Epicurean sources such as PHerc 908/1390. Indeed, while systematically delegitimizing the traditional connection between supernatural powers and generation, the poet endeavors to convert his readers to a comprehensive Epicurean worldview in which death and birth, fecundity and sterility, reflect the existence of a material 'great chain of being'*[*].

Physical Theories in Context. De Rerum Natura *and Roman Views on Infertility*

In the late first century BC - a few decades after the publication of Lucretius' poem - a Roman man decided to immortalize the outstanding virtues of his wife and their life-long vicissitudes as a married couple in the famous funerary inscription known as *Laudatio*

Key words: Lucretius - Infertility - Sacrifice - Epicureanism - Roman society

Turiae[1]. Although the identification of the dedicator and the dedicatee with Q. Lucretius Vespillo and his wife Turia has been variously questioned by scholars, the use of this traditional designation is still widespread for convenience's sake. And despite the huge amount of scholarly literature devoted to similar identification problems[2], the importance and attractiveness of such a touching *laudatio funebris* does not seem to depend on the names of the spouses. Rather, the epitaph appears as a revealing collection of cultural, juridical and ethical notions, throwing light on the Roman conception of marriage, socio-political roles, and gender patterns[3]. The value of the *Laudatio* as an ideologically significant representation is, of course, increased by the fact that its narrative *sub specie laudationis* covers a relatively wide range of time, from the years of the first triumvirate to the Augustan age (when the tombstone was engraved).

Notably, one of the key themes emerging from the text is infertility, seen as a fateful misfortune which results in the distressing condition of childlessness[4]. The woman praised in the inscription - whom we can continue to call 'Turia' for the sake of simplicity - is said to have braved and overstepped many obstacles, driven by her sincere affection and iron will. She did not lose heart during the civil wars, when Milo's partisans tried to plunder her house, her husband was exiled, and Marcus Lepidus harmed her physically and verbally[5]. Nonetheless, in his commemorative speech Turia's husband reports that after several years of unfruitful attempts even such a fearless woman despaired of her ability to bear children, grieved over her man's childlessness, and proposed him to divorce. According to Turia's allegedly spontaneous and generous plan, the *fecunditas* of another woman would have made up for this unbridgeable emptiness[6].

Generally speaking, the value of *fecunditas* seems to recur in the eulogy as a sort of awaited but unattainable gift[7]. Most important, in accordance with a well-known traditional belief, infertility is presented as a divine curse, a sign of the fate's envy and malevolence. In 2.25-28

the dedicator complains that destiny (*sors*) prevented the couple from fulfilling their desire for parenthood. And the loss of the fate's favour is strikingly depicted through the personification of fortune (*fortuna*), which changes its course and stifles the spouses'hopes[8].

As is well-known, similar cultural representations relied on ancestral religious ideas and reflected a highly common way of thinking. As a patriarchal and agriculture-based civilization, Roman society attached great importance to fertility and generation, while it identified sterility with the the notions of death, deprivation, and punishment. In Suzanne Dixon's words, 'life could be harsh in the ancient world for those with no kin, and the common human expectation is that the nearest kin - spouse and especially children - will be of an age to provide support at the crucial stages. Human history is full of examples of unfilial children and of children who predecease the parents, but that fundamental hope remained: that children would survive to bring pride, prosperity, and material and emotional support to the parent in due course, to produce children in their turn and thus confer a kind of immortality'[9]. The grief of Turia and her husband is therefore quite understandable. And although a passage of the epitaph apparently alludes to the lack of filial assistance after Turia's death[10], we can easily imagine that also other factors than the shortage of practical support saddened the widow's life. In a patrilineal culture which saw family histories as a kind of progressive, 'vegetable' development, children and descendants were indeed virtual means of immortality, completing the individual's social identity[11]. More generally, the concept itself of generation and the related idea of fecundity were often connected to a series of *metaphysical* dimensions and *eschatological* expectations, variously assimilating the symbolism of reproduction to the imagery of farming. Supernatural forces were reputed to preside over both the fruitfulness of the soil and the prolificness of people, as attested, for instance, by the popular rituals of the *Lupercalia* and the *Nonae Caprotinae* - rituals to which women used to resort in order to boost their fertility[12].

As a rule, when we read Lucretius' poetic exposition of Epicurus' philosophy, we are hardly led to consider such an underlying cultural milieu, with its varied moral and anthropological overtones. However, it is very difficult - if not impossible - to understand the proper meaning of the poet's intellectual undertaking, if one does not set it against the background of Roman culture, for it is precisely in light of this background that the whole system of Epicurean doctrine is reshaped by the author. The usefulness of a similar approach emerges particularly clearly from an analysis of Lucretius' treatment of infertility in Book 4. In what follows I will try to show that a full understanding of the poet's scientific and philosophical stand on (in)fertility cannot abstract from a careful consideration of its cultural-religious context. While advocating a materialist and atomistic view of reproductive physiology, Lucretius underlines the ethical and psychological implications of his arguments in accordance with the Epicurean ethics-centred approach to natural science. But he also argues against traditional conceptions deep-seated in Roman society - a society greatly concerned with the dilemmas of lineage as well as with their religious and folkloric significance.

There is fragmentary evidence of Epicurus' interest in embryology and reproduction, and though no explicit reference to the moral relevance of the topic can be found in our sources, we can easily imagine that Lucretius' master was aware of it[13]. What is far more certain is that the historical and anthropological milieu in which the *De Rerum Natura* was conceived offered abundant material for the author's joint treatment of sacrificial practices, reproductive impairment, and human suffering. On the one hand, the traditional system of Roman culture and its superstitious ideas on infertility appeared to the poet as a disturbing collection of erroneous ideas, which solely the light of Epicurean science could demolish. Lucretius conceived a notably multi-faceted polemic, purposely connecting the elucidation of medical and philosophical notions with the deconstruction

of social and religious patterns. On the other hand, in order to support his alternative view of human and natural fecundity (including a rational explanation of sterility), the author took on and readapted a long-term representation of the cosmic cycle: the cultural myth of the great chain of being[14]. It is in this sophisticated combination of mythopoesis and demystification, scientific insight and rhetorical devices, that we can appreciate the complex structure of Lucretius' didactic presentation.

Religion, Medicine, and Philosophical Controversies

As is well-known, the last section of Book 4 of *De Rerum Natura* is devoted to explaining the physical origin of love as a common instinct of all living beings[15]. Mankind's sentimental approach to erotic experience is severely (and satirically) blamed, since such an approach dangerously transforms a natural behaviour into a perturbing emotion. Among the ethically problematic aspects of love and sexual life the poet includes reproduction - or, rather, the cultural and psychological elaboration of this physical phenomenon. Thus, after illustrating the biological criteria which determine the resemblance of children to their parents and ancestors - another anthropologically relevant issue, frequently arousing contrasts, worries, and distrust[16] - Lucretius goes on to discuss the causes and emotional effects of infertility:

> *Nec divina satum genitalem numina cuiquam*
> *absterrent, pater a gnatis ne dulcibus umquam*
> *appelletur et ut sterili Venere exigat aevum;*
> *quod plerumque putant et multo sanguine maesti*
> *conspergunt aras adolentque altaria donis,*
> *ut gravidas reddant uxores semine largo.*
> *nequiquam divum numen sortisque fatigant.*
> *nam steriles nimium crasso sunt semine partim,*
> *et liquido praeter iustum tenuique vicissim.*

tenve locis quia non potis est adfigere adhaesum,
liquitur extemplo et revocatum cedit abortu.
crassius hinc porro quoniam concretius aequo
mittitur, aut non tam prolixo provolat ictu
aut penetrare locos aeque nequit aut penetratum
aegre admiscetur muliebri semine semen.

And it is not the power of gods that blocks/ the generating seed in any man/ so that no darling children call him father/ and he drags out his years in barren love,/ which many think, and with much blood in tears/ sprinkle the altars, honour them with gifts,/ to make their wives pregnant with abudant seed./ In vain do they importune gods and fates./ They are barren, some because the seed's too thick,/ others because it is too watery and thin./The thin, because it can't stick in its place,/ at once runs out and so returns aborted./ The thick comes out too closely clotted, and either/ cannot fly forward with far-reaching blow,/ or cannot penetrate the place, or else, once in,/ does not mix easily with the woman's seed[17].

The author's awareness of the moral and religious implications of the topic is highlighted by an immediate reference to mankind's erroneous behaviour. Indeed, the sententious assertion that the gods are not responsible for human barrenness, and the following description of useless bloody sacrifices, interrupt the physiological explanation *sensu proprio* and give explicit prominence to the paraenetic purpose underpinning the poem.

Lucretius' harsh criticism of *religio* as a pernicious system of false beliefs and violent rituals is widely known. Scholars, however, have interestingly remarked on the poet's polemical denigration of sacrifice, since, as far as we know, no other Epicurean thinker dared to challenge so radically such a fundamental institution of the ancient civic and moral order[18]. Epicurus advised his followers to take part in public festivities, including sacrifices, and simply recommended not to embrace false beliefs on similar occasions. In his work *On Piety* (Περὶ εὐσεβείας), Lucretius' contemporary Philodemus respectfully quoted this conciliatory precept[19]. Yet, in numerous pas-

sages of *De Rerum Natura* the abominable practice of sacrifice is contrasted with the pure and peaceful ideals of philosophical life[20]. In our text, a careful argumentative construction seems to oppose the deviant mentality of superstitious men to the clarifying approach of scientific analysis, which is described as the only way to understand (and interiorly accept) the problem of infertility.

According to Lucretius, no divine will deprives men of the joy of parenthood with the purpose of punishing or vexing them. Epicurean theology conceived of the gods as perfect and blessed beings, living in separate spaces and having no interest in human matters[21]. The Latin poet, of course, takes up his school's views and sharply attacks a series of traditional religious convictions. The repeated use of the term *numen* (1233 and 1240), for instance, hints at the typically Roman idea that the gods actualize their voluntary decisions with a nod of their head[22]. Likewise, as a compound of *sterreo*, the verb *absterreo* (1234) implicitly refers to the fear commonly associated with divine punishment. Men are led to believe that supernatural entities them of the semen and the power of procreation (*satum genitalem*, 1233), and this privation is seen as both a cruel and a terrifying act. In contrast with the mainstream of ancient folk thought, however, the poet mantains that similar widespread assumptions are totally groundless. It is in vain that human beings offer their sacrifices - *nequiquam* (1239), a very meaningful adverb, often expressing Lucretius' conscious and rather gloomy observation of reality[23] - and the recourse to divination is said to be equally senseless.

The mention of sacred lots (*sortis*) is especially intriguing, for there is clear literary and archaeological evidence that divination by lot was practiced in Roman Italy. The *Corpus Inscriptionum Latinarum* (*CIL*) reports the discovery of several *sortes* at Forum Novum (now Fornovo, near to Parma), whose responses, carved on the surface, are partially readable. One of these lots bears the following inscription: 'the previously barren woman will be pregnant' (*fe]ret quae*

ante sterilis fuit)[24]. As Robert Brown pointed out, 'divination by lot is well attested in Greece but was especially common in Italy which lacked genuine oracles'[25]. It is probably worth recalling that in the *Laudatio Turiae sors* and *fortuna* were cited as the cause of the couple's infertility[26]. Most importantly, in the second book of his *De Divinatione* - a well-known sceptic refutation of divinatory beliefs - Cicero devotes three paragraphs to divination by lot and refers to a famous center of sortilege of his own time, the temple of *Fortuna* in Praeneste[27]. Like other Roman-Italic shrines dedicated to *Fortuna*, such a temple had a close symbolic connection with the value of human and natural fecundity. Indeed, in the late Republic the vitality of similar fertility cults was enhanced by the fusion with analoguous eastern traditions (such as the cult of Isis and Serapis) as well as by the increasing political use of the golden age myth, typically envisaging a state of happiness, abundance and blessed fecundity[28].

Destiny, sacrifice, prophecy, and divine favour: as a wider contextualization shows, Lucretius' polemic is intended to question a relevant part of the Roman cultural-religious background, thus giving new meaning to Epicurus' ethics and theology. On a symbolic and rhetorical level, the sacrificial scene described at 1236-1239 seems to have been expressly constructed to contrast scientific reasoning and folk religious presumptions. The men who hope to impregnate their wives -those who fear the pitiless nod of the gods - make abundant sacrifices since they apparently believe in a sort of direct proportionality between victims and semen. *Multo sanguine* (1236) corresponds to *semine largo* (1238), for according to religious mentality the more one offers to the gods the more they are propitious. The symbolic association between *sanguis* and *semen* is further strengthened by the fact that in ancient physical theories sperm was typically thought to derive from blood[29]. Likewise, a metaphorical link connects the loading of altars with gifts (*adolentque altaria donis*, 1237) and the purpose of impregnating wives (*gravidas red-*

dant uxores, 1238), as the Latin word for 'pregnant', *gravidus*, also means 'laden', and the poet's choice of the peculiar verb *adoleo* (properly recalling the idea of 'increasing' the gods' honour) cannot be accidental[30].

The belief in an implicit reciprocity is a core element of ancient sacrificial ideology and highlights the importance of gift-exchange patterns in Graeco-Roman society[31]. What is of greater interest for our analysis, however, is the intentional contrast between traditional conceptions and scientific explanations. The author's account of the origin of infertility (1240-1247) radically contradicts the superstitious men's views, hence creating a kind of *symmetrical* rhetorical structure. According to the Epicurean poet, it is not the *quantity* of the seed that makes the difference - the *largum semen* wished for by the sorrowful husbands[32] - but its constitutional *quality*, since both an excessively thin semen and an overthick one cause sterility, irrespectively of their abundance. The idea that, differently from what one might intuitively think, a large quantity of sperm does not always facilitate conception seems to have been part of the standard Epicurean doctrine on procreation. In fact, a highly interesting papyrus from Herculaneum (*PHerc* 908/1390), containing a detailed exposition of Epicurean embryology and spermatology, explicitly focuses on the problems related to an excessive quantity of semen[33].

Moreover, in his didactic elucidation, Lucretius refers to the canonical Epicurean theory according to which both men and women produce a form of semen. At 1247 the rhetorical device of juxtaposition (*semine semen*) vividly highlights the meeting of the two seeds. As is well-known, such a theory had been previously upheld by several thinkers, including Empedocles, Democritus and the writers of the *Corpus Hippocraticum*, while it had been resolutely rejected by Aristotle and the Stoics[34]. Aristotle, in particular, had applied his fundamental dichotomy between form and matter, active and

passive, to the field of sexual and reproductive roles, arguing for the primacy of the man's sperm over the woman's 'unconcocted seed' or menstrual fluid[35]. In the framework of the Hellenistic debate, the Stoics resumed many Aristotelian notions and continued to advocate the preeminence of the male semen[36]. It is therefore noteworthy that in our passage the belief in the centrality of the father's reproductive role is ascribed to the followers of religion: in the poet's literary representation, childless *men* think that a divine principle deprived them of fatherhood (*pater a gnatis ne dulcibus*... 1234-1235)[37], and useless sacrifices are offered by *husbands* hoping to impregnate their wives (1236-1238). Such a deliberate insistence on male childlessness contrasts with the common ancient idea - frequently embraced also by medical theorists - that women are most responsible for infertile unions[38]. On the one hand, Lucretius seems to unveil the often concelead worries of Roman aspiring *patres familias* about their own generative potential, breaking the socially embedded stereotype that sterility originates from female faults[39]. On the other hand, however, he may also be establishing a subtle connection between religious thinking and rival physiological theories - between an erroneous metaphysical worldview and the androcentrism of Aristotelian-Stoic physiology[40].

Since philosophical and scientific polemics often underly Lucretius' poetry, it is not unlikely that, in a sort of progressive encapsulation, the attack on religion and its folk background involves a denigration of different physical views. Even more important, this seems only the *pars destruens* of the poet's discourse, inevitably recalling a forceful *pars construens*. If divine will and supernatural powers cannot account for the origin of fertility and infertility, a proper understanding of nature in accordance with Epicurus' teachings certainly can. In effect, the establishment of an alternative conception of life, generation, and decay is one of the key points of Lucretius' intellectual enterprise.

Physiologizing (In)fertility: Lucretius' Great Chain of Being

Many passages of *De Rerum Natura* point out the importance of a strictly materialist reading of natural facts, since according to Epicurus' psychology transcendent interpretations of reality are the main source of human anxiety. Of course, the origins of life and the reasons for its finitude stand out as especially urgent issues for the Epicurean therapy of fear[41]. Throughout his poem, Lucretius endeavours to show that the faculty of giving birth to new beings - which is primarily an attribute of the atomic cosmos - depends on merely material factors and is not connected with any metaphysical principle. The same is expressly said about the process of decay and final disintegration which both individuals and the universe as a whole are bound to experience. Indeed, infertility, intended as the lack or the exhaustion of one's generative potential, is presented by Lucretius as an entirely natural phenomenon, affecting the earth as well as any entity capable of reproduction[42]. For the purposes of this paper, it will suffice to consider a few texts of special ideological significance, which may help further clarify the meaning of our Book 4 passage.

On the basis of its conspicuous symbolic function, the famous proem to Book 1 should be regarded as a prominent piece of evidence. Although scholars have discussed for centuries about the literary and philosophical implications of such a well-constructed text - about the *prima facie* unusual invocation of a traditional goddess and its relationship to Lucretius' background - there can be little doubt that the first lines of the poem provide a meaningful *cosmological* representation: that is to say, a representation of the natural order, which is the work's main subject[43].

Aeneadum genetrix, hominum divomque voluptas,
alma Venus, caeli subter labentia signa
quae mare navigerum, quae terras frugiferentis

concelebras, per te quoniam genus omne animantum
concipitur visitque exortum lumina solis:
te, dea, te fugiunt venti, te nubila caeli
adventumque tuum, tibi suavis daedala tellus
summittit flores, tibi rident aequora ponti
placatumque nitet diffuso lumine caelum.
Nam simul ac species patefactast verna diei
et reserata viget genitabilis aura favoni,
aëriae primum volucris te, diva, tuumque
significant initum perculsae corda tua vi.
Inde ferae, pecudes persultant pabula laeta
et rapidos tranant amnis: ita capta lepore
te sequitur cupide quo quamque inducere pergis.
Denique per maria ac montis fluviosque rapacis
frondiferasque domos avium camposque virentis
omnibus incutiens blandum per pectora amorem
efficis ut cupide generatim saecla propagent.
Quae quoniam rerum naturam sola gubernas
nec sine te quicquam dias in luminis oras
exoritur neque fit laetum neque amabile quicquam,
te sociam studeo scribendis versibus esse,
quos ego de rerum natura pangere conor
Memmiadae nostro, quem tu, dea, tempore in omni
omnibus ornatum voluisti excellere rebus.

O mother of the Roman race, delight/ of men and gods, Venus most bountiful,/ you who beneath the gliding signs of heaven/ fill with yourself the sea bedecked with ships/ and earth great crop-bearer, since by your power/ creatures of every kind are brought to birth/ and rising up behold the light of sun;/ from you, sweat goddess, you, and at your coming/ the winds and clouds of heaven flee all away;/ for you the earth well skilled puts forth sweet flowers;/ for you the seas' horizons smile, and sky,/ all peaceful now, shines clear with light outpoored./ For soon as spring days show their lovely face,/ and west wind blows creative, fresh, and free/ from winter's grip, first birds of the air proclaim you,/ goddess divine, and herald your approach,/ pierced to the heart by your almighty power./ Next creatures of the wild and flocks and herds/ bound across joyful pastures, swim swift streams,/ so captured by your charms they follow you,/ their hearts' desire,

> *wherever you lead on./ And then through seas and mountains and tearing rivers/ and leafy homes of birds and verdant plains,/ striking sweet love into the breasts of all/ you make each in their heart's desire beget/ after their kind their breed and progeny./ Since you and only you are nature's guide/ and nothing to the glorious shores of light/ rises without you, nor grows sweet and lovely,/ you I desire as partner in my verses/ which I try to fashion on the Nature of Things,/ for Memmius, my friend, whom you have willed/ at all times to excel in every grace*[44].

This splendid description of Venus' influence on animal and vegetable life deliberately emphasizes the creative-generative side of nature, paying great attention to the specific moment of *birth*. In the relatively restricted space of 27 lines - lines of clear programmatic relevance - the idea of arising and coming into the world is mentioned three times (3-5; 19-20; 22-23). As several scholars suggested, Lucretius' Venus is not the traditional goddess of Roman religion: she is the symbolic-didactic incarnation of nature's creative power, the immanent source of life, fertility, and spring-time reproduction, opposed in a very Empedoclean fashion to the destructive principle of *Mavors armipotens*[45]. Even from a linguistic perspective, Lucretius' text seems to give prominence to the idea of generation, for, as Diskin Clay pointed out, in contrast with its most common usage in Latin, the word *natura* 'first emerges in the *De Rerum Natura* in its primitive and largely dormant sense of birth and genesis in an invocation of the invisible power of Venus *genetrix* whose empire is *rerum natura* - immediately the "birth of things"'[46].
However, in the Epicurean view of the cosmos, birth, growth, destruction, and re-creation are simply stages of a continuous process. The poet insistently remarks that no divine principle directs the alternation of life and death, and that a basically *circular* structure, ruled by non-teleological internal laws, characterizes the natural world. The first book of the poem provides an eloquent depiction of such a totalizing backdrop just a few lines after the proem's colourful invocation:

Haud igitur redit ad nihilum res ulla, sed omnes
discidio redeunt in corpora materiai.
Postremo pereunt imbres, ubi eos pater aether
in gremium matris terrai praecipitavit;
at nitidae surgunt fruges ramique virescunt
arboribus, crescunt ipsae fetuque gravantur.
Hinc alitur porro nostrum genus atque ferarum,
hinc laetas urbes pueris florere videmus
frondiferasque novis avibus canere undique silvas,
hinc fessae pecudes pinguis per pabula laeta
corpora deponunt et candens lacteus umor
uberibus manat distentis, hinc nova proles
artubus infirmis teneras lasciva per herbas
ludit lacte mero mentes perculsa novellas.
Haud igitur penitus pereunt quaecumque videntur,
quando alit ex alio reficit natura nec ullam
rem gigni patitur nisi morte adiuta aliena.

Therefore no single thing returns to nothing/ but at its dissolution everything/ returns to matter's primal particles./ Lastly, showers perish when father ether/ has cast them into the lap of mother earth./ But bright crops rise, and branches in the trees/ grow green, trees grow and ripe fruit burdens them./ Hence food comes for our kind and for wild beasts,/ hence we see happy cities flower with children,/ and leafy woods all singing with young birds,/ hence cattle wearied by their swollen weight/ lie down across rich pastures, and the white milky stream/ flows from their udders. Hence the young progeny/ frisk with weak limbs on the soft grass, their youthful minds/ intoxicated by the strong fresh milk./ Therefore all things we see do not utterly perish/ since nature makes good one thing from another,/ and does not suffer anything to be born/ unless it is aided by another's death[47].

While illustrating the scientific tenet that nothing comes from nothing (and nothing really disappears), Lucretius displays the other side of Venus' kingdom: water, plants, animals and humans are said to be part of a unitary cosmic circle, within which new forms of life arise thanks to the dissolution of other atomic aggregates. Death is described as an instrument of material transformation, and a funda-

mental connection is established between sentient and non-sentient beings. At the same time, in accordance with a deep-seated belief of ancient cultures, the fertility of the soil and the fecundity of living beings are presented as two closely related phenomena, since the production of crops from the 'mother earth' - a classical icon of the Graeco-Roman imagery on fertility - is said to allow the birth of children and young animals. Most significantly, the entire cosmic circle begins with a human-like impregnation of the 'mother earth', carried out by the 'father ether' through a sort of universal spermatic liquid, the rain. The scene is subtly reminiscent of the archaic myth of Gaea and Uranus, which was made famous by Hesiod's epic poetry[48]. Indeed, although Lucretius' work challenges many folkloric assumptions, it does not reject *in toto* the appeal of popular imagery. On the contrary, it wisely reuses previous cultural patterns and readapts their rhetorical force to the aims of Epicurean didactic[49].

In the great cosmogonic account of Book 5, Lucretius explains that the earth deserves the traditional name of mother because at the beginning of natural history she created all the forms of life (mankind included) through a non-providential process of spontaneous generation[50]. And in the same context, the primitive soil, which progressively reduced its fruitfulness, is compared to a woman worn out by old age (*ut mulier spatio defessa vetusto*, 5.827). The ancestral echoes of fertility myths reverberate through the *De Rerum Natura* and contribute to enhance the author's power of persuasion.

The scientific foundations of the earth's 'maternal' iconography are expounded also in the much-discussed passage on the *Magna Mater* (2.581-660), an impressive description of the rituals conducted in honour of the Great Mother[51]. According to Lucretius, only the earth was 'named Great Mother of the Gods, Mother of beasts, and procreatress of our human frame' (*magna deum mater, materque ferarum et nostri genetrix haec dicta est corporis una*, 2.598-599), since she actually *is* the atomic-material source of life and generation[52]. Even

if scholars have sometimes read the poet's erudite *ekphrasis* as a sign of ideological inconsistency - as a trace of the *anti-Lucrèce chez Lucrèce*[53] - the entire passage is declaredly intended to blame the dangerous effects of religion. After the illustration of violent practices and fanciful ideas, Lucretius maintains that, in spite of their external attractiveness, similar traditions are 'far removed from truth'[54]. The author restates the Epicurean theory that the gods live in separate worlds and proclaims that the earth (whose generative force originally inspired religious cults) has a non-sentient atomic nature[55]. As a self-aware didactic poet, Lucretius provides his reader with a conclusive theoretical elucidation, reinforcing the passage's scientific introduction. What is more, the final part of this theoretical elucidation is devoted to legitimize the use of a mythical and metaphoric language for the purposes of poetic communication. In Lucretius' view, the grain crops may be called 'Ceres', and the earth 'Mother of the Gods', provided that one does not adhere to false religious beliefs - a remarkably pragmatic position, echoing Epicurus' own attitude towards art, poetry, and human traditions[56].

Even in its most literarily refined argumentations, Lucretius' treatment of fertility is aimed at reinterpreting - and, so to speak, *physiologizing* - widely known conceptions. The heritage of ancient thought on generation is reassessed in light of Epicurus' salvific message, combining both constructive and deconstructive points. On the whole, the picture of cosmic order and life cycles emerging from *De Rerum Natura* can be described as a peculiarly Epicurean version of the *great chain of being* - the long-lived epistemological myth perceptively investigated by Arthur Lovejoy with special reference to the Platonic-Aristotelian tradition[57]. Differently from the line of thought which is the main subject of Lovejoy's classical study, Epicurean materialism sees the chain of being as a *circle* and not as a *ladder*. Instead of the concept of *scala naturae* and its teleological implications, Lucretius and Epicurus propose a radically *circular*

model of biological life, according to which fertility arises from the creative processes of atomic matter, and infertility (as well as death) derive from physical necessity.

Interestingly enough, Lucretius, too, is keen to exploit the charming notions of cosmic *plenitude* and *continuity*, which in Lovejoy's view lay the foundations of the great chain myth[58]. From an Epicurean perspective, however, the all-embracing cyclical continuity of natural life relies on the ultimately *discontinuous* character of matter, that is to say, on the shared atomic constitution of all beings. Behind the apparent *continuum* of fecundation, germination, and reproduction, as well as behind its frequent dysfunctions, there is a fragmentary universe of particles and void, wholly independent from divine will and religious rituals. No doubt, if Turia's husband had read the *De Rerum Natura,* he would have learned that no envious fate deprived him of the joy of parenthood. But he would have also learned that his wife's death was an irreparable and necessary loss.

BIBLIOGRAPHY AND NOTES

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1. *CIL* 6.41062. See now the editions of FLACH D. (ed.), *Die sogenannte Laudatio Turiae: Einleitung, Text, Übersetzung und Kommentar*. Darmstadt, Wissenschafticle, 1991; and DURRY M., LANCEL S. (eds.), *Éloge funèbre d'une matrone romaine (Éloge dit de Turia)*. Paris, Les Belles Lettres, 1992, largely based on DURRY M. (ed.), *Éloge funèbre d'une matrone romaine (Éloge dit de Turia)*. Paris, Les Belles Lettres, 1950; useful remarks can still

be found in: WISTRAND E. (ed.), *The so-called Laudatio Turiae*. Göteborg, Acta Universitatis Ghotoburgensis, 1976, and STORONI MAZZOLANI L., *Una moglie*. Palermo, Sellerio, 1982.

2. On the debate concerning the identification see FLACH D., note 1, pp. 1-8. A connection between the woman mentioned in the epitaph and the story of Vespillus' wife Turia (as related by Valerius Maximus, 6.7.2, and Appian, *Bell. Civ.* 4.44) was first established in the eighteenth century and later corroborated by Mommsen's authority (MOMMSEN T., *Gesammelte Schriften: Juristischen Schriften*. Berlin, 1905, vol. I, pp. 406; 416-417). Serious doubts about the Mommsenian *vulgata* were cast in the careful and influential edition of DURRY M., ref. 1 (whose scepticism was nonetheless criticized by GORDON A. E., *Who's who in the Laudatio Turiae*. Epigraphica 1977; 39: 7-12). A further (even less convincing) suggestion was made by DELLA CORTE F., L'autore della cosiddetta *Laudatio Turiae*. Giornale Italiano di Filologia 1950; 3: 146-149, according to whom the author of the *laudatio* is Milo's friend Duronius (cf. Cicero, *Att.* 5.8.2-3). See also WISTRAND E., ref. 1, pp. 9-11, and PIRO I., *Quod emancupata esset Cluvio: Riflessioni intorno ad alcuni passaggi della cosiddetta Laudatio Turiae*. In: Studi per Giovanni Nicosia. Vol. I, Milano, 2007, pp. 155-194: 155-156.
3. For a sensible discussion of the inscription's cultural relevance see HEMELRIJK E. A., *Masculinity and Femininity in the* Laudatio Turiae. Classical Quarterly 2004; 54(1): 185-197.
4. Cf., in particular, 2.25-28; 48-50; 54.
5. See the sympathetic description at 2.2a-20, which regrettably lacks a dozen lines.
6. See 2.31-33 (here and elsewhere, I accept the sound integrations of WISTRAND E., note 1): *diffidens fecunditati tuae [et do]lens orbitate mea, ne tenen[do in matrimonio] te spem habendi liberos [dep]onerem atque eius caussa ess[em infelix, de divertio] elocuta es, - vocuamque [do]mum alterius fecunditati t[e traditurum* […]. Turia's different and reiterated attempts to provide her husband with an heir are mentioned in 2.28-30. On the Roman recourse to divorce in cases of sterility see TREGGIARI S., *Roman Marriage: Iusti Coniuges from the Time of Cicero to the Time of Ulpian*. Oxford-New York, Oxford University Press, 1991, pp. 461-465 (and below, n. 38).
7. See the repeated occurence of the word in 2.31-33, as well as the rhetorical question concluding the section on Turia's divorce proposal (2.48-50): here *fecunditas* embodies the acme of an elaborated eulogistic remark.

8. *Fue[ru]nt optati liberi, quos aliqua[mdiu sors invi]derat. Si fortuna procede[re e]sset passa solemnis inservie[ns, quid utrique no]strum defuit? Procedens a[li]as spem finiebat*. While the term *fortuna* is incontrovertibly attested, *sors* is a plausible conjecture of the *CIL*, accepted by both DURRY M., note 1, p. 19, and WISTRAND E., note 1, p. 26. What is relevant to our present concern, however, is that the passage clearly hints at the fate's cruelty – a fact which neither Vollmer's alternative supplement (*aliquam[diu spes nostra praevi]derat*) nor Mommsen's unfounded suggestion that the spouses had a prematurely dead child (*fuerunt = nati sunt*) can call into question (cf. MOMMSEN T., note 2, p. 418, and the criticisms of DURRY M., note 1, p. 75, and WISTRAND E., note 1, pp. 51-52).
9. DIXON S., *The Roman Family*. Baltimore-London, Johns Hopkins University Press, 1992, p. 115.
10. Cf. 2.54-55: *nec libe[ros foturos mise]rum reliquisti*. Other supplements converge towards the same meaning, easily inferable from the context: e.g. *libe[ros habentem solum vi]rum* (*CIL*, followed by Durry); *libe[ros mihi tui simulac]rum* (Vollmer).
11. The Latin vocabulary of kinship is largely based on vegetable metaphors. In particular, the use of terms like *stirps* and *propago* ('root' and 'sucker', respectively) for the representation of family lineage points to the internal continuity of kin groups as transgenerational organisms. As BETTINI M., *Antropologia e cultura romana: Parentela, tempo, immagini dell'anima*. Rome, Carocci Editore, 1986, pp. 180-186, observes, similar symbolic patterns reflect an eminently *communal* (i.e. non-individualistic) interpretation of post-mortem survival. BELTRAMI L., *Il sangue degli antenati: Stirpe, adulterio e figli senza padre nella cultura romana*. Bari, Edipuglia, 1998, pp. 27-41, also highlights the 'biunivocal' character of these lexical shifts ('non sono utilizzate solo metafore arboricole per indicare la stirpe, bensì anche metafore "parentali" per designare parti di vegetali'). See now BRETIN-CHABROL M., *L'arbre et la lignée: Métaphores végétales de la filiation et de l'alliance en latin classique*. Grenoble, Jérome Millon, 2012, on the specificity of the Roman metaphorical system (or 'matrice métaphorique').
12. On the *Lupercalia* and their connection with Roman beliefs on fecundity, purification, and divine protection see POETSCHER W., *Die Lupercalia: Eine Strukturanalyse*. In: ID., *Hellas und Rom: Beiträge und kritische Auseinandersetzung mit der inzwischen erschienenen Literatur*. Hildesheim, 1988, pp. 517-546, and WISEMAN T. P., *Remus: A Roman Myth*. Cambridge, Cambridge University Press, 1995, pp. 77-88. Scholars put forth different

readings of the festival's original meaning (cf. NORTH J. A., *Roman Religion*. Cambridge-New York, Cambridge University Press, 2000, pp. 47-50) and occasionally argued that fertility became a central element only at a later stage. However, the importance of fertility symbolism in the late Republican *Lupercalia* is indubitable. The popularity of the festival in the first century BC is witnessed also by the famous episode of Caesar's refusal of the crown as well as by the institution of a third kind of *Luperci*, the so-called *Luperci Iulii* (see NORTH J. A., *Caesar at the Lupercalia*. Journal of Roman Studies 2008; 98: 144-160, and FERRIÈS M. C., *Luperci* et *Lupercalia de César à Auguste*. Latomus 2009; 68(2): 373-392). On the *Nonae Caprotinae* and their significance as a ritual connecting cosmic and feminine cycles see DROSSART P., *Nonae Caprotinae: La fausse capture des Aurores*. Revue de l'histoire des religions 1974; 185: 129-139, and ÁLVAREZ MAURÍN P., *Nonae Caprotinae y Poplifugia: Interpretación conjunta*. Estudios humanísticos 1991; 13: 21-31. Curiously enough, scholars like WISTRAND E., note 1, p. 55, speculated that Turia herself may have participated in festivals like the *Lupercalia* or the *Nonae Caprotinae*, as the inscription alludes to her strenuous attempts to overcome infertility (2.28-30).

13. See frs. 329-332 in Usener 1887, 225 (gathering the *testimonia* of Aëtius and Censorinus). As BROWN R. D., *Lucretius on Love and Sex: A Commentary on De Rerum Natura IV, 1030-1287*. With Prolegomena, Text, and Translation. Leiden, 1987, p. 323, remarked in his commentary on *DRN* 4.1209-1232, 'except on the existence of female seed, there is a complete lack of evidence for Epicurus' views on the subjects discussed in this and the following paragraph. Perhaps Lucretius based his discussion on pre-Epicurean sources such as Democritus, Hippocrates, and Aristotle, but it may be more likely that he used a lost treatment of these matters by Epicurus himself or a follower'. The Herculaneum papyri have indeed preserved an interesting Epicurean text dealing with procreation and embryology (*PHerc* 908/1390), to which I shall later refer. Since the studies of COMPARETTI D., *Relazione sui papiri ercolanesi*. In: COMPARETTI D., DE PETRA G. (eds.), *La Villa ercolanese dei Pisoni: I suoi monumenti e la sua biblioteca*. Torino, 1883, pp. 57-88, and COSATTINI A., *Per un'edizione critica dei frammenti del* Περὶ φύσεως *d'Epicuro*. Rivista di Filologia e di Istruzione Classica 1905; 33: 292-308, scholars have reasonably inclined to ascribe such text to Epicurus' *On Nature* (see now PUGLIA E., *Verso una nuova edizione dell'opera adespota sulla procreazione conservata da PHerc 908/1390*. In: EL-MOSALAMY A. H. S. (ed.), *Proceedings of the XIX International Congress of Papyrology* (Cairo,

2-9 September 1989). Cairo, 1992, vol. I, pp. 179-188: 179-181), but one should not forget that other Epicurean thinkers like Zeno of Sidon showed interest in gynecological matters (cf. ANGELI A., COLAIZZO M., *I frammenti di Zenone Sidonio*. Cronache Ercolanesi 1979; 9: 47-133, 125-126). In any case, the very presence of a treatise on procreation (apparently dating back to the 3rd/2nd century BC: CAVALLO G., *Libri scritture scribi a Ercolano: Introduzione allo studio dei materiali greci*. Napoli, 1983, pp. 30; 56-58) in Philodemus' library bears witness to the importance of the theme for Roman Epicureanism.

14. The literary and philosophical myth of the great chain of being was famously investigated by LOVEJOY A. O., *The Great Chain of Being: A Study of the History of an Idea*. Cambridge, MA, Harvard University Press, 1936, in what is now considered the birth act of the history of ideas.
15. For a comprehensive discussion of this section and its ethical-scientific meaning see BETENSKY A., *Lucretius and Love*. Classical World 1980; 73(5): 291-299, and BROWN R. D., note 13.
16. 4.1209-1232. On the significance of family resemblances in Roman traditional imagery (with special regard to the father/male child relationship) see BELTRAMI L., note 11, pp. 19-22, and LENTANO M., *La prova del sangue: Storie di identità e storie di legittimità nella cultura latina*. Bologna, 2007, pp. 147-192. Lucretius' use of idiomatic expressions like *maiorum referre vultus* (1224) clearly echoes a culturally embedded conception of kinship and clan identity (cf. e.g. Seneca, *Troad*. 647-648, and Catullus, 61.209-223). It has been pointed out that the treatment of fertility follows that of hereditary resemblance in other sources as well (see ERNOUT A., ROBIN L. (eds.), *Lucrèce, De rerum natura: Commentaire exégétique et critique*. Paris, Les Belles Lettres, 1962², vol. II, pp. 303-304, and BROWN R. D., note 13, p. 336, quoting Aëtius, *Plac*. 5.5.13-14, and Pliny, *Nat. Hist*. 7.57 ff.). But similar remarks should not divert our attention from the equally relevant fact that Lucretius chooses to focus on a relatively restricted range of topics among those potentially involved in the problem of reproduction. The comparison with Aëtius' discussion is particularly striking. Indeed, it is difficult to escape the impression that the poet's extensive treatment of intergenerational resemblance (23 lines altogether) and matrimonial fertility (1248-1277) reflects fundamental concerns of Roman society. It is noteworthy that, while scarse attention is paid to the vexed medical issue of sex-determination (for which see Hippocrates, *Genit*. 6-11, a text often compared to Lucretius' account: LONIE I. M., *The Hippocratic Treatises 'On Generation', 'On the Nature*

of the Child', 'Diseases IV'. Berlin-New York, De Gruyter, 1981, p. 121, and LANDOLFI L., *Simulacra et pabula amoris*: *Lucrezio e il linguaggio dell'eros*. Bologna, 2013, pp. 147-165), so much emphasis is put on the discussion of kinship-related themes.

17. *DRN* 4.1233-1247. Translations from *De Rerum Natura* are those of MELVILLE R., *Lucretius, On the Nature of the Universe*. Oxford-New York, Oxford University Press, 1997.
18. See e.g. LANATA G., *Antropocentrismo e cosmocentrismo nel pensiero antico*. In: CASTIGNONE S., LANATA G. (eds.), *Filosofi e animali nel mondo antico*. Pisa, ETS, 1994, pp. 15-49, 31-32 (further references in: TUTRONE F., *Filosofi e animali in Roma antica: Modelli di animalità e umanità in Lucrezio e Seneca*. Pisa, ETS, 2012, pp. 57-72). On the paramount importance of sacrifice in both Greek and Roman culture see the classical surveys of VERNANT J. P., *Entre bêtes et dieux. Des jardins d'Adonis à la mythologie des aromates*. In: DETIENNE M. (ed.), Les jardins d'Adonis. Paris, Gallimard, 1972, pp. 203-248, and DETIENNE M., VERNANT J.-P. (eds.), *La cuisine du sacrifice en pays grec*. Paris, Gallimard, 1979; as well as the recent reappraisal of GILHUS I. S., *Animals, Gods and Humans: Changing Attitudes to Animals in Greek, Roman and early Christian Ideas*. London-New York, 2006.
19. See Philodemus, *Piet*. cols. 790-797; 877-896; 1849-1852. As OBBINK D., *The Atheism of Epicurus*. Greek, Roman and Byzantine Studies 1989; 30: 187-223, 200 pointed out, 'for Epicureans, the restriction of divine attributes to those compatible with blessedness and imperishability is less a devaluation of traditional forms of piety than a source of a deeper psychological dimension of religious ritual. Thus traditional forms of worship are regarded as a natural response to the recognition of the divine nature, and are not only tolerated by Epicurus but recommended to his followers' (see also OBBINK D. (ed.), *Philodemus, On Piety: Part I*. Oxford, Oxford University Press, 1996, pp. 9-11). On a properly conceptual level, the possibility of using traditional religious notions - provided that one does become contaminated with superstition - is recognized by Lucretius as well. Particularly compelling evidence is provided by the conclusion of the *Magna Mater* passage (2.655-659), on which I shall focus in the last section of this paper.
20. See especially the polarity between a religious and a naturalistic view of *pietas* in 5.194-1203. But cf. also the famous sacrificial scenes of 1.84-101 (Iphigenia) and 2.352-366 (the calf). Following FURLEY D. J., *Cosmic Problems: Essays on Greek and Roman Philosophy of Nature*. Cambridge,

Cambridge University Press, 1989, pp. 172-182, SEDLEY D., *Lucretius and the Transformation of Greek Wisdom*. Cambridge, Cambridge University Press, 1998, p. 30, has made the very persuasive claim that Lucretius' standpoint is influenced by Empedocles.

21. See now KONSTAN D., *Epicurus on the Gods*. In: FISH J., SANDERS K. R. (eds.), *Epicurus and the Epicurean Tradition*. Cambridge-New York, Cambridge University Press, 2011, pp. 53-71, and ESSLER H., *Glückselig und unsterblich: Epikureische Theologie bei Cicero und Philodem*. (mit einer Edition von PHerc. 152/157, Kol. 8-10). Basel, 2011 – both arguing for a 'realist' interpretation of Epicurus' idea of the gods. An 'idealist' reading of Epicurean theology (according to which Epicurus regarded the gods as innate thought-contructs) was already advanced in the nineteenth century and gained new strength after the publication of LONG A. A., SEDLEY D., *The Hellenistic Philosophers*. Cambridge, Cambridge University Press, 1987, 2 vols. See, most recently, the forceful defense of SEDLEY D., *Epicurus' Theological Innatism*. In: FISH J., SANDERS K. R. (eds.), *Epicurus and the Epicurean Tradition*. Cambridge-New York, Cambridge University Press, 2011, pp. 29-52.
22. See Varro, *Ling. Lat.* 7.85 Müll, and Cicero, *Div.* 1.53.120; *Cat.* 2.13.29. Remarkably, in *De Rerum Natura numen* is often employed in its basic meaning of 'nod' or 'command', with reference to non-divine, merely physical realities: cf. 2.632; 3.144; 4.179 – but see, by contrast, the poet's 'traditional' use of the term in the *Magna Mater* passage, 2.623, where the goddess' *numen* is connected with frightening acts of violence.
23. Cf. ROMANO D., *Lucrezio: un intellettuale difronte al potere*. In: Id., *Sisyphos: Lucrezio e il potere ed altri saggi sulla letteratura tardorepubblicana ed augustea*. Palermo, 1990, pp. 7-14, 11-12: 'quest'avverbio, ricorrente nel poema, un intercalare che è carico di ironia e di commiserazione per chi erra nel buio, mostra una disincantata osservazione della condizione umana, che le illusioni di cui gli uomini nutrono la loro esistenza hanno reso greve di insicurezza e d'angoscia'. See also BROWN R. D., note 13, p. 242.
24. *CIL* 11.1.1129c.
25. BROWN R. D., note 13, p. 345-346, to whom I owe the mention of the Forum Novum *sortes*.
26. Cf. above n. 8.
27. See *Div.* 2.85-87. Cf. also Propertius, 2.32.3, and Suetonius, *Tib.* 63.1. Cicero maintains that in his day such a form of *divinatio* was falling into disuse – or, rather, that only the hoi polloi (*volgus*) had recourse to it. This scornful

assertion, however, seems more in line with Cicero's own neo-Academic denigration of ritual practices than with the actual situation of the late Republic. To be sure, divination figured prominently among the topics of the first century intellectual debate. See SCHOFIELD M., *Cicero for and against Divination*. Journal of Roman Studies 1986; 76: 47-65, 49; 'no area of religion was more written about in late Republican Rome than divination. We know of (but little about) numerous books on augury, mostly by men who - like Cicero - were themselves augurs; the Latin version of the *disciplina Etrusca* made by A. Caecina, one of Cicero's correspondents, was "a major event"; and divination figured largely in the massive works of learned speculation composed by Cicero's acquaintances Nigidius Figulus and M. Terentius Varro, the leading religious writers of the age'.

28. Cf. LE GLAY M., *Archéologie et cultes de la fertilité dans la religion romaine (des origines à la fin de la République)*. In: BONANNO A. (ed.), *Archaeology and Fertility Cult in the Ancient Mediterranean*. Malta, B.R. Grüner Publishing Company, 1986, pp. 271-292, 279-286 ; 'nous nous trouvons face à des *Fortunae*, dont les unes sont à la fois poliades et oraculaires, celles de *Praeneste* et d'*Antium*, dont les autres ne le sont pas, celles de Rome. En revanche, toutes sont déesses-mères, déesses de fértilité et de fecondité'. Le Glay notes that between the end of the Republic and the beginning of the Imperial age the situation of Rome's age-old fertility cults 'paraît dominée par deux phénomènes qui assurent leur survie: c'est d'abord la pénétration des religions orientals, en particulier des cults alexandrins d'Isis et de Sérapis, dont l'aspect de divinités de fertilité n'est pas négligeable. *Isis* parmi ses pouvoirs universels est *Fortuna*. Elle est *frugifera*. Elle est Bubastis, la déesse de la naissance et Thermouthis, déesse de fertilité. […] Un autre phénomène, moins religieux, plutôt porteur d'idéologie, a joué vers la même époque un rôle important: le développement du thème de l'âge d'or, du *saeculum aureum* marqué, on le sait, par le triomphe absolu de l'ordre e de la paix, générateurs d'abondance, fruit de la fertilité et de la fécondité'.
29. A case in point is Aristotle's influential explanation of spermatogenesis in *Gen. an*. 724b25-736a29. See HERITIER-AUGÉ F., *Semen and Blood: Some Ancient Theories Concerning Their Genesis and Relationship*. In: FEHER M. (ed.), *Fragments for a History of the Human Body (Part 3)*. New York, 1989, pp. 158-175.
30. On *adoleo* and its original meaning in the Roman ritual vocabulary see Nonius, 58.21 (*adolere verbum est proprie sacra reddentium, quod significat votis ac supplicationibus numen auctius facere*), Servius, *ad Aen*. 1.704; *ad*

Ecl. 8.65; and the philological reconstruction of GARCÍA-HERNÁNDEZ B., *Alo: aboleo, adoleo y deleo. Un grup lexemático mal reconocido*. In: NIETO IBÁÑEZ J. M. (coord.), *Lógos Hellenikós: Homenaje al Profesor Gaspar Morocho Gayo*. Leon, Universidad de Leon, 2003, vol. 1, pp. 105-121, 109-112, who persuasively ascribes such verb to the family of *alo*, and hence to the basic notion of 'hacer crescer, acrecentar' (*contra* ERNOUT A., *Philologica*. Paris, 1946, vol. I, pp. 54-56, who saw 'faire flamber, réduire par la flamme' as the primary meaning of *adoleo*). In his textual commentary, BROWN R. D., note 13, pp. 344-345, touches upon the above-mentioned metaphoric connection, but prefers to keep within the lines of a conjectural suggestion – apparently because of Ernout's authoritative etymology.

31. See now the comprehensive reappraisal of HÉNAFF M., *The Price of Truth: Gift, Money, and Philosophy*. Stanford, CA, 2010 (orig. ed. *Le prix de la vérité: Le don, l'argent, la philosophie*. Paris, 2002, pp. 148-241); 'before the movements of goods between humans through gifts and countergifts, a first gift came from the ancestor or the gods; the latter symbolized by the *sacra*, and humans reply to it through offerings, words of gratitude, prayers, and in certain cases sacrifices' (pp. 151-152). Among the several surveys exploring such a line of research, one should cite at least the work of VAN BAAL J., *Offering, Sacrifice and Gift*. Numen, 1976; 23: 161-178, which variously revised the approaches of Marcell Mauss and Edward Burnett Tylor. A stimulating anthology of scholarly interpretations of sacrifice (often resorting to the categories of gift theory) can be found in: CARTER J., *Understanding Religious Sacrifice: A Reader*. London-New York, Jeffrey Carter, 2003.
32. The adjective *maestus* (1236) recurs very rarely in the poem. Apart from a few occurences in the plague episode (6.1152, 1233, 1281), it is only used to describe the mournful attitude of Agamemnon (1.89) and Iphigenia (1.99) during the sacrifice (cf. BROWN R. D., note 13, p. 343). No doubt, this notable lexical fact mirrors Lucretius' identification of inner despondency and religious mentality – especially *sacrificial* mentality.
33. See frs. 23-24 in the partial re-edition of PUGLIA E., note 13 (see also PUGLIA E., *Altri frammenti del papiro ercolanese sulla procreazione*. In: CAPASSO M. (ed.), *Papiri letterari greci e latini (Papyrologica Lupiensia 1)*. Galatina, Congedo Editore, 1992, pp. 155-160, and my remarks above, n. 13). Indeed, Lucretius' discussion of the sperm's potential difficulties in adhering to the womb closely resembles some of the papyrus' main arguments (cf. PUGLIA E., note 13, pp. 186-188). Of course, if the Herculaneum fragments belonged to Epicurus' *On Nature* (as supposed by USENER H.

(ed.), *Epicurea*. Leipzig, Teubener, 1887, p. 129, who included them among the remains *incertorum librorum*), this could support the thesis of SEDLEY D., note 20, pp. 134-165, about Lucretius' re-use of his master's *magnum opus*.

34. A quick doxographic overview of the ancient thinkers' standpoints is provided by Censorinus, *Die Nat*. 5.4. See the now classical work by LESKY E., *Die Zeugungs- und Vererbungslehren der Antike und ihr Nachwirken*. Wiesbaden, 1951, as well as the careful survey of LLOYD G. E. R., *Science, Folklore and Ideology: Studies in the Life Sciences in Ancient Greece*. Cambridge, Cambridge University Press, 1983, pp. 86-111, who devotes great attention to the cultural-folkloric issues underlying biological theories. Insightful observations, with special regard to the Aristotelian tradition and the *Corpus Hippocraticum*, can also be found in: SISSA G., *Il corpo della donna: lineamenti di una ginecologia filosofica*. In: CAMPESE S., MANULI P., SISSA G. (eds.), *Madre materia: Sociologia e biologia della donna greca*. Torino, Boringhieri,1983, pp. 83-145, and DEAN-JONES L. A., *Women's Bodies in Classical Greek Science*. Oxford, Clarendon Press, 1994, pp. 148-224.
35. See e.g. *GA* 726a29 – 727a30.
36. See *SVF* 1.126-129; 2.741-750. The fragments make frequent mention of Zeno and Chrysippus, who both discussed spermatological and embryological issues in view of their physical and psychological relevance (cf. KOHNKE F. W., Γαστὴρ ἐργαστήριον φύσεως*: Ein Chrysippzitat*. Hermes 1965; 93: 383-384, and EUNYOUNG JU A., *Chrysippus on Nature and Soul in Animals*. Classical Quarterly 2007; 57(1): 97-108). Reproduction is seen by the Stoics as one of the eight parts of the soul (the so-called σπερματικὸν or γεννητικόν μέρος: *SVF* 2.827-833), and the well-known explanation of the cosmological activity of λόγος through a 'seminal' imagery emblematically reflects the Stoic interest in this side of physiology (cf. WILDBERGER *J., Seneca und die Stoa: Der Platz des Menschen in der Welt. Berlin-New York, The Gruyter, 2006*, vol. I, pp. 205-243). Notably, Hierocles' *Elements of Ethics* start with a foundational account of embryology (1.1-30), reporting 'the Stoic notion that it is the paternal seed that instigates the entire developmental process of the new creature' (RAMELLI I., *Hierocles the Stoic: Elements of Ethics, Fragments, and Excerpts*. KONSTAN D. (transl. by), Atlanta, SBL, 2009, p. 37; see also BASTIANINI G., LONG A. A., *Ierocle: Elementi di Etica*. In: Corpus dei Papiri Filosofici Greci e Latini (CPF), Vol. 1.1.2, Florence, L.S. Olschki1992, pp. 296-451, 368-380). Diogenes of Babylon had analoguous scientific interests (TIELEMAN T., *Diogenes of Babylon and*

Stoic Embryology: Ps. Plutarch, Plac. *V 15.4 Reconsidered*. Mnemosyne 1991; 44: 106-125.), and there is clear evidence that the Stoics dealt specifically with the causes of infertility (Aëtius, *Plac*. 5.9.2; 5.13.2 = *SVF* 2.751-752). As concerns the late Republican debate, the circulation of Stoic spermatological tenets among Latin writers is confirmed by Varro's mention of Zeno (*Ling*. *Lat*. 5.59 = *SVF* 1.126).

37. The use of the syntagma *pater a gnatis* at the beginning of the purposive clause – before the introductive *ne* – is intended to emphasize the grief connected with male childlessness. And the pathetic effect is enhanced by the depiction of children as 'sweet' (*dulcibus*)
38. Cf. LLOYD G. E. R., note 34, p. 84: 'although [...] some theorists held that the contribution of the female parent is on a par with that of the male, there is, on the whole, little recognition, in the gynaecological works, that failure to conceive may be due to the male as much as to the female'. This prejudice was particularly deep-rooted in the Roman world, where men were put under great pressure to quickly generate legitimate heirs (ideally within the first five years of marriage: Seneca the Elder, *Contr.* 2.5; Quintilian, *Decl*. *Min*. 251) and were induced to divorce from seemingly barren wives. See GARDNER J. F., *Women in Roman Law and Society*. London, Croom Helm, 1986, p. 62; 'Roman jurists mention sterility among typical causes of divorces by consent; however, a certain asymmetry is evident. Although male sterility was recognized as a possibility, almost all our evidence relates to divorce on the grounds that the wife had not produced children. Given the state of medical knowledge and techniques in the ancient world, it was not an unnatural assumption, except where the husband was actually impotent, that the deficiency lay with the wife'.
39. It is no accident that the very next section of Book 4 (1248-1259) describes the case of women *and* men who have children after a first infertile marriage (that is, once they have found a biologically compatible partner). Note also that the argument about temporarily barren wives (1251-1253) is cited *before* that concerning husbands (1254-1256).
40. As usual, it is quite difficult to determine whether Lucretius had in mind Aristotle or the Stoics, but the Stoics' faith in a divine providence ruling the natural phenomena and their positive consideration of religious practices, including sacrifice and divination, make them the most probable candidates. Generally speaking, while scholars like FURLEY D. J., *Lucretius and the Stoics*. Bulletin of the Institute of Classical Studies of the University of London 1966; 13: 13-33; and SEDLEY D., note 20, pp. 62-93, questioned the

very presence of anti-Stoic attacks in *De Rerum Natura*, other interpreters pointed to Lucretius' awareness of conteporary debates – in which, of course, Stoic doctrines played a central role (see especially KLEVE K., *The Philosophical Polemics in Lucretius: A Study in the History of Epicurean Criticism*. In: GIGON O. (ed.), *Lucrèce: XXIV Entretiens Hardt sur l'Antiquité Classique*. Vandoeuvres-Genève, Fondation Hardt pour l'ètude de l'antiquitè classique, 1978, pp. 39-75; SCHRIJVERS P. H., *Lucrèce et les sciences de la vie*. Leiden-Boston-Cologne, Brill, 1999; and LÉVY C., *Lucrèce et les Stoïciens*. In: POIGNAULT R. (ed.), *Présence de Lucrèce*. Actes du Colloque tenu à Tours, 3-5 décembre 1998. Tours, 1999, pp. 87-98.).

41. As KONSTAN D., *A Life worthy of the Gods: The Materialist Psychology of Epicurus*. Las Vegas, Parmenides Publishing, 2008, pp. 27-77, has perceptively shown, Epicurean philosophy establishes an intimate causal connection between fear of death, irrational desires, and never-ending anxiety. In Epicurus' view, man's need for sustenance and safety leads him to pursue deceptive goals such as richness and glory, and these, in turn, can only increase his inner turmoil. While investigating the complex dynamics of such a vicious cycle, Konstan pays particular attention to the evidence provided by Lucretius (see esp. *DRN* 3.59-86; 978-1023).
42. The epic finale of Book 2 (1105-1174), which is a sort of Epicurean treatment *de generatione et corruptione*, puts special emphasis on the analogy between individual and cosmic life. As SCHRIJVERS P. H., *Le regard sur l'invisible: Étude sur l'emploi de l'analogie dans l'oeuvre de Lucrèce*. In: GIGON O., note 40, pp. 77-121: 95-101, observes, in similar passages it is not the body of living beings which appears as a *microcosm*, in the proper sense. Rather, animal bodies and their biological functions provide the very basis for the analogy, and the physical world results in a *makranthropos*. This detail is not irrelevant, as the Epicureans denied that the earth is an ensouled living entity (see also SOLMSEN F., *Epicurus on the Growth and Decline of the Cosmos*. American Journal of Philology 1953; 74: 34-51, and TAUB L., *Physiological Analogies and Metaphors in Explanations of the Earth and the Cosmos*. In: HORSTMANSHOFF M., KING H., ZITTEL C. (eds.), *Blood, Sweat and Tears: The Changing Concepts of Physiology from Antiquity into Early Modern Europe*. Leiden-Boston, Brill, 2012, pp. 41-63, 55-58). Especially significant is Lucretius' comparison between the earth of his day and a woman worn out by bearing offspring (1150-1163): infertility *lato sensu* is here recognized to be a purely physiological fact, depending on time and other material variables (see also 5.821-836, to which I shall now refer).

43. This is not the place to discuss the several readings of the poem's opening that have been proposed since the Renaissance. It may suffice to recall the interpretations of GIANCOTTI F., *Il preludio di Lucrezio e altri scritti lucreziani ed epicurei*. Messina-Florence, D'Anna, 1978, pp. 201-217, and GALE M. R., *Myth and Poetry in Lucretius*. Cambridge, Cambridge University Press, 1994, pp. 208-228, who both highlight the emblematic value of the text as a representation of nature's life cycles (Gale, in particular, carries out an illuminating comparison between the proem and the Book 6 plague). On the proem's cosmological significance and its Empedoclean background see also FURLEY D. J., note 20, pp. 172-182, and SEDLEY D., note 20, pp. 1-34.
44. *DRN* 1.1-27.
45. Cf. 1.32-33. See now GARANI M., *Empedocles Redivivus: Poetry and Analogy in Lucretius*. New York-London, Routledge, 2007, pp. 34-43, who remarks on the poet's critical reinterpretation of Empedocles' thought: as Garani observes, Lucretius' poem 'is beyond any doubt permeated by images of the eternal cycle of growth and decay. In the first instance, Lucretius' evocation of Aphrodite, who reigns over creation in the proem, is full of terms pointing to nature's generating force' (11-12).
46. CLAY D., *Paradosis and Survival: Three Chapters in the History of Epicurean Philosophy*. Ann Arbor, University of Michigan Press, 1998, pp. 124-125. Clay goes on noting that 'Lucretius' invocation is pregnant with terms revealing *physis*/*natura* in its primitive sense of coming into being. The metaphor of Greek *physis* has become alive in Lucretius' *natura*, and it permeates its context'.
47. *DRN* 1.248-264.
48. *Theog*. 126-210.
49. Even the traditions of ethnography, physiognomy, and paradoxography are carefully recast by Lucretrius in light of Epicurean thought (cf. TUTRONE F., note 18, pp. 73-80; 87-98). On the re-use of classical myth, in particular, see GALE M., note 43.
50. 5.821-836. According to ANDREONI FONTECEDRO E., *La Grande Dea ovvero i volti della Natura (Una lettura di Seneca, Plinio e Lucrezio*. In: UGLIONE R. (ed.), *L'uomo antico e la natura*. Atti del Convegno internazionale di studi svoltosi a Torino 28-29-30, Aprile 1997. Turin, 1998, pp. 161-176, 170-176, all of Lucretius' poem bears witness to a rationalist, Epicurean reception of the Great Goddess myth and its fertility imagery: 'qui è vero che la dea appare spogliata del mito e dei simboli ed è solo *vis sine ratione*, ma

dell'unità trina della Grande Dea mantiene il profilo della *creatrix*, della reggitrice di morte, di signora della rigenerazione'.

51. For a historical-religious reading of the passage and its relationship to the ancient mystery cults see SUMMERS K., *Lucretius' Roman Cybele*. In: LANE E. N. (ed.), *Cybele, Attis and Related Cults: Essays in Memory of M. J. Vermaseren*. Leiden, Brill, 1996, pp. 337-365, who connects Lucretius' account with the Roman worship of Cybele. See also CRACA C., *Le possibilità della poesia: Lucrezio e la Madre frigia in De rerum natura II 598-660*. Bari, Edipuglia, 2000.
52. See the explanatory introduction to the rituals' depiction in 2.589-599.
53. In his well-known lecture, PATIN M., *Du poëme de la nature. L'Antilucrèce chez Lucrèce*. In: Id., Études sur la poésie latine. Paris, 1868, vol. I, pp. 117-137, made explicit reference to the first proem and the *Magna Mater* passage, arguing that long before Cardinal de Polignac published his polemic *Anti-Lucretius* (1747), Lucretius himself invalidated Epicurus' message by means of an inconsistent imagery. For a recent survey of this (now rightly discredited) line of interpretation see GALE M. R., *Introduction*. In: Ead. (ed.), *Oxford Readings in Classical Studies: Lucretius*. Oxford-New York, Oxford University Press, 2007, pp. 1-17, 2-4.
54. 2.644-645: *quae bene et eximie quamvis disposta ferantur, longe sunt tamen a vera ratione repulsa*
55. 2.646-654. As GALE M., note 43, p. 230, remarks, in this and other analogous contexts, Lucretius 'reveals the *hyponoia* of myth (the phenomenon which it was designed to explain) by juxtaposing it with *vera ratio* (the Epicurean account of the phenomenon), and repudiating the false association between the gods and the natural world. The mythological passages in the *DRN* thus act as a powerful polemical and didactic tool'.
56. Cf. 2.655-660. As the thoughtful studies collected in: OBBINK D. (ed.), *Philodemus and Poetry: Poetic Theory and Practice in Lucretius, Philodemus, and Horace*. Oxford-New York, Oxford University Press, 1995 show, Epicurus never disapproved of poetry and artistic fiction in a way comparable to Plato. His approach to similar non-philosophical matters (variously elaborated by later followers like Philodemus) focused primarily on the practical consequences of each behaviour from the perspective of the sage's peacefulness. As CLAY D., *Framing the Margins of Philodemus and Poetry*. In: OBBINK D. (ed.), note 56, pp. 3-14, 6; puts it, 'both Epicurus' precept and practice left wide open the question of whether, "in some circumstances" (as he liked to say in his work *On Lifecourses*), poetry might serve not only

as a source of entertainment but as a method of producing what is of benefit to life'. According to ASMIS E., *Epicurean Poetics*. In: OBBINK D. (ed.), note 56, pp. 15-34, 21; 'Epicurus distinguished between two uses of poetry, education and entertainment, and condemned poetry wholesale as education, while welcoming it as entertainment. […] Presumably, Epicurus held that it is a sufficient protection to come to a poetic performance with a philosophically trained mind. Epicurus adopted an analoguous position concerning religious ritual: the Epicurean participates in it freely, while discounting false religious beliefs. Both positions betoken a strong faith in human rationality'. Cf. also WIGODSKY M., *A Pattern of Argument in Lucretius*. Pacific Coast Philology 1974; 9: 73-78; ID., *The Alleged Impossibility of Philosophical Poetry*. In: OBBINK D. (ed.), note 56, pp. 58-68.

57. LOVEJOY A. O., note 14.
58. LOVEJOY A. O., note 14, pp. 24-66. As Lovejoy pointed out, in their account of natural life, Plato and his followers put special emphasis on the ideas of plenitude and graduation, whereas Aristotle tended to highlight the importance of biological continuity without turning from a basically hierarchical view of the cosmos.

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