

THE REPRODUCTIVE TECHNOLOGY OF THE PYTHAGOREANS

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THE “PROCREATIONIST” SEXUAL REGULATION is Pythagorean in its origins and guiding tenets. This principle dictates that men and women who engage in sexual intercourse should do so only in marriage and for the express purpose of procreation. It also requires that they should keep their sexual excitement as sedate as possible when they do make love to reproduce. In a more extreme version, this sexual precept further contends that persons must engage in no sexual activity other than procreationist, and hence heterosexual, intercourse. All other sexual activity, be it homoerotic, autoerotic, or heterosexual, is considered reckless and morally reprehensible. We see the procreationist rule first attested as a eugenic guideline in Plato’s last dialogue, the *Laws*, and in fragments from the *Pythagorean Declarations* of Aristoxenus, which was written sometime in the latter half of the fourth century B.C.E. The Pythagorean and Pythagorean-influenced supporters of this sexual rule strove to regulate the direction, disposition, and degree of sexual energy required for future parents to skillfully implant harmonious immortal souls into the mortal bodies of their offspring. Though procreationism began as a distinctively Pythagorean doctrine by the fourth century B.C.E., in its more extreme form it later came to be understood as God’s law in authoritative branches of Hellenistic Judaism and ecclesiastical Christianity. In this adapted mode the sexual principle became one of the more potent dictates to monitor human sexual conduct in western culture.

My argument strictly concerns the relevant Greek and Roman sources that are not part of Judaism or Christianity, so that we may better understand why the provenance and motives of procreationism are unambiguously Pythagorean. In addition to Plato’s *Laws* and Aristoxenus’ *Pythagorean Declarations*,¹ these sources include the Neopythagorean treatises of “Ocellus Lucanus” and “Charondas,” and the writings of Seneca and Musonius. The dictate owes its longevity, however, to the new life and recharged normative

1. The question whether procreationism also belongs to pre-Platonic Pythagorean thought cannot be determined. As far as we can know, this sexual principle first appears in Plato’s day and in his writings. There is no compelling evidence for demonstrably pre-Platonic Pythagorean principles of human sexual conduct, though W. Burkert suggests one based on Plato’s *Laws* 773e5–774a1 (*Lore and Science in Ancient Pythagoreanism*, trans. E. L. Minar [Cambridge, MA, 1972], p. 171, n. 42).

power it gains as God's word in the writings of Philo, Clement of Alexandria, and other patristic writers after Clement.²

PROCREATIONISM AS OPPOSED TO VALUING REPRODUCTION

At the outset, procreationism needs to be clearly distinguished from other normative ancient principles that consider reproduction to be the central goal of human sexual activity but do not strictly limit morally permissible sexual intercourse or sexual activity as a whole to a procreative function. The Stoics, for example, maintain that nature intends human beings to procreate and that the very shape of human genitals even declares this goal.³ Similarly, as a matter of popular belief, most ancient Greeks and Romans thought that the primary sexual roles of a free woman ought to be those of wife and mother.⁴ Though both of these principles make procreation a central function of human and especially of female sexuality, neither of them limits permissible human sexual activity strictly to the end of reproduction. Hence they are not procreationist. The Stoics argue that friendship is the primary goal of sexual activity, quite apart from its reproductive function. By the Stoic conception of human nature, human beings are "a mutually friendly animal."⁵ Insofar as human beings are "mutually friendly (φιλάλληλον)" by natural design, justifiable erotic love is generally "an impulse (ἐπιβολή) for the making of friends (φιλοποιία)." Beauty stimulates the impulse.⁶ For the Stoics the predominantly friendly purpose of human sexuality obviously includes the aptitude to procreate, as they indicate by the reproductive purpose they assign to the genitals. Neither in early nor later Stoic thought, however, is reproduction considered to be the sole justifiable purpose of human sexual relations. Antipater and Hierocles best characterize the later Stoic tradition in this respect.⁷ They continue to support Zeno's and Chrysippus' idea that

2. On this influence, see, for instance, Philo *Decal.* 119, *Praem.* 109–10, *Spec.* 3.32–33, 39–40; Clem. Al. *Strom.* 2.135, 3.24, 3.58, 3.71–72, 3.86, *Paed.* 2.92, 2.95.

3. Cic. *Fin.* 3.62 (SVF 3.340 = LS 57F); and see also Hierocles 502.15–20. ("LS" refers to the Stoic fragments in A. A. Long and D. N. Sedley, *The Hellenistic Philosophers* [Cambridge, 1987].)

4. See, for example, [Dem.] In *Neaeram* 59.122; Men. *Dys.* 842, *Sam.* 727; R. Just, *Women in Athenian Life and Law* (London, 1989), 135–51.

5. SVF 3.686 (Stob. 2.109.10–110.8). For the accordingly high value placed on friendship in early Stoic thought, see Diog. Laert. 7.124; Cic. *Fin.* 3.65–67; SVF 1.263 (Ath. 13.561c); and J.-C. Fraisse, *Philia: La Notion d'amitié dans la philosophie antique* (Paris, 1974), 333–419; note also A. A. Long's review, *CR* 29 (1979): 80–82. References to Stobaeus are to the volume, page, and line numbers of the edition of C. Wachsmuth and O. Hense, *Ioannis Stobaei anthologii* (Berlin, 1884–1909; reprint, Berlin, 1974).

6. SVF 3.650 (Stob. 2.115.1–4). Other relevant attestations are provided in Diog. Laert. 7.129, which refers to Chrysippus' περί ἔρωτος explicitly (= SVF 3.716, 718); SVF 3.717 (Stob. 2.65.15–66.13); 3.721 (scholia on Dion. Thrax [ed. Bekker]); 3.722 (Alexander Aphrodisias on Arist. *Top.* 2.109b3 in *Commentaria in Aristotelem graeca* II.2, 139.22–25 [ed. M. Wallies]). On *eros* as ἐπιβολή, which is "an impulse before an impulse," SVF 3.173 (Stob. 2.87.14–22), see in particular SVF 3.721 and 722, as well as SVF 3.650 cited above. For the early Stoic stipulation that sexual relations have a friendly purpose, note also J. Rist, *Stoic Philosophy* (Cambridge, 1969), 66 and M. Schofield, *Stoic City* (Cambridge, 1991), 34–35. In early Stoic thought, the friendly sexual relations are partly didactic, for they are meant to impart ethical training (Diog. Laert. 7.129). The physically sexual nature of early Stoic *eros* is discussed by Rist, *Stoic Philosophy*, 68 and D. Dawson, *Cities of the Gods* (New York, 1992), 191.

7. The Stoic Antipater studied here is the author of two tracts, περί γάμου and περί γυναικὸς συμβιώσεως, and he is identified only as "Antipater" in the excerpts from these works made by Stobaeus. Hence it is not clear whether the author in question is the more eminent second-century Stoic Antipater of Tarsus, whose *floruit* is ca. 133 B.C.E., or the lesser known first-century Stoic Antipater of Tyre, who died

the aim of mutual friendship provides sufficient justification for sexual activity, though the later Stoics confine this sexual expression of mutual friendship largely to the marriage bond, which Zeno and Chrysippus do not do.⁸ More broadly in Greek and Roman culture, finally, sexual mores were never confined to a strictly reproductive purpose, even within marriage.⁹ The procreationist dictate, however, gravitates strongly toward this restriction and also requires that the reproductive intent be accompanied by disciplined sexual restraint.

Modern scholars have largely failed to see the unusual nature of the procreationist dictate precisely because they have not distinguished it from the other widespread ancient norms that simply favor reproduction. They have accordingly found the pre-Christian origins of procreationism variably and mistakenly in Stoic thought as a whole, in Plato's *Republic* as well as the *Laws*, and even in Hellenistic morality at large.¹⁰ Thus the distinctively Pythagorean roots of and motives for advocating procreationism remain largely overlooked. This oversight has had a detrimental effect on our understanding of how the procreationist dictate in Hellenistic Judaism and patristic Chris-

ca. the mid-first century B.C.E. The latter wrote a book *περί κόσμου* (Diog. Laert. 7.139), and is said to have introduced Stoic ideas to Cato Uticensis. Von Arnim ascribes the tracts to Antipater of Tarsus in his 1903 edition of *SVF* (3.62–63), but he more prudently expresses doubts in his earlier *RE* article (1:2515–16), published in 1894.

8. The main change between early and later Stoic sexual ethics is the later Stoic argument that marriage is the best institution within which to carry out the friendly purpose of sexual relations, while Zeno and Chrysippus instead argue in favor of communal sexual relations. According to Antipater, the marital relationship is superior to any other kind of friendly bonding among people. It is perfect, like the inseparable blending of water and wine, whereas other relations of friendship are, by comparison, a mere mix of juxtaposed and separable beans. Husbands and wives bring about this perfect blending of friendship because only they share so much in common with one another, such as their children, property, spiritual life, and each other's bodies in a sexual way (Stob. 4.508.11–19). For the physically intimate connotations of body-sharing in ancient Greek marriage, Xen. *Oec.* 10.4–5 is worth noting. Ischomachus and his young wife are joined “so as to be partners in one another's bodies (τῶν σωμάτων κοινωνήσονται ἀλλήλοις).” The phrase “body sharing” was probably a fairly common Greek euphemism for sexual intimacies in marriage, for the wife replies, “So people say, at any rate (φασι γοῦν . . . οἱ ἄνθρωποι),” in response to her husband's statement that she and he are partners in one another's bodies. On the sexual explicitness of body partnership, see too S. Pomeroy, *Xenophon, “Oeconomicus”: A Social and Historical Commentary* (Oxford, 1994), 306. Hierocles similarly argues that human beings are predisposed by nature to live in heterosexual pairs. Given this definition, matrimony is an “appropriate and preferred” custom. Men should act accordingly by “sharing life with a wife” and producing children as “their truly divine fruit,” Stob. 4.502.11–20, 503.18–19, 503.24–505.7. The joys of this sexually grounded marital friendship are the greatest of all according to Hierocles.

9. In Athens, for example, husbands were allowed to engage in sexual relations with younger men, concubines, prostitutes, and female slaves. Though married women were chiefly used by their husbands and families for the production of legitimate children, they too, in theory, had other sexual venues, though we do not know how fully wives (as opposed to, for example, women who were not citizens) exercised these options. Women were not prohibited from female homoerotic relationships or autoeroticism. There is evidence for both kinds of practice (Pl. *Symp.* 191e2–5; and see B. Brooten, *Love between Women* [Chicago, 1996], 29–42; K. J. Dover, *Greek Homosexuality*, 2d ed. [Cambridge, MA, 1989, 102]; and S. Blundell, *Women in Ancient Greece* [London, 1995], pp. 100–105, with figs. 17–19). D. Cohen (*Law, Sexuality, and Society: The Enforcement of Morals in Classical Athens* [Cambridge, 1991], 133–70) suggests that Athenian wives had greater opportunity than it would *prima facie* seem to make love to men other than their husbands.

10. “In the *Republic* and the *Laws* Plato argued that sexual relations ought to be restricted solely to procreative intercourse in marriage,” J. A. Brundage, *Law, Sex, and Christian Society in Medieval Europe* (Chicago, 1987), 16. “Limiting sexual intercourse to the procreation of children was a common theme in the Hellenistic moral tradition,” O. L. Yarbrough, *Not Like the Gentiles* (Atlanta, 1985), 11; cf. W. Meeks, *The First Urban Christians* (New Haven, 1983), 101. Procreationism is “ein sehr weit verbreiteter Topos,”

tianity relates to its Greco-Roman precedents. Given the predominant scholarly view that procreationism is common currency in Hellenistic morality, its appearance in Philo and the church fathers seems simply to carry over a widespread and rather typical Hellenistic sexual norm into the patristic period and beyond. This is a false impression. The carry-over comes from Pythagorean thought rather than Hellenistic morality at large.¹¹ In order to see why, we must now explore the procreationist dictate and its Pythagorean underpinnings.¹²

PROCREATIONISM AND ITS PYTHAGOREAN MOTIVATION

According to Aristoxenus, the Pythagoreans whom he knew favored restricting human sexual activity to the maximum degree that was both possible and desirable for people to achieve: "There should be as many impediments as possible to the exercise . . . of human sexual activity (ἀφροδισίσις), which one must practice infrequently" (*Vit. Pyth.* 209–10).¹³ As the main impediment, the Pythagoreans set forth the teaching that human beings ought to

R. Harder, *Ocellus Lucanus* (1926; reprint, Dublin, 1966), 122. A. C. van Geytenbeek is rather anomalous in going to the other extreme, for he overly restricts the attested range of procreationism to Musonius, Philo, and Clement: *Musonius Rufus and Greek Diatribe* (Assen, 1963), 72–73. S. Goldhill takes van Geytenbeek at his word with one minor qualification (*Foucault's Virginity* [New York, 1995], p. 135 and n. 51). H. Preisner incorrectly attributes procreationism to Plutarch (*Christentum und Ehe in den ersten drei Jahrhunderten* [1927; reprint, Aalen, 1979], p. 19, n. 36). Plutarch (*Coniugalia praecepta* 38), however, believes that marital sexual activity is justified if motivated by friendship (especially after a quarrel), and hence he is not a procreationist. The relatively recent and popular scholarly position that procreationism is a Stoic teaching is *prima facie* plausible insofar as two thinkers generally classified as Stoics, Seneca and Musonius, support it. It does not follow, however, that procreationism is philosophically Stoic simply because two Roman Stoics happen to advocate it. Seneca and Musonius are anomalous as Stoics in supporting procreationism, as I argue below, for in Stoic sexual ethics, sexual activity is justified if practiced for the purpose of cultivating mutual friendship. Scholars who contend that procreationism is a Stoic teaching include J. Noonan, *Contraception* (Cambridge, MA, 1986), 46–49; L. W. Countryman, *Dirt, Greed, and Sex: Sexual Ethics in the New Testament and Their Implications for Today* (Minneapolis, 1988), 62; P. Brown, *Body and Society* (New York, 1988), 21; and D. Biale, *Eros and the Jews* (New York, 1992), 37–38.

11. An alternative possible hypothesis is ruled out, namely, that procreationism derives from the ancient Greek medical tradition. The procreationist position is not attested in this medical literature and is incompatible with prescribing contraceptive methods, which routinely appear there. See, for example, Hippoc. *Nat. mul.* 98 in É. Littré, ed., *Oeuvres complètes d'Hippocrate*, vol. 7 (1839; reprint, Amsterdam, 1979), 414; Gal. *De simplicium medicamentorum temperamentis ac facultatibus* 6.4.15–16, in C. G. Kuhn, ed., *Claudii Galeni opera omnia* (1821–33; reprint, Hildesheim, 1964); and Sor. *Gyn.* 1.61–63, in J. Ilberg, ed., *Gynaeciorum libri IV* (Leipzig, 1927). See also J. M. Riddle, *Contraception and Abortion from the Ancient World to the Renaissance* (Cambridge, MA, 1992), 16–24, 25–30, 33–38, 74–76, 82–84.

12. In arguing that procreationism is a distinctively Pythagorean doctrine, I am greatly strengthening C. J. de Vogel's more limited observation that this sexual principle appears in some Pythagorean sources (*Pythagoras and Pythagoreanism: An Interpretation of the Neglected Evidence on the Philosopher Pythagoras* [Assen, 1966], 179–81). De Vogel states that "moderation with respect to aphrodisia is mentioned several times" in the Pythagorean writings, and then adds that Aristoxenus, Ocellus, and Musonius support that sexual intercourse should be aimed only at producing children in a restrained and lawful manner. She does not, however, attempt to demonstrate, as I aim to do here, that the teaching is a specifically and originally Pythagorean doctrine, as opposed to a more widespread sexual norm that some Pythagoreans and Musonius happened to share.

13. The Pythagoreans whom Aristoxenus knew and recognized include at least the following: Xenophilus, with whom Aristoxenus studied prior to becoming a student of Aristotle (frag. 1 Wehrli), Phanton, Echebrates, Polymnastus, and Diocles of Phlius. According to Diogenes Laertius (8.46), these Pythagoreans were students of Philolaus and Eurytus. Aristoxenus also knew about other Pythagoreans, such as Archytas. Aristoxenus' father Spintharus was a friend of Archytas and told stories about him (Iambl. *Vit. Pyth.* 198); see too Burkert, *Love and Science*, 106–7 and 198. Aristoxenus somewhat tendentiously considered the members of this group to be "the last of the Pythagoreans," for to him they were the last Pythagoreans whose

direct any and all acts of heterosexual copulation toward the goal of purposeful and temperate reproduction. Their directive builds by binary concept division or *diairesis*. They separate acts of reproduction that are temperate and according to nature from those that are violently performed and contrary to nature, and they presume that this division is exhaustive. Any act of procreation is either one or the other. The temperate acts of reproduction are then further divided into deliberately reproductive and inadvertently reproductive acts. The Pythagoreans permit only the former, temperate and deliberately reproductive sexual activity: “One must do away with reproductive sex acts (γεννήσεις) that are contrary to nature and done violently.¹⁴ Among reproductive acts that are according to nature and done temperately, one must leave as admissible only those that are for the purpose of temperate and lawful reproduction of children” (Iambl. *Vit. Pyth.* 210).¹⁵ Therefore the Pythagoreans known to Aristoxenus are procreationist regarding acts of heterosexual copulation.

Aristoxenus’ testimony does not allow us to definitely identify Pythagoreans in his day as extreme procreationists, yet they are strongly inclined in that direction and likely advocated the strict position. He states only that reproductive sexual activity (γεννήσεις) must be temperate and deliberately procreative according to the Pythagoreans. He does not also say that γεννήσεις are the only kind of sexual activity in general that the Pythagoreans allow.¹⁶ Thus they could conceivably have permitted other kinds of sexual activity (e.g., manual, oral, inter-crural, anal), so long as vaginal-penile copulation itself remained strictly restrained and intent upon reproduction. If any such

thought and ideas mattered ever since their community in Croton became fragmented, unlike the uneducated followers of the Pythagorean way of life, who were lampooned in middle comedy; Iambl. *Vit. Pyth.* 251 and B. L. van der Waerden, *Die Pythagoreer: Religiöse Bruderschaft und Schule der Wissenschaft* (Zürich, 1979), 19, 164.

14. The term γεννήσεις here refers to reproductive sexual activity for two related reasons. First, the context of Iamblichus *Vit. Pyth.* 209–10 pertains to methods of sexual intercourse. Second, the semantic field of γέννησις and cognate terms primarily refers to the generative process from insemination through birth (e.g., γέννᾶν “to reproduce”; γέννημα “that which is reproduced” or “offspring, child,” for which see LSJ, ad loc. Note also Philolaus F13, “the genitals [αἰδοῖον] are the locale of insemination and reproduction [γεννήσιος].”) Since *Vit. Pyth.* 209–10 pertains specifically to acts of sexual insemination and discusses their purposes and degrees of reproductive intensity, γέννησις here signifies “reproductive sexual activity.”

15. This procreationist passage belongs to an extended excerpt from Aristoxenus’ *Pythagorean Declarations* (Πυθαγορικαὶ ἀποφάσεις), which appears in Iamblichus’ treatise on the Pythagorean way of life, 209–13 (*Vit. Pyth.*). Aristoxenus’ procreationist passage is also attested in a somewhat more abbreviated form in the Hellenistic Pythagorean treatise of “Ocellus,” *On the Nature of the Universe*, which contains a lengthy excerpt from the *Pythagorean Declarations* at sections 52–57, and section 55 in particular for the procreationist dictate (sections 52–57 = 137.6–138.12 of H. Thesleff’s edition). Stobaeus contains a very truncated version of the excerpt from the *Pythagorean Declarations*, which he expressly attributes to Aristoxenus, though Stobaeus omits the procreationist passage (Stobaeus 4.37.4 = frag. 39 in F. Wehrli, ed., “Aristoxenos,” in *Die Schule des Aristoteles: Texte und Kommentar*, vol. 2 [Basel, 1945]). On Aristoxenus’ authorship of the procreationist passage and the extended excerpt as it appears in Iamblichus’ *Vit. Pyth.*, see Harder, *Ocellus*, 134–45; Wehrli, “Aristoxenos,” 58; L. Deubner and U. Klein, *Iamblich: De vita Pythagorica liber* (Stuttgart, 1975), 113; and C. de Vogel, who collects the relevant ancient testimony in *Pythagoras and Early Pythagoreanism* (Assen, 1966), 269–70, sections 32b–c. See also Burkert, *Lore and Science*, p. 101, n. 17. All my references to Aristoxenus’ Πυθαγορικαὶ ἀποφάσεις are to the excerpts as contained in Iamblichus’ *Vit. Pyth.*

16. Plato in the *Laws* (838e5–6) similarly aims to restrict “reproductive sexual intercourse” (ἡ τῆς παίδουσις συνουσία) to deliberate and temperate reproductive sex acts. Plato does not eliminate the practice of all non-reproductive sex acts, except during the citizen’s time of procreative duty, as I discuss further below.

sexual activity were permitted, however, it would need rigorous justification given the Pythagorean desire to establish “as many impediments as possible to sexual activity.” Further, whatever sexual latitude might make its way around such impediments would have to be exercised within marriage. This is because other Pythagorean rules restrict sexual practices in general to the marriage bond. Followers of Pythagoras ideally should refrain from sexual activity in their early youth, marry, and maintain marital fidelity thereafter, and in general they ought to make sparing use of sexual activity throughout their lives (*Vit. Pyth.* 47–48, 57, 210).¹⁷ Hence even though Aristoxenus’ testimony does not technically commit his Pythagoreans to the position that copulation alone is permissible, they are unambiguously procreationist regarding acts of heterosexual copulation. Further, their sexual activity in general is confined to marital agency, the bond of husband and wife, which in popular ancient Greek thought mainly serves the purpose of reproduction. The minds of the husbands and wives influenced by the procreationist regulation would likewise be accustomed to this marital norm and habituated to associate the marital sexual experience with copulation. Within their more culturally specialized Pythagorean group, moreover, the married couples have learned that temperate and deliberate reproduction alone is fit for being praised, prescribed, and performed within their social group. Hence this is the only type of sexual intercourse that is unambiguously without impediment in their sectarian system of social values. These married couples, as we have seen, must put up “as many impediments as possible” to sexual activity. What trickles through these locks and dams on their sexual desire is either strict procreationism or a sexual norm verging closely on it.

The Pythagoreans advocate practices of strictly temperate and purposeful reproductive sexual activity for Pythagorean motives. Random copulation is undesirable and discordant to the harmonic intervals of the soul being embodied. As Aristoxenus indicates, the Pythagoreans interpret conception and birth to be an act of guiding a soul into embodiment or, more generally, an act of “leading someone into birth and existence” (*Vit. Pyth.* 212). The guiding needs to be orderly and harmonious. If the prospective parents fail to be temperate and intent on reproduction while copulating, then they are bad and even rather bestial leaders of the souls they are guiding into birth and existence. They reproduce “randomly and brutishly” and have offspring with bad moral character. Such unplanned parenting is unfit sexual behavior, due to the soul discordance that the Pythagoreans associate with letting conception happen as it may: “Wretched offspring (μοχθηρὰ σπέρματα) come from the bad (φάυλης), discordant (ἀσυμφώνου), and disturbing blending (ταραχώδους κράσεως) in reproduction” that fails to be temperate and purposeful (*Vit. Pyth.* 211).

The Pythagoreans limit permissible copulation to temperate and purposefully reproductive acts because of the discordant blending (ἀσύμφωνος κρᾶσις) that they attribute to random conception. This concern about pro-

17. The Pythagorean desire to restrict the exercise of the sexual appetite is a central part of their characteristic interest in controlling all physically appetitive behavior, for which see J. C. Thom, *The Pythagorean “Golden Verses”* (Leiden, 1995), 127–30.

creatively induced dissonance in the offspring is distinctively Pythagorean. In order for persons and their souls to have any capacity to become out of tune, their structure has to be a harmony of ratios. Only Pythagoreans or Pythagorean-influenced writers support this idea, for in ancient Greek thought Pythagoreans alone conceptualize the soul, human body, and other entities in terms of ratios yielding either harmony or degrees of disharmony.¹⁸ They formulated this idea at least a generation before Plato, moreover, for the Pythagorean Philolaus maintains that the soul is structured by harmonic ratios, at least in its well-ordered state.¹⁹ This notion of the soul as a harmonic structure of quantifiable ratios is distinct from the position that the embodied soul is nothing other than an epiphenomenon of the mortal harmony or balance of substances that make up the human body.²⁰ Finally, the reproductive technology in question presumes at its core the earliest known Pythagorean tenet—that human nature is a dualistic composite

18. In Pythagorean thought, souls and all other physical entities are structured by number, which means in part that they are structured by numeric ratios, for which see Burkert, *Lore and Science*, 40, and 28–52 *passim*, with the evidence from Aristotle evaluated therein. L. Zhmud (*Wissenschaft, Philosophie, und Religion im frühen Pythagoreismus* [Berlin, 1997], 261–79, esp. 268 and 270) attempts to reinstate and elaborate the theses of Frank and Cherniss (that Pythagorean number theory is an invention of Aristotle and Plato's successors in the Academy), but he does not effectively challenge Burkert's refutation of this argument, *Lore and Science*, p. 38, n. 50, p. 46, n. 97, and p. 86, n. 16. C. Huffman (*Philolaus of Croton: Pythagorean and Presocratic* [Cambridge, 1994], 64–74) has an interesting argument that Philolaus uses numeric ratios for epistemological purposes and thereby attempts to meet Parmenides' requirement for being and genuine knowledge. This argument, however, in no way precludes Philolaus from thinking all things, such as soul, actually have numbers as their structuring principle, and Philolaus (F4) is quite emphatic that they do. Huffman (*Philolaus of Croton*, 55–56) overly downplays Philolaus' point about things having number in an effort to free him from seeming a mere number mystic, as Kingsley notes in his review of *Philolaus of Croton*, *CR* 44 (1994): 294–96. W. K. C. Guthrie's discussion of Pythagorean number theory and cosmology remains worthwhile (*A History of Greek Philosophy: The Earlier Presocratics and the Pythagoreans* [Cambridge, 1962], 233–306).

19. Philolaus is committed to the position that the soul has harmony as its ordering principle, by which he means that it is ordered by harmonic intervals in numeric ratios. At the very opening of his lost book on nature (F1), he claims that “nature in the cosmos has been harmoniously structured (ἀρμόχθη) from [two unlike principles, οὐχ ὁμοῖαι] unlimiteds and limiters—both the entire cosmos and all things in the cosmos.” Compare F6, where he reaffirms and expands upon this point, and note also the stress on συναρμόχθη and ἀρμολογῆν in F2 and F7. Soul is one such entity for Philolaus, for he thinks that what animates human beings is soul (ψυχῇ) comprised of some substance, or mixture of substances, located in the heart (F13). The precise nature of soul substance is unclear. Thus by ἀρμόχθη in F1, Philolaus means that soul, like all else in the world, “is necessarily encased (συγκέκλεισθαι) by harmony” (F6), and hence that it has harmony. Unfortunately, though, no extant fragments explicate precisely how he conceptualized the embodied soul as an attunement in relation to the body. Still, we get a general idea from the genuine fragments. As Philolaus states, ἀρμονία has ordered the cosmos—and all things in it—through variations on the two principles (ἀρχαί) that he formulates, the “limiters and unlimiteds” (F6). Soul in an ordered state (of incessantly vibrant notes or air, perhaps, cf. Arist. *De An.* 404a16) would be one such arrangement. By ἀρμονία, further, Philolaus is referring to numeric ratios, which he maintains “knowable things have” and must have in order to be knowable (F6). These numeric ratios, finally, are concordant intervals, which Philolaus explicates in light of music theory (F6a). Therefore the soul is structured by numeric ratios as harmonic intervals according to Philolaus, at least in its ideal state. For the fragments of Philolaus and testimony cited above, see Huffman, *Philolaus of Croton*, 37–77, 93, 101, 123, 145–46, 226–27, 307, 323–26, 328–32. Consequently Macrobius is right to attribute the view that the soul is harmony to Philolaus (A23), despite Huffman's doubts (*Philolaus of Croton*, 326–28), even though Macrobius would be more precise to say that the soul *has* a harmony according to Philolaus, rather than that it *is* harmony. The latter claim can and has led to two mistaken views: first, the soul according to Philolaus is reducible to the numeric ratios that lend it structure; second, the soul on his view is nothing other than an epiphenomenal attunement of the body itself—the mortal song of the body that necessarily dies out when a person dies.

20. This position is the view Simmias offers in *Phaedo* 86d4 (that is, that the soul is a necessarily mortal “mix of bodily substances”), but it is not Philolaus' position. For Philolaus the soul's harmony is not reducible to being such a bodily epiphenomenon, for this would be to deny the soul any substantiality and harmonic structure of its own, which he does not do (F13). Hence his conception of the soul as harmony,

of an immortal soul in a mortal body.²¹ Only by presupposing this dualism can one intelligibly claim that reproduction somehow mixes the immortal soul and the body together in a way disturbing to the soul. Therefore procreationism is the birth child of Pythagorean thought insofar as the motives for promoting reproductive practices of the strictly temperate and purposeful kind are Pythagorean. Aristoxenus' testimony that this sexual regulation has a Pythagorean provenance consequently proves reliable for reasons internal to Pythagorean thought, and not for reasons depending more precariously on the reliability of Aristoxenus alone as a witness. Hence the regulation does not originate with Plato in the *Laws* even though he is the first on written record to use it. Its proponents are either Pythagoreans themselves, such as the persons Aristoxenus knew, or, like Plato in the *Laws*, deeply influenced by the distinctive ideas of this sect.²²

A passage in Plato's *Timaeus* helps further flesh out why the Pythagoreans think that willfully discordant procreation or "discordant blending" is so harmful to human well-being and character. Acts of human reproduction, Plato observes, bind an immortal soul into a mortal body in a manner inherently disturbing to the soul.²³ The soul is a structure of harmonic intervals or "cycles" (περίοδοι), as Plato here describes it, and the binding inevitably throws the embodied soul's intervals into some disharmony (*Ti.* 43c7–d2).

however he might have explicated it further in his largely lost book, is not the same as Simmias' argument in the *Phaedo*. The provenance of this argument (*Pl. Phdr.* 85e3–86d4) is uncertain. It may come from an ancient Greek medical milieu (Burkert, *Lore and Science*, 272), or it may be Plato's own idea to test whether the Pythagoreans had a defensible position by maintaining that the soul has harmony and is immortal. For the plausible view that Simmias' argument is Plato's invention, see H. B. Gottschalk, "Soul as Harmonia," *Phronesis* 6 (1971): 179–98. Thus W. K. C. Guthrie's discussion about Philolaus' attribution of harmonic intervals to the soul itself is on the right track (*History*, 212–29 and 306–19).

21. Diog. Laert. 8.36 = Xenophanes DK 21B7. The transmigration of immortal souls (which presupposes soul-body dualism) is "the one most certain fact in the history of early Pythagoreanism" (Burkert, *Lore and Science*, 120–23, esp. p. 120, n. 1). Huffman (*Philolaus of Croton*, 330–32) expresses reasonable doubt whether the Pythagoreans' belief in soul transmigration led them to have a defensible philosophical account of soul before Plato's day. Still, he takes doubt to an extreme to question whether the Pythagoreans, Philolaus included, believed in the soul's immortality. First, the Pythagorean belief in the soul's continual cycle of transmigration presupposes the soul's immortality. Second, according to Aristotle (405a30–b1), Alcmaeon of Croton supported the soul's immortality on the grounds that soul is "always in motion (ἀεὶ κινουμένη)" and that it is divine or god-like; see too Burkert, *Lore and Science*, p. 296, nn. 95–97. The Pythagoreans according to Aristotle similarly believed that soul, which is comprised at least partly of mores or the air that moves them, is "manifestly in constant motion (συνεχῶς φαίνεται κινούμενα)." This characteristic of incessant motion likely indicates that they too, like Alcmaeon, explicitly maintained that the soul is immortal by virtue of its being in constant motion. Further, it is a prominent part of the Pythagorean tradition from Plato onward that the soul is divine, godlike, and immortal, which is the other characteristic Alcmaeon of Croton ascribes to the immortal soul. On this tradition, see, e.g., Porphy., *Pyth.* 19 and van den Waerden, *Die Pythagoreer*, 116–22. Alcmaeon was acquainted with Pythagoreans in Croton and may have been one himself. By Zhmud's criterion he was Pythagorean (*Frühen Pythagoreismus*, 67–68, cf. *Vit. Pyth.* 267), by Huffman's, he was not (*Philolaus of Croton*, 11), and see further Burkert, *Lore and Science*, p. 289, n. 57.

22. Aristoxenus' testimony about procreationism does not depend on Plato's *Laws* for at least three reasons. First, there is one major difference between Aristoxenus' explanation of the procreationist rule and Plato's adaptation of procreationism in his hypothetical city of Magnesia, which I demonstrate below. Second, there are no verbal echoes between the phraseology of Aristoxenus and Plato on procreationism. Third, Aristoxenus had numerous Pythagoreans and their oral traditions on which to draw for his understanding of Pythagorean sexual principles (Diog. Laert. 8.46). This third point has considerable weight given the substantive differences between the *Pythagorean Declarations* and the *Laws* on procreationism and the absence of common phraseology.

23. *Ti.* 42e5–44d2. This passage gives an account of birth and of early childhood even though Plato presents the account in the narrative mode of a creation tale that happened once upon a time in the past, on which see F. Cornford, *Plato's Cosmology* (1937; reprint, Indianapolis, 1957), 147.

This discordance is partly unavoidable, for this soul condition is what causes infants and toddlers to be helpless, irrational, and inarticulate (*Ti.* 44a7–c4). However, if the disharmony is brought about through reproductive activity that is carelessly unrestrained, inadvertent, or both, then the harmful effects of embodiment on the soul linger on even after the children mature. In such persons, the soul as recklessly damaged instrument remains out of tune and thereby harms their ability to reason and act responsibly. Prospective parents consequently should be very restrained and deliberate in their acts of copulation so as to guide the soul into embodiment with the least possible turbulence. In this way they treat each soul they embody as the genuine Stradivarius that it is.

The Pythagorean supporters of temperate and deliberate reproduction give this sexual norm first priority on an agenda of social and familial reform. “The single greatest cause of wickedness and corruption,” they believe, arises from the common practice of adults producing future generations in flagrant disregard of the need to be restrained and purposeful about their reproductive task (*Vit. Pyth.* 213). The problem is an urgent matter, for the vast majority of parents-to-be are bad leaders in their acts of human reproduction (*Vit. Pyth.* 210, 213). They make love in a carefree and careless way and in so doing irresponsibly allow the souls of their offspring to crash-land into embodiment. The parents have only themselves to blame for the results: children who are roughly thrown together and grow to be depraved adults. If only the parents acted as good leaders of souls into embodiment, as the Pythagoreans urge them to do, then children would be conceived properly. The parents would see the immediate reward for their efforts, sons and daughters at the head of the human class. Society also stands to benefit greatly in the future. The rapid recovery of psychic harmony in the offspring means that the community as a whole will improve by becoming sound in mind, body, and character. This desirable social change is not possible so long as prospective parents copulate with reckless abandon rather than as restrained technicians. Therefore the Pythagoreans would very much like their procreationist dictate to become a widespread social norm. Prospective parents need to learn how finely wrought the immortal soul is, which they as yet fail to understand. In their deleterious ignorance they instead make love as though nothing were at stake for the soul and its delicate balance of harmonic intervals.

The Pythagoreans were already engaged in related measures to help reform sexual mores toward procreationism, at least within their own counter-cultural groups. They offered two ways to encourage people to comply with their procreationist reform. First, a strict diet. Uncontrolled consumption of food and drink stimulates the sexual appetite overmuch and leads it to transgress the limit of temperate and deliberate reproduction. Thus dietary restrictions are in order (*Vit. Pyth.* 211). Second, people should learn to take pride in being above animals on the Pythagorean scale of nature. They must refrain from blurring the difference by copulating as animals do, brutishly, randomly, in utter oblivion of the distinctively human ability to reproduce in a restrained and purposive way (*Vit. Pyth.* 213). Therefore people need to restrict their diet and to mind their assigned place in nature in order to attain

the good society for future generations. They must be ever temperate, ever restrained, and never like wild animals—nowhere more so than when they mindfully guide souls into embodiment and thereby give future generations a greater eugenic edge.

Plato in the *Laws* likewise requires the citizens of Magnesia to behave in a strictly procreationist way during their years of reproductive duty. The motivation for his eugenic regimen is similarly Pythagorean. First, in the *Laws* Plato blames practices of intemperate sexual activity for being nothing less than the single greatest cause of harm to people individually and to entire cities (*Leg.* 835c2–8, 836a6–b2). Unmanaged sexual activity gains such an alarming status in the *Laws* not simply because of the rampant consuming passions that Plato associates with unrestrained sexual and other appetitive activity in his dialogues as a whole.²⁴ Rather, in his last dialogue, and there only, he is also concerned about the presumed deleterious effects of uncontrolled sexual relations on the children thereby conceived and produced.²⁵ Sexual transgressions of the temperate and deliberately reproductive purpose are a kind of gross sexual violence, a “diseased, violent, and unjust” action that leads to offspring who are “uneven, untrustworthy, and crooked in moral character” as well as in body (775d1–e2). The Pythagoreans hold the same position according to Aristoxenus, as seen above. In order to do away with “the single greatest cause of wickedness and corruption” in society, they would like to put an end to *laissez-faire* reproduction in favor of the Pythagorean style of γεννήσεις (*Vit. Pyth.* 213). Similarly in the *Laws*, the citizens must engage only in temperate and deliberately reproductive sexual relations when they first get married and are in their prime of life (*Leg.* 783d8–e4). Plato, however, is distinctive in imposing a strict time limit on the procreationist restriction. In his hypothetical city the rule is in force either for as long as the couples have not yet produced the requisite number of children or throughout their procreative prime of life. Then the

24. Plato makes this particular association in numerous places throughout his middle and later dialogues. For instance, “The innate physical appetite for pleasures [of replenishment] . . . irrationally draws one toward [these] pleasures. If it prevails in us its name is licentious violence (ὕβρις) in a polyvalent sense . . . [For example,] when the physical appetite prevails over reason in relation to food and dominates among the appetites, it is gluttony [and the person is gluttonous] . . . and as for the names of the sibling appetites, the appetite that prevails is clearly the suitable term to apply to the person” (*Phdr.* 238a1–b5)—such as “drunkard” for the person who exercises his innate appetitive excess by attaching his consuming passion to wine. Similarly in the *Republic*, persons who suffer from “appetitive licentiousness” (ἀκολασία) reveal this condition by “getting drunk, stuffing themselves, and indulging in sexual activity” (425e5–426b2); note also *Phd.* 83b5–e1, *Resp.* 571b4–572b7, 573d7–574a1, *Ti.* 42a1–b2. The sexual appetite is particularly voracious according to Plato, e.g., *Ti.* 91b4–7, *Leg.* 782d10–e3.

25. The procreationist regimen that Plato presents in the *Laws* is far more restrictive than the set of reproductive norms he offers in the *Republic*. This is due to the *Laws*’ distinctive preoccupation with inculcating reproductive practices of an exclusively deliberate and temperate sort. The *Republic* argues only that city officials must monitor the frequency and coupling patterns of the guardians’ procreative activity (460a2–6, 459d7–9). It does not further demand that this activity be temperate and attentively purposeful. In the *Laws*, however, Plato not only adds this major qualifier, he enforces it with policing mechanisms (784a1–e1). The *Republic*, moreover, does not specify that procreant female and male guardians must engage only in reproductive sexual relations, let alone stigmatize male guardians for ejaculating in a nonreproductive manner during their time of reproductive duty. In the *Laws*, by contrast, the citizens during their procreative duty must be strictly reproductive, and during this time the male citizens are stigmatized for “killing the human race” if they ejaculate nonreproductively like negligent or wasteful craftsmen (838e4–8). The reproductive program in the *Laws* is thus far stricter than its counterpart in the *Republic* due to the *Laws*’ Pythagoreanizing adaptation of procreationist eugenics.

rule ceases to apply to them. Plato imagines that the rule will be in effect for no more than ten years on average per couple (*Leg.* 784b1–3). During this time and only then must their sexual interests be exclusively procreative: “the bridegroom must direct his mind to his bride and reproduction, and the bride must do the same,” especially when no children are born yet (783e4–7). In this time period the husbands are unconditionally prohibited from ejaculating in a willfully nonreproductive way. They must refrain from homoerotic sexual activity, masturbation, and acts of sexual intercourse that are either actively contraceptive or done with the desire not to reproduce.²⁶ They also must avoid engaging in sexual intercourse that is carelessly reproductive (838e4–839a6). Ideally, the citizens will come to consider such extraneous sexual activity unthinkable during their reproductive years and willingly avoid it without having to be monitored by civic authorities (837e9–838e1). However, in case the citizens prove sexually unruly, Plato has backup forces ready. The female overseers, police, and city council must, if need be, stop the procreant citizens from avoiding or sexually transgressing their strictly reproductive duty.²⁷ Married couples thus have no reproductive or sexual freedom for the years they are on child-bearing duty, for they are required to reproduce, and their reproductive behavior needs to be strictly procreationist.

After the citizens’ child-bearing years, however, Plato grants and expects them to exercise greater latitude in their sexual behavior. In the *Laws* he maintains that a lifelong adherence to strictly temperate and reproductive sexual behavior is both infeasible and undesirable. He requires his citizens to comply with this sexual standard only during the time it is their civic duty to procreate. Thereafter they will still be driven to serve Aphrodite and their sexual appetite on a regular basis. Plato permits such sexual relations only so long as the citizens do not reproduce and do not become outrageously licentious, such as by making a public show of it. Given his eugenic concerns, he is determined that persons must refrain from procreating once they have passed their prime.²⁸ After the citizens are done reproducing, he maintains, they should regard sexual moderation and “not complete sexual abstinence” as honorable (*Leg.* 841b4–5, 784e5–785a1).²⁹ They should act accordingly. In this way the citizens continue to serve Aphrodite properly (841a9–b2), as she compels them to do until they reach old age. Thus Plato

26. In *Laws* 838e4–839a6, Plato’s antipathy toward male homoerotic sexual activity is not unconditional. It applies only to men in their reproductive prime, *pace* Dover and J. Winkler in, respectively, *Greek Homosexuality*, 165–68 and *The Constraints of Desire* (New York, 1990), 18–19.

27. Transgressors who are proven guilty must be stigmatized in public. Their names should be posted in public view, they are prohibited from attending marriage and birth ceremonies, and other citizens may beat them with impunity if they dare to attend such ceremonies (783a1–e1). Plato thinks that the city’s procreative laws should cast dishonor and blame on those who disobey the laws, and should give honor and praise to those who obey them (631d6–632a2). On Plato’s methods of reinforcement see also M. Foucault, *The Use of Pleasure*, trans. R. Hurley (New York, 1985), 167–70.

28. Plato reveals his strictness on this matter both in the *Republic* and in the *Laws*. Since the guardians in the *Republic* are committed to producing “the best possible men and women” (*Resp.* 456d12–e4), transgressors of the age limit must either abort the fetus or expose the newborn infant. If they disobey, they commit a criminal act of impiety (*Resp.* 461a3–c7). In the *Laws*, similarly, citizens who transgress this rule are to be penalized and dishonored (*Leg.* 784e2–5).

29. On Plato’s claim that sexual moderation is in the interest of society at large, see also Foucault, *Use of Pleasure*, 61–62.

in the *Laws* is very selective about the time frame in which Pythagorean procreationism is a desirable and beneficial rule to follow.³⁰

In the *Laws* Plato further explicates his eugenic reason for insisting on a strictly temperate and procreative regimen for his childbearing citizens. Reproductive sexual activity, as he describes it in this dialogue alone, is a kind of cooperative baby-making craft, which requires, like other crafts, purposeful and restrained skill: “all persons who are partners in any enterprise produce fine and good products when they direct their mind to themselves and the activity, and do the opposite when they are inattentive” (*Leg.* 783d8–e4). If prospective parents are not deliberate and restrained in their acts of reproduction, then they fail to carry out this craft as they should. In their incompetence they produce badly wrought offspring, rather like, we may imagine, some careless woodworker whose furniture wobbles at the slightest touch.³¹ To copulate and conceive while drunk is particularly reprehensible. Intoxication especially hinders the sexual craftsmanship the prospective parents must show in order to shape embryos that are “well built, steady, and tranquil” (775c4–d4, 674b5–6). Further, the citizens are able to master this required skill only as part of a lifelong discipline of appetitive restraint. They cannot live a life of unrestraint and then hold their breath during love-making in an effort to look sedate. Rather, on a continual basis they must avoid all kinds of “diseased, violent, and unjust” activity in order for this eugenic program to succeed (775d4–e2). Thanks to their overall habituation to temperance, they have what it takes to be genuinely procreationist when they need this skill during reproductive intercourse. Plato’s *Laws* thus makes the first known attempt to institute the Pythagorean craft of procreationism, albeit in an as yet hypothetical society and not as a lifelong measure.

The related Pythagorean measures to bolster procreationism are also in Plato’s *Laws*. In this dialogue he maintains, along with the Pythagoreans, that dieting is a useful aid for the new technology of reproduction. Plato makes the same correlation they do between the excessive intake of nutrient and uninhibited sexual behavior. The former fuels the latter. Plato accordingly advocates dietary restrictions as well as an exercise regimen in order to “divert the nourishment” elsewhere that otherwise fuels the sexual appetite overmuch and detracts from procreationist eugenics (*Leg.* 841a6–8). Plato likewise concurs with the Pythagorean idea that human beings are above animals on the Pythagorean scale of nature, as he makes very clear at the end of the *Timaetus*.³² In the *Laws* he applies this idea to human sexual behavior. People “should be better than animals” in their sexual conduct, which they are, provided that they marry and follow the procreationist regimen in the *Laws*. Otherwise they reproduce without purposefulness and

30. In Aristoxenus’ testimony about this sexual rule at *Vit. Pyth.* 209–10, we see nothing of this major modification of the procreationist principle that Plato makes.

31. For the danger that Plato in the *Laws* associates with randomly reproductive sexual activity, see also Foucault, *Use of Pleasure*, 121–24.

32. The scale of nature begins with men at the top, who are followed in descending order by women, birds, four-footed animals, belly-slithering animals, and underwater animals. The further down the type of animal, the less able the animal is to exercise appetitive restraint and the more remote is its embodied soul from being able to reason philosophically so as to recollect the soul’s immortal nature (*Ti.* 90e6–92c3).

restraint in a brutish manner, in the style “of a four-footed animal,” as Plato describes it in the *Phaedrus* (250e4–5).³³ Plato in the *Laws* consequently shares the Pythagorean conviction that society should undergo rigorous reform in support of procreationist eugenics: eat food in limited amounts so as to avoid barnyard styles of copulation; honor your standing as rational biped by reproducing strictly in the avant-garde style formulated in Pythagorean thought. Plato takes the added step, however, of allowing and expecting his citizens to be sexually active without reproducing after the limited time frame in which they must abide by the procreationist dictate.

CHARONDAS

The *Preambles to the Laws*, which is a Hellenistic Pythagorean treatise under the pseudonym “Charondas” (hereafter simply Charondas), advocates procreationism in an unambiguously strict sense. This work is independent of Aristoxenus and Plato for its source material and was in circulation prior to the mid-first century B.C.E. Precisely when the treatise was written, however, remains unclear.³⁴ Charondas assumes that each man has or should have a wife and that the married couple should reproduce. To this extent his thought is consistent with mainstream Hellenistic sexual morality. Charondas then parts ways with the common marital mores of his era. He stipulates in no uncertain terms that the man must climax with his penis nowhere other than in his wife’s vagina and for the purpose of reproduction alone. Any other purpose is wild, licentious, and forbidden: “Each man must love his legitimate wife and procreate from her. Into nothing else should he ejaculate (προιέσθω) the seed of his children (τέκνων τῶν αὐτοῦ σποράν). He must not waste or abuse that which is honorable in nature and custom. Nature made seed (σποράν) for the sake of children, not for licentiousness (ἀκολασίας)” (62.30–33 Thesleff). Here Charondas thinks in a Pythagorean manner by the exclusive disjunction he makes between ejaculating for the motive of “procreation” (τεκνοποιία) or of “licentiousness” (ἀκολασία). Unless a man ejaculates into his wife to reproduce, then he does so for licentious reasons. Other possible justifications for sexual activity get left out of consideration, such as the Stoic argument that human beings should make love in order to promote mutual friendship. Charondas thus goes by the strict letter of his procreationist law. If male sexual activity is not motivated for the purpose of reproduction within marriage, then its motivation is licentiousness and must not occur. Procreationist sex acts within marriage are the only sexual activity Charondas would allow people to practice on a lifelong basis.

Charondas’ unconditional procreationism is incompatible with and far more inflexible than Plato’s use of the regulation in the *Laws*. Plato in the *Laws*, as we have seen, finds lifelong adherence to the temperate and purposely

33. Non-procreationist human reproduction is animal behavior from a Pythagorean perspective in part because it corrupts the embodied soul, and this corruption in turn causes the damaged soul to transmigrate later into an animal body (*Ti.* 90e6–92c3).

34. For the pseudonymous text of Charondas, I cite the page and line numbers of H. Thesleff’s edition, *The Pythagorean Texts of the Hellenistic Period*, Acta Academiae Aboensis, vol. 30 (Turku, 1965), 1–266. This work is earlier than the mid-first century B.C.E. because Cicero (*Leg.* 2.5.14) mentions it, and Diodorus Siculus (12.11.3–19.2) also knew and used a portion of the same or a similar pseudonymous treatise.

reproductive sexual dictate both impractical and harmful. Aphrodite's power is too strong, so let the citizens in reproductive retirement be encouraged to honor her in moderation. Charondas, by contrast, disallows such permissiveness. Unlike Plato, he brings the Pythagorean goal of impeding human sexual activity toward its furthest possible limit while still allowing reproduction within marriage. Only deliberately reproductive sex acts in marriage remain permissible.

As Charondas and Plato show especially well, a solemn reverence for semen goes along with the procreationist dictate. Charondas writes the procreationist ideal into the very words he uses to refer to a man's seed or semen. Semen is "the seed of one's children" and as such must be used strictly to produce them (62.31 Thesleff). Plato in the *Laws* likewise refers to semen normatively as "procreative fluid" (γόνιμον) and contends that ejaculation is wrong for reasons that are partly apparent in the very name γόνιμον. Semen is strictly reproductive fluid during the time a man must father his required number of children (*Leg.* 838e4–839a6). Their solemn reverence for semen comes to the fore particularly when Plato and Charondas deplore the misdirected use of this substance. A man who misdirects his semen non-procreatively "kills" and "wastes" both "his children" and even the entire "human race" (62.30–33 Thesleff, *Leg.* 837e7–8). Since semen as procreative fluid is at least one of the vehicles through which immortal souls come into embodiment, men must not destroy this liquid constituent of soul. Charondas adheres to this viewpoint unconditionally. A man is duty-bound to sow this sacred right-to-life substance only into his wife.³⁵ Plato's *Laws* likewise maintains that a man should not destroy this vital substance, but only during his period of reproductive duty. Thereafter he should waste it in accordance with his undeniable sexual needs. As Plato sees it, let the semen die once it has reached its expiration date, rather than use it for deficient reproduction.

OCELLUS

On the Nature of the Universe, which is pseudonymously attributed to "Ocellus" (hereafter simply Ocellus), likewise supports the strictly procreationist position. This Hellenistic Pythagorean treatise, which dates to around 150 B.C.E.,³⁶ is partly dependent on the *Pythagorean Declarations* by Aristoxenus for its support of this sexual regulation. Ocellus quotes Aristoxenus on this matter at length in sections 52–57. He also supports procreationism in his own words in sections 44–46.³⁷ I discuss Ocellus' own argument unless otherwise indicated.

35. For these Pythagorean-inspired reasons, Clement of Alexandria (*Strom.* 2.61.1–2) similarly maintains that a man who ejaculates inadvertently engages in involuntary manslaughter, while the man who willfully does so is in effect a murderer.

36. The Ocellus in whose name the pseudonymous treatise is written was a Pythagorean, for which see Iamblichus, *Vit. Pyth.* 267 and DK 1.440–41. The time by which *On the Nature of the Universe* was definitely written is the mid-first century B.C.E. The date 150 B.C.E. is the likely approximate date of the treatise; cf. F. Sandbach, *Aristotle and the Stoics* (Cambridge, 1985), 63–64. See further W. Burkert, "Zur geistesgeschichtlichen Einordnung einiger pseudopythagorica," 42, and H. Thesleff, "On the Problem of the Doric Pseudo-Pythagorica," 73, both in *Pseudepigrapha*, vol. 1, ed. K. von Fritz (Geneva, 1971); and R. Beutler, "Okellos" *RE* 17.2 (1937): 2361–80. References to Ocellus are, as with Charondas, to Thesleff's edition.

37. Sections 44–46 are at 135.11–136.9 Thesleff and sections 52–57 from Aristoxenus are at 137.6–138.12 Thesleff.

Ocellus presumes the key Pythagorean tenet that sexual relations are motivated either for the production of children or for pleasure. The exclusive disjunction he posits between reproduction or pleasure is very similar to the one in Charondas between reproduction or licentiousness. Ocellus firmly maintains that only procreation within marriage is an acceptable purpose for human sexual activity. All the rest is hedonistic and unacceptable: “we do not engage in sexual relations (πρόσιμεν) for pleasure (ἡδονῆς), but for the procreation (γενέσεως) of children” within marriage (135.11–13 Thesleff). Further, this sexual regulation reflects the ordained purpose of the Pythagorean demiurge. This creator god shaped human beings and their sexuality deliberately and only so that they would participate in immortality through reproduction. Hence procreationist relations alone gain this god’s approval (135.16–19 Thesleff). Ocellus also quotes and very much favors the Pythagorean argument from Aristoxenus, which states that of all possible acts of reproduction, only temperate and deliberately procreative ones within marriage are allowed (137.21–25 Thesleff). What Ocellus draws from this argument, however, is unambiguously the hard-line position advocated by Charondas. Unless sexual activity is procreationist within marriage, then it is hedonistic—licentious, Charondas would say—and as such forbidden. Therefore Ocellus enlists Aristoxenus’ *Pythagorean Declarations* in support of absolute procreationism. We cannot be so sure that the same held true for the Pythagoreans with whom Aristoxenus was acquainted in the fourth century B.C.E., though they were very close to this position.

Ocellus, like Aristoxenus and Plato, reinforces the procreationist dictate by appealing to the Pythagorean scale of nature and ideas about excess nutrition. People who engage in unrestrained and nondeliberate procreative acts behave in the manner of irrational animals (136.4–6 Thesleff). To remedy such brutish conduct he prescribes just what Pythagoreans before him order, a dietary regimen that leaves no remaining scraps on which our inner sexual animal may feed (137.26–138.3 Thesleff). Ocellus thus reaffirms the earlier Pythagorean view that excessive nutriment feeds the sexual appetite overmuch and brings us to make love below our zoological station—as though we were brutes in rut rather than master artisans of the right reproductive decorum.

Ocellus similarly endorses the older Pythagorean argument that procreationism chiefly serves the interest of the children. Offspring who are produced in anything other than a strictly purposeful way are “abject, ill-omened, and abominable (μοχθηροί, κακοδαίμονες, βδελυροί) in the eyes of the gods, demigods (δαιμόνων), people, households, and cities” (136.1–4 Thesleff). Procreationist sex acts avert this undesirable outcome. Aristoxenus and Plato likewise maintain that strictly temperate and purposeful reproduction alone prevents offspring from having excessively discordant souls at birth. Ocellus, however, gives this position an astral twist. The souls of children produced inadvertently, intemperately, or both, are born under a bad sign. They have been down since they began to crawl, afflicted as they are with the lifelong curse of having been embodied in a sexually abominable way.

As shown by the treatises of Ocellus and Charondas, the older Pythagorean doctrine of procreationism gains a highly favorable reception during

the Neopythagorean revival in the later Hellenistic and early Roman period. The procreationist dictate in this revived form is not nearly as nuanced as its older expression is in Aristoxenus and Plato. First, the newer expression stresses the need for reproductive purpose yet loses sight of the important point that the copulation also needs to be temperate. Temperance is needed so as to give the soul the smoothest possible landing during embodiment. Second, Charondas and Ocellus allow nothing other than strictly purposeful reproduction within marriage, even for persons beyond their prime. Hence it is unlikely that they had anywhere near the clear grasp Plato reveals about the dualistic eugenics that originally motivated the Pythagoreans to formulate this sexual restriction. One who grasps this reproductive principle, as Plato does, would recognize that it is problematic to advocate that married couples should make love only to reproduce, as Charondas and Ocellus do. One must further specify how the couples should behave sexually once they are too old to produce offspring of first-rate quality. Since Charondas and Ocellus make no allowances whatsoever for sexually deviating from purposeful reproduction within marriage, they seem at a remove from the dualistic eugenic theory that originally motivated the procreationist principle. The principle as they advocate it applies for the entirety of one's life. Procreationism in this inflexible form became popular enough to extend its reach to thinkers known more as Stoic than Neopythagorean, as I will now show.

SENECA

Seneca advocates procreationism in its Neopythagorean version. Like Ocellus and Charondas, and unlike any Stoic other than Musonius, he presumes an exclusive disjunction between human sexual activity "for the purpose of pleasure" (*voluptatis causa*) or "for the purpose of reproduction" (*propagandi generis causa*). Only purposeful reproduction is justifiable, and marriage is the only institution in which it may occur. Seneca's strict marital standard is similarly unequivocal. He finds it intolerable for a man to have any sexual partner other than a wife, especially female partners, and he inveighs against adultery in particular.³⁸ Thus if Seneca had his preference, he would like to see the Neopythagorean standard of sexual austerity become the predominant norm.

Seneca advocates unconditional procreationism more out of concern for the sexual agents themselves than for the offspring randomly produced. He considers sexual desire for pleasure, which he calls *libido*, to be like a fire just waiting to rage out of control. He defines *libido* as a "destructive force (*exitium*) insidiously fixed in the innards." This hedonistic sexual force fulfills its destructive tendency unless it remains within the confines of the procreationist limit. Otherwise it violently harms the sexual agents. Like Plato, Seneca thinks that unregulated sexual desire spreads like wildfire to ignite other kinds of all-consuming lust or *cupiditas*.³⁹ Unlike Plato, however, he

38. *Ep.* 94.26, *Ira* 2.28.7. Seneca consequently criticizes Roman practices of adultery and unchaste Roman women, *Ben.* 1.9.3–5, *Helv.* 16.3.

39. *Helv.* 13.3: "Si cogitas libidinem non voluptatis causa homini datam, sed propagandi generis, quem non violaverit hoc secretum et infixum visceribus ipsis exitium, omnis alia cupiditas intactum praeteri-

is convinced that the only way to stop this calamity from happening is to act on one's sexual desire only for reproduction within marriage. Therefore Seneca's sexual ethic is fully consistent with that of Charondas and Ocellus and more restrictive than Plato's use of procreationism in the *Laws*.

Seneca's procreationist conception of justifiable sexual activity is contrary to Stoic ethics even though he appropriates Stoic phrasing to describe it. The "wise person" (*sapiens*), who for Seneca is a traditionally married man, ought to make love to his wife "with reason" (*iudicio*) and not "with passion" (*affectu*).⁴⁰ *Sapiens* is the Latin equivalent of the Stoic term σοφός, and the contrast Seneca makes between acting with right reason or with passion is a Stoic one. This wise man, however, makes love to his wife "with reason" only if he engages in strictly reproductive sexual activity with her. Otherwise he would be making love for pleasure and hence "with passion." The Stoics, by contrast, argue that sexual activity is justified if it is done for the purpose of establishing and promoting mutual friendship. Seneca also rejects the core Stoic principle that love of beauty is a worthwhile stimulant of mutually friendly sexual relations. He regards such attraction toward beauty as an egregious passion. "Love of beauty (*amor formae*) is the obliteration of reason, one step from insanity."⁴¹ Seneca allows his strictly procreationist wise man only to have reproductive impulses with his wife, not to be sexually aroused by her beauty or to make love to her for mutual friendship. The Stoics in general, by contrast, are well disposed toward beauty as a stimulus to sexually grounded friendship. The later Stoics expressly promote such friendship within marriage. Seneca therefore rejects outright these core principles of Stoic *eros* and sexual ethics, even in their later Stoic marital guise. Consequently, even though Seneca tends to be classed as a Stoic in many respects, he is anti-Stoic in his sexual ethics. It is utterly foreign to Stoicism to contend, as Seneca does, that one must do away with the experience of erotic love except for the reproductive urge within marriage.⁴²

Seneca is indebted to Neopythagoreanism for his procreationist dictate. Though the precise contacts through which he became acquainted with this sexual principle are not known, the general historical circumstances are clear enough. Seneca probably became aware of the principle through his involvement with the Neopythagorean revival in Rome.⁴³ The treatises of Ocellus and Charondas were in circulation in Rome by Seneca's day, for

bit." Seneca's meaning is best interpreted as follows: "If one thinks that sexual lust is given to a man not for the purpose of pleasure but for propagating the human race, then all other lust will pass him by unscathed, since the destructive force insidiously fixed in the innards does not violently harm him." Such a man goes unscathed because he restricts his *libido* to its procreationist task and thereby prevents this *exitium* from giving rise to other rampant kinds of *cupiditas*. For Seneca's procreationism see also M. Foucault, *The Care of the Self*, trans. R. Hurley (New York, 1986), 178–79. Plato likewise connects unrestrained sexual desire with a proliferation of other kinds of cupidity, e.g., *Resp.* 572b3–575b9.

40. For this fragment of the *De matrimonio*, see P. Frassinetti's edition, "Gli scritti matrimoniali di Seneca e Tertulliano," *RIL* 88 (1955): 188 and *Jer. Adv. Iovinian.* 319a.

41. Frassinetti, "Gli scritti matrimoniali," 188 and *Jer. Adv. Iovinian.* 318c.

42. For other ways in which Seneca's thought is incompatible with Stoicism, see J. Rist, "Seneca and Stoic Orthodoxy," *ANRW* 2.36.3 (1989): 1993–2012.

43. For the renewal of greater interest in Pythagoreanism in Rome ca. 98–45 B.C.E., see J. Dillon, *The Middle Platonists*, rev. ed. (Ithaca, 1996), 117–19; and Burkert, "Pseudopythagorica," 40–43.

Cicero and Varro mention the treatises by name.⁴⁴ Seneca might have had an opportunity to read one or both of these treatises himself or to learn about their contents at more of a remove; Neopythagorean ideas were of great interest in the Roman intellectual milieu to which he belonged.⁴⁵ Be that as it may, he certainly employs the same formulaic disjunction between sexual activity for pleasure or for reproduction that Charondas and Ocellus employ. This Neopythagorean formula, furthermore, is but one aspect of the Pythagorean way of life and philosophy that Seneca promotes in his writings. For instance, he maintains the Pythagorean tenets that the body imprisons the immortal soul and that the soul must separate itself as much as possible from the weighty dregs of bodily existence.⁴⁶ He also states that the example of Pythagoras inspired him to become vegetarian for a time (*Ep.* 108.17).⁴⁷ Seneca's endorsement of procreationism is consequently not as surprising as it might initially seem for those who think of Seneca as a Stoic. Rather, he admires the ascetic strain in Pythagorean thought as he learned it in Rome, so much so that he becomes an honorary Neopythagorean in his sexual ethics. He employs the same hard-edged version of the procreationist dictate that Ocellus and Charondas do.

MUSONIUS

Musonius, though primarily Stoic like Seneca, similarly promotes the cause of Neopythagorean procreationism. In *Diatribes* 12 he urges young men in particular to abide by the position that the only justifiable purpose of human sexual activity is to reproduce within marriage. Right-thinking men "ought to think that the only just sex acts (δίκαια ἀφροδίσια) are those performed in marriage for the procreation of children" (86.4–6 Lutz). All other sexual practices are "lawless" (παράνομα) to varying degrees. Adultery and male homoerotic sexual activity top Musonius' list and are "most unlawful" (86.8–10 Lutz). Men's sexual relations with prostitutes, free unmarried women, and female slaves are similarly unlawful, shameful, and blameworthy (86.10–12 Lutz), though not quite so outrageously as adultery and male homoerotic relations. Musonius thus accepts the Neopythagorean stance that there are two,

44. Cic. *Leg.* 2.5.14. Varro refers to Ocellus in a passage preserved by Censorinus (4.3, ed. O. Jahn, 125.10), on which see also Burkert, "Pseudopythagorica," 46 and Thesleff, "Doric Pseudo-Pythagorica," 73.

45. For instance, Seneca admired and studied with Quintus Sextius Roscius, a Roman who established a philosophical group known as the Sextii. This group was in the main Stoic but also had Pythagorean leanings, just like Seneca himself. On this aspect of Seneca's life, see M. Griffin, *Seneca: A Philosopher in Politics* (New York, 1976), 36–42. Seneca presumably also knew the Pythagorean astrologer Thrasyllus, who was prominent in the court of Tiberius and redacted Plato's writings. For the strong Pythagorean elements of Thrasyllus' thought and his association with Tiberius, see H. Tarrant, *Thrasyllan Platonism* (Ithaca, 1993), 8–11 and fragments T19a–b as well as T13–16b, 222–30. My thanks to T. D. Barnes for mentioning the likely influence of Thrasyllus on Seneca's Pythagorean leanings.

46. The body is *corpusculum hoc, custodia et vinculum animi*, while the soul (*animus*) is *sacer et aeternus*, unlike the body (*Helv.* 11.5–7). Released from the body, souls that are quickly released have a very easy road to the gods because *minimum faecis, ponderis traxerunt*. Great souls find no joy lingering in the body; rather they chafe at its confines: "Inde est quod Platon clamat: sapientis animus totum in mortem promovere, hoc meditari, hac semper cupidine ferri in exteriora tendentem" (*Ad Marciam de consolatione* 23.1–2).

47. For the Pythagorean provenance of vegetarianism in antiquity see Guthrie's collection and analysis of the ancient evidence, *History*, 187–91, to which should be added Porphyry's *De abstinentia*. See also R. Sorabji, *Animal Minds and Human Morals* (Ithaca, 1993), 172–74.

and only two, possible goals for human sexual relations: the mandatory one of reproduction within marriage, or the forbidden one of pleasure. As he states in his own words, unless sexual activity is for the purpose of procreation, it is wrongly “on the hunt” for pleasure and, as such, unjust and lawless. This holds true “even in marriage” (86.7–8 Lutz). Musonius therefore joins a small but growing chorus of men who promote procreationism in its inflexible mode.⁴⁸ He even brings new life to the Pythagorean image that brutish animals alone engage in non-procreationist sexual activity. Men who are sexually deviant besmirch themselves “just like pigs” and they are happy rolling in the mud (86.27–29 Lutz). With a touch of Circe’s power, then, Musonius turns such men into swine. His magic trick would transform virtually the entire male populace of the Roman Empire, for in his day the dictate still had a long way to go before starting to gain greater prevalence in late antiquity.

Neopythagoreanism is the most likely provenance of Musonius’ sexual principle, for the same reasons given above in connection with Seneca. Though very little is known about his life, Musonius was conversant with the intellectual milieu of Rome, which by then had a penchant for Neopythagorean ideas. His writings further show that he admired the Pythagorean way of life. *Diatribē* 14, for example, indicates that Musonius knew enough about the life of Pythagoras to recommend it as a model worth emulating. In order for young men to become wise, they must adopt the married style of the philosophical life, which was best exemplified by Pythagoras as well as two other married philosophers (90.24–92.1 Lutz). Consequently, Musonius in all likelihood learned about procreationism from the Neopythagorean revival in Rome, just as Seneca probably did before him.

Musonius and Seneca are the only known Stoics who advocate the procreationist dictate. They are completely anomalous as Stoics in so doing,⁴⁹ for this Pythagorean sexual principle conflicts fundamentally with the basic principles of Stoic *eros*. It is therefore completely misguided to infer anything about the tenor of Stoic sexual ethics from either Seneca or Musonius, as scholars have done who have regarded procreationism as a Stoic sexual principle. Both Seneca and Musonius are ascetic Pythagoreans in Stoic clothing, at least with regard to their sexual ethics.

CONCLUSION

Advocates of procreationism, I have argued, support the principle that a temperate and deliberately reproductive goal within marriage is the sole justifiable and permissible goal either of human sexual intercourse, or—more extremely—of human sexual activity of any sort, especially if it involves

48. On this aspect of Musonius’ procreationist argument, see also Foucault, *Care of the Self*, 168–69. References to Musonius are cited by the page and line numbers of C. Lutz’s edition, “Musonius Rufus,” *YCS* 10 (1947).

49. Neither Marcus Aurelius nor Epictetus argues in favor of the procreationist restriction on human sexual behavior. Epictetus rejects the claim that marital sexual activity alone is permissible, and he tolerates some practices of nonmarital sexual activity. He states that a male who engages in sex acts before marriage should partake only of acceptable customary ones and that males who remain sexually abstinent until marriage should tolerate males who do not (*Ench.* 33.8). Musonius, by contrast, explicitly argues against the claim that sex acts other than procreative marital intercourse are acceptable customs and he severely criticizes the sort of men who would engage in extramarital sexual activity of any kind (86.8–24 Lutz).

ejaculation. This sexual regulation is Pythagorean and develops from uniquely Pythagorean concerns. The first concern is to limit the degree of discordance that immortal souls suffer during the embodiment process. The second and related concern is to remedy the individual and collectively social corruption that the Pythagoreans attribute to heedless acts of reproduction. Such practices are overly violent, licentious, and destructive to the harmonic intervals of the souls undergoing embodiment. The practices also harm the parental agents themselves, as Seneca especially indicates. The procreationist dictate is reinforced by several persuasive strategies. First, persons must diet and exercise to prevent the sexual appetite from being overfed. Second, they should consider unrestrained and nonpurposeful reproductive sexual activity to be behavior fit only for brute animals. Third and most striking, they should revere semen and regard its willful misdirection as the reprehensible waste of a life. The Pythagoreans were very much in earnest about supporting this reproductive technology. In the Neopythagorean expression of this principle, however, more exclusive stress is placed on the need for deliberate reproduction, as opposed to moderation. Charondas, Ocellus, Seneca, and Musonius appear to have been somewhat distanced from the older Pythagorean eugenics that originally motivated procreationism.

The procreationist regulation at the outset shows a tendency to apply for the duration of the human life span, given the Pythagorean desire to “put as many impediments as possible to the human sexual activity.” Plato’s *Laws* is the only demonstrable exception to this tendency, for Plato finds lifelong procreationism an unwanted and infeasible proposition. He instead supports merely a limited application of the principle, restricted to citizens in their prime who still need to reproduce. Thereafter the citizens are left to their own sexual devices so long as the devices do not get out of hand. Aristoxenus’ Pythagoreans are undeniably strict procreationists with regard to sexual intercourse that may lead to conception. Though it remains somewhat an open question whether they prohibited all sexual activity other than copulation, they were nonetheless strongly inclined in that direction. Charondas, Ocellus, Seneca, and Musonius, however, show neither Plato’s reflective modification of the procreationist principle nor the vestigial ambiguity of Aristoxenus. If the sexual activity is marital and reproductive in intent, then do it; if not, stay away.

Procreationism in its aphoristic Neopythagorean form gains wider currency by the time of the early Roman empire. In this form, which was easy to teach and easy to grasp, the teaching gained enough popularity to elicit support from thinkers whose main affiliation was not Pythagorean, such as Seneca and Musonius. Thus it was well positioned to spread further, as it did, in the Hellenistic Judaism of Philo and in ecclesiastical Christianity. Therefore by the second century of the common era procreationism was well placed to gain a far greater regulatory hold on people’s sexual lives than it ever had before.⁵⁰

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50. My thanks to the referees and editors for their insightful comments.