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Philosophia and Philotechnia: The Techne Theme in the Platonic Dialogues

Hulme Kozey, Emily Luise

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PHILOSOPHIA AND PHILOTECHNIA:
THE TECHNE THEME IN THE PLATONIC DIALOGUES

Emily Hulme Kozey

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ABSTRACT

"Good God! You never shut up about cobblers and fullers and cooks and doctors!" So Callicles charges Plato's Socrates with an excessive fascination with the τέχναι in the *Gorgias* (491a). Callicles certainly has a point: Plato refers to τέχνη ("art," "craft," "profession," "expertise") hundreds of times in the dialogues, while also portraying Socrates as a former δημιουργός ("craftsman," "professional") himself (*Alc.* 1.121a; *Euthphr.* 11c).

In my dissertation, I examine the philosophical importance of τέχνη in Plato. The first part discusses the idea of τέχνη in the wider Greek world of the fifth and fourth centuries. Chapter one shows how Plato connects Socrates with the god of craft, Hephaistos, and how this is related to the Athenian setting of the dialogues. The second chapter uses literary, art historical, and epigraphic sources to identify four major features of a τέχνη: (I) connection with low social status; (II) teachability; (III) specialization; (IV) rationality.

The second part of the dissertation turns to Plato proper. The third chapter examines the important question of how Plato's terms for crafts, knowledge, learning, and professions are structured. Contrary to previous work that has asserted the equivalence of τέχνη and ἐπιστήμη, I argue that ἐπιστήμη picks up on the teachable, intellectual component of τέχνη. Against a common misconception, I argue that the opposite of τέχνη for Plato is not ἐμπειρία ("experience," "practice") but πάρεργον ("hobby") and that this contrast, and the one made by the terms for the individuals who pursue each of these (δημιουργός/ἰδιώτης, "professional"/ "amateur"), is central to Plato's conception of what makes something a true τέχνη. For Plato, mere book knowledge will not be enough: extensive practice or experience is, in fact, an absolute

requirement for true mastery of a given field. The fourth and fifth chapters then turn to this theme in two related contexts. First, I assess how Plato portrays the sophists as practitioners of pseudo-τέχναι; and then, in the final chapter, I turn to the *Republic*, where philosophy itself is construed as a τέχνη.

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μὴ τῶι κιβωτῶι, ἀλλὰ τῶι στήθει

[Knowledge] is not on the shelf, but in the heart.

Oenopides of Chios

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NOTE ON ABBREVIATIONS AND TRANSLATIONS

I have followed the conventions of the *Oxford Classical Dictionary*, 4th ed., for abbreviations of authors and titles. In addition, I use the abbreviation LM for Laks and Most, *Early Greek Philosophy* (2016).

All translations, unless otherwise noted, are my own.

Introduction

Τέχνη is a central term in Plato's philosophical vocabulary: this term is used in every dialogue (except the *Parmenides*), totaling some 667 occurrences across the corpus. Including closely allied terms, like δημιουργός (153 occurrences), brings the total even higher. He uses a whopping 213 unique adjectives in -ικός, many of them his own coinages, to pick out particular τέχναι.[1]

Yet numbers alone do not prove the centrality of a philosophical term: the use, or uses, to which it is put does. And it is here that the story about τέχνη becomes most interesting. If we ask whether Plato uses τέχνη to discuss ethics, epistemology, or metaphysics, the answer is yes to all three. For example, in ethics, we can consider Socrates' suggestion in the *Protagoras* that virtue is a measuring τέχνη; in epistemology, we can turn to the hierarchy of forms of knowledge (that is, τέχναι) in the *Philebus*; and in metaphysics, we can think about the use of τέχνη in the *Timaeus* and tenth book of the *Laws* in describing a teleological universe. But saying τέχνη is used in his discussions of ethics, epistemology, and metaphysics still falls short of capturing the whole range of this theme. For it is also central to two Platonic philosophical preoccupations that do not sit squarely in any of these fields: education and art.

The main contention of this dissertation is that τέχνη must be understood as a rich, embodied social practice: in a word, a profession, or a full-time job. This is in contrast to the view that the main characteristic of a τέχνη is rationality; although the τέχναι are paradigms of rational procedures, they are much more than that. This, then, has significant implications for the idea introduced and developed in the *Republic* that

---

[1] See Balansard 2001, 32.

philosophy is a τέχνη and its practitioners δημιουργοί: for philosophy is thereby seriously domesticated. Philosophy, like shoemaking and farming, is one role within a specialized labor force; and excellence in philosophy is not the product of divine inspiration or even a matter of excessive leisure, but the predictable outcome of years of painstaking training for exactly that job.

This account engages with a number of bodies of scholarship, but one scholar above all should be mentioned: John Lyons. My method, on the whole, owes much to his study, *Structural Semantics: An Analysis of Part of the Vocabulary of Plato* (1963), as well as his subsequent essays (1979; 1981) and Myles Burnyeat's article reappraising this work (2011). His book articulates a new way forward for studies of philosophical terminology—a structuralist method that examines semantic fields rather than individual, atomic words—and has been an important touchstone in particular for the claim that τέχνη and ἐπιστήμη are interchangeable terms in the Platonic dialogues. His book focused on three verbs and three nouns, and I have extended this to a wider group of terms in my third chapter; and while I disagree with his conclusion about the interchangeability of τέχνη and ἐπιστήμη for reasons that will be elaborated in the third chapter, his study has affected and indeed inspired this one.

Previous scholarship has examined the τέχνη-analogy for virtue in the so-called early dialogues and especially focused on the rationality of τέχνη as the grounds for Plato's attraction to this model. Terence Irwin, for example, gives this model pride of place in his seminal study of Platonic Ethics, *Plato's Moral Theory* (1977), and writes that "crafts legitimately appeal to Socrates" because they are able to justify their claims and achieve their ends via some "regular and clearly explicable process" (74). But Irwin thought the craft model for virtue was ultimately flawed in Plato's eyes and abandoned;

and, while others have attempted to show the use of τέχνη in the *Republic* and *Statesman* as continuous with the craft-analogy in the *Laches* and *Charmides*, they have still accepted the premise that crafts are mainly interesting to Plato as paradigms of rationality.[2] My intervention is to bring out that this shortcircuits Plato's argument: as we will see in the first part of the dissertation, τέχναι are importantly distinguished from other practices because they require extensive training and practice. It is the norm for a shoemaker or weaver to spend years, from childhood on up, gaining the requisite experience to be proficient in their trade. When Plato introduces the class of philosopher-rulers in the *Republic*, he is explicitly highlighting how expertise in any job requires time and focused practice. This, not just rationality, is what is at stake when he makes philosophy a craft in the *Republic*.

The title of this dissertation comes from a line in the *Critias*, one of Plato's least studied dialogues. There, in the course of describing how ancient Athens began, the eponymous speaker describes how Hephaistos and Athena are alike, both being characterized by their love of wisdom and love of craft (φιλοσοφίᾳ φιλοτεχνίᾳ τε, 109c). The suggestion of this dissertation is that these terms are not paired by accident; rather, for Plato, understanding τέχνη is an essential part of philosophy itself.

In order to begin our analysis of τέχνη, I believe it will be useful to examine three paradigmatic crafts and point out some of their characteristics: shoemaking, medicine, and architecture.

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[2] See Sprague 1976 and Parry 1996 and 2003. See also the very different take of Roochnik 1996, which argues that crafts were never meant seriously as models for virtue.

I. Shoemaking

"Good God! You never shut up about shoemakers and fullers and cooks and doctors!" So Callicles charges Socrates in the *Gorgias* (491a) with excessive interest in the τέχναι, starting with one of Socrates' favorites: shoemaking (σκυτοτομική). Xenophon reports a similar retort in the *Memorabilia*:

> ὁ δὲ Κριτίας, ἀλλὰ τῶνδέ τοί σε ἀπέχεσθαι, ἔφη, δεήσει, ὦ Σώκρατες, τῶν σκυτέων καὶ τῶν τεκτόνων καὶ τῶν χαλκέων: καὶ γὰρ οἶμαι αὐτοὺς ἤδη κατατετρῖφθαι διαθρυλουμένους ὑπὸ σοῦ.
>
> "But you see, Socrates," explained Critias, "you will have to avoid your favourite topic, — the cobblers, builders and metal workers; for it is already worn to rags by you in my opinion." (1.2.37, Marchant trans.)

And, moreover, Xenophon associates Socrates with a particular shoemaker called Simon, whom we actually know lived in the agora, on the basis of a house being excavated at the location described by Xenophon, filled with hobnails and shoelace eyelets, as well as a

Figure 1: Cup inscribed with the name Simon. See Xen. *Mem.* 4.21 and DL 2.13.122. Agora Image 2000.02.1076.

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cup with the name Simon on it (see Figure 1, just above). Shoemaking is a relatively

low-class profession,[3] and an essential one: in the development of the first city in the *Republic*, a practitioner of this trade, along with a farmer, a housebuilder, a weaver, and a doctor, is necessary for the first city (2.369d). Like all τέχναι, it is distinguished from others by its task (ἔργον), which is the manufacture of shoes (ὑποδήματα, see e.g. *Tht.* 146d). Shoemaking is a favored example for discussion of the advantages of specialized labor in both Plato and Xenophon; Xenophon describes the positive results of specialization and the division of labor when describing the staff attending the table of the Persian king:

> ὥσπερ γὰρ καὶ αἱ ἄλλαι τέχναι διαφερόντως ἐν ταῖς μεγάλαις πόλεσιν ἐξειργασμέναι εἰσί, κατὰ τὸν αὐτὸν τρόπον καὶ τὰ παρὰ βασιλεῖ σῖτα πολὺ διαφερόντως ἐκπεπόνηται. ἐν μὲν γὰρ ταῖς μικραῖς πόλεσιν οἱ αὐτοὶ ποιοῦσι κλίνην, θύραν, ἄροτρον, τράπεζαν, πολλάκις δ᾽ ὁ αὐτὸς οὗτος καὶ οἰκοδομεῖ, καὶ ἀγαπᾷ ἢν καὶ οὕτως ἱκανοὺς αὐτὸν τρέφειν ἐργοδότας λαμβάνῃ: ἀδύνατον οὖν πολλὰ τεχνώμενον ἄνθρωπον πάντα καλῶς ποιεῖν. ἐν δὲ ταῖς μεγάλαις πόλεσι διὰ τὸ πολλοὺς ἑκάστου δεῖσθαι ἀρκεῖ καὶ μία ἑκάστῳ τέχνη εἰς τὸ τρέφεσθαι: πολλάκις δὲ οὐδ᾽ ὅλη μία: ἀλλ᾽ ὑποδήματα ποιεῖ ὁ μὲν ἀνδρεῖα, ὁ δὲ γυναικεῖα: ἔστι δὲ ἔνθα καὶ ὑποδήματα ὁ μὲν νευρορραφῶν μόνον τρέφεται, ὁ δὲ σχίζων, ὁ δὲ χιτῶνας μόνον συντέμνων, ὁ δέ γε τούτων οὐδὲν ποιῶν ἀλλὰ συντιθεὶς ταῦτα. ἀνάγκη οὖν τὸν ἐν βραχυτάτῳ διατρίβοντα ἔργῳ τοῦτον καὶ ἄριστα δὴ ἠναγκάσθαι τοῦτο ποιεῖν.

---

[3] Note that the shoemaker is the trivial example of one of the *hoi polloi* at *Tht.* 180d and is described as such in Socrates' challenge and Protagoras' reply in *Prt.* 319d and 324c, and see also Alcibiades' list of the decidedly unsophisticated sorts of things Socrates is "always" talking about (a version of the charge already cited in *Gorgias* at 491a and in Xen. *Mem.* 1.2.37): "if someone chooses to listen to Socrates' words, at first they seem ridiculous, wrapped up externally with these kinds of words and clauses, certainly the gift of an outrageous satyr. For he speaks of mules and donkeys and some bronzeworkers and shoemakers and tanners" (εἰ γὰρ ἐθέλοι τις τῶν Σωκράτους ἀκούειν λόγων, φανεῖεν ἂν πάνυ γελοῖοι τὸ πρῶτον: τοιαῦτα καὶ ὀνόματα καὶ ῥήματα ἔξωθεν περιαμπέχονται, σατύρου δή τινα ὑβριστοῦ δοράν. ὄνους γὰρ κανθηλίους λέγει καὶ χαλκέας τινὰς καὶ σκυτοτόμους καὶ βυρσοδέψας…, *Symp.* 221e). See also Critias' claim in the *Charmides* that participating in shoemaking could well be a source of reproach (163b).

> For just as the other τέχναι are performed differently in the big cities, in that same way the food at the king's table is made differently. For in small cities the same people make beds, doors, ploughs, tables, and often even houses, and they are happy if they get enough work to sustain themselves. It is impossible, truly, for a man doing many crafts to do them all well. In big cities, on the other hand, because the demand on each craft is so great, it is enough to sustain each craftsman to have one trade—or not even a whole trade. Rather, one person makes men's shoes, another women's shoes; and in some places one man is sustained by just stitching shoes, and another by cutting [the leather], and one by only cutting together the upper part, and one by doing nothing but assembling them. It is necessary, then, that that person working in a very limited task is bound to do it best. (*Cyr.* 8.2.5)

Shoemakers (usually) are the sons of shoemakers, just as sculptors are the sons of sculptors, or they go to a professional shoemaker to learn as an apprentice (*Meno* 90b–d). Shoemaking is a favorite trivial example of a τέχνη for Plato: see, e.g., *Tht.* 146d and *Grg.* 491a, quoted at beginning.

It is useful to distinguish *two* ways in which shoemaking is construed as specialized: what I will call *objective* specialization and *subjective* specialization. Objective specialization is the specialization of the field of knowledge from other fields of knowledge: e.g., shoemaking is contrasted with weaving (*Plt.* 280c; cf. *Alc.* 1.125a) and leather tanning (*Symp.* 221e) in this way. Subjective specialization is the specialization of the individual practitioner to one field and no other: a shoemaker is only a shoemaker, not a shoemaker-carpenter. The latter is what is at stake in the so-called principle of specialization in the *Republic* 4.443c (and see also 2.374b–c; 3.397e), that "it is proper that the shoemaker by nature make shoes and do nothing else, and the carpenter do carpentry, and the builder build, and so on with the rest of the professions" (τὸ τὸν μὲν

σκυτοτομικὸν φύσει ὀρθῶς ἔχειν σκυτοτομεῖν καὶ ἄλλο μηδὲν πράττειν, τὸν δὲ τεκτονικὸν τεκταίνεσθαι, καὶ τἆλλα δὴ οὕτως).

A subjectively specialized practitioner works in an objectively specialized field, as in the case of the shoemaker, but it does not follow that for every objectively specialized field there are subjectively specialized practitioners. It seems perfectly plausible to me that several subjects can be construed as objectively specialized—say, plane geometry vs. 3-D geometry, where there is a clear way of differentiating what type of problems fall into one or the other—while actual individual geometers are subjectively specialized in mere/undifferentiated geometry. This is because objective specialization is coming from the perspective of the fields themselves, while subjective specialization is something that arises over the course of human lifetime and in a certain kind of society. To the last point, Xenophon's insight is especially useful: the size of a city—that is, a contingent social fact—can, in his view, impact what level of objectively specialized field correlates with the actual subjective specializations practiced. We may suppose that one could also distinguish between boot-making and sandal-making, but that in large cities, individuals do only one or the other, while in small cities, they do both under the umbrella of the broader objectively specialized field shoemaking.

II. Medicine

Another common example of a τέχνη in Plato is medicine: in particular, medicine is regularly used as an analogy for the teaching of virtue; the idea is that medicine improves a body in the way that the teaching of virtue improves a soul (see, e.g., *Grg.* 464a–c). It is often paired with either physical training (γυμναστική) by dint of the fact that they both treat bodies (see, e.g., *Cri.* 47b; *Phd.* 94d; *Soph.* 229a; *Leg.* 11.916a) or with helmsmanship (κυβερνητική) by dint of the fact that they both are types of τέχναι whose

actual success can be undermined by difficult circumstances (see, e.g., *Prt.* 344d and *Leg.* 4.709a–b). Without a shoemaker, leather is unlikely to mutate itself into functional shoes, and, if you hire a shoemaker and give him leather, your chances of receiving shoes are very high. This is not the case with medicine and helmsmanship: an individual may well recover from a disease without being treated by a doctor, and, conversely, they may never recover even if a doctor does provide treatment. This latter class of τέχναι are called stochastic τέχναι in the *Philebus* and by later authors, but, in Plato, the group is more commonly picked out by using these examples, rather than that (or any other) technical term.

As already noted in the case of shoemaking, every τέχνη is characterized by having a specific task (ἔργον); for shoemaking, this is shoes, and for medicine, this is health (*Euthyd.* 291e). And, although it is probably true that shoemakers are an authority on shoemaking, medicine generally is the τέχνη Plato reaches for as a model of authoritative knowledge: we don't listen to everyone's opinions on the body, but only doctors (see, e.g., *Cri.* 47b). This makes medicine the regular example Plato draws on for the additional points that social status or wealth are irrelevant to whether one should be consulted in medical matters or not; the only thing that matters is having medical knowledge (see *Plt.* 259a and *Lysis* 210a on the irrelevance of social status; see *Alc.* 1.107b–c on the irrelevance of wealth).

Medicine, importantly, is used to point out the role of λόγος: medicine provides a rational account whereby sickness is understood, usually as deviation from the right order (εὐεξία, *Grg.* 464a; see also 503e–504a). Written treatises in medicine from this period, transmitted under the name of Hippocrates, use a similar vocabulary; but it is not only medicine that is supposed to have a λόγος, but τέχναι quite generally (see *Grg.* 465a). In

the *Statesman,* doctors and physical trainers are the model of craftsmen who leave written directions—which can and should be superseded by an actual expert in the flesh (295c–e).

Medicine is also a key example of a τέχνη that uses painful means to secure valuable ends. Medicine uses burning and cutting—unpleasant means, indeed—in order to restore a patient's health (*Grg.* 467c, 479a–480c, and 521e–522a; *Prt.* 354a; *Plt.* 298a; *Leg.* 3.684c). The toil involved in shoemaking is not exactly fun either, but it is less obviously painful, too (well, other than for the cow or pig).

Finally, we should not assume that medicine was the province of the upper class. While there is the example of the physician Eryximachus in the *Symposium*, who is marked as high class by dint of his participation in the elite practice of the symposium, I think Socrates' assessment of doctors (along with engineers) at *Grg.* 512b–d better captures the norm. There, Socrates and his interlocutors assume that doctors are moderately praiseworthy inasmuch as they save lives; but that doesn't mean you would deign to let your daughter marry one of them(!).

III. Architecture

Finally, the example of architecture plays an important role as a model of hierarchical crafts. The architect controls the work of the masons; with the grander design in mind of, e.g., a complete temple, he tells each worker what to do to make this happen (*Plt.* 259e–260a). The Greek terms particularly bring this out: the ἀρχιτέκτων is the master of the τέκτονες. Metaphorically, in the *Statesman*, the architect is the model for the statesman himself, who will direct all of the professionals in the city: the orators, the generals, the masons, and so on.

This, then, is a kind of second-order craft, to adapt the terminology of Sprague (1976). We should note that there are *two* kinds of second-order crafts: crafts that *talk* about other crafts and crafts that *order* other crafts. Architecture is an example of the second kind; rhetoric and poetry—if they are τέχναι—are examples of the first kind.

Two further points: first, second-order crafts are often problematized. For instance, epic poetry—a craft that imitates various other crafts, e.g., generalship when Homer describes Agamemnon's activities—is called into question in the *Ion*; rhetoric is found wanting in the *Gorgias*; and the "science of sciences" is puzzled over in the *Charmides*. The general problem for each of these is the worry that the second-order craft doesn't really have its own ἔργον. Architecture, I submit, does not have this problem, even *prima facie*, because the relationship between the two crafts is clear: it is a relationship of supervision. The job of the architect is to make a temple, whereas the job of the mason is to make a pillar or a wall or a raking cornice under the direction of the architect's master plan.

The last point is that the border between first- and second-order crafts is malleable. For example, medicine can be construed as a first-order craft that pursues its ἔργον, health, via its own proprietary methods (burning, cutting, use of drugs, dietetics, etc.). Or, it can be construed as a second-order craft that rightly orders other crafts—including, for example, the clothesmaking and culinary crafts—to pursue its ἔργον (*Grg.* 517e).

IV. The Vocabulary of Craftsmanship

In the third chapter, we will have much more to say about specific terms, but for now it is worth pointing out that etymology may not be a very reliable guide in going from a practitioner of a craft to the name of the craft to their product. There are cases where all

three are etymologically related, but this is the exception, not the norm. The chart below provides a sample.

δημιουργός (craftsman; practitioner of a τέχνη)	**τέχνη (craft, art, expertise, profession)**	**ἔργον (task, work)**
αὐλοποιός (flutemaker)	αὐλοποική (flutemaking)	αὐλός (flute)
σκυτότομος (shoemaker)	σκυτοτομική (shoemaking)	ὑποδήματα (shoes)
ὑφάντης (weaver)	ὑφαντική (weaving)	ἐσθής (clothes)
ἰατρός (physician)	ἰατρική (medicine)	ὑγίεια (health)
παιδοτρίβης (physical trainer)	γυμναστική (physical training)	ἀλκήν (strength, Arist. *Pol.* 8.1338a20)

In some cases, there is a common substitute for the form in -ική: e.g., ἰατρεία for ἰατρική and γεωμετρία for γεωμετρική, but no *ὑφαντικ(ε)ία.

The reader will note that I have δημιουργός—not τεχνίτης—for "craftsman." The term δημιουργός is much more in common in authors before and including Plato, with the exception of Xenophon. Within the Platonic corpus, for example, δημιουργός is favored to τεχνίτης by a ratio over 100 to 1.

V. The Plan for the Dissertation

The dissertation falls into two parts: the first part, "Under the Shadow of the Hephaisteion," treats the notion of τέχνη outside the Platonic corpus, and the second part, "Philosophy and Craft: Τέχνη in the Platonic Dialogues," turns to Plato proper.

Chapter One, "The Figure of Hephaistos and the Τέχναι in Athens," focuses on the god Hephaistos in the city of Athens. The Athenians are almost unique in their level

of devotion to Hephaistos; where he earns two major festivals and an important temple in the Agora in Athens, in the Peloponnese he isn't even included in the roster of twelve gods. Moreover, Hephaistos is a sort of doppelganger for Socrates: both are characterized with internal wisdom and external ugliness. Via his education as a sculptor, Socrates even traces his ancestry to Hephaistos, by way of Daedalus. In light of these connections, I suggest we see Plato's interest in the τέχναι as a distinctly Athenian way of transforming Ionian natural philosophy.

In the second chapter, "Four Aspects of Τέχνη," I give a snapshot of the wider world of τέχνη—outside of Athens and outside of the cult of Hephaistos—in order to bring out four aspects of τέχνη that are essential to Plato's project. These are: (I) the low social status of practitioners of τέχνη; (II) the relationship between teaching and τέχνη; (III) specialization among τέχναι; and (IV) τέχνη as rational procedure. While previous accounts of the concept of τέχνη have relied heavily on Plato himself, Aristotle, and the Hippocratic corpus, I use a much more diverse set of sources, and not just literary ones: Isocrates and Xenophon, but also vase-painting, inscriptions, and the analyses of working conditions in ancient Athens provided by economic historians. As a result, my research especially emphasizes τέχνη as a lifelong trade that performs an economic function. The τέχναι, after all, were not just rational skills, but ways of making money for those who were not born into landed wealth.

The second part of the dissertation begins with my third chapter, "Plato's Vocabulary of Expertise," which examines the important question of how Plato's terms for crafts, knowledge, learning, and professions are structured. Contrary to previous work that has asserted the equivalence of τέχνη and ἐπιστήμη, I argue that ἐπιστήμη picks up on the teachable, intellectual component of τέχνη, and demonstrate how this precise

relationship plays an important role in specific arguments in the *Protagoras*, *Philebus*, and *Phaedrus*. Against a common misconception, I argue that the opposite of τέχνη for Plato is not ἐμπειρία ("experience," "practice") but πάρεργον ("hobby") and that this contrast, and the one made by the corresponding nouns of occupation (δημιουργός/ἰδιώτης), is central to Plato's conception of what makes something a true τέχνη. For Plato, mere book knowledge will not be enough: extensive practice or experience is, in fact, an absolute requirement for true mastery of a given field.

The fourth and fifth chapters examine this idea in two related contexts: first, Plato's dismissal of rhetoric and sophistry as mere pseudo-τέχναι that hoodwink the unsuspecting with their superficial tricks that require no true understanding or specialization; and, second, the idea that philosophy itself is a τέχνη. The fourth chapter, "Against Amateurism: The Failures of Rhetoric and Sophistry," examines how Hippias, Euthydemus, Dionysodorus, Protagoras, and Gorgias all claim to have a τέχνη but are in fact complete charlatans promulgating worthless pseudo-wisdom. A signal piece of evidence for this is their claim that they can teach quickly and that their students need not commit their life to the practice.

The figure of Callicles, a pupil of the rhetorician Gorgias, can be used to transition from this idea to the one picked up in the *Republic* and my final chapter, "The Craft of Philosophy:" Callicles claims that Socrates is pathetic for having spent his life in philosophy, since philosophy is a field only young men should dabble in, before moving onto bigger things. The *Republic* responds to this directly. So far from being the province of young men, the educational cursus of the *Republic* includes an outright ban on young men learning dialectic; for Plato, philosophy is a true τέχνη, which means we need specialized experts, not flighty amateurs. I treat the division of labor passage in book two

as programmatic and as laying out the components of τέχνη for Plato: practice, nature, and knowledge. I then examine how each of these plays a role in what I argue is the philosophical τέχνη, dialectic. In particular, I think we have to separate two kinds of experience that one gets when training in a certain τέχνη: training in preparatory subjects and training in the subject itself. For example, a preparatory subject for architecture would be mathematics, which is different from training in architecture itself.

I conclude that chapter by examining how dialectic is the only τέχνη the philosopher-rulers have. On grounds of specialization, they should not have two τέχναι, but many scholars have worried that philosophy and politics are two different professions. I argue that (for Plato) they are not; instead, politics is what I call a "grand commission" for philosophy. Again, to think about how this would work for architecture, when someone is asked to build a cathedral, they do have to learn something beyond architecture—e.g. the symbolism of the trinity—but that does not make them an architect-priest.

The Platonic conception of philosophy, then, turns on the conception of τέχνη, and this is a rich form of knowledge, indeed: not just abstract understanding, but the kind of thing one only gets from many years of practice. Shortcuts are for sophists; wisdom takes time.

Part One: Under the Shadow of the Hephaisteion

In book six of the *Republic*, Socrates laments the kind of people that usually take up philosophy. While naturally philosophical individuals end up not pursuing philosophy, people who are ill-equipped do study philosophy and give it a bad name:

> καθορῶντες γὰρ ἄλλοι ἀνθρωπίσκοι κενὴν τὴν χώραν ταύτην γιγνομένην, καλῶν δὲ ὀνομάτων καὶ προσχημάτων μεστήν, ὥσπερ οἱ ἐκ τῶν εἱργμῶν εἰς τὰ ἱερὰ ἀποδιδράσκοντες, ἅσμενοι καὶ οὗτοι ἐκ τῶν τεχνῶν ἐκπηδῶσιν εἰς τὴν φιλοσοφίαν, οἳ ἂν κομψότατοι ὄντες τυγχάνωσι περὶ τὸ αὑτῶν τεχνίον. ὅμως γὰρ δὴ πρός γε τὰς ἄλλας τέχνας καίπερ οὕτω πραττούσης φιλοσοφίας τὸ ἀξίωμα μεγαλοπρεπέστερον λείπεται, οὗ δὴ ἐφιέμενοι πολλοὶ ἀτελεῖς μὲν τὰς φύσεις, ὑπὸ δὲ τῶν τεχνῶν τε καὶ δημιουργιῶν ὥσπερ τὰ σώματα λελώβηνται, οὕτω καὶ τὰς ψυχὰς συγκεκλασμένοι τε καὶ ἀποτεθρυμμένοι διὰ τὰς βαναυσίας τυγχάνουσιν—ἢ οὐκ ἀνάγκη;
>
> For the other little guys [as opposed to the truly philosophical men] see that that space is empty, and is full of wonderful names and pretenses, and these guys, the ones who are very sophisticated in their lowly vocation, are happy to leave their τέχναι and go to philosophy, just like the men who run off from prison to sanctuaries. For, relative to the other τέχναι, even with philosophy faring like this [that is, 'badly'], there remains a rather magnificent reputation, which in fact all these men unfit by nature are after, but they are marred by their τέχναι and craft activities in their bodies, and equally in their souls they are broken and crushed through the lowly trades. Or is it not necessary that it happens this way? (495c–d)

Reflecting a common elite prejudice[4] towards δημιουργοί, then, Socrates laments the phenomenon of these scrubby potters, carpenters, or smiths having the nerve to think they can pursue philosophy just like their betters. Scholars have not searched in vain for

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[4] This prejudice can be seen behind attacks on politicians for being involved with various trades, including most famously Cleon as a tanner (Aristophanes, *Eq.* 129ff.; see Burford 1972, 156–7 for further examples), as well as in explicit statements about the soul-crushing nature of τέχναι (Xen. *Oec.* 4.2). See further my chapter two.

historical figures or types that Socrates might have in mind; Ira Mark has suggested someone like Polykleitos, who wrote an early theoretical treatise on sculpture and applied mathematics to his trade, would be a target (1995, 35), while others have seen Protagoras or Diogenes the Cynic, who rose from backgrounds in the crafts to their mature intellectual projects, in Socrates' crosshairs (Adam 1902, 28 *ad loc.*). Whether Plato had one individual or group in mind, or, more likely, a combination of several, the point is the same: these craftsmen who ditch their looms, potters' wheels, or anvils are unjustly rising above their station and do not have the requisite capacities for philosophy.

Isn't it remarkable, though, that *Socrates* says this? Rather hypocritical, even? Socrates, son of Sophroniscus the statue-maker and Socrates the statue-maker himself, whose sculpture of the three Graces at the entrance of the Akropolis apparently survived down to Pausanias' day (Paus. 1.22.8; 9.35.3–7)?[5] That is, the Socrates who was comfortable enough with his own background in the world of τέχνη to say his family line went back to Daidalos and Hephaistos (*Alc.* 1.121a; cf. *Euthphr.* 11c)—and who remained comfortable enough with the world of τέχνη to pass sufficient time with Simon the Cobbler to inspire the shoemaker to write thirty-three dialogues (Diog. Laert. 2.13.122–3), and to provoke the ire of Callicles, who retorted that Socrates never shuts up about shoemakers and doctors and fullers and cooks (*Grg*. 491a)? It is awfully ironic that Socrates is criticizing someone for presuming to be able to do philosophy when all they know is some craft, when that is precisely what he did himself.

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[5] Although it is absolutely clear that Pausanias thinks the statue he saw there was made by our Socrates, some scholars have doubted the attribution; but Ridgway thought the attribution rather plausible (1970, 114–20, with n.15). On Socrates as a statue-maker, see also: Timaeus *FGrH* 566 F 15; Lucian, *Somnium* 12; Diog. Laert. 2.5.18.

This is not to suggest that the passage from the *Republic* should be interpreted ironically, such that Plato secretly thought the craftspeople were just the candidates the city needed to become philosophers. Far from it; I think this passage, coming out in the argumentative context that it does, is meant absolutely sincerely, and parallel passages confirm the point further.[6] My object is rather to point out that this passage does not exhaust what he has to say. Reading this in isolation, one might think[7] that Plato, *qua* typical Athenian elite, or *qua* typical philosopher, or *qua* idealist, sees the τέχναι as fundamentally worthless in comparison to the pursuit of philosophical wisdom that characterizes the best human life. But this is only part of the picture.

What is the other side? It is that Plato does recognize some substantial intellectual virtue in the τέχναι. Observing this, he uses the crafts as a model for the kind of enterprise he is embarking on—that is, philosophy.[8] In the background, he could look to the kind of theorization of crafts that was going on in the 6th and 5th centuries; but, he was the first to see how the model of craft could be a way to distinguish philosophy from other types of discourse. In this first part, I focus on what τέχνη was in the Greek world until Plato's time, and particularly draw attention to the economic role of the crafts. This

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[6] See, for instance, his dismissal of training in the crafts as befitting the guardians, 7.522b.

[7] For instance, Acton 2014, 12: "Plato gave craftsmen a place in his *Republic* (371e), even though industry was a much less valuable use of time than philosophical enquiry (496d–e). There is little sign of admiration though. Workers do not embody skills so much as appetites that need to be controlled (547b)."

[8] See especially Socrates' description of philosophy as his full-time job in the *Apology* (23b–c); the characterization of the philosopher-kings in the *Republic* as the δημιουργοί of the city's freedom (3.395c); and the articulation of the sophist, statesman, and (presumably) philosopher as practitioners of τέχνη in the *Sophist* and *Statesman* (*Soph.* 216a–217b and 221c–d; *Plt.* 257b–c and 258b–d). See also my fifth chapter. In the classical period, the term δημιουργός—not τεχνίτης—is most often used for the practitioner of a τέχνη (see: Lyons 1963, 140–6). See the introduction.

is critical for our understanding both of why elites would spurn the practitioners of τέχναι, and eventually why Plato models philosophy on a τέχνη: a τέχνη is a rational practice, a specialized trade, and a lifelong vocation, and all wrapped up into one. As we will see in the fourth chapter, the τέχνη theme allows Plato to criticize the dilettantism of figures like Callicles in the *Gorgias*, the superficial polymathy of the sophist Hippias, and the fraudulent claims of pseudo-wise men like Protagoras all in one fell swoop.

To cover completely what τέχνη was would be a massive undertaking, even if one focused simply on occurrences of the word from Homer on. And, more importantly, a method like that would miss both the fact that many authors write about τέχνη without ever using the word—by naming a number of well-known τέχναι, for instance, or using various synonyms—and that most people involved in τέχνη have not left any written accounts. In light of this, evidence from material culture is essential to any study of τέχνη in the ancient world. With those facts in mind, it is nevertheless necessary to limit the scope of this discussion in some way. The best way to limit the discussion, to my eye, is to focus on our purpose: to understand what Plato and his readers would have in mind when talking about the τέχναι. As such, not every far-flung reference to Greek potters in Syria in the 4th century C.E. will play a role in the story; instead, I have chosen to focus on the aspects of τέχνη in the Greek world that speak directly to our understanding of the dialogues.

I consider in this first chapter the figure of Hephaistos—the god of the craftsmen, an important Athenian deity, and a figure Plato marks off from others for his φιλοσοφία and φιλοτεχνία (*Critias* 109c). Hephaistos cult is one way to get inside the world of τέχναι that was Plato and Socrates' milieu, and this discussion should bring out three of the most salient features of that world. First of all, it is essential to see that Athenians

were unique in the level of honor they paid Hephaistos—as Plato himself seems to recognize. Second, the reason Athenians paid homage to Hephaistos was for giving them the tools to survive, tools which were not just important to their makers, but for everyone in society. Craft was essential not just for decorating buildings, but for harvesting grain and protecting the city. Finally, the Agora and the Academy—the haunts of Socrates and Plato—were important sites for Hephaistos worship; while the dialogues are rife with arguments using analogies from the field of τέχνη, they also locate Socrates regularly in the Agora, where Hephaistos was worshipped and where these crafts were practiced. Plato founded his school in a location that was significant for the cult of Hephaistos, too.

There is still more to τέχνη which can be revealed by focusing on the figure of Hephaistos. In the second chapter, I give a snapshot of the wider world of τέχνη—outside of Athens and outside of the cult of Hephaistos—in order to bring out four aspects of τέχνη that are essential to Plato's project. These are: (I) the low social status of practitioners of τέχνη; (II) the relationship between teaching and τέχνη; (III) specialization among τέχναι; and (IV) τέχνη as rational procedure. I approach this problem a little differently than my predecessors. I do not try to reconstruct a robust pre-Platonic "concept of τέχνη," for the simple reason that I do not think the evidence warrants this. Those who have done this have had to overread the evidence in order to construct, e.g., a "Homeric conception of τέχνη." There are probably four authors before Aristotle whose level of theorization of τέχνη was high enough to even think about doing this for: Isocrates, Xenophon, the Hippocratic corpus (especially *On Ancient Medicine* and *On the Art,* possibly *On the Physician* and *On Decorum*, too, although many scholars

date these to the Hellenistic period or later),[9] and Plato himself. Of these, only (some of) the Hippocratic Corpus is indisputably pre-Platonic, and my own view is that these texts say less about τέχνη per se than scholars have thought. When we remember that the title περὶ τέχνης does not mean "concerning τέχνη" but rather is using the usual Hippocratic convention of using τέχνη to mean τέχνη ἰατρική, it is less surprising that this text explicitly claims to speak more to the art of medicine than art as such.[10] On account of that, I describe aspects of τέχνη that recur across different genres, rather than trying to describe (or, rather, create) a unified conception in any particular author.[11]

This part is background, then, for the examination of the use of τέχνη in the Platonic dialogues that is taken up in the second part of the dissertation. Plato's sustained engagement with the τέχναι warrants this closer look at what exactly he might have had in mind.

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[9] On the dates of the texts in the Hippocratic corpus, see especially Craik 2015.

[10] The author is careful to limit his claims to his own expertise, medicine, and strictly speaking the only claims he makes about the other arts are that a) they are under attack by hostile and foolish sophists and b) they participate in being. This is a far cry from, e.g., Plato's theorization of τέχνη in the *Gorgias*.

[11] Besides a number of smaller differences, versus previous treatments of this topic, my account places much greater importance on the idea of τέχνη as a lower-class, full time profession (which has implications for how we understand the relationship between τέχνη and teaching). Previous studies, in my opinion, have been particularly distorted by a) focusing chiefly on medicine, and b) not taking account of the fact that medicine, like other τέχναι, was not an elite pursuit. See further n.49.

Chapter 1: The Figure of Hephaistos and the Τέχναι in Athens

Introduction

Hephaistos is an odd sort of god. He's lame, he sweats, and most Greek πόλεις, enamored with the other Olympians, eschewed his worship. His cult sites are few and far between. One famous one associated with him, a sanctuary on Lemnos, is really dedicated to his monstrous, deformed children (or grandchildren), the Kabeiroi. In Athens, though, he had a prestigious site, the Hephaisteion overlooking the Agora. Around the Hephaisteion site, one finds pits and broken molds, signs of the bygone days when the artisans worked there, right around the temple of their patron god.

In the *Critias*, Plato describes a prehistoric account of the world wherein different gods are allotted different lands. Hephaistos (along with Athena) is marked off from the other gods for his φιλοσοφία and φιλοτεχνία (109c) and they are jointly assigned Athens. The following section is, in some sense, simply exegesis on that passage—but, of course, I think it is more widely important as background for the Platonic dialogues, not only because these two figures come up three other times under similar description (*Prt.* 321d–e*; Leg.* 11.920d; *Pol.* 274c) but because, by understanding the mythology and symbolism of Hephaistos in contemporary Athens, we can begin to see how τέχνη itself was understood and appreciated: as a gift from the gods that played a role in the life of the entire community.

I will proceed first by looking at how Hephaistos is described in Homer. Starting with Homer makes sense not just because Homer enjoyed a privileged status in Greek culture, but also because, as Brommer has convincingly argued, this is as far back as we can go securely in trying to find the origins of Hephaistos (1978, 4). Then I will argue

that Hephaistos enjoyed an especially prominent place in the Athenian pantheon, and that particularly his cult seems to have become very important in the 5th century. Sarah Morris, in *Daidalos and the Origins of Greek Art* (1992), and Nicole Loraux (1993; orig. published in French, 1981), in *Children of Athena*, have described how the Attic myths associated with Athena and Daidalos reflected and articulated Athens' self-conception in this period. In both of these studies, Hephaistos naturally plays a role. He is the divine god corresponding to Daidalos, the fantastic but mortal craftsman, and he is Athena's partner in sponsoring the arts. Here, I turn the focus on Hephaistos himself. He finds a home away from Lemnos in Athens, and is there celebrated as progenitor of the civilizing arts which Athens celebrates as part of its cultural supremacy.[12]

I. Hephaistos in Myth

In myth, Hephaistos is strikingly different from the other gods. Unlike the other Olympians, he is not physically perfect. He is, however, famed for his inventions, works of ingenuity and skill. The *Homeric Hymn to Hephaistos*[13] pays homage to the god for his gifts to mankind:

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[12] In "A Study in Ambiguity," Pierre Vidal-Naquet justly emphasizes the "brutal contrast between the social standing of the artisans and the metaphorical status of artisanry" (1986, 227) in Plato and in Athenian culture in general. I think this distinction is well-worth keeping in mind, although I disagree with his conclusions, both about Athens and Plato. It seems to me that he severely underestimates the importance of Hephaistos cult in Athens (he mentions, for instance, the Chalkeia, but not the Hephaisteia festival, 238) and he creates a false dichotomy, claiming that artisans played no important role in the city's politics since they did not seem to exhibit some nascent collective consciousness (238). This seems to me to ask rather too much; and, if we ask the simpler question of whether artisans participated in the democratic institutions of the city, the answer from the sources is a resounding yes (see chapter two, section I).

[13] In terms of date and context, M.L. West conjectures that this hymn was composed by an Athenian in the second half of the 5th century for a celebration of the Hephaisteia (2003, 18; see details on this festival below).

Ἥφαιστον κλυτόμητιν ἀείδεο Μοῦσα λίγεια,
ὃς μετ᾽ Ἀθηναίης γλαυκώπιδος ἀγλαὰ ἔργα
ἀνθρώπους ἐδίδαξεν ἐπὶ χθονός, οἳ τὸ πάρος περ
ἄντροις ναιετάασκον ἐν οὔρεσιν ἠΰτε θῆρες.
νῦν δὲ δι᾽ Ἥφαιστον κλυτοτέχνην ἔργα δαέντες
ῥηϊδίως αἰῶνα τελεσφόρον εἰς ἐνιαυτὸν
εὔκηλοι διάγουσιν ἐνὶ σφετέροισι δόμοισιν.
Ἀλλ᾽ ἵληθ᾽ Ἥφαιστε· δίδου δ᾽ ἀρετήν τε καὶ ὄλβον.

Clear-voiced Muse, sing about Hephaistos, famous for intelligence,
Who, with gray-eyed Athena,
Taught men on earth wonderful works,
Men who before that lived in caves in the mountains—like beasts.
But now, because of Hephaistos, famous for τέχνη, they
have learned skills
And spend their lives passing through the full years easily,
Free from anxiety, in their own homes.
Hephaistos, be kind; and give me both excellence and
wealth.

In this short hymn, Hephaistos is revered in tandem with Athena for the τέχναι he gave mankind. There are two points worth noticing in this passage: while in Greek literature more broadly he tends to be specifically associated with metalworking and housebuilding, here he is portrayed as the progenitor of τέχναι quite generally.[14] Second, the τέχναι here are associated with a fulfilling, truly human life. Without the τέχναι, human life is bestial. Thanks to Hephaistos, humans can live free from care. In other words, we did not start from the Golden Age—we came to it, through Hephaistos.[15]

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[14] Cf. *Od.* 6.233–4; Hephaistos is called πολυτέχνης by Solon (13.49 West). Athena and Hephaistos together are taken to be behind all the crafts, as these citations indicate; but each also have particular arts they focus on—metalworking for Hephaistos, weaving for Athena (*Il.* 14.178; *Ody.* 7.110; Hes. *Op.* 60–64). Nevertheless, these categories apparently are not very strict; for instance, on an early classical vase, we see Athena preparing the mold for a bronze horse sculpture (Berlin Antikensammlung F 2415; see Mattusch 1980, 438–439).

[15] This type of story can be compared especially with *Prometheus Bound* 442–471.

One important feature of the characterization of Hephaistos in literature that does not come out from this passage is his earthiness. The poet of the *Iliad* describes Hephaistos thus, when the god leaves his work in order to see why Thetis has come to his home:

> Ἦ, καὶ ἀπ᾽ ἀκμοθέτοιο πέλωρ αἴητον ἀνέστη
> χωλεύων· ὑπὸ δὲ κνῆμαι ῥώοντο ἀραιαί.
> φύσας μέν ῥ᾽ ἀπάνευθε τίθει πυρός, ὅπλά τε πάντα
> λάρνακ᾽ ἐς ἀργυρέην συλλέξατο, τοῖς ἐπονεῖτο·
> σπόγγῳ δ᾽ ἀμφὶ πρόσωπα καὶ ἄμφω χεῖρ᾽ ἀπομόργνυ
> αὐχένα τε στιβαρὸν καὶ στήθεα λαχνήεντα,
> δῦ δὲ χιτῶν᾽, ἕλε δὲ σκῆπτρον παχύ, βῆ δὲ θύραζε
> χωλεύων· ὑπὸ δ᾽ ἀμφίπολοι ῥώοντο ἄνακτι
> χρύσειαι ζωῇσι νεήνισιν εἰοικυῖαι.
> τῇς ἐν μὲν νόος ἐστὶ μετὰ φρεσίν, ἐν δὲ καὶ αὐδὴ
> καὶ σθένος, ἀθανάτων δὲ θεῶν ἄπο ἔργα ἴσασιν.
>
> He spoke and got up from the anvil, a panting bulk,
> Limping; his thin legs moved underneath him.
> He put the bellows away from the fire, and all the implements,
> The ones he worked with, he collected into a silver chest.
> And he wiped around his face and both hands with a sponge,
> And his thick neck and shaggy chest,
> And he put on a chiton, and he grabbed a thick staff, and he walked to the door,
> Limping; and servants moved underneath their lord,
> Golden, seeming like living women.
> There is understanding in their minds, and a voice,
> And strength, and they have learned works from the immortal gods. (18.410–420)

For the poet of the *Iliad,* Hephaistos is a figure characterized by the opposition between his external appearance—sweaty, limping—and his ability to make beautiful objects, including the armor of Achilles. An ugly but intelligent god—a better emblem for Socrates could hardly be sought. Here he is portrayed not (necessarily) as god of *all* craft,

but especially as a metalworker.[16] The relationship between Hephaistos and metalworkers is prominent both in literature and cult practice.

It is probably worth noticing in this connection that metalworking is a craft that absolutely demands experts right from the beginning; amateur weavers can make mediocre blankets, but amateur blacksmiths are unlikely to make anything at all—and may suffocate in the process of trying. Perhaps that fact stands behind his connection with blacksmiths, and when other τέχναι became more rigorous affairs, he took them on by analogy. In any case, the connection between Hephaistos and blacksmiths was important: in his worship at Lemnos, he is associated with a mysterious race of blacksmith daimones, the Kabeiroi. The New Year's festival there culminated in the arrival of new fire that was distributed to the blacksmiths throughout the island. And, in Athens, his temple in the agora was surrounded by the actual workshops of bronzeworkers. But, as we have already seen from the Homeric Hymn, Hephaistos is also associated with τέχναι more generally.

So far, then, from these two passages three points about Hephaistos have been made: (1) his ability to make beautiful things because of his skill or intelligence is juxtaposed with his physically deformity; (2) he is particularly but not exclusively associated with metalworking; (3) by means of these τέχναι, he has given humans the ability to escape a hardscrabble, bestial existence.[17]

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[16] He is also portrayed in the *Iliad* as having built the houses of the gods (1.607–8).
[17] It may be worth noting that there are passages in Plato that describe Hephaistos in each of these ways, too. The *Critias* passage already noted supports (2) because he has φιλοτεχνία (which seems to imply an interest in more than just metalworking) and (3) because he gives the τέχναι to the Athenians. He is particularly associated with bronzeworking in *Symp.* 197b. His disfigurement is suggested by the *Republic* at 2.378d, where his fall from heaven is described.

II. Hephaistos in Lemnos and Athens: Cult Sites and Festivals

The next point to be made is that Hephaistos worship is an almost exclusively Athenian phenomenon. Only the Athenians placed a special importance on Hephaistos. Elsewhere, his cult is rare: Lemnos is the other major site, and it actually plays a role in the Athenization of the cult. There seemed to be a temple of Hephaistos in Akragas on Sicily, but the evidence for this is shaky.[18] There are tiny scraps of evidence for the rest of Greece: an inscription on Samos, where he is possibly worshipped in association with the great Heraion; some coins from Turkey and the Aeolian islands. In the entire Peloponnese, Pausanias notes a single altar, which might not even be for him (Paus. 5.14.6); moreover, the altars of the Twelve Gods there did not include him (*FGrH* 31 F 34a; Long 1987, 141 and 154).

The richness of the Athenian cult, then, is remarkable. Before discussing that, it is worth tracing Hephaistos' background on Lemnos.

A. Hephaistos on Lemnos: Blacksmiths and Fire

Lemnos was famous as the island in the northern Aegean where Hephaistos landed after being thrown from heaven by Zeus, as described in the first book of the *Iliad.*[19] In the episode, which Hephaistos recounts to his mother, Hephaistos was thrown from heaven because he tried to help his mother, and fell for a whole day. Then, as he tells it, "I landed in Lemnos, and there was still a little strength in me. Then, the Sintian men at once

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[18] It is only Solinus 5.23.
[19] Plato mentions the story of Hephaistos being thrown out of heaven by Zeus at *Republic* 2.378d. An alternative version of the story has Hera throw Hephaistos out of heaven (*Il.* 18. 393–397; *Homeric Hymn* 3.316–318).

tended to me, having fallen" (κάππεσον ἐν Λήμνῳ, ὀλίγος δ' ἔτι θυμὸς ἐνῆεν·/ ἔνθά με Σίντιες ἄνδρες ἄφαρ κομίσαντο πεσόντα, 1.593–4). This island became his special homeland,[20] and the Kabeiroi, a race of blacksmith daimones, were worshipped there with him as their leader or father.[21] The cult site for the Kabeiroi, on the north side of the island and visible across a small bay from the city of Hephaistia, was the location of a mystery cult that, while dwarfed in size by the site at nearby Samothrace, was used continuously from the 8th century B.C.E. through the Roman period (Levi 1966; di Vita 1995). There were priests for Hephaistos as well as probably a temple (*IG* XII 8.27; Accius 527–540 Warmington; Valerius Flaccus, *Argonautica* 2.96). The rites celebrated in the Kabeirion were probably well-known in Athens; as Jack Cargill argues, after the conquest of Lemnos by the Athenians under Miltiades, Athenians were asked to migrate

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[20] The prehistorical origin of Hephaistos is a controversial topic. Until the publication of Frank Brommer's magisterial study of the sources, the *communis opinio* was that Hephaistos was from Asia Minor (and, more particularly, Lycia-Caria). Brommer argued that the evidence for this thesis was weak: late coins and late theophoric names. Brommer's view is that Hephaistos was a local, non-Greek god of Lemnos who could be related more generally to an Indo-European line of crippled smith gods which includes the German Wieland (1978, 6). The authors of the *LIMC* lemma agree with his conclusion that Hephaistos is part of a local cult, rather than from Asia Minor, although they disagree with a connection to other Indo-European smith gods (Hermary and Jacquemin 1988, 628). No one seems to have a satisfying explanation for the possible presence of Hephaistos' name in Linear B as part of a theophoric or festival name, although they all acknowledge it (Brommer 1978, 3; Hermary and Jacquemin 1988, 627–8).

[21] At the other well-known sites of Kabeiroi worship, the Kabeiroi are worshipped alongside a main deity whose identity varies. At Thebes, they are associated with Dionysos; at Samothrace and Imbros they are associated with Hermes (Blakely 2006, 16–17). Mythographical sources from the fifth century B.C.E. make Hephaistos the father or grandfather of the Kabeiroi (Akousilaos: *FGrH* 2 F 20; Pherekydes: *FGrH* 3 F 48), and Herodotus, who identifies the Egyptian god Ptah with Hephaistos, reports that the Kabeiroi are the sons of the Egyptian Hephaistos, too (3.37).

to Lemnos and the priests at local temples, including the Kabeirion, would thereafter have been of Athenian descent (1995, 201).[22]

Besides being the home of this unusual god, the island was famous for its blacksmiths and its pseudo-volcano Moschylus[23] already in the 5th century. Hellanikos of Lesbos held that the natives of the island were the first to discover fire and metalworking (*FGrH* 4 F 71b). This was surely connected with their patron god, who could control fire and whose name could even be used to mean fire (e.g., *Il.* 2.426 *et passim;* Soph., *Ant.* 1007). A number of ancient authors depict Lemnos in volcanic terms—the adjective used for Lemnos in the Homeric poems, ἀμιχθαλόεσσα (*Il.* 24.753; *Hom. Hymn to Apollo* 36), has not been decisively linked to ὀμίχλη, "mist, fog," to mean "smoky," but descriptions elsewhere (Soph., *Phil.* 986–7, "oh Lemnian earth and all-powerful Hephaistos-born flame," ὦ Λημνία χθὼν καὶ τὸ παγκρατὲς σέλας/ Ἡφαιστότευκτον)[24] begin to show a

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[22] Noel Robertson has argued that several of the most distinctive features of the Panathenaic ritual—particularly the torch-race—developed under the inspiration of the New Year's festival at Lemnos (1985). This would indicate the degree of contact between Athens and Lemnos. One known critic of Socrates was from Lemnos (Antilochus; see Diog. Laert. 2.5.46).

[23] Ancient sources refer to the smoke, fire, or volcano on Lemnos (e.g., schol. on Soph., *Phil.* 800: ἐν γὰρ τῇ Λήμνῳ τὸ ἐργαστήριον τοῦ Ἡφαίστου ἔνθα καὶ κρατῆρες πυρός εἰσιν.) but this fire or volcano certainly does not exist now, and, Burkert asserts, there "was never a volcano on Lemnos at any time since this planet was inhabited by *homo sapiens"* (1970, 5). He allows for the possibility of a now non-existent earth-fire, but prefers the possibility that the Lemnian fire was actually a ritual fire, relit each year (1970, 5–6). More recently, Forsyth has elaborated a hypothesis that, since the north Aegean is a volcanically active area generally, there was fumarole activity on the island in ancient times, of which the last vestige in our day is the hot springs on the island (1984).

[24] Cf. Antimachus fr. 46 Wyss (=52 Matthews), which localizes the activity to Mt. Mosychlos.

connection between Hephaistos, Lemnos, and volcanic activity.[25] Although this cannot be strictly true—there was no such volcano—the connection between Hephaistos and volcanic activity was strongly felt across the Greek world. Other sites that became associated with Hephaistos are usually notable for volcanic activity—including, for example, Lycian Olympus, Vulcano in the Lipari Islands, and Aetna.[26] Athens does not have any volcanic activity. Nevertheless, Athens became the major site of Hephaistos cult outside of Lemnos in the course of the fifth century.

B. Hephaistos in Athens: The Agora and the Academy

The scale of and type of Hephaistos worship in Athens, then, must be appreciated against this background. In Athens, there was no volcano or fumaroles to identify with his workshop; instead, he was localized most prominently to the agora, among the bronzeworkers and marbleworkers. Athens connected to Hephaistos as a god representing something valued, τέχνη, rather than the result of geographical happenstance. We may recall that Solon at the beginning of the sixth century, was said to have turned citizens toward the τέχναι and to have made the τέχναι respectable (Plut., *Sol.* 22); and, some two centuries later, Isocrates could claim in 380 that Athens invented all the arts, or at least gave her stamp of approval to them (*Paneg.* 40). During the same time period, Daidalos, another legendary craftsman, was rediscovered as an Athenian (Morris 1992, 271–386). In the course of this section, we will follow the rise of Hephaistos cult in Athens. This

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[25] Later sources—both commentators on the Greek poets mentioned and Latin writers—are even more explicit about there being a volcano on Lemnos. For instance, a scholiast on the line from the *Philoctetes* just mentioned writes, σέλας | Ἡφαιστότευκτον τὸ Ἡφαίστειον πῦρ· ἐν γὰρ τῇ Λήμνῳ τὰ τοῦ Ἡφαίστου ἐργαστήρια ἔνθα καὶ κρατῆρές εἰσι πυρός. There is, however, no volcano (see n.23 above).

[26] As already noted, the evidence for Hephaistos worship at these sites is very limited and generally dates to a later period.

story sheds light on the reasons Athenians valued the τέχναι, the ways they celebrated them, and how Plato engaged with this phenomenon.

In the course of the fifth century, Hephaistos became an important god in the Athenian pantheon, honored alongside Athena, his co-patron in the realm of crafts. Plato retrojects this development to the prehistoric past in the *Critias*, but the more likely story seems to be that Hephaistos was taken up as an important figure, and rebranded as a native Athenian, during the course of the 150 years or so between the establishment of the tyranny of Peisistratos and Socrates' death. At the beginning of that period, the evidence for Hephaistos in Athens is extremely faint,[27] but during the ninety years separating Marathon from Socrates' death, Hephaistos became a popular god in Athenian vase painting (Billot, 769–770), sculpture,[28] and drama.[29] In addition, he enjoyed a

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[27] Robertson (1985; 1996) dates the arrival of Hephaistos cult to this early period, relying on evidence of activity under the tyrants in the Academy (then, just a public gymnasium and sacred grove). One could add that the first Athenian vases featuring Hephaistos date from the mid-6th century (Billot, 769). Shapiro prefers to retroject Hephaistos cult much further back, into the Geometric period or perhaps even the late Bronze age; but the evidence for this is, unsurprisingly, very thin (1995, 2). In any case, I prefer not to speculate about the precise advent of Hephaistos in Athens, but rather focus on the demonstrable increase in cult activity in the classical period.

[28] Hephaistos was sculpted by Alkamenes for the Hephaisteion, and probably is featured on the frieze. On the Parthenon, he is in the frieze, he is possibly on a metope participating in the Gigantomachy, and he probably was on the pediment depicting the birth of Athena. He was also probably depicted on the base of the statue of Athena Parthenos, which featured the birth of Pandora (Billot, 770).

[29] Hephaistos appears in *Prometheus Bound*. In Aeschylus' *Eumenides,* the Athenians are called the children of Hephaistos (13). One fragment of Sophocles, from an unknown play, discusses participants in one of the festivals of Hephaistos (fr. 844 Pearson/Radt). Euripides' *Ion* discusses the birth of Erichthonius, Hephaistos' son and legendary founder of Athens (265–274).

spectacular temple on a hill skirting the Agora, an altar in the Academy, and two festivals, which will each be discussed in turn.

The Hephaisteion[30] sits on the hill in the Agora, prominent still today because its fortuitous conversion to a church makes it one of the best-preserved Doric temples in the Greek world. Here, Hephaistos and Athena were worshipped jointly as patrons of arts and crafts, in a location surrounded by working craftsmen. Casting pits, where bronze sculptures would be made, have been found within the precinct of the temple and nearby;[31] evidence for potters, ironworkers, marbleworkers, koroplasts (terracotta figure-makers), and shoemakers has been found on the west side of the Agora as well (Thompson and Wycherley 1972, 170–191). Day laborers were known to wait in this area, too (Harpokration s.v. Κολωνέτας; Pollux 7.132–133). The map (Figure 2) indicates the position of the temple relative to well-known civic buildings, but one should imagine this entire side of the Agora covered with workshops and stalls, too.

The preserved temple dates from the mid-5th century;[32] there is no evidence for an earlier monumental temple, although there may have been a modest shrine here, which

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[30] This temple used to be identified as the Theseion (hence, the Thissio metro stop). The main evidence for the identification of this temple as the Hephaisteion is (a) ancient sources, including Pausanias; and (b) the extensive evidence for metalworking around the shrine, which both makes sense and fits with Andocides' description of the Hephaistos shrine (Andocides 1.40; Thompson and Wycherley 1972, 142). The iconography, which shows the feats of Herakles and Theseus, was common to a variety of Athenian works during the Classical period (e.g., the treasury at Delphi), so is not very strong evidence for the identification of a temple.

[31] Mattusch 1977 reviews all the known casting pits, most of which are localized to the west side of the Agora and the industrial area to southwest of the temple of Hephaistos.

[32] It is not possible to know with certainty what exactly motivated the construction of this temple, and what political figure might have been behind it. But an educated guess is possible: Cimon, son of Miltiades, one of the renowned Athenian politicians from the

would have been destroyed in the Persian sack of the city. The erection of a temple on this grand scale surely reflected the growing prestige of this cult in the 5th century as a result of the recognition of craftsmen as central to the city's prosperity (Thompson and Wycherley 1972, 140–149; Burford 1972, 167; Robertson 1985, 270; Morris 1992, 318–361). Among the surrounding workshops and stalls, the important civic buildings on this side of the Agora include the Tholos (the headquarters of the πρυτάνεις) and the Bouleterion (the meeting place for the βουλή).[33]

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generation after Marathon. Miltiades had captured Lemnos in the early 5th century, before his famed victory at Marathon. Cimon was known to have used mythology to aggrandize himself; Cimon's best-known intervention into Athenian myth and art history is his role in the rise in the popularity of Theseus imagery after he brought back the hero's "bones" from Skyros. A hero shrine was established for the bones, likely in the Agora (Boersma 1970, 52, who follows Thompson 1966, 41); while Theseus had always been an Athenian hero, he transitioned over the course of the century from an archaic hero into a symbol of democratic Athens—as often noted, in spite of the fact he was a king (Morris 1992, 336–361)! Hephaistos could be another figure Cimon ushered from an island conquered by his family into the heart of Athens. The dedication of a magnificent temple to the craftsman-god in the Agora would be appropriate for Cimon, who was involved in other programs relating to the enhancement of the Agora and who "wherever it was possible, showed deep concern for the common people" (Boersma 1970, 61, citing *FGrH* 115 F 89 (Theopompus); Aristotle, *Ath. Pol.* 27.3; and Plutarch, *Cim.* 10.1–6, *Luc.-Cim.* 1.6, and *Per.* 9.2). Shear, however, questions the connection with Cimon (2016, 144 n.20). A further complication is that the date of the temple, long felt to be decisively established by Dinsmoor, has recently been questioned by Kathleen Lynch (2017), on the basis of her reinterpretation of the pottery deposits which were used to date the temple in the first place.

[33] For our purposes, it is interesting and important to realize that this temple would be directly overhead during the conversation imagined in the *Euthyphro*, since the King Archon's Stoa (i.e., the Royal Stoa) is on this side of the Agora (*Euthphr.* 2a; *Tht.* 210d). Socrates would have spent time in the Bouleterion, too, when he opposed those who would condemn the generals from Arginusae to death (*Ap.* 32b), and he was called to the Tholos by the Thirty, and there he refused to be sent on a mission to arrest Leon (32c–e); and he would have picked up books, such as Anaxagoras' treatise, in the orchestra nearby (*Ap.* 26d–e). His final days would have been in the prison, in the southwest corner, on the way to the industrial quarter of town, off the so-called Street of the Marble Workers. Sources besides Plato depict Socrates in this part of the Agora, too; Xenophon and two

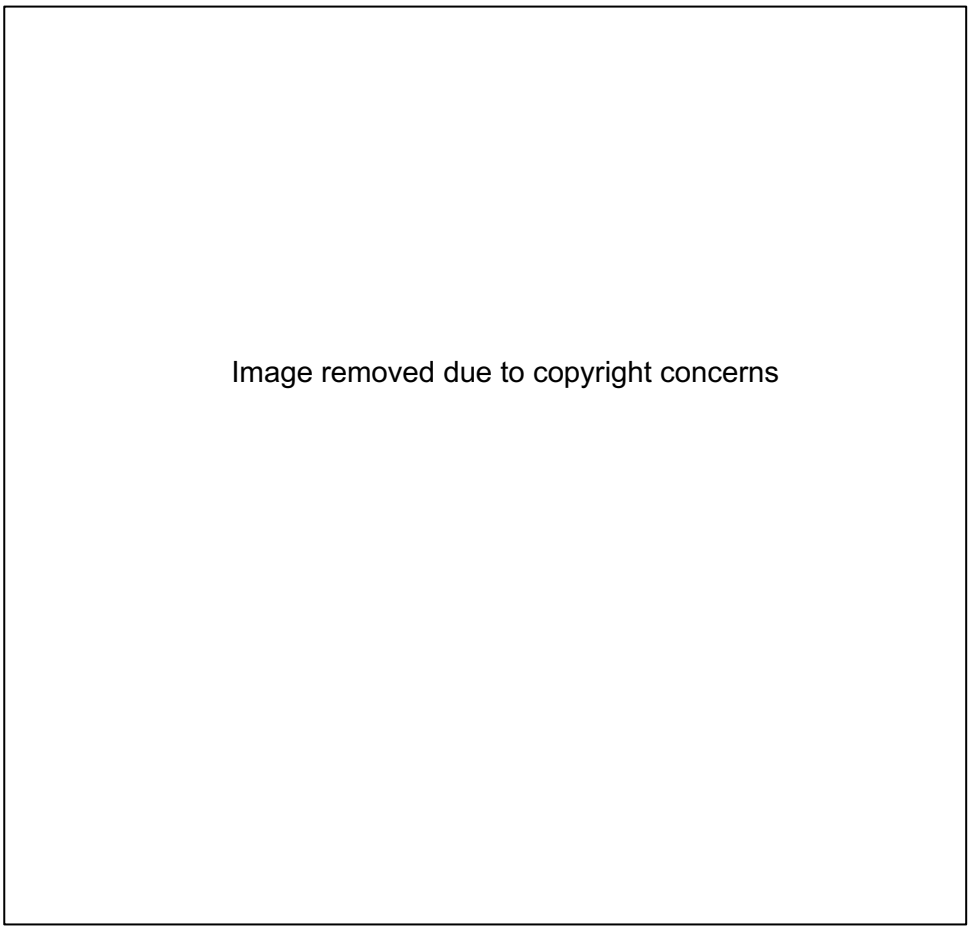


Figure 2: The Agora at the End of the Fifth Century. Agora Drawing PD 873 (Travlos, Dinsmoor, and Anderson, 1992).

The temple would have been distinctly visible rising on the hill above this side of the Agora, especially because two of the buildings of this side of the Agora were not rebuilt after the Persian destruction—"permitting an uninterrupted view of the hill" for

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pseudo-Platonic dialogues have Socrates right under the Hephaisteion, at the Stoa of Zeus Eleutherios (*Oec.* 7.1; *Theages* 121a; *Eryxias* 392a). Diogenes Laertius (and possibly Xenophon) would place Socrates in a house at the southwest corner of the Agora, i.e., the house of Simon the Shoemaker (where the northernmost boundary stone is marked on the map below).

those standing at the ground level of the Stoa of Zeus and other buildings in this vicinity (Boersma 1964, 104).[34]

About two and a half kilometers outside of the Agora, there was an altar to Hephaistos in the Academy. At this site—a lovely suburban gymnasium, embellished by Cimon in the first half of the 5th century—there was a precinct to Athena and a number of altars and shrines. An altar there was dedicated jointly to Prometheus and Hephaistos. According to Apollodorus of Athens, who is cited by a scholiast on the *Oedipus at Colonus*, Prometheus:

> συντιμᾶται δὲ καὶ ἐν ᾽Ακαδημείαι τῆι ᾽Αθηνᾶι καθάπερ ὁ Ἥφαιστος· καὶ ἔστιν αὐτοῦ παλαιὸν ἵδρυμα καὶ βωμὸς ἐν τῶι τεμέμει τῆς θεοῦ. δείκνυται καὶ βάσις ἀρχαία κατὰ τὴν εἴσοδον, ἐν ᾗι τοῦ τε Προμηθέως ἐστὶ τύπος καὶ τοῦ ῾Ηφαίστου· πεποίηται δέ ὡς καὶ Λυσιμαχίδης φησίν ὁ μὲν Προμηθεὺς πρῶτος καὶ πρεσβύτερος ἐν δεξιᾶι σκῆπτρον ἔχων, ὁ δὲ Ἥφαιστος νέος καὶ δεύτερος· καὶ βωμὸς ἀμφοῖν κοινός ἐστιν ἐν τῆι βάσει ἀποτετυπωμένος.
>
> is worshipped together also in the Academy at Athens at the same place as Hephaistos. And there is an old altar and shrine[35] there in the precinct of the goddess (i.e., Athena). And an ancient base is seen at the entrance, and on it there is a relief of Prometheus together with Hephaistos. And it was made, as Lysimachides says too, with Prometheus, the first and elder, holding a scepter in his right hand, and Hephaistos as younger and second. And the altar is common for both of them, sculpted on the base. (*FGrH* 244 F 147)

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[34] The temple of Apollo Patroos was rebuilt after about 350 BCE (Thompson and Wycherley 1972, 137); the old Metroon was never rebuilt, but the cult of the Mother seems to have been moved into the Old Bouleterion (35).

[35] It is not entirely clear how many installations for Prometheus were in the Academy. There seem to be at least two altars, one to Prometheus inside the precinct of Athena, and another base-altar to Prometheus and Hephaistos at the entrance (Billot 1989, 745–6; Robertson 1985, 259–260). The description of the altar inside the precinct as ἵδρυμα καὶ βωμὸς may be mere hendiadys (Billot 745).

The altar no longer exists, but Robertson has proposed that the word ἀρχαία would be used by a Hellenistic historian like Apollodorus to describe a late archaic relief (1985, 260). Billott arrives at a similar date for the altar, relying on depictions of Hephaistos in Athenian pottery as a gauge for interest in Hephaistos cult in Athens (769). In any case, that altar would have been there through both Socrates' and Plato's time, since Apollodorus knew about it some two centuries later.

Two festivals celebrating Hephaistos are evidence for the growing importance of Athenian craftsmen. The Hephaisteia was a festival honoring Hephaistos.[36] It featured a torch race with ephebes from the different tribes competing, and possibly musical competitions as well. A fragmentary inscription from 421/0[37] describes the torch race (λανπαδ[εδρομίαν], *IG* I³ 82 l. 32) which would have begun at the Academy and probably ended somewhere near the Hephaisteion in the Agora (Parker 2005, 472; Billot 772).[38] The inscription also describes the distribution of meat at the festival to metics (l. 23). In contrast to the Chalkeia (described below), which was primarily celebrated by craftsmen, this festival involved the entire city: young men from the different tribes racing, musical competitors (and audience members), priests sacrificing animals, and administrators

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[36] The timing of the festival is uncertain; Simon argues for a date at the beginning of the summer (Simon 1983, 54), while Robertson argues for a date in the late autumn (Robertson 1985, 284–5 n.103).

[37] The inscription could be related to a re-organization of the festival or the establishment of it for the first time. The former interpretation has been favored by more scholars recently (Billot 1989, 771; Parker 2005, 471).

[38] Most have assumed this torch race started from the Academy, like the torch races for the Panathenaia and Prometheia. Pausanaias and Plutarch both say the competitors ran from here carrying torches (although Pausanias identifies the start as at the altar of Prometheus, whereas Plutarch identifies that start at the statue of Love, *Sol.* 1.4), without specifying which festival they are participants in (Paus. 1.30.2).

distributing raw meat to metics. The festival was probably fairly sumptuous; a wealthy member of the community would have to provide for the festival as a liturgy, which Andocides did in 403 or 401 (Billot 772; Andocides 1.132).

Hephaistos and Athena were also worshipped jointly at an annual festival, the Chalkeia. This festival took place on the last day of Pyanopsion and marked the beginning of the Panathenaia because the warp of the πέπλος was set up during this festival.[39] The sources indicate that this was a festival celebrated mainly by craftsmen who walked in a procession during the festival, especially bronzeworkers (Harpocration χ 2 Χαλκεῖα). The festival likely centered on the area around the Hephaisteion, where the craftsmen worked and where the cult statues of Athena and Hephaistos stood inside the Hephaisteion. Hesychius describes it as, "memorial of the discovery of the crafts" (ὑπομνήματα τῆς τῶν τεχνῶν εὑρέσεως, s.v. 1. Χαλκεῖα), and, indeed the festival seems to celebrate the role of the crafts in supporting other parts of the city. The πέπλος itself is a grand offering to Athena on behalf of the city; this production was hardly an amateur work, but rather was a massive tapestry embroidered with great care.[40] The craftsmen walking in procession would carry another product of craft: λίκνα, "winnowing fans" (Sophocles, fr. 844 Pearson/Radt). This product would connect Hephaistos and Athena, as gods of craft, with agriculture, since the fans would have been used in the process of separating wheat from chaff and were associated with rituals for Demeter and Dionysos (Robertson 1985, 271; Parker 2005, 465). While the festival was about craft, then, it

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[39] The Great Panathenaia being celebrated every four years, this was only part of the Chalkeia during those years.

[40] The very first πέπλος was not attributed to any amateur weavers, but to two famous master weavers, Acesas and Helicon (Zen. 1.56; Robertson 1985, 288).

naturally connected the products of craft with Athenian society writ large, through connections with the major festival celebrating Athena as goddess of the citadel and through connections with agriculture.

The temple to Hephaistos and the two festivals all demonstrate the remarkable importance attached to Hephaistos in Athenian culture. The interest in Hephaistos cult rose particularly in the 5th century—this is the period to which the erection of the Hephaisteion is assigned, as well as the founding or reformulation of the Hephaisteia documented in the inscription mentioned above. During Socrates' lifetime, Hephaistos would have been a highly venerated god in the Athenian pantheon, honored especially by the craftspeople that Socrates was known to spend time with, and venerated in a temple that was the background to the *Euthyphro*.[41] As the passage from the *Critias* that began this section indicated, Plato particularly associates Hephaistos with Athens: in that passage, he and Athena are the founding deities of the city.

Conclusion

What did the Athenians see in Hephaistos? On a flat-footed reading, Hephaistos earns such devotion in Athens as a father figure. In a story told in full by pseudo-Apollodorus and referenced obliquely elsewhere (e.g., Eur., *Ion* 264–272), Hephaistos attempted to rape Athena, who put off his advances; nevertheless, his sperm fell on the Athenian soil and produced Erichthonios (*Bibl.* 3.14.6). Erichthonius, born from the land, then went on to become the legendary first king of Athens. From that event, Athenians were the "children of Hephaistos" (Aesch, *Eum.* 13). But, the worship of Hephaistos reflects a lot

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[41] See further n.33, above.

more than this mythical past. Already since the *Iliad*, Athena and Hephaistos had been paired not just in the birth of Erichthonius, but also as patrons of all the arts and crafts.[42]

It is a manifestation of the status of craftsmen in Athenian society, who themselves celebrated (and were celebrated by) Hephaistos cult, which took place in the midst of their workplaces in the Agora. The rise in the respect given to Hephaistos should surely be connected with the accomplishments of these craftsmen in Greek culture. Indeed, it seems quite plausible that the myth of Athenian national identity stemming from Erichthonius was actually a way of domesticating Hephaistos and his crafts as particularly Athenian products. The Athenian genealogies that developed in the classical period reflected this: not only was Hephaistos the father of the Athenians, but the descendants of Erichthonius included a line of artisans (featuring Metion (<μῆτις), Eupalamos, and Daidalos) alongside the royal line. As Jeanmaire argued long ago in a justly famous article, surely this reflects a prized virtue—the practical intelligence of the artisans in society (1956, 35).

Athens prided itself on cultural achievements, including in the realm of craft. This included according a higher status to craftsmen—particularly instructive in this regard is comparing the legendary founders of Athens and Sparta in Plutarch's accounts. We already saw that Plutarch claims Solon turned the citizens to the τέχναι and tried to accord the τέχναι some measure of esteem. Lycurgus, on the other hand, apparently forbade artisans from participating in the government and, conversely, citizens from

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[42] Socrates, in the *Euthyphro* and *Alcibiades* 1, follows this interpretation of Hephaistos and applies it to himself: he calls himself the descendant Hephaistos *and* Daidalos because of his training as a statue-maker (*Euthphr.* 11c; *Alc.* 1.121a).

participating in the τέχναι (*Lyc.* 4.5; 24.2; cf. *Ages.* 26.5).[43] Moreover, craftsmanship, as abstracted from the particular practitioners of the various τέχναι, clearly was recognized in Athens as a prized civilizing force. And it is fitting that Hephaistos was worshipped by craftsmen and the community as a whole; he was the father figure who gave them the tools to develop a not particularly fertile patch of land into a major cultural and political center. This ethos is always in the background, and frequently the foreground, of the dialogues featuring Hephaistos' distant descendent, Socrates.

We might also connect the craft-centric ideology with Athens qua democracy. The craftsmen, after all, are exactly the kind of people who are given a voice in the Athenian democracy, and would have no role in an oligarchic government (or, indeed, in the Spartan regime, which bans Spartiates from participation in the crafts). This might lead us to think the τέχνη theme is one of Plato's "democratic entanglements," to borrow from the title of Sara Monoson's book (2000) on the connections between the dialogues and Athenian democratic practices (e.g. positive evaluation of παρρησία, 154). But, as we will see in the last chapter, insights from τέχνη can be utilized for anti-democratic ends as well.

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[43] In the passages cited, the banned τέχναι are described in extra pejorative terms (βάναυσοι τέχναι, "base crafts;" χειροτέχναι, "artisans who work with their hands"). It seems to me, however, the Spartan educational system would preclude citizens from developing any τέχνη, base or not, other than the τέχνη of war (as, indeed, *Lyc.-Num.* 2.3 indicates). The usual caveats about using Plutarch as a source for the classical period apply, although in this case the parallel testimony of Herodotus (2.167) helps support the idea that Plutarch is elaborating here (for instance, by tying this attitude to Lycurgus specifically), rather than inventing whole cloth.

Chapter 2: Four Aspects of Τέχνη

Introduction

In 1837, the Antikenmuseum in Berlin acquired a beautifully executed red-figure kylix from Vulci (Figure 3). The piece dates to the early fifth century and was produced in Athens. On the inside of the cup, Hephaistos is depicted finishing the helmet that Achilles will wear when he returns to battle; Thetis stands nearby, already in possession of the shield and spear the god has made for her son. On the outside of the cup, craftsmen in a bronze foundry are depicted in the process of their work. Younger assistants are paired with senior craftsmen. One of the older workers is a slave. Two aristocrats look on; they are depicted in a larger scale than the workers, and symbols of the elite lifestyle (particularly the strigil, used at the gymnasium) identify them as upper class. Different stages in the production are depicted or alluded to: two workers melt bronze, two others work on joining together the cast parts of one sculpture, and two others finish a different statue. Molds hanging on the wall recall the indirect lost-wax method used for casting sculptures —a method developed as an improvement over the direct lost-wax method,

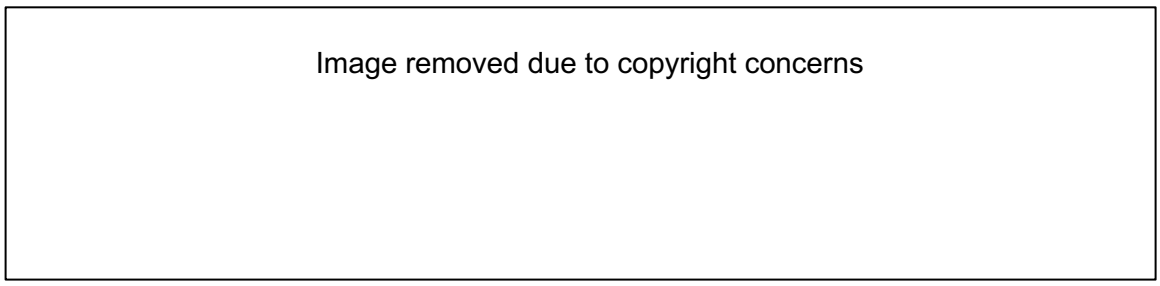


Figure 3: Three Scenes from the Foundry Cup: (left) a pair melting bronze together; (center) a pair finishing a sculpture while two aristocrats look on; (right) Hephaistos and Thetis in the tondo. Berlin Antikenmuseum F 2294, 5th c. BCE. Adapted from ARTstor Image Nos. 74826, 74827, and 110263.

which was prone to failure in the production of life-size statuary. The painter of the cup is fittingly known as the Foundry Painter, and this is his best-known work.[44]

In this section, we will transition from the figure on the tondo of the kylix—Hephaistos—to the figures on the outside, the mortal craftsmen. We need to do this to complete the picture of what τέχνη meant to Plato's audience. This cup encapsulates three ideas about τέχνη that will come into focus in this section: the low status of craftsmen, the role of teachers and pupils (or masters and apprentices), and a rational, communicable procedure (communicable in outline without even using words, on this very vase). In the course of this section, these themes, and a few more, will be described and defended as part of the core idea of τέχνη.

My approach differs from my predecessors in a few ways. Perhaps the best-known studies on this question in English are David Roochnik's chapter in his book, *Of Art and Wisdom: Plato's Understanding of Techne* (1996) and Martha Nussbaum's subsection in her chapter on the *Protagoras* in *The Fragility of Goodness* (1986, 94–9). David Roochnik approaches the question by articulating what the concept of τέχνη was in a series of authors, from Homer to Isocrates. For each author, he gives a series of criteria (allegedly found in that author) for what makes something a τέχνη. I have many reservations about the particular interpretations of the passages he cites, but, most fundamentally, I object to the project of reading a robust 'concept' of τέχνη into authors

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[44] See: Mattusch 1980. Cf. the Leagros Hydria in Munich which depicts pairs of younger and older workers in a pottery workshop (Munich Antikensammlungen 731). Like the Foundry Cup, there is a higher-class figure depicted (an overseer? or the proprietor of the workshop?), which highlights the low-class status of the workers.

who seem to have not theorized τέχνη at all. Martha Nussbaum's treatment, I think, is much better—she mostly restricts herself to discussing the Hippocratic corpus and Aristotle, and draws four criteria[45] for τέχνη out of those texts.[46] This method, by my lights, is safer, simply from the standpoint that the Hippocratic texts and Aristotle do, arguably, have a robust concept of τέχνη (as opposed to Homer), and the four criteria she draws out of them do shed quite a bit of light on the *Protagoras*. But I think that we need to look to more sources than these two. In particular, it seems absolutely essential to consider what Xenophon—another Socratic writer and clearly someone who thought quite a bit about τέχνη—says; and additional sources, including historians and

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[45] Nussbaum's four criteria are universality, teachability, precision, and concern with explanation (95–6). I divide things differently, but I do not have any objection to these as a description of four criteria coming out of a reading of the Hippocratic corpus and Aristotle. As I develop my own views below, I share her view about the importance of teaching; I combine her "precision" and "concern with explanation" with other dimensions of τέχνη into a general view that τέχναι are marked by their use of rational (and thus communicable) procedures; and the observations she makes about "universality" seem to me to come out of both seeing τέχνη as something that requires a lot of experience under a good teacher (hence, is treated in my section on teaching) and as a rational procedure (hence, is treated on my section on τέχνη as rational procedure). I myself avoid using Aristotle as a descriptive source about what a reader of Plato would have had in mind, since Aristotle's views, to me, seem like sophisticated, theoretical reflections on some of the problems raised by Plato and others, and, of course, postdate the topic of this dissertation.

[46] An important older study—that of Felix Heinimann (1961)—also focuses on the Hippocratic corpus. He sees Plato as reacting not to the τέχναι in his world but to a shared Hippocratic-sophistic notion of τέχνη that can be recovered from the Hippocratic texts. My study is of a quite different spirit. First of all, I hesitate to reconstruct such a theory, both on the basis of the quality of our evidence and the fact that the Hippocratic writers seem to me to be less consistent (with the sophists and with each other) than he makes them out to be. In addition, I do not agree with his view that Plato's interest in the τέχνη is focused on these two groups (the doctors and the sophists). Medicine is one important τέχνη for Plato, even a privileged one, but he refers to many, many others. Brumbaugh (1970; 1976) espouses a diametrically opposed view: he sees Plato's interest in the τέχνη as a product of Plato's personal experience with a variety of the τέχναι.

playwrights, tell us yet more. Since I have chosen to cast a wider net, however, I do not think I can claim to be describing a robust concept of τέχνη with definable criteria. On account of that, I describe aspects of τέχνη that recur across different genres, rather than trying to describe (or, rather, create) a unified conception that each author applied to test whether a given practice was a τέχνη or not. Furthermore, I have tried to incorporate insights from two fields of scholarship that, while clearly pertinent to this question, have not been cited in these studies. Both art historians, such as J. J. Pollitt (1974) and Alison Burford (1972), and economic historians, from Moses Finley (1954) to Peter Acton (2014), have much to say about τέχνη. The results of these studies deserve a place alongside close readings of the literary, philosophical, and scientific texts.

Standing on the shoulders of giants, then, I have developed (and will, in the rest of this section, proceed to defend) the following idea of what the τέχναι were in Plato's time: in general, most τέχναι were any trades that lower-class people did as supplement to agricultural labor or instead of agricultural labor.[47] These include fine arts,[48] like sculpting, painting, and flute-playing; handicrafts, like weaving, carpentry and

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[47] Acton 2014, 6; 270–274 discusses craft manufacture as a way for those with too little land to support their families to supplement their income.
[48] For flute-playing (αὐλεῖν) and harp-playing (κιθαρίζειν) as τέχναι, see Xen. *Mem.* 4.2.6. For the visual arts, like sculpture and painting, as τέχναι, see Xen. *Mem.* 3.10.

shoemaking; and practices like medicine,[49] horse-training, and physical training.[50] These and allied arts, crafts, and sciences apparently make up the core group of τέχναι from the time of Homer on. The practitioners were generally called δημιουργοί.[51] Each one typically learned their trade from their father, or else as an apprentice in someone's workshop. Because learning one of these trades takes a good deal of time, a δημιουργός generally practiced only one trade: he was either a flute-maker or a sculptor or a doctor, not all three. During the archaic and classical period, three important changes took place. First, many craftspeople began using mathematics in their trades—one clear example of this is the sculptor Polykleitos, whose works and writings are discussed below. Second, treatises about these crafts began to circulate. Third, various military skills and higher class practices began to be discussed as types of τέχναι.

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[49] See Nutton 1992; 2004, 87; Horstmanhoff 1990. Medicine is called τέχνη (in fact, it is *the* τέχνη) throughout the Hippocratic Corpus, and a number of inscriptions from Kos and elsewhere refer to the τέχνη of doctors (e.g., *SEG* 27 515). Doctors are compared with other craftsmen in Homer *Od.* 17.383–5 and in Solon 13.43–62 West. They are called δημιουργοί in Homer (*Od.* 17.383) and in *De Arte* 8. The social status of the doctors was the same as other craftsmen for the most part, although there could have been some "gentleman"/amateur doctors (Chang 2008; Horstmanhoff 1990, 187–196; cf. Pleket 1995).

[50] See n.70 for details on the physical trainer's τέχνη. I have not found the mathematical τέχναι—astronomy, geometry, and arithmetic—unambiguously called τέχναι anywhere before Plato, so I do not discuss them in this chapter. The closest I have been able to find is the so-called "Catalogue of the Arts" in the *Prometheus Bound* (447–506), which does include arithmetic and astronomy among Prometheus' gifts to mankind. These gifts, however, may not all be τέχναι. The list includes practices that are clearly τέχναι (such as housebuilding and medicine), but also inventions (ships, language); he calls them μηχανήματα (469) and τέχναι τε καὶ πόροι (477).

[51] Practitioners of τέχναι—including doctors (see n.49, above)—are δημιουργοί. The term τεχνῖται is far rarer before the late fourth century—Isocrates and Thucydides, for instance, never use it. Xenophon is exceptional in this respect: he favors τεχνίτης. See the introduction.

This description of the τέχναι will inform our understanding of Plato's use of τέχναι in the dialogues. In the remainder of this section, I will lay out the evidence for the four aspects of τέχνη described here: (I) the low social status of practitioners of τέχνη; (II) the close relationship between teaching and τέχνη; (III) the specialization of δημιουργοί to individual τέχναι; (IV) τέχνη as rational procedure. Part (IV) includes discussion of mathematics and writing in τέχνη.

In scholarship outside of ancient philosophy—for instance, the works by art historians and economic historians I noted above—Plato is a very important source for what τέχνη was in his time. In this chapter, however, I try to avoid using Plato as a source, lest it appear to the reader that I slide from talking about what τέχνη was outside the Platonic corpus into what the Platonic conception of τέχνη was. In the brief discussion here of the relationship between sophists and τέχνη, however, I felt that Plato was functionally unavoidable. Because of this problem, I have mostly reserved for chapter four a discussion of what the sophistic τέχνη or pseudo-τέχνη purported to be, where we can examine Plato's critical stance in greater detail.

I. The Low Social Status of Practitioners of Τέχνη

Plutarch, in the course of contrasting beautiful artistic works with the pursuit of virtue, remarks:

> ἡ δ᾽ αὐτουργία τῶν ταπεινῶν τῆς εἰς τὰ καλὰ ῥᾳθυμίας μάρτυρα τὸν ἐν τοῖς ἀχρήστοις πόνον παρέχεται καθ᾽ αὑτῆς· καὶ οὐδεὶς εὐφυὴς νέος ἢ τὸν ἐν Πίσῃ θεασάμενος Δία γενέσθαι Φειδίας ἐπεθύμησεν ἢ τὴν Ἥραν τὴν ἐν Ἄργει Πολύκλειτος…
>
> Working oneself on base things—since one then toils on useless things—is evidence of the fact that one is cavalier with respect to the truly good things; no well-born young man, seeing that statue of Zeus at Olympia or Hera at Argos wants to be Pheidias or Polykleitos…(*Per.* 2.1)

Plutarch speaks for many of the elite writers from antiquity here. Beautiful, intricate works produced by craftsmen—be it the shield of Achilles or the statue of Zeus at Olympia—might win praise from elites, and they might have their children dabble in music, but no self-respecting elite man would consider foregoing a life in the political sphere for a life as a carpenter or blacksmith. The key word in the passage from Plutarch is εὐφυὴς, "well-born."[52] The contrast between any well-born man and the greatest artists of antiquity is echoed throughout the sources.[53]

The practitioners of τέχνη were, by definition, a group that had to work for a living; they did not earn enough income from property to sustain their families, so they learned a trade.[54] At best, these δημιουργοί worked in their own workshop, perhaps accompanied by a slave or two, as individual entrepreneurs. Elite writers questioned their value as warriors (since they were weakened by working indoors), citizens[55] (since they

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[52] Cf. Xen. *Mem.* 2.7.4: Socrates' interlocutor, Aristarchus, contrasts τεχνῖται and ἐλευθερίως πεπαιδευμένοι.
[53] Cf. Luc. *Somn.* 9.
[54] On the connection between a trade and money-making, see especially Ar. *Pax* 1212, where an armor seller accuses Trygaeus of ruining his τὴν τέχνην καὶ τὸν βίον ("trade and/i.e. livelihood," cf. 543–9) as well as *Plut.* 408, where it is stated that there's no τέχνη where there's no wage (μισθός). See also *Plut.* 160–1, where Chremylus tells Wealth that "all the trades and techniques were invented for your sake" (τέχναι δὲ πᾶσαι διὰ σὲ καὶ σοφίσματα… ἐσθ' ηὑρημένα): shoemaking, bronzeworking, carpentry, and so on (162–8; cf. 511).
[55] While these sources depict craftsmen as being incapable of participating fully in political life, other sources mock the craftsmen as participating *too much* in the Athenian assembly (Xen. *Mem.* 3.7.6; cf. Ar. *Eq.* 738–740, where the Demos generally is impressed by shoemakers, and Lys. 24.20, wherein the jurymen are assumed to all pass their time in a shoemaker's shop or some other similar location).

might travel too much),[56] and friends (Hdt. 2.167; Xen. *Oec.* 4.2–3; Arist. *Pol.* 8.1337b4–21). Beneath these citizen δημιουργοί, there were slaves working in these trades, who, of course, were at the bottom of the social hierarchy; the fact that citizen δημιουργοί worked alongside slaves—and seem to have been paid the same[57]—suggests a further reason the τέχναι could be considered slavish. As Jeremy Tanner puts it, for Athens and other cities, "the ideal model was that of the soldier-citizen, the hoplite, ready to serve his city in the political deliberations of the citizen assembly or the political action of war" (2000, 138); the craftsmen, in comparison with farmers, were weaker and less loyal citizens. In artistic depictions, it is quite normal to find craftsmen depicted grotesquely; see the Penteskouphia tablet discussed in IV.A below (and see n.80).

Among elites jostling for power in Athens, charging your opponent with participation in the τέχναι could be used as a barb: Cleon was mocked for being involved in the stinky tanning business (Ar. *Eq.* 44ff.), Cleophon for being a lyre-maker (Andoc.

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[56] The best artists—painters, architects, and sculptors—were in high demand and were known to travel across the Greek world for commissions. Burford (66) notes that Myron the sculptor (5th c.), for example, worked in Athens, Olympia, Samos, Ephesos, Aegina, Orchomenos, and Akragas. Herodotus documents the wide travels of the physician Democedes of Croton (6th c.), who moved from Southern Italy to Aegina, Athens, Samos, and eventually the Persian court (3.131–2). Nutton notes evidence for the peripatetic lifestyle of the Hippocratic writers (2004, 87, 344 n.3). Craftsmen asked the oracle of Zeus at Dodona if they should travel abroad to practice their trades (Lhôte nos. 88 and 89). See further my article, "Another *Peri Techne*s Literature," in *Greece & Rome* (2018).

[57] One of our most complete records for payment for a commission is *IG* I³ 474–479, which records the amounts paid to slaves, metics, and freemen working on the Erechtheion in the late fifth century. The classic study is Randall (1953), which demonstrates that slaves, metics, and citizens worked side by side and received the same pay for the same tasks, and that the architects received the same daily wage as other workers. But see: Rolley (1992), who notes that (a) one sculptor seems to have been paid more; and (b) the architect should not be understood as an architect in our sense, but simply as a foreman. Nevertheless, the pay scale does not seem to correspond to social status.

1.146), and Hyperbolus for making lamps (Ar. *Eq.* 1302–1315). In each case, these families seem to have derived their wealth from these trades; none of these men actually tanned leather or manufactured lyres (Burford 1972, 156–157). But even this degree of contact with the world of the δημιουργοί was enough to cast doubt on a politician's elite credentials.

Overall, it is clear that the elite writers held the δημιουργοί in contempt, as social inferiors who fundamentally failed to achieve the self-sufficient life of a landowner. Two caveats should be noted, however. Although we have seen that Xenophon, among others, portray δημιουργοί in a fundamentally negative light when they were compared against farmers or soldiers, he does reserve some positive assessment for men who pull themselves out of poverty by participating in some trade (*Mem.* 2.7.6; cf. Plut. *Sol.* 22). In addition, the epigraphic record (and the history told in the first section of this chapter) suggests that the δημιουργοί were valued for their contributions to the community as a whole.[58]

One caveat must be added to this description of τέχναι as fundamentally lower-class practices. What counted as a τέχνη was not entirely stable and, in particular, some elite practices in the 5th and 4th centuries began to be described as τέχνη. It, however, should not be inferred from this that τέχνη lost its low-class valence described in the first

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[58] *IG* II^3 1 324, fourth c. BCE: honors for Evenor the physician in Athens on account of his professional activities both to the community and to individuals (ἰδίαι καὶ κοινεῖ), ll. 40–44; *SEG* 60 436, second c. BCE: multiple honorific decrees for the sculptor Damophon in Messene, who used his τέχνη to improve the community (*SEG* 49 423, ll.106–7 and *SEG* 51 466); *Syll.*^{3} 707, third c. BCE: civic honors from a Greek city on the Black Sea for the Byzantine architect Epikrates on account of the virtue and intelligence he demonstrated in his work. See further details on inscriptions in honor of physicians in Lorenz 1999 and Samama 2003.

section and there arose some homogenous idea of τέχνη devoid of class markers. On the contrary: through the 5th and 4th centuries, τέχνη *simpliciter* still was used to mean the same group of non-controversial, low-class τέχναι (Hdt. 2.166; Xen. *Mem.* 3.10; *Lac.* 1.3, 7.1; cf. Pl. *Resp.* 7.521c–522b). Apparently, there was some strict idea of τέχνη, which denoted lower-class practices; but, the term could also be used in a looser way, to indicate elite or, at any rate, non-vulgar practices[59] which satisfied the other characteristics of τέχνη.[60]

What were these elite practices? There are three particularly worth mentioning: warfare, rhetoric/sophistry, and poetry. Taking these in order: while in Homer and the archaic poets, warfare is not called a τέχνη, it is often discussed as a τέχνη in Thucydides (1.142.9, discussed below in (III); 7.70.3–7), Xenophon (*Cyr.* 1.6.14, 1.6.41; *Oec.* 4.4), and indeed this idea is even retrojected into the mythic past by Euripides (*Supp.* 902–906). Some of the military τέχναι, such as the skill needed by men in the navy, were for all classes;[61] others, like horsemanship, were clearly the province of the elite.

Rhetoric and sophistry, on the other hand, are more strictly the province on the upper class. We will treat more comprehensively the contested status of these τέχναι (or

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[59] Sometimes the adjective βαναυσικός is used to specify the low-class τέχναι (e.g., Xenophon, *Oec.* 4.2–3), but the authors that use this term do not use it consistently.
[60] The Herodotus passage just cited is particularly instructive. In the space of three small sections, Herodotus passes from discussing warriors as being named as a class, like the other classes, from their art (ἀπὸ τῶν τεχνέων, 2.164), to claiming this very same class practiced *no art* (οὐδεμία τέχνη, 2.166); he thus goes from the loose to the strict meaning in the space of just a few sentences.
[61] The τέχνη of the men in the navy (such as described in, e.g., Thuc. 7.70.3–7) might arguably even be the province of mostly lower-class men, since the composition of the Athenian navy was mostly lower-class citizens, and even slaves (Ober 1996, 64; Hunt 1998, 83–101). I, however, have not seen this τέχνη described as the province of the low-class in any of the sources, and the more general τέχνη of war is thought by Xenophon, at least, to be something even the Persian king practices (Xen. *Oec.* 4.4).

pseudo-τέχναι) in a later chapter. For now, it is sufficient to note that Plato clearly thinks the sophists portrayed themselves as having a τέχνη (Gorgias, *Grg.* 449a; Hippias, *Hp. mai.* 281d; Protagoras, *Prt.* 316d; Euthydemus and Dionysodorus, *Euthyd.* 274e); Isocrates, too, writes that the sophists claimed to have a τέχνη. Isocrates' own field, rhetoric, he also calls a τέχνη (*Antid.* 181). As we will see in the next three sections, besides explicitly calling their fields τέχναι, sophists and rhetors made the same claims for their fields that are made about medicine, the fine arts, and other non-controversial τέχναι. With all that being said, we should also note that while rhetoric was *studied* by the upper classes, as a rule, they did not become rhetors or sophists themselves. In the third and fourth chapters, we'll see that Plato uses this fact to differentiate between studying oratory in order to become a professional (which he calls ἐπὶ τέχνῃ) and studying oratory for general education (ἐπὶ παιδείᾳ, *Prt.* 312b; cf. 315a).

Worth noting, too, is drama (and poetry more generally) as a τέχνη.[62] Drama is quite regularly construed as a τέχνη in Aristophanes, at least; especially vivid is the description of Euripides' and Aeschylus' τέχνη in the final *agon* of the *Frogs* (830–1117), introduced as follows:

> οὐκ ἂν μεθείμην τοῦ θρόνου, μὴ νουθέτει·
> κρείττων γὰρ εἶναί φημι τούτου τὴν τέχνην.
>
> I won't give up the chair, don't lecture me:
> for I say that I am better than him with respect to the τέχνη.
> (830–1)[63]

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[62] I would like to thank Paul Touyz for discussing these points with me. For epic poetry as a τέχνη, see, e.g., Isoc. *Paneg.* 159; *Helen* 65. For drama and dithyramb, see Ar. *Ran.* 93, 770, 780, *et passim*; *Pax* 749; *Av.* 1387, and frr. 149 and 638 Edmonds. See also Pind. *Pae.* 52k.39 on the τέχναι of the Muses. Note that Pindar tends to call his own craft σοφία (e.g., *Ol.* 1.116; *Pyth.* 4.248).

[63] I follow Dover's ed. of the text.

In some cases, these authors came from the higher echelons of Athenian society: Sophocles, in particular, held high offices, which suggests he was of some stature (Sommerstein 2002, 41). That being said, the information about many poets is too scanty to draw any firm conclusions.

II. The Close Relationship between Teaching and Τέχνη

Socrates, in Xenophon's *Memorabilia* as in the Platonic corpus, makes a point of mocking those who have pretensions to wisdom. Xenophon describes young Euthydemus as a target of one Socratic cross-examination. In this episode, Socrates remarks to Euthydemus, "nothing serious comes about in the poorly-esteemed τέχναι without competent teachers" (τὰς μὲν ὀλίγου ἀξίας τέχνας μὴ γίγνεσθαι σπουδαίους ἄνευ διδασκάλων ἱκανῶν, *Mem.* 4.2.2), so it is absurd for him to imagine in politics that one can accomplish much without serious training. He makes a similar point at several points in 4.2: whenever someone wants to learn a τέχνη, be it horse-riding or flute-playing or medicine, he goes to an expert in that field for training.[64] The idea that one could become an expert in any of these fields—politics, flute-playing, or medicine—without a teacher is derided as absurd.

Throughout the Greek world, one learned their τέχνη (if they had one) from their father[65] or they served as an apprentice to someone outside the family. In many trades,

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[64] See below, n. 67, for details on the difference between experts and teachers. In ancient Greece, much more than American culture today, there were not specialized teachers as opposed to non-teaching experts.

[65] Solon, according to Plutarch, made a law that punished fathers who did not teach their sons a τέχνη (*Sol.* 22). According to the law, sons who grew up without learning a τέχνη were not obligated to support their fathers in their old age.

we know of families who became famous for excelling in a certain trade: the sculptor Skopas came from a line of sculptors, as did Polykleitos and Praxiteles; the painter Apelles came from a family in that trade; the same seems to be true for weavers, shipwrights, and architects (Burford 1972, 82–87). A certain Phaikylos[66] asked the oracle of Zeus at Dodona if he should ply his πατρῶια τέχνα—fishing—and if he would be successful in that venture (Lhôte no. 83). For men who did not come from a long line of craftsmen, they could learn either for a fee or as an apprentice who helps around the workshop in lieu of paying tuition (Hasaki 2012; Burford 1972, 89). Training generally began at an early age: evidence from the Roman period portrays men as young as eleven as accomplished craftsmen (Burford 89–90; 180–1). While Burford focuses on the fine arts and handicrafts, this general model seems to cover all the τέχναι. For example, the Hippocratic *Oath* explicitly describes teaching as one of the duties of a physician:

> ἡγήσασθαι μὲν τὸν διδάξαντά με τὴν τέχνην ταύτην ἴσα γενέτῃσιν ἐμοῖσι, καὶ βίου κοινώσασθαι, καὶ χρεῶν χρηΐζοντι μετάδοσιν ποιήσασθαι… καὶ διδάξειν τὴν τέχνην ταύτην, ἢν χρηΐζωσι μανθάνειν, ἄνευ μισθοῦ καὶ ξυγγραφῆς, παραγγελίης τε καὶ ἀκροήσιος καὶ τῆς λοιπῆς ἁπάσης μαθήσιος μετάδοσιν ποιήσασθαι υἱοῖσί τε ἐμοῖσι, καὶ τοῖσι τοῦ ἐμὲ διδάξαντος…
>
> [I promise] to consider the person who taught me this τέχνη [i.e., of medicine] equal to my parents, and to share a livelihood with him, and, if he requires it, give him his daily needs…and to teach this τέχνη, if they need to learn it, without fee or contract, to give them teaching by means of precepts, lectures, and other methods—to my sons, and those of my own teacher…(ll. 4-8 and 9-14 Jones)

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[66] The tablet is dated to the fourth c. BCE. Phaikylos is probably from Corcyra (Lhôte 2006, 179–180). See further details in my article, "Another *Peri Technes* Literature" (2018).

Authors from the fourth century often draw on the connection between τέχνη and teaching when they discuss new τέχναι, such as rhetoric and sophistry. Plato, of course, connects the two when he examines the claims of sophists to be teachers of virtue or the πολιτική τέχνη (*Prt.* 319a–b; *Meno* 90e–91b; *Euthyd.* 274e), since they claim not to have a certain ineffable wisdom about ethical or political affairs, but to be able to teach students about these matters; Isocrates does the same when he says the men who profess to teach political discourse "think that their practice is a τέχνη" (ἡγοῦνται δὲ τοῦτ᾽ εἶναι τὴν τέχνην) simply because they are able to attract lots of students (*C. soph*. 9).

Besides future flautists or physical trainers, another group of students would come to some of these δημιουργοί to learn, but without any intention of becoming professionals.[67] These were the sons of the elite, who would learn various skills, such as how to ride a horse or play the harp, but their purpose was to gain acquaintance with

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[67] Of course, in some τέχναι, almost all the students would be there to become professionals (e.g., shoemaking, statuary), and in others, almost all the students would be there without the intention of taking up the trade (e.g., physical training). It might be wondered if there are not two or three *different* skills involved in teaching and practicing a τέχνη. For example, taking flute-playing as a τέχνη: there is a skill used in playing the flute oneself, there is a skill used in teaching would-be professional flautists, and there is a skill used in teaching those who are merely dabbling. While this division certainly seems plausible, I have not seen a source that addresses this issue (and, on the contrary, sources do assume that anyone who can do a given trade as a professional is quite capable of teaching it, and that better professionals are better teachers). Furthermore, I think it is worth noting that the group one might think were solely teachers—the teachers of the elite—were not actually solely teachers. Generally speaking, elite youth would attend lessons from three experts: a κιθαριστής, a γραμματιστής, and a παιδοτρίβης. Only the last one was necessarily what we would call a full-time teacher; the other two both were teachers (a music-teacher and a writing-teacher, respective) and practitioners of a trade in its own right (a harpist and a scribe, respectively).

these as amateurs—not to commit to these as trades.[68] These elite young men attend lessons for the sake of παιδεία, that hoary Greek ideal, rather than to attain a skill to use to make a living. The professionals they would take lessons from accord with the kinds of skills they would need as elite Athenians: first of all, athletic training, in order to compete in local and Panhellenic games (Isoc. *Antid.* 183; Pritchard 2003); musical training, in order to participate in those choruses in the city's festivals and in symposia (Pritchard 2004);[69] and the ability to read, write, and speak, as prerequisites both for a life of leisure and participation in politics. Although the content of the curriculum for a young elite man was not set in stone in any period, the most traditional version of education seems to have focused on music, gymnastics, and the language arts (Ar. *Nub.* 961–974; Arist. *Pol.* 8.1337b22). The teachers of these three subjects—the κιθαριστής, the γραμματιστής, and the παιδοτρίβης—all practiced a τέχνη.[70] The new teachers of the elite—the sophists—as already seen in the quotation from Isocrates (*C. soph.* 9), claimed to have a τέχνη, too.

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[68] Socrates describes this in the *Protagoras*, asking Hippocrates if he is going to learn from Protagoras the sophist not in order to become a sophist himself, but to learn in the way he learned from his γραμματιστής, κιθαριστής, and παιδοτρίβης—"not in order to become a professional, but for the sake of education, as is appropriate for a private and free person" (ὡς δημιουργὸς ἐσόμενος, ἀλλ᾽ ἐπὶ παιδείᾳ, ὡς τὸν ἰδιώτην καὶ τὸν ἐλεύθερον πρέπει, 312b). This contrast is an important one: δημιουργὸς and ἰδιώτης form a binary opposition in Greek thought. Cf. *On Ancient Medicine* 4: if there are no laymen, there are no professionals. A related binary opposition, ἐλεύθερος and δοῦλος, is also often at stake in these discussions. See further my chapter three.

[69] Pritchard 2003 and 2004 show that the elite participated in education in music and physical training, but also argue further that *only* the elite participated in this kind of education. This further claim is not accepted by all scholars, but is beside the point for my argument.

[70] Because the names used for these instructors are rarely used before the fourth century, gathering explicit evidence for this from sources earlier than Plato (and not including Plato) is a little difficult. The παιδοτρίβης is clearly considered to have a τέχνη in Isoc. *Antid.* 181–183; Xenophon sees the κιθαριστής as practicing a τέχνη, since he compares

III. The Specialization of Δημιουργοί to Individual Τέχναι

In the fourth century BCE, a certain Epilytos went to the oracle of Zeus at Dodona seeking advice. The tablets found there generally record the question asked to the oracle, and occasionally the response. The tablet pertaining to Epilytos reads (DVC 2367):

> θεὸς τύχα ἀγαθά· Ἐπίλυτος ἐπερωτῆι τὸν Δία τὸν Νάϊον καὶ τὰν Διώναν τί κα ποιῶν εὐτυχιοῖ καὶ τίνι θεῶν θύσας καὶ πότερα τὰν τέχναν *h*ὰν ἐπαιδεύθην ἐργάζωμαι ἢ ποτ' ἄλλο τι *h*ορμάσω καὶ ἦ λαμψῶμαι αἴ κ' ἐπιχηρῆι καὶ πότερα τὰν Φαινομέναν γυναῖκα λάβω ἢ ἄλλαν καὶ πότερα καὶ δὴ λάβω ἢ ποτιμένω
>
> God. Good luck. Epilytos asks Zeus Naios and Diona by doing what he would be successful and by sacrificing to what god and whether I should practice the trade which I was trained in or turn to another and whether I will get it if he attempts it and whether I should take Phainomena as wife or another woman and whether indeed I should take a wife (now) or wait. (Parker trans.)[71]

Having made a long trip from his home southern Italy to Dodona, it looks like Epilytos has decided to ask three of the common questions simultaneously ("will I be successful in my trade," "should I marry this woman," and "should I marry at this time at all"). What is interesting for us is his question about his τέχνη. Epilytos is considering switching from one to another; we do not know which are the options, but another tablet asks a similar

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the κιθαριστής with a physician (*Mem.* 3.1.4) and generally I think we have no reason to doubt a practicing musician would be held to have a τέχνη; for the γραμματιστής, though, we have to look to later sources. The main source that uses the term before Plato is Herodotus (who uses it for scribes, although I think this itself is supplementary evidence for this professional having a τέχνη); Xenophon mentions the γραμματιστής as a teacher, but the citation does nothing for us on this point. Plato describes all three as having τέχναι (*Prt.* 312b).

[71] Translation in Parker 2016. First published in Dakaris, Vokotopoulou, Christidis 2013. Apparently shifts from first- to third-person in these tablets are not uncommon (Parker 2016, 77 n.25).

question, saying the author is overwhelmed by debts and considering giving up his τέχνη and becoming a cook. Perhaps Epilytos is in a similar position: he has been trained (ἐπαιδεύθην, l.3) in some trade but is unable to make money, and is thinking about switching to another (perhaps one in which a person is more likely to be a wage-earner underneath a supervisor than an individual entrepreneur). In any case, Epilytos describes[72] this change as a switch from one to another—he is not considering adding another τέχνη to his stable of skills, but describes it as a change. He presupposes that he must be either a sculptor *or* a cook—that he cannot be both.[73]

Learning a τέχνη took a great deal of time.[74] If a man learned to be a painter from his father, he spent years mixing paints and learning the basics. If one learned a trade

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[72] It seems that those consulting the oracle wrote their questions themselves. The evidence for this is that a number of tablets are incomprehensible, which is taken as a sign that the writer was either illiterate or not a Greek speaker (Eidinow 2007, 129).

[73] See also *Dissoi Logoi* 7.1–4. One exception to this is that various artists would be competent in several allied fields, e.g. architecture and carpentry (Burford 1972, 96–101). Some sources use highly specialized vocabulary ("glue-boilers," "gold-statue-makers," "spear-polishers"), and clearly a person did not make their living off just one of these. From my perspective, it would be fair to say a person had a variety of skills under one broader rubric. For instance, a statue-maker could work in gold, or bronze, or silver; an architect could as part of his trade make wooden ceiling coffers (and be competent enough to make other works in wood, but did not do this as his profession). Another exception *could* be women—although I know of no source that puts it this way, a non-working woman might be described as having multiple τέχναι: cooking, weaving, child-rearing. I suspect women's labor was simply not construed on the τέχνη model, which is really another way of saying their non-remunerative labor was not really understood as professional work. When women did do remunerative work, it *was* apparently understood on the τέχνη model *and* they only did one τέχνη: for instance, the women in Aristarchus' household, in Xen. *Mem.* 2.7, *could* cook and weave, but when he puts them to work to make some money, they only weave.

[74] Burford 1972, 96–101 is a decent short account of specialization in the visual arts. Harris 2002 treats specialization in Athens and its relationship to the market; he has a list of 170 occupations in ancient Athens. Acton 2014 develops an economic model of manufacturing in antiquity and treats specialization as a rational response to

later in life, that meant spending time either paying someone else or serving as an apprentice. This took a lot of work: as Xenophon writes, to become a musician or learn any skill at all, one has to work hard under a competent master in order to become proficient; it will not do to expect one can master a skill off the cuff, "without preparation and practice" (ἄνευ παρασκευῆς καὶ ἐπιμελείας, *Mem.* 4.2.6; cf. 3.9.14–15; Ar. *Vesp.* 1427–31). From a later period, we have more reliable documentary sources that indicate how long this might take. In Egypt, some apprenticeship contracts on papyrus have been preserved; one girl, a weaver in training, had a contract to work twelve hours per day for four years, with her tuition increasing each year (Hasaki 2012, 186–7).[75] After that training, one was unlikely to learn a new trade unless forced by economic pressure. And, after one learned a τέχνη, he worked in that trade constantly, because, after all, that was how he made a living.

Even in the newer, more elite τέχναι, it was assumed that mastering a skill took time and effort—it was not enough to merely learn the theory behind it. One had to

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macroeconomic forces. It has often been claimed that specialization increased over time, on the basis of, e.g. Aristophanes' use of highly technical vocabulary for occupations (Ehrenberg 1951; Cambiano 1971, 32), but Harris 2002 reminds us that we should not assume every newly named occupation is a newly created occupation. Aristophanes, in particular, has good literary reasons for coining new names. For a new approach, see Pyzyk 2015, 26–84; he develops a database of specialized professionals based on entries in *Brill's New Pauly* in order to argue that specialization did, indeed, increase over the 5th and 4th centuries.

[75] See further Westermann 1914 and Bergamasco 1995, esp. 162–7 which lists the lengths of courses and payment methods recorded in these contracts. Over the thirty contracts Bergamasco lists in his table with lengths, the average length of a contract is a little over three years (by my calculations). We should further remember that some of these contracts were only part of a trainee's course of study: they may be learning a new specialization (for instance, learning shorthand after already being trained as a scribe) or they may be continuing a program they already started.

practice. Thucydides describes the importance of time and practice to developing the nautical skills that Athenians have (and Spartans do not): "nautical ability is a matter of τέχνη, just like any other ability—it is not possible to practice it on a whim, whenever one happens to have time, but rather there will be nothing one does in addition to it [if one practices the amount one needs to]" (τὸ δὲ ναυτικὸν τέχνης ἐστίν, ὥσπερ καὶ ἄλλο τι, καὶ οὐκ ἐνδέχεται, ὅταν τύχῃ, ἐκ παρέργου μελετᾶσθαι, ἀλλὰ μᾶλλον μηδὲν ἐκείνῳ πάρεργον ἄλλο γίγνεσθαι, 1.142.9). Isocrates, discussing the τέχνη of speeches (λόγοι) in *Against the Sophists*, criticizes his rival teachers who attribute all the power of rhetoric to the ἐπιστήμη they teach and disregard the role of practice and natural ability.[76] To Isocrates' eye, "it is not very difficult to get ahold of the science of the forms we use for all the speeches we make and compose" (τῶν μὲν ἰδεῶν, ἐξ ὧν τοὺς λόγους ἅπαντας καὶ λέγομεν καὶ συντίθεμεν, λαβεῖν τὴν ἐπιστήμην οὐκ εἶναι τῶν πάνυ χαλεπῶν), but:

> τὸ δὲ τούτων ἐφ᾽ ἑκάστῳ τῶν πραγμάτων ἃς δεῖ
> προελέσθαι καὶ μῖξαι πρὸς ἀλλήλας καὶ τάξαι κατὰ τρόπον,
> ἔτι δὲ τῶν καιρῶν μὴ διαμαρτεῖν, ἀλλὰ καὶ τοῖς ἐνθυμήμασι
> πρεπόντως ὅλον τὸν λόγον καταποικῖλαι καὶ τοῖς ὀνόμασιν
> εὐρύθμως καὶ μουσικῶς εἰπεῖν, ταῦτα δὲ πολλῆς ἐπιμελείας
> δεῖσθαι καὶ ψυχῆς ἀνδρικῆς καὶ δοξαστικῆς ἔργον εἶναι,
> καὶ δεῖν τὸν μὲν μαθητὴν πρὸς τῷ τὴν φύσιν ἔχειν οἵαν χρὴ
> τὰ μὲν εἴδη τὰ τῶν λόγων μαθεῖν, περὶ δὲ τὰς χρήσεις
> αὐτῶν γυμνασθῆναι…

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[76] Vitruvius makes a similar point when discussing the education of the architect. Vitruvius writes that the architect's success depends upon practice (*fabrica*) and theory (*ratiocinatio*)—practice being the regular exercise of one's skills by hand (that is, by actually building things), and theory being the ability to explain these works on the basis of rational principles. In his view, the architect should also know a variety of other subjects (medicine, mathematics, painting) in a limited way, which he will get from his early education. He actually identifies the reason a person cannot be an expert in each not as a matter of practice, but inability to know a great number of theoretical fields in full. The architect will know enough, in his view, if he can pass judgment on the products of other arts; but only those who are actually trained (*instituti*) put their hands to works.

> on the other hand, to choose from these forms which are appropriate for each topic and to mix the forms with one another and to arrange them in the right way, and moreover to not miss the opportunities [that come up], but instead to adorn the whole speech with clever thoughts and beautiful and melodious words, that requires **a lot of practice** and is the work of a courageous and original mind. **The student should have**, for this, **the nature one needs** to learn the types of speeches, **and to be trained** in their uses…(16–17)

Isocrates repeats the point twice in different words. There are three components to success: knowledge, practice, nature. Practice—here described as ἐπιμέλεια and γυμνάζειν, elsewhere often called ἐμπειρία—is a crucial part of any τέχνη.[77]

The fact that practicing a τέχνη, whether when first learning it or in the course of one's career as a professional, took so much time and effort meant the δημιουργοί only worked at their one trade. As we saw in section (I), this could be a reason for thinking they were not very good soldiers or citizens. As Plutarch remarked, the Spartiates did not themselves work in the βάναυσοι τέχναι but were "artificers of war and servants of Ares, knowing and caring about nothing other than to obey their leaders and to win in battle" (πολέμου χειροτέχνας καὶ θεράποντας Ἄρεως ὄντας, ἄλλο δὲ οὐδὲν εἰδότας οὐδὲ μελετῶντας ἢ πείθεσθαι τοῖς ἄρχουσι καὶ κρατεῖν τῶν πολεμίων, *Lyc.-Num.* 2.3).[78] The consequence of focusing on one trade—be that sculpting or warfare—was that a person was much better at that task than if they spread their efforts over a half a dozen different

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[77] The Hippocratic *Law* construes the medical τέχνη as a combination of natural ability, teaching, a suitable place, instruction from childhood, diligence, and time (2–4 Jones). Inexperience, he writes, is a "foul treasure" (κακὸς θησαυρός) which engenders cowardice and rashness. On experience in the education of poets, see Halliwell 1980 which describes the training of Aristophanes.

[78] Cf. Hdt. 2.167: Herodotus claims the Spartan hostility towards artisans came from one of the other countries which had the same attitude.

ones. Xenophon describes the positive results of specialization and the division of labor when describing the staff attending the table of the Persian king:

> ὥσπερ γὰρ καὶ αἱ ἄλλαι τέχναι διαφερόντως ἐν ταῖς μεγάλαις πόλεσιν ἐξειργασμέναι εἰσί, κατὰ τὸν αὐτὸν τρόπον καὶ τὰ παρὰ βασιλεῖ σῖτα πολὺ διαφερόντως ἐκπεπόνηται. ἐν μὲν γὰρ ταῖς μικραῖς πόλεσιν οἱ αὐτοὶ ποιοῦσι κλίνην, θύραν, ἄροτρον, τράπεζαν, πολλάκις δ᾽ ὁ αὐτὸς οὗτος καὶ οἰκοδομεῖ, καὶ ἀγαπᾷ ἢν καὶ οὕτως ἱκανοὺς αὐτὸν τρέφειν ἐργοδότας λαμβάνῃ: ἀδύνατον οὖν πολλὰ τεχνώμενον ἄνθρωπον πάντα καλῶς ποιεῖν. ἐν δὲ ταῖς μεγάλαις πόλεσι διὰ τὸ πολλοὺς ἑκάστου δεῖσθαι ἀρκεῖ καὶ μία ἑκάστῳ τέχνη εἰς τὸ τρέφεσθαι: πολλάκις δὲ οὐδ᾽ ὅλη μία: ἀλλ᾽ ὑποδήματα ποιεῖ ὁ μὲν ἀνδρεῖα, ὁ δὲ γυναικεῖα: ἔστι δὲ ἔνθα καὶ ὑποδήματα ὁ μὲν νευρορραφῶν μόνον τρέφεται, ὁ δὲ σχίζων, ὁ δὲ χιτῶνας μόνον συντέμνων, ὁ δέ γε τούτων οὐδὲν ποιῶν ἀλλὰ συντιθεὶς ταῦτα. ἀνάγκη οὖν τὸν ἐν βραχυτάτῳ διατρίβοντα ἔργῳ τοῦτον καὶ ἄριστα δὴ ἠναγκάσθαι τοῦτο ποιεῖν.
>
> For just as the other τέχναι are performed differently in the big cities, in that same way the food at the king's table is made differently. For in small cities the same people make beds, doors, ploughs, tables, and often even houses, and they are happy if they get enough work to sustain themselves. It is impossible, truly, for a man doing many crafts to do them all well. In big cities, on the other hand, because the demand on each craft is so great, it is enough to sustain each craftsman to have one trade—or not even a whole trade. Rather, one person makes men's shoes, another women's shoes; and in some places one man is sustained by just stitching shoes, and another by cutting [the leather], and one by only cutting together the upper part, and one by doing nothing but assembling them. It is necessary, then, that that person working in a very limited task is bound to do it best. (*Cyr.* 8.2.5)

Xenophon, one of the great economic observers of antiquity, notes the increase in quality that comes with specialization. Although the degree of specialization in antiquity, and how it changed over time and varied from city to city, is far beyond the scope of this study, it should be noted that Plato was not alone in seeing the virtue of "one man, one task;" indeed, the sources just adduced indicate that, setting aside Plato's (and

Xenophon's) theoretical reasons for insisting on the superiority of specialized labor, the reality was that people typically received education in only a single τέχνη.

IV. Rationality and the Τέχναι

The last aspect of τέχνη to be considered is how τέχνη is connected with rationality. One way this comes out is in the contrast between τέχνη and magic: the Hippocratic author of *On the Sacred Disease*, for example, contrasts his rational practice with the approach of the "magicians and the purifiers and priests and charlatans" (μάγοι τε καὶ καθάρται καὶ ἀγύρται καὶ ἀλαζόνες, I. 4 Jouanna).[79]

A τέχνη is a rational process insofar as it reliably achieves success using a method that can be articulated and duplicated. It reliably achieves success generally by following a step-wise procedure or protocol, and this procedure can be articulated making use of language and quantification. It can be duplicated by appropriately trained pupils—although the fact it can be articulated in, for example, a written tract, can lead amateurs to an unfortunate conceit of wisdom when they believe they know how to do something from knowing the theory, but lack the requisite practice. Crucially, the practitioners of τέχνη are not one-of-a-kind wise men, whose abilities are unteachable and whose practices are incommunicable. Some texts will construe the rationality of τέχνη using the language of causes (αἰτίαι and related terms) and rational accounts (λόγοι).

Having contrasted τέχνη with magic or quackery, I think it is essential to see how rationality worked in these processes. The remainder of this section discusses, in turn,

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[79] See also *Prorrhetic* 2: the author there contrasts his practice in developing prognoses with those who use a "mantic" method (2).

step-wise procedures, the role of writing, the role of mathematics, and descriptions of causal reasoning in technical treatises and other written evidence.

A. Step-wise Procedures and Protocols

A step-wise procedure or protocol is the way a craftsperson goes from raw materials (wood) or a problem (a defective chair or a diseased patient) to their goal (a new chair, a fixed chair, a healthy patient). The Penteskouphia pinakes depict various moments in this kind of process in the field of ceramics.[80] Different tablets show the processes of digging clay (Figure 4), the preparation of clay in a workshop, the forming of pottery (Figure 5), and the firing of pottery (Figure 6)—all steps required to go from raw material to finished product.[81] One tablet shows men at work on different steps within the same workshop (Figure 7). The Foundry cup discussed at the beginning of the chapter shows the same kind of procedure in the course of making a statue: pairs of craftsmen take the bronze alloy from raw materials to finished products. And Xenophon described a similar method in a cobbler's workshop (above, section III): one person cut the leather, another sewed, and another assembled the shoes. While Xenophon is actually making a further point about the division of labor, it follows *a fortiori* that he is describing a rational step-wise process that could then be divided into separate jobs for individuals.

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[80] See d'Agostino and Palmieri 2016, esp. 155–7 and 168–74, on the Penteskouphia tablets. They discuss the types of scenes involved in the whole corpus and the social context for these votive tablets; of particular interest for my argument is their emphasis on the depictions of craftsmen as low social status (they particularly note this on the tablet I have reproduced as figure 4, below). They emphasize the "long, pendulous genitals" of the figure digging with a hook on the right as a grotesque device that reflects the idea of craft as degrading (170).

[81] Sobak 2009, 43–68 discusses the iconographic evidence from Corinth and Athens for the different steps involved in pottery production.

Figures 4 and 5: (Left) Step One: Extracting Clay. Tablet from Penteskouphia, late 6th c. BCE. Antikensammlung, Staatlich Museen zu Berlin, F 871. Photo: Johannes Laurentius. Cropped. (Right) Step Two: Throwing a Pot. Tablet from Penteskouphia, late 6th c. BCE. Louvre MNB 2857. Photo: (c) Marie-Lan Nguyen / Wikimedia Commons / CC-BY 2.5.



Figures 6 and 7: (Left) Step Three: Firing the Pot. Tablet from Penteskouphia, 6th c. BCE. Louvre MNB 2858. Photo: (c) 1993 Hervé Lewandowski. (Right) Multiple steps simultaneously. This image is difficult to read, but there are two figures on the left kneading clay by foot, and two on the right preparing pots. Tablet from Penteskouphia, 6th c. BCE. Antikenmuseum F640. Photo: Sobak 2009, 321.



Elsewhere, such as on the Penteskouphia tablets or the Foundry Cup, we need not assume that individuals only worked on one task; the point is rather that any given work, whether completed by a single craftsman or a team, could be broken down into steps.

Monumental architecture presents especially pressing difficulties for planners: teams must be contracted to collaborate over a multi-year process, and funds must be gathered to pay these teams in timely fashion. There's little use in hiring a team of sculptors for spring if the marble will not arrive until summer. Inscriptions from Athens

and elsewhere describe the various stages in this process from the perspective of the state: they attest to councils being chosen to overseer the work in various stages, designs being approved and contracts being made, and funds being disbursed to pay for all this.[82]

The Hippocratic corpus describes the steps in a prognosis or treatment in a similar manner. The author of the *Prognostic* tells the physician what steps he should take: first, the physician should look at the patient's complexion; then, he should ask about any sleep problems or gastrointestinal symptoms; and then, if the disease has only come on recently, he can make a prognosis, but if it has been going on for some time, he should examine further signs (2 Jones).

It should be noted that the existence of a protocol did not fully guarantee results. In all τέχναι, there is at least some possibility of failure: a bronze statue can shatter while in the mold, or a house could collapse because of unforeseen issues with the materials. Similarly, a physician cannot treat an incurable disease (*De Arte* 8). To put the Hippocratic author's point in modern parlance, asking a doctor to cure an incurable disease is like asking a pig to fly—nature stands in the way.[83]

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[82] See Pitt 2016, esp. 200–1.

[83] He specifically says medicine is limited by the fact that the human body hides things. The diseases that manifest themselves externally are eminently treatable, he says (9); but there are also hidden diseases that cannot be cured, not because of a fault in the τέχνη but because of the nature of the human body itself (11). Roochnik (1996, 46) tries to use this text to show that there were two different conceptions of τέχνη—one that covers τέχναι like carpentry that are usually successful and another that covers τέχναι like medicine that often fail, but the text does not say this. In fact, the writer makes the opposite point: just as τέχναι that require fire do not work when they do not have fire, the medical τέχνη can fail because of material constraints (that is, because of the material constitution of the human body). So far as this text has told us, all τέχναι can be thwarted if they lack appropriate materials. The author, rather than choosing to describe his τέχνη as less

B. Writing

The *Prognostic* is an example of a wider phenomenon—the composition of written texts describing the procedures followed by practitioners of a given τέχναι. These texts came to have an important impact on how τέχναι were understood. From the sixth-century forward, working artists produced treatises describing their techniques: Chersiphron and Metagenes wrote about techniques used in their design of the temple of Artemis at Ephesos, and the architects of the temple of Hera at Samos wrote about their design (Vitruvius 7.pr.12; Pollitt 1974, 12).[84] Working physicians wrote some of the Hippocratic texts. Painters in the 4th century, such as Euphranor (Pliny, *HN* 35.40) and Apelles (*HN* 35.36) wrote about their craft. And, in the second half of the fifth century, Polykleitos wrote his famous *Canon*, of which some fragments remain. Polymaths could gather all of these texts, and more: the sophists began writing on a wide array of topics during the 5th century. Some of the works produced by sophists focused on topics they might have a good claim to expertise about—such as rhetoric[85]—while others might be showy pieces demonstrating the breadth of their knowledge, such as Protagoras' work on the art of wrestling (Plato, *Soph.* 232d–e; Diog. Laert. 9.8.55).[86] This trend does not seem to be

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reliable than carpentry or participating in a different idea of what a τέχνη is, instead insists that the difference is due to how difficult and complex the materials are.

[84] Margie Miles has compiled an invaluable table of religious buildings from the archaic and classical periods attributed to named architects by literary or epigraphic sources. Of the 27 buildings on the list, eight of the architects were known to have written treatises: see Miles 2017, 107–8.

[85] Cicero, citing Aristotle, reports that Tisias and Corax were the first inventors of rhetoric and the first to write about rhetoric (*Brutus* 46; *De Inventione* 2.2.6). Thrasymachus was said to have written a rhetorical textbook (85 DK B3, =LM D3).

[86] Schiappa 2003, 227–8 doubts Protagoras wrote on wrestling as a τέχνη. He suggests that "wrestling" was a metaphor for rhetoric; I disagree but think there is a "rhetorical"

limited to the sophistic movement. Democritus apparently wrote on painting and medicine (68 DK B26b, c, d; B28a) and Xenophon[87] wrote on horsemanship (and, apparently, was anticipated in this by a certain Simon, *Eq.* 1).[88]

Setting aside the sophistic texts for a moment, the main purpose of these writings—the Hippocratic corpus, the technical treatises of the architects and painters, Polykleitos' *Canon*—seems to be communicating solutions to problems faced by these experts. Craftsmen across the Greek world faced the same kinds of problems—how to site a temple on marshy land, how to treat a tertiary fever, how to perfectly translate the human body into stone. Both the writers of these tracts and the readers would be expected to share some basic level of training or education; these tracts did not replace months or years spent as an apprentice.[89] Instead, they communicated innovative solutions developed by their authors; these new methods could then be used by readers in their own

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aspect to this treatise. Plato's reference to the book at *Soph.* 232d–e shows this. There, Protagoras is said to have written about wrestling and many other τέχναι, so clearly he is not only writing about rhetoric (even if that were what 'wrestling' meant). The description of *what* he wrote, however, is more interesting still: "what a professional should respond" to any question or criticism. This suggests that Protagoras' writings basically treated the "rhetorical" part of every profession: since every expert needs to be able to respond to questions and criticism, Protagoras wrote books about how they could effectively defend themselves.

[87] Xenophon does claim to have long experience in horsemanship, so, while not a horse-trainer by trade, does have some claim to expertise.

[88] A dense would-be student might think he could become a doctor by reading the *Prognostic* or a horse-trainer by reading Xenophon. Such a conceit of wisdom was undoubtedly the sign of a dull mind, but nevertheless, we see such characters in the late fourth and early fifth century elite intellectual milieu. Oenopides of Chios, a fifth-century astronomer and mathematician, remarked about those who gathered books, that knowledge is μὴ τῶι κιβωτῶι, ἀλλὰ τῶι στήθει ("not in a chest, but in the heart," 41 DK A4; Xenophon's Socrates makes a similar point in *Mem.* 4.2). Cf. Plato, *Phdr.* 268c.

[89] See Hasaki 2012, 172: "no craft-related beginner's handbook is mentioned or has survived from antiquity."

work. As a secondary (or, depending on one's viewpoint, the primary) purpose, then, one could write one of these treatises with a view towards embellishing one's reputation.

In addition to facilitating the transmission of innovative methods between peer-craftsmen, writing would also be used in directing subcontractors working on a project. As the process of building monumental works, like temples, has been reconstructed, architects would write συγγραφαί specifying the dimensions and materials needed for a new building; this would later be supplemented by an ἀναγραφεύς (a drawing of the proposed construction) and possibly παραδείγματα of specific decorative elements. These texts would use technical terminology to describe the required elements—such as "triglyph" or "Ionic cornice" (Coulton 1983; cf. Plato, *Soph.* 226b). Technical terminology could be used to facilitate communication between craftsmen working on different projects across the Greek world and between architects and masons working on the very same site. In other fields, technical terminology also evolved, but at different rates; medicine notoriously did not have stable terminology in the classical period, for instance.[90]

These uses of writing presuppose a certain view of what these τέχναι were. The idea behind transmitting ideas this way is that the person on the receiving end could implement the method, solution, or directions proposed in the text. The physicians, architects, and other craftsmen were not one-of-a-kind inspired holy men and their works were not magical objects. Instead, anyone with the right training could use the same tools and techniques to achieve the correct results.

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[90] Lloyd 1983, 149–67 discusses the overall "terminological anarchy" (163) in medicine; I take it that within certain groups of doctors, the terminology would be stable (but not across the Greek-speaking world more widely). See also Schiefsky 2005.

C. Mathematics

In the list of his gifts to humankind, Prometheus reserves a special place for mathematics and writing: "and number, eminent among the devices, I discovered for them, and the joining together of letters, the memory of everything, the working mother of Muses" (αἰ μὴν ἀριθμόν, ἔξοχον σοφισμάτων/ ἐξηῦρον αὐτοῖς, γραμμάτων τε συνθέσεις/ μνήμην ἁπάντων, μουσομήτορ᾽ ἐργάνην, *PV* 459–61).[91] Having already seen the role of writing in the τέχναι, we turn now to mathematics.

Many of the uses of mathematics in the τέχναι were quotidian. In keeping a reliable inventory and in the production of many objects (flutes, cloaks, shoes), one would need to use a little math. Other τέχναι, like music and architecture, required a more developed understanding of mathematics. For instance, it has been observed that in the late archaic period Doric columns changed from having sixteen flutes to having twenty flutes (Leonardis 2016, 93–94). This may sound like a mere stylistic choice, and indeed the change surely became canonical for aesthetic reasons. But this change also required architects and masons to have become aware of and to have applied a theorem of Pythagoras that facilitated the divison of the column drum into 20 equal sections.[92]

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[91] Cf. *Phlb.* 55e: According to Socrates in that dialogue, all the τέχναι would be pretty useless if one took away arithmetic, measuring, and weighing.

[92] It is otherwise very difficult to make twenty evenly sized flutes around a column. When fluting a column, the mason needs to divide the top of the column drum into *n* equal areas (*n* being the number of desired flutes). This is fairly easy to do if *n* is 16: one merely divides the surface of the drum into halves four times (yielding two equal areas, then four, and eventually sixteen). A theorem attributed to Pythagoras facilitates dividing an area into five equal sections via inscribing a pentagon in a circle, which could then be bisected twice to yield twenty equal areas—and so, twenty flutes. Leonardis 2016 gives further examples of the applications of geometry in Greek architecture. Although the theorem described was attributed to Pythagoras, Leonardis believes it must have been

Prometheus is then probably justified in his description of the eminence of mathematics. All of the τέχναι would have required mathematics in some form to achieve their ends; and then, even more amazingly, some could actually explain in mathematical terms how their achievements worked. We have already seen one example of this in architecture, and there is a further striking example in the fine arts. Polykleitos, the famed sculptor, was the author of what has been hailed as the first definition of beauty in Greek thought: "high quality comes about in small steps through many numbers" (τὸ εὖ παρὰ μικρὸν διὰ πολλῶν ἀριθμῶν γίνεται, 40 DK B2).[93] In the context of the passage, as best as it can be reconstructed, Polykleitos' notion of perfection or beauty is as the product of a process of applying appropriate ratios to the human body and thus coming to the καιρός through the "many numbers" (Stewart 1978, 124–127). A masterpiece, according to Polykleitos, is not the product of an artistic genius, but an intellectual one. It is the understanding of numbers—no easy task, but no cryptic one either—that generates a great work. Beauty is not some ineffable essence, but a mathematical truth.[94]

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much older. Further details on the process of dividing the surface of a column drum may be found in Miles 1989, 148–9.

[93] This translation was suggested to me by Hendrik Lorenz. Stewart 1978 discusses further options for παρὰ μικρὸν, but does not discuss τὸ εὖ; he provides the translation of "beauty," while Ira Mark translates the same phrase as "perfection" (28). Lorenz's suggestion fits the context of the passage better, in fact: the quotation comes from Philo of Byzantium, also know as Philo Mechanicus, who is discussing the construction of weapons; as such, "high quality" is more appropriate to the context than beauty (and "perfection" seems like an overtranslation of τὸ εὖ). Parallel passages adduced by Stewart are valuable in showing that this was meant as something like a definition of beauty (τὸ κάλλος: Galen, *de placitis Hippocratis et Platonis* 5. 448–9 Kühn; τὸ καλόν: Plutarch, *Mor.* 45 c–d).

[94] Stewart 1978 discusses the options for translation and interpretation. The reader may also be interested in his discussion of the possible Pythagorean influence on Polykleitos;

D. Causal Reasoning

In extant technical treatises and other writings, we begin to have evidence for a kind of causal reasoning in the τέχναι. In such texts, accounts (λόγοι) that make reference to causes are provided for phenomena or practices. I will draw on the Hippocratic Corpus and Papyrus Hibeh I 13 to show what I have in mind; I should note that the Papyrus Hibeh is not itself a technical treatise, but rather a polemic against a certain theory of music.

First, then, we turn to medicine: the author of *On Ancient Medicine* discusses the λόγοι of different medical schools which posit different things as αἰτίαι of disease, such as the hot and cold (*VM* I.1 Jouanna; cf. XIII.1, XV.1, XX.1–6, esp. 2).[95] The author of *On the Sacred Disease* (discussed previously), on the other hand, contrasts a λόγος which is not in terms of causes with his λόγος. Quack-doctors, he said, were at a loss about how to explain epilepsy, so they made up a λόγος (I.4 Jouanna). But they do not use causal reasoning: they posit things as causes that do not make sense. For instance, they claim that one should avoid goatskins, but Libyans use all sorts of goat products and do not suffer from this disease more than anyone else (I. 4–6 Jouanna); and, they claim god is to blame for a disease—but god is the cause of purification, not defilement (I. 13 Jouanna). He then gives his own account of the causes. In this affliction, "the cause is the brain"

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and on this topic see too the possibility that temples in southern Italy demonstrate Pythagorean influence, discussed in Nabers and Wiltshire 1980 and Bell 1980.

[95] The author of *De Arte* describes the account in terms of causes that the opponent of medicine gives (VII.1–5 Jouanna, esp. 1 and 5). In light of the fact that the author accuses the opponent of "making a τέχνη" of showing how medicine (and other arts) are not τέχναι, this, too, falls into the same category as the other examples given. Cf. also *Decorum* 4 Jones: "everything done in a τέχνη way is brought about from a rational account" (πᾶν γὰρ τὸ ποιηθὲν τεχνικῶς ἐκ λόγου ἀνηνέχθη). The date of *Decorum* is disputed: see Craik 2015, 59.

(αἴτιος ὁ ἐγκέφαλος, III.1 Jouanna); and, in particular, he discusses the nature of the disease (I.1 Jouanna) and bodies afflicted by it (II.1–3 Jouanna). By understanding these causes, which are the same to all diseases, one can cure the "sacred disease" without having to use irrational purifications or magic (XVIII.1–4 Jouanna).

The Papyrus Hibeh I 13 uses similar language, although it is discussing quack music theorists rather than quack doctors. It should be emphasized that this text does not give a full λόγος of its own, but rather polemically addresses the views of others. The author of the text is unknown, although Hippias and Alcidamas have been suggested.[96] The author writes,

> …λέγουσι δὲ ὡς τῶν μελῶν τ[ὰ] μὲν
> ἐγκρατεῖς, τὰ δὲ φρονίμους, τὰ δὲ δικαίους,
> τὰ δὲ ἀνδρείους, τὰ δὲ δειλοὺς ποιεῖ, κακῶς εἰδότες ὅτι
> οὔτε χρῶμα δειλοὺς οὔτε ἁρμονία ἂν ἀνδρείους
> ποιήσειεν τοὺς αὐτῆι χρωμένους. τίς γὰρ οὐκ οἶδεν
> Αἰτ]ωλοὺς καὶ Δόλοπας καὶ πάντας τοὺς θύ[οντας Θερμο-
> πύλ] ηισι διατόνωι μὲν τῆι μουσικῆι χρω[μένους,
> πολὺ] δὲ τῶν τραγωιδῶν ὄντας ἀνδρειο[τέρους τῶν διὰ
> πα]ντὸς εἰωθότων ἐφ' ἁρμονίας ἄιδειν; [ὥστε δῆλον ὅτι
> οὔτε] χρῶμα δειλοὺς οὔτε ἁρμονία ἂν [ἀνδρείους
> ποιήσειεν.
>
> they [=the music theorists he is critiquing] also say that some melodies make people self-disciplined, others prudent, others just, others brave, and others cowardly, not understanding that the chromatic cannot make cowards nor the enharmonic make brave men of those who employ it. For who does not know that the Aetolians and Dolopes and all those [who sacrifice at Thermopylae], though they employ diatonic music, are much braver than singers in tragedy, who have [always] been accustomed to singing in the enharmonic? [Hence it is clear that] the chromatic [could not make] people cowardly, nor could the

[96] On this papyrus and its context in 5th and 4th century debates about τέχνη, see further West 1992, 16–23, and especially Pelosi 2017.

> enharmonic [make them brave] (ll. 13–22, Pelosi trans., slightly modified).[97]

The reasoning here is reminiscent of the reasoning about the effects of goat products and the Libyans in *On the Sacred Disease*: in both, we have what we might call an ethnographic *argumentum ad absurdum*. Schematically, this works via the author calling attention to a claim made by their opponent about a certain relationship between cause and effect (goat products cause epilepsy, the chromatic melody makes men cowards); opposing this by drawing attention to a group of people that notoriously use what is being posited as a reliable cause of a certain deleterious effect; and then reminding the reader that this deleterious effect, in fact, does not occur in this group of people, so the causal reasoning must be flawed. Because this method of argument relies on causal reasoning, in the way I've just described, I take it that this argument in the Papyrus Hibeh shows that musical theory itself more generally uses causal reasoning, although the language of αἰτία is not used in the extant fragment. We might think, though, that the explanatory γάρ here is doing the same work.[98]

Other τέχναι, too, would have been providing written λόγοι by the fourth century, and these do sometimes use causal language explicitly.[99] Xenophon, for instance, wrote an account of household management, the *Oeconomicus*; he there discusses the αἰτίαι of

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[97] The text here is according to Pelosi 2017.
[98] Laks 2017, 40 suggests looking at the increasing use of γάρ as indicative of the interest in rational explanations in the Presocratic corpus.
[99] Meissner 1999, 146–161 discusses the technical treatises that were being written in the classical period. His list includes economic treatises, tactical treatises (esp. Aeneas Tacticus), medicine, and music. I discuss in the main text the economic treatises, music, and medicine. Aeneas Tacticus can plausibly also be adduced as a person giving accounts in terms of causes.

how to arrange one's household (3.3; 6.11). This is connected to various natures: for instance, the nature of the land being used to grow crops (16.2, 16.5–6),[100] the nature of a woman as a partner in this endeavor (7.22, 7.28), the natures of different kinds of slaves (13.9, 13.10).[101]

Further technical treatises did exist, but have now been lost: chief among these include the works of architects, dating back to the sixth century. We know a bit about their content from later authors like Pliny, and the works of Vitruvius, Hieron of Alexandria, and Philo of Byzantium can give some sense of what we've lost.

Conclusion

In Plato's time, the τέχναι were trades ranging from shoemaking and carpentry to architecture, rhetoric, and generalship. Most of these pursuits were what poor citizens did to earn a living, and their success in these trades depended upon extensive and focused training. Although a diverse group, these τέχναι were marked by their rationality and teachability.

My description of these features overlaps in part with many previous accounts of the nature of τέχνη in antiquity. I have tried, however, to bring out a few features that have been left out. The first is the low-class nature of the τέχνη through the fourth century; as I noted in the first section, although elite pursuits like rhetoric eventually were

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[100] This passage (16.2) describes how *other* accounts (λόγοι) discuss the nature of the earth. This, then, assumes that Xenophon is not the only one writing in these terms.
[101] This may be compared with Xenophon's λόγοι (as he calls them, *Eq.* 12.14) on horsemanship and cavalry commanding, which consider the nature of horses (*Eq.* 3.9; cf. *Eq. mag.* 1.3–4). The text on horsemanship is directed to an amateur (ἰδιώτης, *Eq.* 2.5, 12.14) and is portrayed as the advice of an expert with long experience (1.1). This may be compared with the Hippocratic *On Affections*, which is also explicitly written for the ἰδιώτης (1).

called τέχναι, the word τέχνη without qualification in authors like Xenophon still picked out lower-class jobs rather than simply "rational pursuits." The second is that the training or education required for these practices was extensive and time-consuming; it should be borne in mind that the τέχναι are not skills one picks up in the course of a few weeks, but rather require commitment and devotion. I also tried to detail more extensively what it meant to call these τέχναι rational practices. In particular, their ability to give accounts in terms of causes is a distinct and important trend.

I have also tried in this account to use a much broader base of evidence, while eschewing the use of Plato and Aristotle as much as possible. I hope this allows the reader to see more clearly in future chapters where Plato agrees with his contemporaries and where he innovates. In the following chapters, we will see a great deal of both. On the one hand, the importance of extensive practice for success in a τέχνη will be picked up in the *Republic*, where the city is designed around the idea of specialized craftsmen who spend their childhood preparing for their specific task. On the other, we will see how philosophy itself is assimilated to the τέχναι in striking fashion. This practice is not best left to amateurs, but truly becomes a profession in its own right.

Part Two: Philosophy and Craft: Τέχνη in the Platonic Dialogues

"Good God! You never shut up about cobblers and fullers and cooks and doctors!" So Callicles charges Plato's Socrates with an excessive fascination with the τέχναι in the *Gorgias* (491a). As noted in the introduction, he has a point: Socrates *does* refer to cobblers, doctors, and other craftsmen hundreds of times, and almost always when his interlocutor least expects it. A conversation about courage or justice, in Socrates' hands, almost always ends up being a conversation about τέχνη.

What is it that we talk about, then, when we talk about τέχνη? Or, more importantly, what is it that *Plato* talks about, when he talks about τέχνη? The next three chapters will argue that, in the main, these arguments are structured around a set of ideas (and corresponding terms): most importantly, that there is an opposition between expertise and amateur knowledge, and thus between experts and amateurs. This is picked up by the terms τέχνη and πάρεργον and their corresponding personal nouns of occupation, δημιουργός and ἰδιώτης. The first of the next three chapters will examine this in the context of Plato's epistemological vocabulary, and show how the continuities and important discontinuities between τέχνη and ἐπιστήμη are exploited in the *Protagoras*, *Phaedrus*, and *Philebus*.

In the third chapter, I first develop an account of Plato's vocabulary of expertise. At the heart of this analysis is my elucidation of the relationship between τέχνη and ἐπιστήμη: these are not simply synonyms, as many commentators have suggested, but in fact are interchangeable by synecdoche. Availing ourselves of the evidence in the *Phaedrus* and *Republic*, I suggest that ἐπιστήμη picks out the rational part of τέχνη, which must be complemented by extensive practice for someone to become a true expert. More broadly, each term also brings a separate set of associations: τέχνη is connected

with the dirty world of practical craft, picked out by terms like βαναυσία, while ἐπιστήμη also is used to identify the faculty of knowledge (as opposed to, for example, δόξα). The first part of the chapter unpacks an argumentative pattern that exploits the similarities and differences among these terms: the general pattern begins with intuitive claims about τέχνη that interlocutors readily accept, then transitions to making these claims about ἐπιστήμη (via the interchangeability by synecdoche of the two terms), and then finishes by connecting these with terms only associated with ἐπιστήμη (e.g., σοφία). The second part of the chapter then turns to the broader field, and examines the place of affiliated terms like δημιουργός, ἔργον, and βαναυσία. This analysis aims to show that Plato's vocabulary has a clear structure: specialized τέχναι are differentiated by their respective ἔργα; each is a composite of ἐπιστήμη, φύσις, and μελέτη; and each is practiced by a δημιουργός, as opposed to an ἰδιώτης who participates in a given field as a hobby (that is, a πάρεργον).

Attending to this structure, the fourth and fifth chapters take up this topic in two related contexts: first, Plato's dismissal of rhetoric and sophistry as mere pseudo-τέχναι; and, second, the argument that philosophy itself is a τέχνη. The fourth chapter examines how Hippias, Euthydemus, Dionysodorus, Protagoras, and Gorgias all claim to have a τέχνη but are in fact charlatans peddling worthless tricks in the place of wisdom and virtue. A signal piece of evidence for this is their claim that they can teach quickly and that their students need not commit their life to the practice. Euthydemus and Dionysodorus themselves have quickly picked up their skill, and claim to be able to teach pupils just as rapidly; and Hippias is supposed to be an expert in poetry, weaving, ringmaking, and more. As they say, a jack of all trades is master of none, and the logic of τέχνη dictates that we should be quite suspicious of these figures' claims to expertise.

Similarly, Protagoras claims to teach an unspecialized τέχνη—which would be either *sui generis*, or not a τέχνη at all. An additional problem comes from the assumption that a τέχνη must be able to give a rational account in terms of causes, as we saw in the second chapter. This is fatal for Gorgias' claim that rhetoric is a τέχνη; it, in fact, has no specialized field of its own, which means it cannot give a rational account, so instead it pretends to be what it is not. In this set of dialogues with sophists, then, we see that the vocabulary of expertise plays a central role in Plato's critique of his educational rivals.

We can transition from this chapter to the next one via the figure of Callicles, one of Gorgias' followers. Callicles claims that Socrates is pathetic for having spent his life in philosophy, since philosophy is a thing only young men should dabble in, before moving onto bigger things. The *Republic* responds to this directly. So far from being the province of young men, the educational cursus of the *Republic* includes an outright ban on young men learning dialectic; for Plato, philosophy is a true τέχνη, which means we need specialized experts, not flighty amateurs. I examine the educational cursus of the *Republic* beginning with the principle of specialization, introduced in book two. In a central passage, we see Plato insisting on the importance of ἐπιστήμη, φύσις, and μελέτη for each τέχνη, including dialectic. I focus on what kind of practice or experience is necessary for the τέχνη of dialectic, which I argue to be the expertise of the philosopher-rulers. Their education, for a field so often depicted as utterly unique, is actually quite typical in outline for a τέχνη: they must first learn preparatory subjects (like gymnastics, music, and mathematics) and must begin their education at a young age, just as budding architects or carpenters begin at a young age and have to learn, for example, mathematics in order to become masters of their own trade. Parsing the differences between a professional's proper trade and other fields of expertise they might participate in in a non-

professional way turns out to be important in order to resolve the standing problem of how a philosopher-ruler is a practitioner of one (not two) trades. I argue in the last section of the chapter that, in the *Republic*, philosophers take up politics as a grand commission which is not an independent profession. Politics is not independent of philosophy, but a specific application of it, like an architect being hired to build a specific monument. The architect does not take on the profession of being "the builder of Notre Dame," but does this as a specific commission to which his expertise is uniquely applicable. This, then, responds to Callicles' critique by indicating that philosophy is not a subject young men should study on a whim and then give up for the more important work of politics, but is itself what grounds the guardians' political expertise.

Chapter 3: Plato's Vocabulary of Expertise

Introduction

In the last two chapters, our topic—τέχνη in the Platonic dialogues—was introduced in two stages. First, the figure of Hephaistos was examined as a guide to Athenian (and Platonic) interest in τέχνη in the 4th century. Socrates hails Hephaistos as his ancestor, and Plato describes Hephaistos as the father of the virtuous ancient Athenians in the *Critias*. I argued that the worship of Hephaistos in ancient Athens usefully indicates the degree to which Athenians regarded practical intelligence and the crafts as the special provenance of their culture—as opposed to, for instance, Spartan culture, which emphasized military prowess over artistic achievement.

In the second chapter, I developed an account of what τέχνη stood for in 5th and 4th century Athens—crucially, an account of the term that eschewed using Aristotle and drew on a very wide body of evidence. I traced four themes associated with τέχνη: (I) low social status; (II) teaching; (III) specialization; (IV) rationality. Rationality was further articulated by reference to the use of writing and mathematics in the τέχναι.

The topic of this third chapter is the language of τέχνη. I stressed in the first two chapters that I did not wish to focus solely on terminology; indeed, it seems to me absolutely necessary to not fetishize Plato's language, both because Socrates tells us not to (*Chrm.* 163d)[102] and because, in this field in particular, he often does not mention the

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[102] It is always worth remembering, on the other hand, passages like *Lysis* 220b, *Leg.* 3.693a, and *Resp.* 7. 533d, where he does seem to be suggesting the possibility of a technical or scientific sort of vocabulary, as distinct from a vulgar one. *Resp.* 7.533d, which suggests the possibility of a technical or philosophically precise form of speaking before immediately eschewing pedantry over terminology, is especially illustrative of

"key term" τέχνη while clearly talking about τέχνη (either by dropping out the noun and simply referring to ἰατρική, σκυτοτομική, etc., or by simply talking about physicians, shoemakers, etc.). Nevertheless, the language *is* important, and we should get as clear as possible on how τέχνη-related vocabulary is deployed by Plato. Some scholars give the impression that Plato is confused or uses his terminology irregularly; in the course of studying τέχνη and his wider knowledge vocabulary, I have not found this to be the case, although certainly it takes longer to understand the structure of his terminology than if he had stipulated definitions and thereafter used the terms in a way consistent with those definitions.

I'll present, then, how I see his vocabulary working and proceed with three readings to show how this works in practice. My focus in particular is on two terms, τέχνη and ἐπιστήμη; these seem to me the most critical to get right for this study. Other terms connected to τέχνη—like δημιουργός —are important, too, and will get some coverage. I've also tried to briefly note other relevant terms—the diagram in the first appendix will give a convenient snapshot of the set of terms we're talking about. But, the focus is always on τέχνη, and the greatest challenge is differentiating it from ἐπιστήμη. To show how to differentiate the two concepts, I will go through longer readings of three of the most challenging—and enlightening—texts that use this vocabulary. These are:

"how carefully Plato can prepare his readers for the more specialized meaning of a new technical term, and also how utterly he can abandon this terminology once its immediate purpose has been served," to quote Charles Kahn (commenting on the term "dialectic," 1997, 327–8). It may also be of interest that Plato himself notes that the τέχναι tend to have technical vocabulary (*Soph.* 226b)—this is particularly relevant given the evidence presented in the last chapter that Plato considers his own work, philosophy, a τέχνη.

Protagoras 356c–357e; *Philebus* 55c–59d; and *Republic* 7.521c–535c. I will refer to a variety of other texts throughout; to anticipate the question, I do not think Plato changes the use of his vocabulary or the meaning of any of these terms in the course of his life.[103] This is not to say they are not used in different kinds of arguments or with reference to different philosophical conceptions; I take it that this is not the same as changing meaning or sense.

One corollary note: it might seem that Plato is using vocabulary in an unsystematic way because the same field (e.g., rhetoric) is called τέχνη in one place, and elsewhere denied that very status. It will be helpful to think of examples of τέχνη as having a family resemblance structure, rather than as fulfilling necessary and sufficient conditions for τέχνη-hood. See my section V below on the scope of τέχνη for further details.

I. The General Structure of Plato's Vocabulary of Expertise

In an appendix, I have illustrated the overall structure of this field, with a selection of relevant references to the Platonic texts. I have provided this illustration in order to make clear how systematic Plato's use of these words is, even if he (per his own statements) does not adopt technical terminology or stipulative definitions. In the course of reading through all of the authentic dialogues, it became clear that certain pairs of nouns were readily equated (e.g., τέχνη and ἐπιστήμη, in certain contexts, for which see further below; but also, e.g., φρόνησις and ἐπιστήμη, but in different contexts), certain pairs were

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[103] These three passages were not selected as representatives of each "period" in Plato's writing career. Nevertheless, the close correspondences in the language used in these passages should indicate to the reader that, whatever other changes in Plato's thought may have transpired between the composition of the *Protagoras* and the *Philebus*, this vocabulary is very stable.

readily associated (e.g., δημιουργός and τέχνη), and certain pairs were readily contrasted (e.g., ἐπιστήμη and δόξα; πάρεργον and τέχνη). These relationships are illustrated in the diagram. In a basic way, it is clear that Plato's language, like natural languages more widely, should be understood not as a list of words referring directly to some independently existing entities. Instead, the meaning of a word is best brought out by (in the memorable words of Firth) "the company it keeps" (1957, 11).[104]

This illustration, of course, has not included everything—most prominently, I have focused on nouns, and relegated some comments on verbs and adjectives to the footnotes. This diagram is a summary statement of my results; in the next section, I will treat the most important and difficult of the relationships indicated on the diagram (the τέχνη-ἐπιστήμη relationship) at length. The two subsequent sections will describe each of the other terms in a quick and summary manner, drawing upon many of the passages cited in the diagram.

II. The Τέχνη-Ἐπιστήμη Relationship: Interchangeability by Synecdoche

At the heart of the diagram in the first appendix is the relationship between τέχνη and ἐπιστήμη. Both of these terms can refer to *fields of expertise*. As many scholars have noted, extensionally the same fields can be called by either term (e.g., medicine is called a τέχνη in the *Gorgias* (500b) and an ἐπιστήμη in the *Charmides* (165c)), and furthermore Plato seems to switch one term for the other in the course of a given argument: for instance, in the *Statesman*, he calls the political art—the very thing he is

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[104] My approach is significantly indebted to that of John Lyons. I have described in a separate essay some problems with his approach and conclusions; but it will be clear from the following that his work was the primary impetus for my study, and reflections upon his methods (and subsequent trends in linguistics) have had a major impact upon my work here.

trying to define as precisely as possible—an ἐπιστήμη in the first instance (258b–c; cf. 259c) yet classes it among the τέχναι within the Stephanus page (258e; cf. 259b). Many more examples could be given of this phenomenon. Most scholars, on the basis of this evidence, have been satisfied to refer to the two terms as interchangeable or as synonyms.[105]

Of course, absolute synonyms—that is, synonyms that can be substituted in without change in meaning in any context whatsoever—are extremely rare (Edmonds and Hirst 2002); and, moreover, it is out of the question that this is possible for these two terms. Most critically, ἐπιστήμη, as I have brought out in the diagram, has an entirely separate set of associations. The most crucial one is its connection to δόξα: by dint of this connection, as well as a number of explicit statements, it is clear that ἐπιστήμη, in the singular, is used for a faculty (or power, δύναμις) of the mind *as well as* for fields of expertise (in the singular or plural). And, further, it is connected with the virtue of wisdom (called σοφία or φρόνησις). These connections will be explained further below in the discussion of the passages from the *Protagoras, Republic,* and *Philebus*.

Furthermore, we should note the connections that τέχνη has (and ἐπιστήμη does not) with the practical world of craft. In the second chapter, this connection was examined in section I; below, it is picked up in section III.D.

In addition, certain passages in Plato (and other authors) suggest that τέχνη requires but is not reducible to ἐπιστήμη. The idea is that τέχνη, understood as an expertise in a craft, demands a certain amount of knowledge, i.e., ἐπιστήμη, *as well as*

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[105] See, for example, Nussbaum 1986, 94; Roochnik 1996, 277; Woodruff 1990, 66; Wolfsdorf 2008, 103; Benson 2015, 3 n.9.

practice and innate talent. For instance, someone can only be an expert orator if he has studied the field—knows the canonical rhetorical moves by heart, knows appropriate maxims to pepper into his speech, etc.—but also if he has practiced sufficiently and has the right nature (e.g., a good posture, a suitable voice). Isocrates has this conception in *Against the Sophists* (*C. soph.* 10; 16–17), and we'll see Plato expressing the same idea in the *Phaedrus*. The importance of this observation is that we have a way to articulate quite precisely the relationship between ἐπιστήμη and τέχνη: if ἐπιστήμη is the intellectual part of τέχνη, then it is possible for each term to substitute for other by part-for-whole or whole-for-part synecdoche.

In order to defend the claims I have made, we turn now to examining four important passages, beginning with the *Phaedrus*.

A. *Phaedrus* 269c–d

In the last section, I gave a rough account of the evidence for a close relationship between ἐπιστήμη and τέχνη: the same fields can be called by either name, and sometimes arguments change from one term to the other without indicating a change in meaning. Clearly, there is a lot of overlap between the two terms. This can be fleshed out a little more clearly by pointing to three features they share: they both indicate rational,[106] specialized, teachable fields. It will be remembered from the second part of my second chapter that the τέχναι, outside of Plato, are associated with teaching, specialization, and rationality; this is picked up in the dialogues in passages like *Plt.* 279b–283a, which

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[106] Rational here means able to give accounts, especially in terms of causes (and, most particularly for Plato, by referring to forms).

assumes specialization among the τέχναι,[107] *Grg.* 465a, which connects τέχνη with rationality,[108] and *Prt.* 311b–312b, which articulates the relationship between τέχνη and teaching.[109] Each of these passages (and other parallels) is discussed in Part III, sections A, E, and F.

Ἐπιστήμη, for its part, is characterized as rational in passages like *Resp.* 7.534c and *Tht.* 201c–d; as teachable, in passages like *Meno* 87c; and as specialized in passages like *Chrm.* 165c–d. These are discussed below in Part IV. In light of this evidence and, on the other hand, the evidence given in the previous section for differences between τέχνη and ἐπιστήμη, one could conclude that the terms share a lot of territory and thus can substitute in for one another when neither term is meant specifically. That is to say, Plato might be getting at the common ground they share and be unconcerned with specific terminology.

This interpretation is plausible, but we can do better; certain passages suggest a much more clearly articulated relationship between the two, a relationship that would explain these phenomena but is much more precise than merely a relationship of overlap. This is that ἐπιστήμη is a part of τέχνη. The *Phaedrus* claims this very clearly, and other sources support this construal as well.

The relevant passage occurs in the discussion of rhetoric in the latter part of the dialogue. In the course of diagnosing how contemporary teachers of rhetoric fail their students, Socrates gives his clearest expression of what goes into making someone an

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[107] See Sprague 1976, esp. 10–14 and 24, on specialization as a characteristic of τέχνη in the *Ion* and *Gorgias.*
[108] See esp. Irwin 1977, 71–74.
[109] See Irwin 1977, 74.

expert. Finding the teachings of contemporary teachers of rhetoric unsatisfying, Phaedrus asks:

> ἀλλὰ δὴ τὴν τοῦ τῷ ὄντι ῥητορικοῦ τε καὶ πιθανοῦ τέχνην πῶς καὶ πόθεν ἄν τις δύναιτο πορίσασθαι;
>
> τὸ μὲν δύνασθαι, ὦ Φαῖδρε, ὥστε ἀγωνιστὴν τέλεον γενέσθαι, εἰκός—ἴσως δὲ καὶ ἀναγκαῖον—ἔχειν ὥσπερ τἆλλα: εἰ μέν σοι ὑπάρχει φύσει ῥητορικῷ εἶναι, ἔσῃ ῥήτωρ ἐλλόγιμος, προσλαβὼν ἐπιστήμην τε καὶ μελέτην, ὅτου δ᾽ ἂν ἐλλείπῃς τούτων, ταύτῃ ἀτελὴς ἔσῃ.
>
> [Phaedrus]:…But how and from what man could we get the art (τέχνη) of true rhetoric and persuasion?
>
> [Socrates]: This ability, Phaedrus, to become a perfect competitor [in oratory] seems—perhaps even necessarily is—to be as in other cases [i.e., fields of expertise]. If you start out as naturally rhetorical, you will be an eloquent orator, once you have added knowledge (ἐπιστήμη) and practice [to your natural disposition]. But, to whatever degree you lack these things [=knowledge, practice, and/or a rhetorical nature], you will be an imperfect orator in that way.

Phaedrus' question, and the larger context, focuses on what goes into success in oratory. Socrates here answers the "how" question: *how* do we get the τέχνη? The answer is that it is no different than in other matters, which I assume to be a reference to how things generally work in other τέχναι (and perhaps other types of studies, too).[110] It is a combination of nature, knowledge, and practice—just as we saw in Isocrates' *Against the Sophists*, discussed in the second chapter, section III.

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[110] There's a faint verbal parallel, in fact, with Thucydides, who describes the nautical τέχνη as something that one only achieves success in with a lot of practice (1.142.9; cited in the previous chapter and in Part III below as well). He describes the nautical τέχνη in this passage as a matter of practice, "just like anything else" (ὥσπερ καὶ ἄλλο τι).

I take this to be a reference to how things work in other τέχναι, and thus a more generalizable statement, because Plato elsewhere refers to the role of practice[111] and nature in the τέχναι. In the *Republic*, for instance, we see both. Plato emphasizes the role of practice and nature in the upbringing of craftsmen (2.374b–d): they must have the right nature for their craft (2.374b, cf. 2.374e) and sufficient practice (c–d). He dwells longer in this dialogue than anywhere else on the different kinds of "nature" and how they affect one's ability to do a craft: as he points out later in his discussion of women, while he holds that men and women do differ by nature (5.453e), he raises the possibility that they do not differ by nature *in a way that is relevant to their pursuits*. Instead, both men and women, so long as they have the ψυχὴ ἰατρική, are naturally fit to be physicians, while carpenters and physicians, even if both male, are different by nature in a way that is relevant to their proper pursuits (5.454d).

So much then for the role of nature in the τέχναι; what about practice? The evidence for the connection between practice and τέχναι is overwhelming. The passage from the *Republic* already quoted notes this: there, Plato describes how cobblers and practitioners of any τέχνη whatsoever practice from childhood on in order to become competent in their trade. For any δημιουργός, he says, μελέτη[112] and ἐπιστήμη are

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[111] On the role of practice in the τέχναι, see also my second chapter, section III.

[112] A brief note on what I take to be the relationship between τριβή, ἐμπειρία, and μελέτη may be valuable: as far as I can see, Plato has three main words for practice/experience in a field, which are τριβή, ἐμπειρία, and μελέτη. The first has a definite pejorative connotation; the second seems to be neutral; and the last is only used in positive contexts. For passages using ἐμπειρία and μελέτη in a positive light, see *Phdr.* 269c–d, *Resp.* 2.374a, and 5.467a. For τριβή and ἐμπειρία being used negatively in the sense of "mere" experience/routine, see: *Grg.* 463b (cf. 500e–501a), *Phdr.* 270b, and *Leg.* 4.720c and 9.857c. I suspect ἐμπειρία is, on its own, neutral (even positive in places like *Resp.*

necessary (2.374d). This idea is used in context to explain why the guardians will need to be specialized, just like normal craftsmen are. Socrates argues forcefully and repeatedly that we cannot expect the guardians to accomplish their work well if they are not specialized, just as craftsmen are specialized in order to accomplish their work well (for further details on specialization in the τέχναι, see chapter two, section III). The idea is reprised many times in the *Republic*: for instance, in the fifth book, Socrates argues that the young guardians should have as much experience (ἐμπειρία) helping the older guardians in war as possible; again, he draws on the way craftsmen (in this case, his example is the potters) train their sons (5.466e–467a). For other examples of the connection between practice (either μελέτη, as in the *Phdr.* 269d and *Resp.* 2.374d, or ἐμπειρία, as in *Resp.* 5.467a) and τέχνη, see the references on the diagram, tagged to #8. Other writers also saw the connection between practice and the τέχναι: the most famous of these is the empiricist Polus, as depicted in both the *Gorgias* and Aristotle (*Grg.* 448c, 462b–c; *Metaph.* A.1.981a3–5).[113]

Plato, of course, is not particularly pedantic about terminology, and he does not emphasize the point that τέχνη is composed of nature, knowledge, and practice *ad nauseam*. Nevertheless, given the evidence throughout the corpus that is congruent with

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6.484d), but when the term τριβή (*Grg.* 463b), or a phrase like ἄνευ λόγου is added (*Leg.* 9.857c), it is cast as mere experience. Outside the dialogues, τριβή need not be negative and can merely indicate the passing of time (Aesch. *PV* 639; Ar. *Av.* 156). The entire semantic field is wider than these three terms (other salient Greek terms include παρασκευή, ἐπιμέλεια, ἀσκεῖν, and γυμνάζεσθαι, for example; see also P. Böhme, 2009, 160 on Isocrates' use of these terms).

[113] Capelle 1922, 265 observes that μελέτη is connected to τέχνη by Protagoras (80 DK B10, =LM D12) while ἐμπειρία is connected to τέχνη first in Plato's report of Polus' thought. The scope of these terms is beyond the scope of this chapter, but we can note that ἐμπειρία is connected especially with the medical schools (Renehan 1995, 71), while μελέτη apparently is not.

this view, and even the evidence outside the corpus that others thought of the τέχναι this way, it seems eminently reasonable to me to suppose Plato had a pretty clear picture of the relationship between knowledge (ἐπιστήμη) and τέχνη, and that he expresses clearly in the *Republic* and *Phaedrus* what is assumed elsewhere. If this is how he saw these two words relating, his frequent changes from one to the other can be explained—the substitution would be a kind of synecdoche, and one licensed by the fact he is simply talking about the intellectual part of τέχνη, which can be referred to by either term.

We turn now to three difficult passages that connect ἐπιστήμη and τέχνη. The observations I make about these are ultimately independent of this section and this articulation of the relationship between ἐπιστήμη and τέχνη. I will use the terminology developed in this section to explain these passages—that is, I will refer to Plato's use of ἐπιστήμη for τέχνη (or vice versa) as a type of synecdoche. If the reader does not find my defense of the synecdoche plausible, he or she may substitute the less controversial idea of overlap, which was described at the beginning of the section, instead. None of the conclusions in sections B–D depend upon understanding Plato to be using ἐπιστήμη for τέχνη (or vice versa) as a type of synecdoche rather than simply using two overlapping terms. For reasons already made clear, I find the synecdoche reading to be plausible and more precise.

B. *Protagoras* 356c–357e

In this subsection, I discuss Plato's use of the knowledge-vocabulary in the *Protagoras*. I specifically focus on a short passage that is particularly interesting: in this passage, he seems to move from one term to another, which might suggest to the reader that he is being careless with terminology, perhaps deliberately so. Instead, I argue that he is using the terminology very precisely to make the argument persuasive; indeed, once we've

properly understood the relationship between ἐπιστήμη and τέχνη, his motivations are quite obvious.

In the *Protagoras*—a dialogue that thematizes the τέχναι and will be of particular interest in the next chapter, when the relationship between the sophists and τέχνη is considered—Protagoras and Socrates discuss the teachability of virtue. In roughly the last third of the dialogue, Socrates and Protagoras leave off the myth-telling and poetic exegesis of the first two-thirds of the dialogue, and Socrates begins on a cross-examination of Protagoras' beliefs.

The overall trajectory of this cross-examination is important for our understanding of the specific passage I will comment on, so I'll briefly summarize Socrates' strategy: Protagoras says at 349d that he thinks courage is different from the other cardinal virtues (namely, wisdom, temperance, justice, and piety); and Protagoras takes himself, throughout the dialogue, to be a teacher of virtue (318e–320b; 349e). Socrates' strategy is to demonstrate that Protagoras does not know the nature of virtue, thus calling into question his ability to teach it—if he doesn't know what virtue is, it seems suspect that he has set himself up as an expert teacher in the field, and suggests his followers are overly credulous rubes.

More specifically, in this later part of the dialogue, Socrates will attack the view that courage is different from the other cardinal virtues by showing that courage just *is* wisdom. This brings us to our passage, 356c–357e. In this passage, Socrates introduces the idea of the measuring τέχνη. He has already, despite significant original reservations on Protagoras' part (351d), secured Protagoras' agreement to the idea that the only good

is pleasure and the only bad is pain (354c–d).[114] In this case, a τέχνη μετρητική—a measuring art—will be the "salvation of our life" (ἡμῖν σωτηρία...τοῦ βίου, 356d). He calls this a τέχνη twice (356d, e) before substituting in ἐπιστήμη in the next passage. This ambiguity is then highlighted at 357b–c:

> ἥτις μὲν τοίνυν τέχνη καὶ ἐπιστήμη ἐστὶν αὕτη, εἰς αὖθις σκεψόμεθα: ὅτι δὲ ἐπιστήμη ἐστίν, τοσοῦτον ἐξαρκεῖ πρὸς τὴν ἀπόδειξιν ἣν ἐμὲ δεῖ καὶ Πρωταγόραν ἀποδεῖξαι περὶ ὧν ἤρεσθ᾽ ἡμᾶς.
>
> What τέχνη or ἐπιστήμη, in fact, [measurement] is, we will consider later; but that it is ἐπιστήμη is sufficient for the demonstration which Protagoras and I are going through concerning the matters we raised.

The transition in the second half of the sentence is significant: we started out talking about τέχνη, but now we're moving to measurement as ἐπιστήμη. Why? Because ultimately Socrates is going to argue that this ability to measure pleasures and pains accurately is wisdom, that is, the virtue "wisdom" (360d), the very one the sophists claim to teach (357e–358a); and wisdom isn't a τέχνη, but it can be ἐπιστήμη. In other words, the argument relies on a transition between ἐπιστήμη as field of knowledge (that is, as τέχνη) and ἐπιστήμη as wisdom (that is, as σοφία or φρόνησις). In the rest of the dialogue, the word τέχνη is never used again; ἐπιστήμη is used four times. The diagram in the appendix indicates why this works: ἐπιστήμη (and never τέχνη) is often substituted for σοφία or φρόνησις, and we'll see another example, in the *Philebus* (and, cf. *Meno*

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[114] At this point in the argument, Protagoras is actually responding on behalf of what "the many" would say. It's not entirely clear why, on the basis of premises he doesn't accept, he can be refuted; but the argument *is* accepted as refuting him in spite of this wrinkle. He *does* retroactively assent to Socrates' argument (along with the rest of the audience) at 358a–b and then at 360a; perhaps this is his mistake.

99b) where this trait is exploited again. And, as argued in the last section, Plato is able to transition from τέχνη to ἐπιστήμη easily because ἐπιστήμη is the intellectual part of τέχνη; it is a substitution by this synecdoche. A further reason this works, and one exploited here, is that ἐπιστήμη and σοφία are taken to be the opposites of ἀμαθία (357d; 358c, 360d); ἀμαθία is not taken to be the opposite of τέχνη, of course.[115]

The position of ἐπιστήμη in the diagram, thus, is clearly different from τέχνη. The fact that it overlaps with τέχνη and *also* overlaps with σοφία is critical for this argument, and is a characteristic exploited by Plato. I'll turn now to a passage from the *Philebus* that utilizes the same feature of Plato's knowledge vocabulary.

C. *Philebus* 55c–59d

In this section of the dialogue, the *Philebus* uses virtually the same strategy as the *Protagoras*: the fact that ἐπιστήμη can be a field of knowledge *or* wisdom is exploited in the course of Plato's argument that the mixed life is the best kind of life. It is especially important to notice this fact about the *Philebus* since this dialogue is filled with passages that appear to use τέχνη and ἐπιστήμη interchangeably; but, if we do not attend to the other associations of ἐπιστήμη, we'll systematically misread the strategy of the dialogue.

The *Philebus* focuses on whether the life of pleasure or the life of knowledge is superior. Putting it this way oversimplifies a bit: there does not seem to be any official or technical way of formulating "the life of pleasure" and "the life of knowledge." Instead, the dialogue begins by describing each type of life as composed of a bunch of related (συγγενῆ, 11b) things: Philebus and Protarchus adhere to the doctrine that the life of τὸ

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[115] Dover 1980, 138–9 (at 202a2) notes that ἀμαθία is the antonym of σοφία, ἐπιστήμη, and φρόνησις. See also *Soph.* 229c–d which defines the demiurgic education as *not* the kind that gets rid of ἀμαθία.

χαίρειν, ἡδονή, and τέρψις is the good, while Socrates holds that the life of τὸ φρονεῖν and τὸ νοεῖν and μεμνῆσθαι is the good (11b). But, the most preferred names for the two ways of life seem to be ἡδονή and either φρόνησις or νοῦς: summary statements and other statements which only use one term for each doctrine use these terms (e.g, φρόνησις at: 11e–12a, 14b, 18e, 20b, 20e, 27c, 60b, 60c, 60e, 65a–b; νοῦς at 22c, 64c, 65b), and statements referring to the life that has a mixture of pleasure and wisdom gloss pleasure as ἡδονή and wisdom as φρόνησις and/or νοῦς (e.g., 27d, 59d, 60d, 63a–c).[116]

Although φρόνησις and νοῦς are the preferred terms for the life of knowledge, Socrates occasionally refers to it as the life of ἐπιστήμη instead—and, like a shadow follows a body, references to τέχνη crop up in the same section. This particularly comes up in two contiguous sections, treating the types of knowledge (55c–59d; 59d–64b). This is salient because, as we've seen, ἐπιστήμη can both mean something like wisdom, allowing it to easily be assimilated to φρόνησις; and it can mean something like a field of knowledge, in that it is the intellectual part of a τέχνη. And, crucially for the *Philebus*, there are lots of τέχναι and ἐπιστῆμαι: arithmetic, housebuilding, weaving, medicine, rhetoric, and so on, to give a few examples from the *Statesman* (258d, 280c–e, 296b, 304c–d). So these nouns are very naturally used in the plural: indeed, in the Platonic corpus, ἐπιστήμη is used in the plural about 14% of the time (83/600 instances of the word) and τέχνη about 22% of the time (150/667).[117] Φρόνησις, on the other hand, is

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[116] One might wonder why Plato uses φρόνησις in this dialogue, while he uses σοφία in the *Protagoras*. The terms play virtually the same role, but each dialogue seems to prefer one or the other. For instance, σοφία is the preferred term in the *Apology*, whereas φρόνησις is preferred in the *Phaedo*.

[117] I calculated these figures using the TLG corpus, removing the clearly spurious works (*Definitions, Second Alcibiades, Epigrams, Spuria, Fragmenta Tragica, Epinomis, Rival Lovers, Theages,* and *Hipparchus*).

extremely rare in the plural: it is only used in the plural in the Platonic corpus about 2% of the time (4/175). Σοφία and νοῦς—two other words used a few times to describe the life of knowledge—occur even less frequently in the plural, less than 1% of the time: νοῦς, just twice, and σοφία only once. The plurality is important because, in this passage, the parallel will be drawn between types of pleasure (which are, of course, manifold) and types of knowledge. As a consequence, Plato needs a noun that can naturally be used in the plural to make the comparison.

In the passage from 55c–59d, Socrates discusses the types of knowledge, ἐπιστῆμαι: this includes everything from music and medicine to housebuilding and dialectic. In the course of this investigation, various distinctions are made: demiurgic vs. educative arts, the more precise vs. the less precise. The details are not relevant for our purposes in this chapter: what *is* relevant is the distinction between the most pure, true, and certain ἐπιστήμη, dialectic, and all the rest of the ἐπιστῆμαι (58d–59c). The latter group includes all the ἐπιστῆμαι mentioned and discussed other than dialectic, viz., housebuilding, medicine, music, even measurement. These are also called τέχναι (58e–59a; cf. 56c, 57c, 58c–e).[118] Dialectic is differentiated from these ἐπιστῆμαι/τέχναι in that it is the most pure and the most precise, which is grounded in the fact that this ἐπιστήμη—and only this ἐπιστήμη—has to do with "being, i.e., what really is and naturally always is in the same way completely" (τὸ ὂν καὶ τὸ ὄντως καὶ τὸ κατὰ ταὐτὸν ἀεὶ πεφυκὸς πάντως, 58a). The manifold ἐπιστῆμαι/τέχναι, in contrast (59a):

> …μὲν δόξαις χρῶνται καὶ τὰ περὶ δόξαν ζητοῦσι
> συντεταμένως; εἴ τε καὶ περὶ φύσεως ἡγεῖταί τις ζητεῖν,

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[118] These arts—possibly *all* of them—are even described by the pejorative term χειροτεχνικός (55d).

> οἶσθ᾽ ὅτι τὰ περὶ τὸν κόσμον τόνδε, ὅπῃ τε γέγονεν καὶ ὅπῃ πάσχει τι καὶ ὅπῃ ποιεῖ, ταῦτα ζητεῖ διὰ βίου;
>
> …use opinions and eagerly study the matters that have to do with opinion. And, even if someone [i.e., a practitioner of one of these arts] thinks he is studying nature, don't you think that he spends his life studying these things that have to do with this universe, and in what way they come to be and act and are acted upon?

In brief, the (plural, vulgar) ἐπιστῆμαι/τέχναι have to do with the world of becoming, whereas the purest ἐπιστήμη has the world of being as its subject.[119] We will meet this distinction again in the next section, which treats the seventh book of the *Republic*. For now, we can conclude by pointing out that, as the diagram would predict, the "pure" ἐπιστήμη is identified with φρόνησις (59d). Hence, we have ἐπιστήμη, especially in the plural, in the sense of fields of knowledge—like music or medicine—which gives way to ἐπιστήμη in the sense of wisdom. I can't put it better than Socrates: ἐπιστήμη δὴ ἐπιστήμης διάφορος, "knowledge is different from knowledge, in fact," in this dialogue (61d).[120]

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[119] The discussion here touches on an earlier debate about form theory in Plato's Late Ontology. Put very roughly: this passage looks like it assumes the existence of forms; but, if this dialogue is later than the *Parmenides*, should we have Plato assuming the theory of forms? Roger Shiner argued that this passage, insofar as it allows ἐπιστήμη of the world of becoming, has abandoned the middle period form theory (1974, 53–66). My analysis would suggest there is nothing of the kind going on: Plato simply maintains the normal use of ἐπιστήμη to mean field of knowledge (as he is quite willing to in un-technical passages in the *Republic*), and, following a line of thought that I've shown goes back to the early dialogues (in the *Protagoras*), ἐπιστήμη on the other hand can be associated with wisdom (and so dialectic). See Shiner 1974, as well as a critical discussion by Mohr (1983) and Shiner's reply (1983).

[120] A recent, very stimulating article in *Phronesis* treats this same passage (as well as the passage from the *Republic*) and comes to quite different conclusions. Amber Carpenter argues, roughly, that there are not two kinds of knowledge, but rather there is a paradigmatic conception of knowledge here, and the non-dialectic kinds of knowledge

D. *Republic* 7.521c–535c

We turn now to the last passage I'll discuss in this section. Like the *Philebus* passage, this passage refers to the role of imperceptible forms in knowledge; and, like the *Philebus* passage, ἐπιστήμη is differentiated from the τέχναι on these grounds. The context of this passage, on the other hand, is rather different: while in the *Philebus* the interlocutors are considering knowledge (versus pleasure) as the grounds for a good life, in this passage in the *Republic*, the education of the guardians is the topic at hand. Because ultimately the guardians' education, and the knowledge it gives them, underwrite their authority to rule, this passage has political implications that go far beyond the passage in the *Philebus*.

The topic of education was initially discussed in the early books of the dialogue, which described the role of music and gymnastics. The interlocutors approach this topic again because the middle books, which introduce the ontology of the forms, require them to consider how the guardians will be "led upward to the light" (ἀνάξει αὐτοὺς εἰς φῶς, 521c), that is, to think about which studies will lead the guardians "away from the world

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are simply aberrant forms of knowledge (2015). To put my disagreement with her conclusions briefly: I think this approach rides roughshod over the differences in Plato's knowledge vocabulary and thus sees more continuity than there really is. In order to make her argument, she takes the vocabulary of purity very seriously, since her argument focuses on the difference between, say, music and housebuilding, or arithmetic and dialectic, as a difference of degree rather than kind. Of course, we shouldn't ignore this language; but Plato also makes clear differences in kind (including the most salient difference for him—indeed, the difference he explicitly refers to at 61d–e where he says "knowledge is different from knowledge"—which is the difference between ἐπιστήμη/φρόνησις focusing on the world of Being and the ἐπιστῆμαι/τέχναι focusing on the world of Becoming). Because she doesn't see that these are different in kind, she makes the inference that *all* the ἐπιστῆμαι/τέχναι are good, i.e., make men good (201, n.34); this seems incorrect on the basis of the description of the τέχναι in the *Republic* as liable to deform men's souls. Indeed, the fact her reading generates this claim (while, in the *Philebus* itself, Socrates and Protarchus are at pains to say they're good only if we have dialectic first, 62a–d) suggests *prima facie* that something's gone wrong in her analysis.

of becoming to the world of being" (ἀπὸ τοῦ γιγνομένου ἐπὶ τὸ ὄν, 521d), since only leaders who are educated in this way will be able to rule the ideal state. The education of the guardians described in the earlier books will not lead them away from the world of becoming: indeed, gymnastics and music are very much of the material world (521d–522a).

The passage then describes the kinds of studies—called τέχναι at 532c, and generally referred to individually as kinds of ἐπιστήμη throughout (e.g., 527a, 530d, although importantly their status as ἐπιστῆμαι is qualified at 533c)—that lead the soul upward: arithmetic, geometry, solid geometry, astronomy, and harmonics. The details need not delay us en route to the final study, the "coping stone" (θριγκός, 534e): dialectic. As in the *Philebus*, dialectic is differentiated from the other studies by the fact it makes reference to essences (534b). The other studies use opinion (533b) and thus are not really forms of knowledge (533c–d):

> ἡ διαλεκτικὴ … ἀνάγει ἄνω, συνερίθοις καὶ συμπεριαγωγοῖς χρωμένη αἷς διήλθομεν τέχναις: ἃς ἐπιστήμας μὲν πολλάκις προσείπομεν διὰ τὸ ἔθος, δέονται δὲ ὀνόματος ἄλλου, ἐναργεστέρου μὲν ἢ δόξης, ἀμυδροτέρου δὲ ἢ ἐπιστήμης—διάνοιαν δὲ αὐτὴν ἔν γε τῷ πρόσθεν που ὡρισάμεθα…
>
> Dialectic…leads [the soul] up, using as helpers and assistants the τέχναι which we discussed [i.e., arithmetic, geometry, etc.]; but although we often out of habit called these τέχναι "ἐπιστῆμαι," we need another name for them, since they are clearer than opinion but murkier than ἐπιστήμη—I think we defined this earlier at any rate as διάνοια…

As in the *Philebus*, then, nothing but dialectic truly counts as ἐπιστήμη. Unlike the *Philebus,* however, Plato does not then identify this ἐπιστήμη as φρόνησις or σοφία. The two *are* associated earlier in the *Republic*: in the discussion of wisdom in the city, the

interlocutors identify the σοφία of the city as the ἐπιστήμη of the guardians (4.428b–429a).

Instead, here we learn about the difference between ἐπιστήμη and διάνοια (533e–534a), as well as between ἐπιστήμη and δόξα (533b; 534c). The thought here, then, is about knowledge as the faculty of knowing rather than knowledge as equivalent to wisdom.[121] The connection between the two is straightforward: by studying dialectic, a guardian studies the only field that fully utilizes the faculty of knowledge. Because other fields do *not* use in a fulfilling way the faculty of knowledge, they are only so-called ἐπιστῆμαι: in truth, they are really practices of thought and use opinion, not fields of knowledge. After all, why call something a *field of knowledge* if it does not use the *faculty of knowledge*? Dialectic, the study that uses the faculty of knowledge, thus is the only study we can call itself ἐπιστήμη in the fullest sense. And, because of that, it is wisdom, too (although this point is not made explicit at this juncture in the dialogue). In the latter part of the chapter (IV.A and B), we'll return to the idea of ἐπιστήμη as faculty of knowledge versus ἐπιστήμη as wisdom.

The three readings presented have fleshed out a characteristic use of ἐπιστήμη and τέχνη. In each of these passages, both terms were used, and in the course of using the terms, it became clear that the term ἐπιστήμη was being used to transition from the idea

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[121] Rowe, I think, is picking up on this ambiguity in the passage when he notes that "'seeing' the good either is or results from a rational process, in which an 'account' emerges from διαλέγεσθαι...and has proved itself immune to challenges" (2003, 66). The idea of the δύναμις of dialectic (whether that be a faculty *used* by dialectic, or what dialectic itself is) is not entirely absent from the *Philebus* either: see *Phlb.* 57e and 58d. As far as I can tell, in both the *Republic* and *Philebus*, dialectic is the study and procedure which most fully uses knowledge, and knowledge is taken as a δύναμις *and* (at least in the *Philebus*) state of being wise.

of fields of knowledge (like mathematics, medicine, and shoemaking) to either wisdom or the faculty of knowledge. In all of these cases, then, it is absolutely imperative that the reader realize the transition that is happening: there's no simple substitution between τέχνη and ἐπιστήμη. Rather, ἐπιστήμη is used to bring in a different realm of associations, as indicated in the diagram: associations with virtue, when it is construed as wisdom (and thus contrasted with other virtues, like ἀνδρεία, or vices, like ἀμαθία, as we saw in the *Protagoras*), or associations with faculties, when it is construed as the faculty of knowledge (and thus contrasted with other faculties like διάνοια and δόξα, as we saw in the *Republic*).

In the next section, we turn from considering a pair of terms to individual terms: there is yet more to say about τέχνη and ἐπιστήμη, since the focus of this section has been their relationship, and not the relationships each contracts with other terms. In the next two sections, each of the other terms indicated on the diagram will be briefly discussed, in lemmatic form rather than as a continuous essay.

III. Τέχνη and Associated Terminology

A. Παιδεία and Τὸ Διδάσκειν

It was stressed in the second chapter that τέχνη is especially associated with teaching: all practitioners of τέχνη, whether they are doctors or shoemakers or physical trainers, are expected to teach their craft to the next generation. This theme comes out a few times in the Platonic corpus. For instance, in the *Republic*, Socrates discusses the sons of potters who work in their fathers' workshops before becoming potters themselves (5.467a); and in the *Theaetetus*, Socrates says mathematicians transmit knowledge of numbers (which he explicitly equates with teaching, διδάσκειν, at 198b) by their τέχνη (198a–b). This theme is important, too, in the dialogues that feature the sophists, since they present

themselves as teachers and as practitioners of a τέχνη: see, for instance, *Grg.* 447c. Since the sophists, as well as the teachers of the old Athenian curriculum (see chapter two, section II), claimed to have a τέχνη and to teach, the concept of τέχνη is also linked to παιδεία, that is, the liberal education of the Athenian elites (as opposed to the technical education of the potters, weavers, etc.).

The most important passages linking these various aspects of teaching and τέχνη appear at the beginning of the *Protagoras*, before Socrates and young Hippocrates arrive at the house of Callias. Socrates examines Hippocrates' expectations of the sophist, asking him what kind of education he thinks he will receive (311b–c):

> εἰπέ μοι, ἔφην ἐγώ, ὦ Ἱππόκρατες, παρὰ Πρωταγόραν νῦν ἐπιχειρεῖς ἰέναι, ἀργύριον τελῶν ἐκείνῳ μισθὸν ὑπὲρ σεαυτοῦ, ὡς παρὰ τίνα ἀφιξόμενος καὶ τίς γενησόμενος; ὥσπερ ἂν εἰ ἐπενόεις παρὰ τὸν σαυτοῦ ὁμώνυμον ἐλθὼν Ἱπποκράτη τὸν Κῷον, τὸν τῶν Ἀσκληπιαδῶν, ἀργύριον τελεῖν ὑπὲρ σαυτοῦ μισθὸν ἐκείνῳ, εἴ τίς σε ἤρετο: 'εἰπέ μοι, μέλλεις τελεῖν, ὦ Ἱππόκρατες, Ἱπποκράτει μισθὸν ὡς τίνι ὄντι;' τί ἂν ἀπεκρίνω;
>
> εἶπον ἄν, ἔφη, ὅτι ὡς ἰατρῷ.
>
> 'ὡς τίς γενησόμενος;'
>
> ὡς ἰατρός, ἔφη.
>
> εἰ δὲ παρὰ Πολύκλειτον τὸν Ἀργεῖον ἢ Φειδίαν τὸν Ἀθηναῖον ἐπενόεις ἀφικόμενος μισθὸν ὑπὲρ σαυτοῦ τελεῖν ἐκείνοις, εἴ τίς σε ἤρετο: 'τελεῖν τοῦτο τὸ ἀργύριον ὡς τίνι ὄντι ἐν νῷ ἔχεις Πολυκλείτῳ τε καὶ Φειδίᾳ;' τί ἂν ἀπεκρίνω;
>
> εἶπον ἂν ὡς ἀγαλματοποιοῖς.
>
> 'ὡς τίς δὲ γενησόμενος αὐτός;'
>
> δῆλον ὅτι ἀγαλματοποιός.
>
> Tell me, Hippocrates, I [=Socrates] said, since you now are planning on going to Protagoras and paying him a fee on

> your own behalf: what kind of person are you going to, and what will you become? For instance, if you were going to your namesake, Hippocrates of Kos, the Asclepiad, to pay his fee on your own behalf, and I asked you, "tell me, Hippocrates, you are about to pay a fee to Hippocrates, him being what kind of person?" What would you reply?
>
> He replied, I'd say that he's a doctor.
>
> [And, if I asked,] "in order to become what [yourself]?"
>
> He said, a doctor.
>
> And, if you went to the Argive Polykleitos or Pheidias the Athenian, intending to pay them a fee on your behalf, if someone asked you, "you consider Polykleitos and Pheidias what kind of men, such that you are going to pay them a fee?" What would you say?
>
> I'd say they were sculptors.
>
> And, "in order to become what yourself?"
>
> Clearly, a sculptor.

Socrates uses this to draw the conclusion—an embarrassing one for young Hippocrates, who blushes at the suggestion (312a)—that Hippocrates is going to Protagoras in order to become a sophist. Having caught Hippocrates in this bind, and handily demonstrating the connection between the stock τέχναι and teaching, Socrates then shows that he knows Hippocrates is not going to meet Protagoras in order to become a sophist (312a–b):

> ἀλλ᾽ ἄρα, ὦ Ἱππόκρατες, μὴ οὐ τοιαύτην ὑπολαμβάνεις σου τὴν παρὰ Πρωταγόρου μάθησιν ἔσεσθαι, ἀλλ᾽ οἵαπερ ἡ παρὰ τοῦ γραμματιστοῦ ἐγένετο καὶ κιθαριστοῦ καὶ παιδοτρίβου; τούτων γὰρ σὺ ἑκάστην οὐκ ἐπὶ τέχνῃ ἔμαθες, ὡς δημιουργὸς ἐσόμενος, ἀλλ᾽ ἐπὶ παιδείᾳ, ὡς τὸν ἰδιώτην καὶ τὸν ἐλεύθερον πρέπει.
>
> But, Hippocrates, you do not think the learning you get from Protagoras will be of this sort, but instead it will be the kind you get from a writing-teacher, a *kithara*-teacher,

> or a trainer?[122] For you do not learn from each of them for the sake of the τέχνη, but for παιδεία, which is fitting for an amateur, that is, a free man.

Hippocrates, as an elite young man—that is, one who does not need to learn a τέχνη because he does not need to make money from a trade like medicine or statue-making—learns for the sake of παιδεία, not τέχνη. This theme is reprised when the pair enter Callias' house, and Socrates notes that one of Protagoras' pupils, Antimoerus, is learning ἐπὶ τέχνῃ, that is, with a view to becoming a professional sophist (315a).

This passage, then, neatly encapsulates the connection between τέχνη and παιδεία. Just as in the analysis provided in the second chapter, τέχνη is strongly associated with teaching: all the practitioners of τέχνη would teach, and individuals would seek these experts in order to learn.

B. Ἐμπειρία and Μελέτη

The connection between ἐμπειρία (experience) and μελέτη (practice) and τέχνη has already been drawn out above, in section II.A: to summarize, experience or practice play a vital role in the development of one's competence in a τέχνη, alongside learning the principles of a τέχνη.[123] One passage that makes this particularly clear was referenced there, *Republic* 2.374a–d. In this passage, Socrates justifies the need for the guardians to be a separate class from the artisans and farmers. He criticizes the notion that all of the artisans can just pick up a sword and shield and serve as soldiers. Instead, military skill is a matter of τέχνη, which means one needs practice and knowledge; and these things are

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[122] See chapter two, section II on these three figures—the writing-teacher, the *kithara*-teacher, and the trainer—as the standard teachers for Athenian elites.
[123] See n.112 above.

gained over time. Socrates begins by reminding Glaucon of their agreement to restrict one man to one job (2.374a–d):

> … ὡμολογοῦμεν δέ που, εἰ μέμνησαι, ἀδύνατον ἕνα πολλὰς καλῶς ἐργάζεσθαι τέχνας.
>
> ἀληθῆ λέγεις, ἔφη.
>
> τί οὖν; ἦν δ᾽ ἐγώ: ἡ περὶ τὸν πόλεμον ἀγωνία οὐ τεχνικὴ δοκεῖ εἶναι;
>
> καὶ μάλα, ἔφη.
>
> ἦ οὖν τι σκυτικῆς δεῖ μᾶλλον κήδεσθαι ἢ πολεμικῆς;
>
> οὐδαμῶς.
>
> ἀλλ᾽ ἄρα τὸν μὲν σκυτοτόμον διεκωλύομεν μήτε γεωργὸν ἐπιχειρεῖν εἶναι ἅμα μήτε ὑφάντην μήτε οἰκοδόμον ἀλλὰ σκυτοτόμον, ἵνα δὴ ἡμῖν τὸ τῆς σκυτικῆς ἔργον καλῶς γίγνοιτο, καὶ τῶν ἄλλων ἑνὶ ἑκάστῳ ὡσαύτως ἓν ἀπεδίδομεν, πρὸς ὃ ἐπεφύκει ἕκαστος καὶ ἐφ᾽ ᾧ ἔμελλε τῶν ἄλλων σχολὴν ἄγων διὰ βίου αὐτὸ ἐργαζόμενος οὐ παριεὶς τοὺς καιροὺς καλῶς ἀπεργάσεσθαι:… ἢ οὕτω ῥᾴδιον, ὥστε καὶ γεωργῶν τις ἅμα πολεμικὸς ἔσται καὶ σκυτοτομῶν καὶ ἄλλην τέχνην ἡντινοῦν ἐργαζόμενος, πεττευτικὸς δὲ ἢ κυβευτικὸς ἱκανῶς οὐδ᾽ ἂν εἷς γένοιτο μὴ αὐτὸ τοῦτο ἐκ παιδὸς ἐπιτηδεύων, ἀλλὰ παρέργῳ χρώμενος; καὶ ἀσπίδα μὲν λαβὼν ἤ τι ἄλλο τῶν πολεμικῶν ὅπλων τε καὶ ὀργάνων αὐθημερὸν ὁπλιτικῆς ἤ τινος ἄλλης μάχης τῶν κατὰ πόλεμον ἱκανὸς ἔσται ἀγωνιστής, τῶν δὲ ἄλλων ὀργάνων οὐδὲν οὐδένα δημιουργὸν οὐδὲ ἀθλητὴν ληφθὲν ποιήσει, οὐδ᾽ ἔσται χρήσιμον τῷ μήτε τὴν ἐπιστήμην ἑκάστου λαβόντι μήτε τὴν μελέτην ἱκανὴν παρασχομένῳ;
>
> We agreed anyway, if you remember, that it is impossible for one man to do many τέχναι well.
>
> You’re right, he said.
>
> What then? I said, does the work concerning war not seem technical to you?
>
> Surely it is, he said.

> Then, do you think one should take more pains over shoemaking than warfare?
>
> Never.
>
> But, we forbid the shoemaker from trying to be a farmer or weaver or housebuilder rather than a shoemaker, in order that the work of the shoemaking art would be well-done, and for the rest of the arts, we assigned one man to each, to the one he was naturally suited and in which he would spend his life, having leisure from the other arts—not missing the opportune moments for doing the work well. …But is [war] so easy that someone who farms will also be a soldier and so too someone who makes shoes and each person who does any of the other trades? But one person cannot become a decent draughts or dice player[124] if he, doing it as a hobby, doesn't practice the game since childhood? And will a person be a competent fighter, grabbing a shield or some other instrument or tool of war on that very day, in hoplite-warfare or any other kind of warfare? None of these other tools, being taken in hand, will make a man an artist or an athlete, nor will they be useful to someone who doesn't have knowledge of each nor have sufficient practice.

At the very end, we see that practice is specifically at stake: in the τέχναι, like shoemaking, one must specialize in order to achieve excellence. This is because it requires a lot of time to master a given τέχνη. In my second chapter, section III, I cited evidence from Hellenistic Egypt that a weaver's apprenticeship, for instance, took four years.

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[124] Are all these practices—farming, shoemaking, athletics, and draughts—supposed to be examples of τέχνη? The question isn't addressed here, and I am not trying to argue that *only* τέχνη are associated with practice (most obviously, there are fields Plato designates critically as types as "knacks" or "habits" (ἐμπειρία, τριβή), which are exclusively practice without knowledge). But more of these examples might be in the sphere of τέχνη than one might think: see the last section for the scope of marginal τέχναι.

As important as practice is for these trades, the τέχναι are intellectual endeavors too, and not reducible to practice. This is made clear in the passages where Plato criticizes certain fields as mere practice or experience, and not a τέχνη at all: for instance, *Grg.* 463b and 500e–501a and *Leg.* 11.938a, both concerning especially the status of rhetoric.

C. Πάρεργον

A πάρεργον is a hobby, an amateur pursuit, a secondary purpose. That makes it, in a different way, contrary to τέχνη. This term had been connected to (and contrasted with) τέχνη before Plato, in a passage from Thucydides cited in the second chapter, section III: in discussing the importance of lengthy experience in naval tactics, Pericles reminds the Athenians that the Spartans will be unlikely to succeed at sea by just picking up the skill at the moment they need it, because "nautical ability is a matter of τέχνη, just like any other ability—it is not possible to practice it on a whim (ἐκ παρέργου), whenever one happens to have time, but rather there will be nothing one does in addition to it [if one practices the amount one needs to]" (τὸ δὲ ναυτικὸν τέχνης ἐστίν, ὥσπερ καὶ ἄλλο τι, καὶ οὐκ ἐνδέχεται, ὅταν τύχῃ, ἐκ παρέργου μελετᾶσθαι, ἀλλὰ μᾶλλον μηδὲν ἐκείνῳ πάρεργον ἄλλο γίγνεσθαι, 1.142.9). We saw Plato making the same point about the military skill of the guardians (and their analogue, the shoemakers) in *Resp.* 2.374a–d above: again, the language of πάρεργον (at 2.374c) is used to describe something practiced from time to time, when one can, rather than the profession one devotes one's life to. The contrast between τέχνη and πάρεργον is also emphasized in *Laws* 8.846d (where the citizens are forbidden from pursuing any τέχνη, lest they treat their real work, i.e., being a citizen, as a πάρεργον) and *Euthydemus* 273d, where the practice the brothers used to consider their τέχνη (272a)—teaching men to fight—is now treated only as a πάρεργον by them. In the

next chapter, we will return to the contrast between τέχνη and πάρεργον when we see how Plato models philosophy, which is to be a full-time, lifelong pursuit, after a τέχνη.

D. Χειροτεχνία and Βαναυσία

In the second chapter, I discussed the low social status of practitioners of τέχνη. We would be mistaken to think even being a doctor or engineer would earn the respect of elite Athenians: as noted in the introduction, Socrates assumes at *Grg.* 512c–d that we interlocutors generally look down on pilots and engineers—and physicians as well! The low status of the τέχναι is assumed throughout the corpus, but it is especially emphasized by these two words (and cognates like βάναυσος). For instance, Plato refers to all the τέχναι as vulgar, βάναυσοι, at *Resp.* 7.522b (cf. 6.495e); the χειροτέχναι are described as the φαῦλοι at *Resp.* 3.405a. He even takes it upon himself to explain the reason these terms are pejorative ("bring reproach," ὄνειδος φέρει) at 9.590c: the men involved in the handcrafts are beastlike and unable to control their appetites, he claims. Unsurprisingly, then, the citizens in the *Laws* are banned from the τέχναι, lest their free character be perverted by βαναυσία (*Leg.* 5.741e).[125]

E. Ἰδιώτης and Δημιουργός

There is a regular contrast in Greek literature between the expert and the non-expert, or the professional and the amateur: the ἰδιώτης and the δημιουργός. The Athenian Stranger in the *Laws* assumes familiarity with them as widely accepted technical terms for expert and the non-expert (cf. *Plt.* 298c; *Prt.* 312b, 322c, 327c; *Ion* 531c). He uses them to describe a proposed law: if a doctor or trainer—that is, an expert (δημιουργός) about the body—sells a slave who is sick to a non-expert (ἰδιώτης), the non-expert can make a

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[125] For more on the term βάναυσος (and related terminology), see Bourriot 2015.

claim for restitution (11.916b). The δημιουργός is defined as having (and the ἰδιώτης does not have) whatever relevant τέχνη is being discussed[126]—in this case, expertise about the body.

The δημιουργός is someone who practices a τέχνη, be that lowly shoemaking (*Tht.* 146d) or high-flying rhetoric (*Grg.* 454a).[127] The interlocutors (*Phlb.* 59e; *Leg.* 10.898b), the philosopher-kings (*Resp.* 3.395c, 4.421c, 6.500d), and the craftsman of the cosmos (*Tim.* 29a *et passim*) are called demiurges, too. This point will be considered further in the last chapter, in connection with the idea that philosophy is modeled after a τέχνη.

We should be aware of one *other* meaning of δημιουργός, which is very common outside of Attica. Outside of Athens, as both inscriptions and literary sources attest, δημιουργός usually means a highly-ranked magistrate: this is true in Elis, Achaea, West Locris, Phocis, Thessaly, the Argolid, Corinth, Thera, Cyrene, Arcadia, Epirus, and

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[126] See also *Soph.* 221c–d and *Euthyd.* 295e which contrast the ἰδιώτης with the man who has a τέχνη, as a variation on the more usual ἰδιώτης vs. δημιουργός.

[127] Balansard argues that not all τέχναι are practiced by a δημιουργός and that δημιουργός is more pejorative than τέχνη (70–95)—she thinks the sophists make τέχνη less pejorative, in fact, be disassociating τέχνη from the term δημιουργός (and that they claim to practice a τέχνη, but not to be δημιουργοί). Her strongest evidence is the phrase ἡ δημιουργικὴ τέχνη, which Plato uses and seems to suggest there is a non-δημιουργικὴ τέχνη. On the other hand, Gorgias *does* make a claim to be a δημιουργός (*Grg.* 454a). And clearly δημιουργός cannot be purely pejorative if the philosopher-kings are δημιουργοί (*Resp.* 3.395c, 4.421c, cited in the main text above). I think I can offer a better explanation, then: some τέχναι are especially protypically τέχναι (and their practitioners are especially prototypically δημιουργοί), while others are more marginal. More prototypical τέχναι will be low-class practices like shoemaking; more marginal τέχναι will be practices like rhetoric and sophistry. More prototypical δημιουργοί will be shoemakers; more marginal δημιουργοί will be rhetoricians and sophists. See my final section of this chapter.

colonies of these places, such as Croton in Southern Italy (Murakawa 1957, 389–394). This list, developed by Murakawa, is drawn primarily from epigraphic evidence, but Aristotle and Gorgias were aware of this meaning of the term, too. Gorgias made a pun on the double meaning of the term δημιουργός: we can paraphrase it extremely loosely, in order to get the joke across: demiurges make Larissans [=Larissan pots] and Larissans [=Larissan citizens] (Arist., *Politics* 3.1275b26 ff.).[128] If both Gorgias and Aristotle were aware of this double meaning, I think we should assume Plato was, too: and, as a result, I think there is a bit of wordplay going on in calling the philosopher-kings δημιουργοί—craftsmen/magistrates.

F. Ἔργον, Λόγος, and Ἀριθμός

The τέχναι are regularly characterized as being specialized and rational. In particular, they are described as achieving a specified ἔργον ("work," i.e., a task they accomplish) and using λόγος and mathematics (sometimes picked out by the term ἀριθμός).

The notion of τέχνη throughout the corpus pretty clearly assumes that each τέχνη will have a defined ἔργον: the different but related τέχναι discussed in the *Statesman*, for instance, are differentiated by their respective ἔργα: separating and combining wool is the ἔργον of the carding τέχνη (281a), whereas weaving is about combing the warp and woof (283a; cf. *Cra.* 388c–d). The different ἔργα of the various τέχναι are assumed to differentiate them in the *Charmides, Ion,* and *Republic* as well: *Chrm.* 165e; 175a; *Ion*

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[128] The actual quote is, "just as pots are made by pot-makers [a kind of craftsman], so Larissans are made by the Demiurges [a kind of magistrate]; for some of them are Larissa-makers" (καθάπερ ὅλμους εἶναι τοὺς ὑπὸ τῶν ὁλμοποιῶν πεποιημένους, οὕτω καὶ Λαρισαίους τοὺς ὑπὸ τῶν δημιουργῶν πεποιημένους: εἶναι γάρ τινας λαρισοποιούς). The pun relies on two double-meanings (Robinson 1962, 5–6 n.1): δημιουργός is ambiguous between craftsman and magistrate, and Λαρισαῖος without further qualification means both Larissan (citizen) and Larissan (pot).

537c; *Resp.* 2.374a–b. The general idea is that each τέχνη has a proper work, e.g. shoes for a shoemaker, medicine for a physician, speeches for a rhetorician. Because each trade has a specific proper work, we can differentiate similar trades by their specific jobs. For example, the carder is different from a weaver in that he works with wool in order to make the yarn, while the weaver uses the products prepared by the carder to make a woven cloak or blanket. The mason differs from the architect in that he makes a single pillar while the architect directs the construction of an entire building. Each of them does his own work—he might use the work of others in the course of it, or direct others in a project. But his proper work is what he does *qua* his title, and so *qua* his τέχνη: weaving for a weaver, masonry for a mason. The idea is even parodied in the *Euthydemus*: if the proper work of the bronzeworker is to hammer bronze, if someone hammers the bronzeworker himself, he's doing his (the bronzeworker's) "proper work" (301c–d).

The τέχναι are especially related to rationality via the term λόγος. The most famous passage connecting the two is at *Gorgias* 465a, where Socrates introduces his claim that rhetoric is not a τέχνη at all (cf. 500e–501a, *Leg.* 4.720c, 9.857c):

> τέχνην δὲ αὐτὴν οὔ φημι εἶναι ἀλλ᾽ ἐμπειρίαν, ὅτι οὐκ ἔχει λόγον οὐδένα ᾧ προσφέρει ἃ προσφέρει ὁποῖ᾽ ἄττα τὴν φύσιν ἐστίν, ὥστε τὴν αἰτίαν ἑκάστου μὴ ἔχειν εἰπεῖν. ἐγὼ δὲ τέχνην οὐ καλῶ ὃ ἂν ᾖ ἄλογον πρᾶγμα: τούτων δὲ πέρι εἰ ἀμφισβητεῖς, ἐθέλω ὑποσχεῖν λόγον.
>
> I say it is not a τέχνη but [mere] experience (ἐμπειρία), because it does not have a rational account (λόγος) which is applied to the things that naturally apply, so it cannot speak of the cause of each. And I won't call an irrational practice a τέχνη. If you disagree about this, I'll give my account.

In both the *Gorgias* and the passages cited from the *Laws*, λόγος is characteristic of a τέχνη which is being contrasted with non-rational ἐμπειρία. I argued in the first part of the chapter that τέχνη is regularly construed as a composite of natural ability, an

intellectual understanding (ἐπιστήμη), and practice (ἐμπειρία or μελέτη). From that perspective, one can see that λόγος is closely related to the ἐπιστήμη part of τέχνη. One could also relate the λόγος of a τέχνη with two aspects of τέχνη I brought out in the second chapter: writing and mathematics. In the second chapter, IV.B, I discussed the uses of writing in the τέχναι in the fifth and fourth centuries: practitioners of τέχνη like doctors and architects would write treatises to explain solutions to problems that could be applied by other experts in their field. The Hippocratic author of *On the Sacred Disease*, for instance, explains his causal reasoning about epilepsy to criticize the quacks and charlatans who prescribe useless incantations and charms.

Finally, then, we can note the connection between the τέχναι and mathematics. Plato refers to the use of mathematics as a core characteristic of the τέχναι several times: he says all τέχναι employ "number and calculation" (ἀριθμόν τε καὶ λογισμόν, *Resp.* 7.522c). This is because the mathematical fields are themselves τέχναι *and* they play a role in the other τέχναι as well, since generals need to count troops and architects need to measure columns, etc.: *Resp.* 7.522c–e, 525c, 526c–d, 527c; *Phlb.* 56d–57a.

IV. Ἐπιστήμη and Associated Terminology

A. Δόξα

Ἐπιστήμη is often construed as a faculty or power (δύναμις) and contrasted with other faculties—most usually opinion (δόξα).[129] We saw this in the seventh book of the

[129] These kinds of passages are often introduced with the language of faculties or with the example of vision. See, e.g., *Chrm.* 167c–169c.

Republic, discussed in II.D, above; and such is the construal in the so-called "division of the faculties" earlier in the *Republic,* too (5.476b–480a):[130]

> φήσομεν δυνάμεις εἶναι γένος τι τῶν ὄντων, αἷς δὴ καὶ ἡμεῖς δυνάμεθα ἃ δυνάμεθα…, οἷον λέγω ὄψιν καὶ ἀκοὴν τῶν δυνάμεων εἶναι…
>
> ἀλλὰ μανθάνω, ἔφη.
> …
> δεῦρο δὴ πάλιν, ἦν δ᾽ ἐγώ, ὦ ἄριστε. ἐπιστήμην πότερον δύναμίν τινα φὴς εἶναι αὐτήν, ἢ εἰς τί γένος τιθεῖς;
>
> εἰς τοῦτο, ἔφη, πασῶν γε δυνάμεων ἐρρωμενεστάτην.
>
> τί δέ, δόξαν εἰς δύναμιν ἢ εἰς ἄλλο εἶδος οἴσομεν;
>
> οὐδαμῶς, ἔφη: ᾧ γὰρ δοξάζειν δυνάμεθα, οὐκ ἄλλο τι ἢ δόξα ἐστίν.
>
> ἀλλὰ μὲν δὴ ὀλίγον γε πρότερον ὡμολόγεις μὴ τὸ αὐτὸ εἶναι ἐπιστήμην τε καὶ δόξαν.
>
> …
> ἐφ᾽ ἑτέρῳ ἄρα ἕτερόν τι δυναμένη ἑκατέρα αὐτῶν πέφυκεν;
>
> ἀνάγκη.
>
> Should we say that the faculties are a certain class by which we do what we are able to do…I mean, for example, sight and hearing are faculties…
>
> I get it, he said.
> …

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[130] Plato also uses the language of ἀγνωσία and γνῶσις in this passage, apparently interchangeably with ἀμαθία and ἐπιστήμη. In order to keep this chapter to a reasonable length, I have not discussed this terminology. In the Platonic corpus (the authentic corpus, as defined in n.117), γνῶσις (34 instances) is not nearly as common as σοφία (225) or φρόνησις (175), let alone ἐπιστήμη (600) or τέχνη (667). Hence, for this chapter, I have focused on those nouns instead. The real importance of γνῶσις comes out in its relationship to γιγνώσκειν, which certainly *is* one of the most common verbs in Plato's repertoire; but it also denotes the kind of knowledge that isn't technical, so is a bit too far afield for this chapter.

> Returning to knowledge (ἐπιστήμη), I said, do you say, my good man, that this is a faculty? Or what class do you put it in?
>
> Into this one, he said, it's the strongest of the faculties.
>
> And opinion (δόξα), do we put that into the class of the faculties or some other class?
>
> No other one, he said; what we are able to opine by is nothing else than opinion (δόξα).
>
> But, you agreed a little while ago that knowledge (ἐπιστήμη) and opinion (δόξα) are not the same thing.
> …
> Each of them, being able to do a different thing, is related to a different thing.
>
> Necessarily so. (477c–478a)

The interlocutors then, of course, go on to differentiate the two faculties by their objects: knowledge ranges over being, and opinion over non-being. Many other passages compare the two: of course, famously true δόξα is contrasted with ἐπιστήμη in the *Meno* 97a–99a, and the relationship between the two is discussed at length in the last two proposed definitions of knowledge in the *Theaetetus* (187b–210a).[131]

B.Φρόνησις and Σοφία

As already described in my readings of the *Philebus* and the *Protagoras*, ἐπιστήμη is often coordinated with the terms φρόνησις and σοφία to mean wisdom. Besides those examples, we could consider the discussion of wisdom in the city in Book Four of the *Republic*, 428b–429a. There, the interlocutors ask where the σοφία of the city would be

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[131] In the *Theaetetus*, Socrates and Theaetetus do describe knowledge as a faculty (185c). In the *Meno*, knowledge and opinion, as far as I can tell, are not really construed as faculties but as cognitive states.

found (428b). Quickly, this is construed as a question about whose ἐπιστήμη is the σοφία of the city (428b–c): and the answer is the ἐπιστήμη of the guardians because:

> διὰ ταύτην οὖν τὴν ἐπιστήμην τί τὴν πόλιν προσαγορεύεις;
> εὔβουλον, ἔφη, καὶ τῷ ὄντι σοφήν.
>
> Through this [=the guardians'] knowledge, what do you call the city?
> Well-governed, he said, and truly wise. (428d)

For the substitution of φρόνησις for ἐπιστήμη, on the other hand, see *Meno* 87d–89c.

One final note: an alternative and very old meaning of σοφία (as well as the adjective σοφός) does appear from time to time in the dialogues. This is the meaning "skilled," in a particular field (including fairly vulgar fields, like pottery).[132] This use goes back to Homer (e.g., *Il.* 15.412), is seen in inscriptions from the 6th century,[133] and was still current in the 4th century (see, e.g., Xen. *Mem.* 1.4.2–3). See further details in Wolfsdorf 2018, 11–18.

C. Τὸ Διδάσκειν

The connection between teaching and ἐπιστήμη is not quite the same as teaching and τέχνη. Teachers, whether they teach pupils how to write, throw pots, or tend to the sick, are all practitioners of a specific τέχνη, as was discussed in III.A above and in the second chapter. These experts have a rich understanding of their field which is supported by years of practice. Ἐπιστήμη is connected with teaching as the subject taught: this comes

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[132] See for instance: *Euthphr.* 11d–e: on the σοφία/τέχνη of Daidalos; *Prt.* 321d: on the σοφία of Hephaistos and Athena (i.e., the crafts) and the σοφία πολιτική; *Euthyd.* 272b, d: on the σοφία of Euthydemus and Dionysodorus (cf. *Resp.* 2.365d); and *Phdr.* 236b: on the σοφία of Lysias (=rhetorical skill).

[133] See, e.g., *GVI* 57 (=*IG* I³ 1393), an inscription from the Piraeus in the 6th c. which mentions a doctor's σοφία; and *IG* XII.5, 147 which is from 6th c. Paros and mentions a sculptor's σοφία.

up most prominently in the *Meno* (87c), wherein it is claimed that "men are not taught anything other than ἐπιστήμη" (οὐδὲν ἄλλο διδάσκεται ἄνθρωπος ἢ ἐπιστήμην, 87c). But not all who learn have the τέχνη: some lack the right nature or do not take the time to practice the skill enough to become masters. These people, which includes all the elites who study with scribes and music teachers, presumably learn but are not learning ἐπὶ τέχνῃ (to use the phrase from the *Protagoras*). So while τέχνη is connected to teaching because all teachers have τέχνη, by which they teach (see esp. *Tht.* 198a–b), ἐπιστήμη is connected to teaching as the thing taught.

D. Ἔργον, Λόγος, and Ἀριθμός

In the chart, I have indicated that ἐπιστήμη and τέχνη share the fact they are connected to the terms ἔργον, λόγος, and ἀριθμός. Each of these will be taken in turn: the connection between ἐπιστήμη and ἔργον is virtually the same as the connection between τέχνη and ἔργον; but ἐπιστήμη is connected to λόγος and ἀριθμός in additional specific ways, relative to the connection between τέχνη and these terms.

In the *Charmides*, ἐπιστήμη and ἔργον are connected in the same way as τέχνη and ἔργον are connected (i.e., each ἐπιστήμη or τέχνη has an ἔργον which it aims to accomplish, and the different ἔργα differentiate one trade from another; see above, III.F). The ἐπιστήμη of medicine produces health as its ἔργον, and the ἐπιστήμη of housebuilding produces a house as its ἔργον (165c–d).[134]

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[134] In the *Charmides,* the problem is raised that some τέχναι/ἐπιστῆμαι—specifically, λογιστική and γεωμετρική—may not have ἔργα, or perhaps they don't have the same kind of ἔργα as arts that produce external objects (like housebuilding) do (165e–166a). This doesn't change the broad overall connection between τέχναι/ἐπιστῆμαι and their ἔργα, which is indeed referred to later in the *Charmides* (174d–175b), besides appearing in other dialogues.

Ἀριθμός can also be connected to ἐπιστήμη in the same way as it is connected to τέχνη: as Plato puts it in the *Republic*, all the τέχναι and ἐπιστῆμαι use number (7.522c). In addition, though, number (and mathematics more generally) is connected to ἐπιστήμη by dint of the fact that these fields lead the way to pure ἐπιστήμη, that is, dialectics—this is discussed in both the *Republic* and *Philebus*, in passages already quoted (sections II.C and D).

Finally, λόγος is connected to ἐπιστήμη via its connection with the pure ἐπιστήμη of dialectic: again, in a passage already cited in II.D (*Resp.* 7.534c), λόγος is what characterizes the dialectician (who possesses ἐπιστήμη), in contradistinction to someone who merely opines (cf. *Phlb.* 62a; and, cf. the definition of ἐπιστήμη in *Tht.* as true δόξα with an account (=λόγος), 201c–d ff.). Since ἐπιστήμη is not contrasted with ἐμπειρία in the way τέχνη is—that is, in the sense of rational practice versus non-rational habit—ἐπιστήμη is not connected to λόγος as a way of clarifying the difference between it and ἐμπειρία.

V. The Extension of Τέχνη

All the sections until now have treated Plato's knowledge vocabulary by looking at τέχνη, ἐπιστήμη, and their associated terms. It is reasonable to spend a moment thinking about the extension of τέχνη. What kinds of practices count in Plato as τέχναι, and which don't?

Plato has a very catholic conception of τέχνη: it truly encompasses all manner of practices from shoemaking to medicine to rhetoric. Balansard counts 213 -ικός, -ική, -

ικόν adjectives (e.g., ἰατρικός) in the dialogues that describe types of τέχνη (2001, 32).[135] What do these all have in common? The last two chapters will have made clear what some of the shared territory consists in: rationality and practice, usually low social status, a connection with teaching. But since Plato does not use τέχνη as a technical term, and does not try to define it, a search for necessary and sufficient conditions will come up dry. I would suggest instead that some helpful insights can come from looking at this as a folk-concept that exhibits a family resemblance structure: this will help us see how some fields are more prototypical, exemplary τέχναι than others, which is quite characteristic of Plato's use of the τέχναι.

To briefly summarize what a family resemblance model[136] would suggest: if we ask American English speakers about a given category, e.g., fruit, there will be a definite pecking order in what strongly counts as fruit (i.e., is prototypically an instantiation of the concept fruit), what counts as fruit in a middling way, and what only marginally counts as fruit. In Rosch's original experiment from the 1970s, apples and oranges turned up as prototypes, while berries were middling and olives and dates were marginal.

Turning back to our topic, then, we can see how some practices are more prototypically instances of τέχνη than others. Certain τέχναι are, as Plato depicts them, immediately given as examples by his interlocutors: for example, shoemaking (*Tht.* 146d; *Grg.* 447d), painting (*Prt.* 318c; *Grg.* 448b–c), and medicine (*Grg.* 448b; *Resp.* 3.389d). We could generalize and say crafts, fine arts, and medicine are all firmly at the center of

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[135] Not all ικός,-ική, -ικόν adjectives are used to specify a type of τέχνη; for instance, some describe an ethnicity, e.g. Ἰταλικός, "Italian," *Leg.* 2.659b.
[136] I follow here Eleanor Rosch's application of the family resemblance idea. The *locus classicus* of the idea, of course, is Wittgenstein's *Philosophical Investigations* (1953).

the concept. They are, in other words, like the apples and oranges in Rosch's experiment. The practitioners of the primarily educational τέχναι (physical training, music, writing, as well as the various branches of mathematics) seem ever so slightly out of this group, perhaps because most of their students are high status (*Prt.* 318e). Practices like trade or retail selling (*Pol.* 290a) seem somewhat marginal: Plato never suggests that they *aren't* τέχναι, but they are never the first example that Socrates or an interlocutor springs to. More contested fields include: farming,[137] governing, and military practices. Farming is a practice pursued by the same class as the τέχναι, but it sometimes is construed as the opposite of τέχναι (which are generally performed indoors, produce an artificial good, etc.). Governing and military practices (*Pol.* 296c; *Phlb.* 56b; *Tim.* 25b–c; *Resp.* 2.374b) are sometimes called τέχναι, but because they are practiced by the elites, sometimes they are specifically said to be the activities of those who *don't* have a τέχνη (e.g., *Leg.* 7.806d). Finally, still more marginal are rhetoric, cooking, and other practices that Plato actively questions as τέχναι because they may not be rational practices. Plato describes rhetoric as the τέχνη of persuasion, in the *Phaedrus* (260d, 261a), but questions its status as τέχνη in the *Gorgias* (465a) and *Laws* (11.938a).

Conclusion

This chapter has tried to dispatch efficiently (yet thoroughly) with a thorny problem: what is the place of τέχνη in Plato's knowledge vocabulary? How does it relate to the term it correlates with most, ἐπιστήμη? Who practices a τέχνη, and what practices count as τέχναι? And how does Plato's vocabulary reflect the connections τέχνη has with

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[137] Farming is considered a τέχνη at, e.g., *Phlb.* 56b; and it is contrasted with the τέχναι at, e.g., *Leg.* 7.806d.

teaching, rationality, low-class status, and specialization? I argued first that ἐπιστήμη should be understood not as synonymous with τέχνη, but interchangeable by synecdoche: it is a part—in fact, the rational or intellectual part—of τέχνη. In addition, each term has its own particular associations: τέχνη with low status craft work, ἐπιστήμη with wisdom and the faculty of knowledge. In some contexts, this can lead to a helpful substitution, which we saw in the *Protagoras* and *Philebus*, where Plato uses the term ἐπιστήμη to transition from an intuitive thought about a craft to a new conclusion about wisdom.

In the second part of the chapter, the wider connections of τέχνη were plumbed: the connection with teaching and specialization that make it an attractive model for virtue, as well as the ultimately unsavory connections with banausic work. Of great importance for the next two chapters is the identification of an antonym for τέχνη: πάρεργον. These terms also have corresponding nouns of occupation, namely δημιουργός and ἰδιώτης.

This strong opposition between craft and hobby, between expert and amateur, will be important for Plato as he develops the idea that virtue is a craft. A strict dichotomy like this squeezes out the possibility of multiple expertises and non-expert authorities. To prefigure the topic of the next chapter, we will see that this can generate a firm critique of sophistry, which fundamentally offers students a shortcut to wisdom.

Chapter 4: Against Amateurism: The Failures of Rhetoric and Sophistry

Introduction

In the *Apology,* Socrates describes his ἀσχολία: he goes around investigating who is, and who isn't, wise in the city, in the meantime earning the enmity of everyone he meets; this is philosophy, and he emphatically rejects any proposal that he turn to a life of quiet indolence in order to avoid the hatred of his neighbors and, ultimately, the death penalty (23b–c; 29c; 31b; 36b). In other words, philosophy is his job: he has forsaken his own affairs and politics, as he emphasizes, in order to pursue this calling, and as a result is destitute.

This same characterization of Socrates is scornfully described by Callicles in the *Gorgias*: while philosophy is appropriate for a young man, Socrates' commitment to philosophy throughout his life and into old age is unseemly, like a grown man using baby talk (*Grg.* 485a–d):[138]

> …καὶ ἔγωγε ὁμοιότατον πάσχω πρὸς τοὺς φιλοσοφοῦντας ὥσπερ πρὸς τοὺς ψελλιζομένους καὶ παίζοντας. ὅταν μὲν γὰρ παιδίον ἴδω, ᾧ ἔτι προσήκει διαλέγεσθαι οὕτω, ψελλιζόμενον καὶ παῖζον, χαίρω τε καὶ χαρίεν μοι φαίνεται καὶ ἐλευθέριον καὶ πρέπον τῇ τοῦ παιδίου ἡλικίᾳ, ὅταν δὲ σαφῶς διαλεγομένου παιδαρίου ἀκούσω, πικρόν τί μοι δοκεῖ χρῆμα εἶναι καὶ ἀνιᾷ μου τὰ ὦτα καί μοι δοκεῖ δουλοπρεπές τι εἶναι: ὅταν δὲ ἀνδρὸς ἀκούσῃ τις ψελλιζομένου ἢ παίζοντα ὁρᾷ, καταγέλαστον φαίνεται καὶ ἄνανδρον καὶ πληγῶν ἄξιον. ταὐτὸν οὖν ἔγωγε τοῦτο πάσχω καὶ πρὸς τοὺς φιλοσοφοῦντας. παρὰ νέῳ μὲν γὰρ

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[138] The idea that Socrates is an inappropriately old student also appears as a trope in the *Euthydemus*, wherein he describes (still) attending music lessons and being mocked by his much younger peers as γεροντοδιδάσκαλος (272c). The idea that philosophy past the age of boyhood is uncouth is also repeated (and, of course, criticized) in the *Republic*, at 6.498a, in a passage that essentially summarizes the perspective of people like Callicles.

> μειρακίῳ ὁρῶν φιλοσοφίαν ἄγαμαι, καὶ πρέπειν μοι δοκεῖ, καὶ ἡγοῦμαι ἐλεύθερόν τινα εἶναι τοῦτον τὸν ἄνθρωπον, τὸν δὲ μὴ φιλοσοφοῦντα ἀνελεύθερον καὶ οὐδέποτε οὐδενὸς ἀξιώσοντα ἑαυτὸν οὔτε καλοῦ οὔτε γενναίου πράγματος: ὅταν δὲ δὴ πρεσβύτερον ἴδω ἔτι φιλοσοφοῦντα καὶ μὴ ἀπαλλαττόμενον, πληγῶν μοι δοκεῖ ἤδη δεῖσθαι, ὦ Σώκρατες, οὗτος ὁ ἀνήρ.[139]
>
> …And I feel exactly the same way towards those who practice philosophy as those who lisp and engage in horseplay. For when I see a child, for whom it is still appropriate to talk like that, lisping and engaging in horseplay, I welcome it, and it seems lovely and liberal and proper for that age of child, whereas whenever I hear a child speaking clearly that seems harsh to me and it grates my ears and seems to me to be fitting for a slave [rather than a freeborn child]. But whenever one hears a grown man lisping or sees him horsing around, it seems ridiculous and unbefitting a man and worthy of a beating. So I feel the same way about those who practice philosophy. For seeing a youth practicing philosophy makes me happy, and it seems appropriate to me, and I think that he is a liberal sort, and a youth who doesn't practice philosophy I think is illiberal and never going to be worthy of any fine or noble action.[140] But whenever I see an old man still practicing philosophy and not giving it up, that guy seems to me to need a beating right away, Socrates.

Of course, Callicles is talking both *about* and *to* Socrates, in a sort of vaguely veiled threat: Callicles is not necessarily on the brink of violence, but expressing in the harshest possible terms his condescending attitude towards Socrates, and indeed his disrespect for

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[139] Οὗτος ἀνήρ has already been used twice in the dialogue to mean Socrates (467b; 489b). In the words of LSJ, it is used in these two instances as a 3rd person for 2nd person "to express contempt" (s.v. "οὗτος," B.5). LSJ further notes that ἐκεῖνος and οὗτος are opposed in that the former indicates someone far away and praiseworthy, while the latter indicates someone close by and worthy of contempt. This combination of characteristics, and the earlier uses of οὗτος to indicate Socrates, indicates that this last line should be read as threatening Socrates directly.

[140] Callicles' attitude towards the value of philosophy in a young statesman's youth is made concrete in the figure of Pericles (*Phdr.* 270a).

Socrates' pursuit. Callicles clarifies why he looks down upon philosophers like Socrates so much: they neglect to do what they should, which is to become influential politicians (484c–d; 485d); they are unable to protect themselves in court from their enemies who might accuse them of all kinds of crimes (486b–d); and they are generally ignorant of the ways of the world (and, in particular, men's characters), and useless in both public and private matters (484d). This, of course, matches pretty closely Socrates' own description of himself in the *Apology*: he did forsake his own affairs and politics for philosophy (see, e.g., 23b–c),[141] and he is incapable of defending himself in court, and is in fact totally unfamiliar with that place (17c–d).

For better or worse, Socrates has made philosophy his full-time job. In the next chapter, I show how philosophy is characterized throughout the dialogues as a specialized profession that requires extensive training and involves rational explanation. This description of philosophy is developed not in isolation, but in significant contrast to the practices and promises of the sophists and rhetoricians, which will be described in this chapter: while sophists and rhetoricians might propose quick courses in "philosophy" for the sons of the elite to have a well-rounded education (as Callicles more or less proposes), Plato argues that philosophy requires a full, lifelong commitment. This chapter takes as its topic the attack on rhetoric and sophistry as failed τέχναι both as a topic of interest for its own sake, and as preparation for the account of philosophy given in the next chapter.

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[141] On the reality of Socrates' poverty, the sources are mixed. He had enough money at one point to serve as a hoplite (and thus afford the panoply), but later apparently was destitute. See especially Brickhouse and Smith 1989, 15–17; see also Nails 2002, 263–5.

This chapter will begin by analyzing the repeated attacks on rhetoric and sophistry throughout the dialogues from the perspective of τέχνη. In this section, I will consider Plato's attacks on Gorgias, Protagoras, Hippias, and Euthydemus and Dionysodorus. My approach will be to draw out the common feature these dialogues share: each of these interlocutors claims to have a τέχνη, and in each case, his work is shown to be implausibly so described. In each case, his τέχνη proves to either be unspecialized or irrational. The logic of τέχνη, then, provides the blueprint for these attacks. Moreover, it is straightforward to explain *why* these practices would be attacked as pseudo-τέχναι: there can only be *one* τέχνη that teaches individuals about a given subject, and sophistry and rhetoric, by claiming to teach about virtue, are occupying the space philosophy wishes to appropriate for itself.

A lot of this is hardly *terra incognita*, so let me highlight the new features of this account: broadly, the agenda here is to bring out Plato's attacks on the sophists and rhetoricians as all part of a unified strategy, and one that draws on the vocabulary of τέχνη described in the previous chapter. In particular, the identification of the importance of the term πάρεργον and the connection between τέχνη and lifelong practice puts these questions in a new light. In addition, it is essential to settle the issue of whether rhetoricians considered their practice to be τέχνη or not. In my view, the evidence clearly indicates that they did claim to have a τέχνη, but Roochnik has argued rhetoric was only construed as a τέχνη as part of Plato's rhetorical strategy (no pun intended); settling this matter is of great importance for how we construe these arguments.

One final note: Plato's attacks here on rhetoric and sophistry are on these *as practiced* in the fifth/fourth centuries; I do not think there is any reason to think Plato would reject suitably qualified forms of these fields as τέχναι. Rather, I think the

Phaedrus and *Statesman* both suppose that this is possible for rhetoric, and (somewhat more problematically), the *Sophist* does the same for sophistry.

I. Educational Rivals Confronted

Plato's rivalry with sophists and rhetoricians is well known. A number of dialogues treat the sophists directly, with a famous sophist playing the role of interlocutor. In a moment, we will turn to examining how Plato uses the τέχνη theme to criticize the sophists and rhetoricians; the general strategy is to indicate how the τέχνη of the sophists or rhetoricians turns out to be a pseudo-τέχνη. But we might wonder if sophistry or rhetoric were even considered τέχναι. If not, Plato's argument is without bite.

For a few different reasons, though, it seems like the status of these fields as τέχναι, or at least the aspirations of these fields to be τέχναι, was not controversial.[142] For one, we can of course reflect upon the fact that no sophistic opponent of Socrates ever contests the matter, and, in fact, every sophist encountered in the dialogues assumes his own practice is a τέχνη (*Grg.* 448e–449a; *Prot.* 316d; *Hipp. mai.* 281d–282d*; Euthyd.* 274e). Presumably if the sophists did not suppose themselves to have a τέχνη at all, this would be the point at which to contest the question.

But, we might suspect Plato is uncharitable, and that he saddles the sophists with an indefensible position. This, of course, would radically undermine virtually every

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[142] *Pace* Roochnik 1996, 187–90 who thinks Socrates foists the idea that rhetoric is a τέχνη on his opponents in order to refute them. On Roochnik's reading of the *Gorgias*, Socrates "badgers" Gorgias into defending rhetoric as a τέχνη simply because Socrates can refute Gorgias on these terms (190). Roochnik thinks this is especially dodgy because Socrates himself does not think rhetoric is a τέχνη (as evinced in the conversation with Polus), so Socrates is tricking Gorgias into accepting this false premise simply for the purpose of refuting him. But if Gorgias genuinely thinks rhetoric is a τέχνη, there is no illicit badgering going on here.

statement made by or about sophists and rhetoricians in these dialogues, which seems extreme; and, moreover, we can keep in mind that in the *Gorgias*, at least, we have three keen-eyed interlocutors who are alert to uncharitable tricks (*Grg.* 461b–c, 481b–483a). In addition, we have some external resources that suggest these fields were understood as τέχναι.

The first piece of evidence to consider is what these fields are called outside of Plato. On this point, the record is a bit clearer for rhetoric than sophistry.[143] There is clearly a τέχνη of speeches (=rhetoric) in the *Dissoi Logoi* (8.1, 3, 5) and in Xenophon (*Mem.* 1.2.31, 34); Isocrates, too, describes the τέχνη the teachers of political speeches claim to transmit (*C. soph.* 9) and an extant dedication to Gorgias at Olympia praises him for his τέχνη (see Figure 9). And, the word τέχνη came to mean, apparently, the manuals published by the rhetoricians,[144] and possibly they were so-called at the time—for instance, Thrasymachus wrote a Μεγάλη Τέχνη (Schol. Ar. Av. 880, =85 DK B3, =LM D3).

We should also consider why sophists and rhetoricians would accept identifying their field as a τέχνη. Keeping in mind that virtually all teachable fields were called τέχναι by the 5th century, including higher class fields like generalship and hunting (see

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[143] In addition to the references in the main text, see also: Antiphon as a practitioner of a τέχνη in Philostratus (*VS* 1.15, =LM 37 R4 and R6); *Dissoi Logoi* 6, which compares the sophists qua teachers with non-controversial δημιουργοί (a sculptor, a γραμματιστής, and a κιθαριστής; on the status of the latter two as δημιουργοί, see the second chapter); on sophists in general as claiming a τέχνη, see Alcidamas, *Soph.* 1 (=LM 42 R 24); Isoc. *C. soph.* 9–10 (=LM 42 R 15); and, Arist. *Soph. el.* 165a37.

[144] Quintilian dates this practice back to the legendary Tisias and Corax (*Inst.* 3.1.8, =DK A14, =LM D5), while Diodorus Siculus claims Gorgias was the first to invent the τέχναι (=technical manuals) of rhetoric (12.53.2, =DK A4, = 32 LM D6b). Ps-Plutarch, on the other hand, attributes the invention to Antiphon (*X orat.* 832e, =LM 37 R6).

chapter two), and that sophists were, fundamentally, teachers, the problem becomes inescapable. Of course these fields were τέχναι, because all teachable fields were τέχναι.

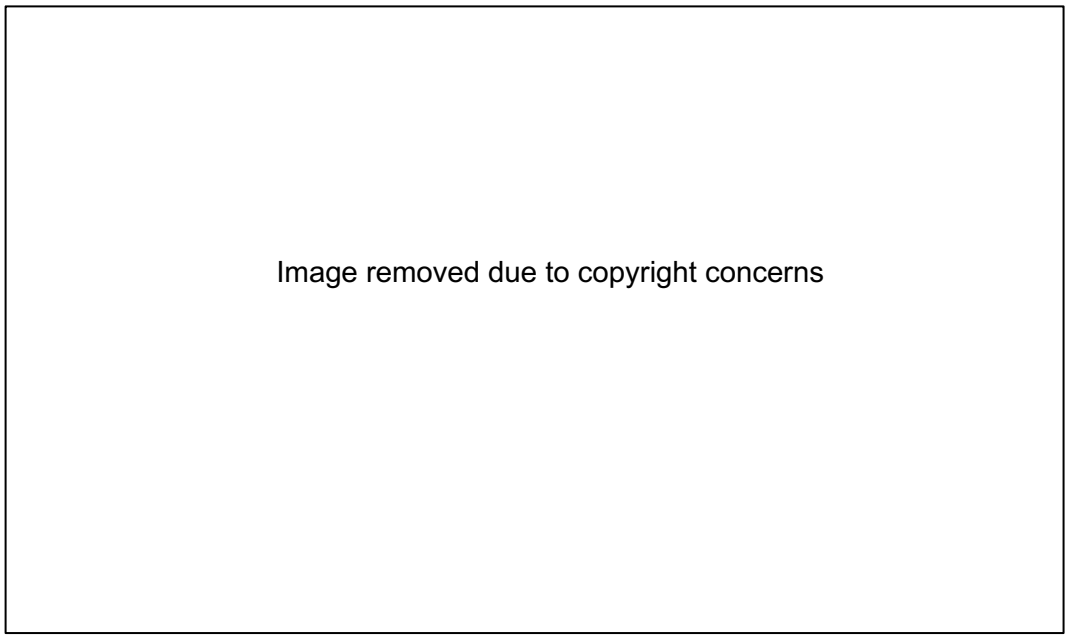


Figure 9: *IvO* 293 (=*CEG* 2. 830 and Laks and Most 32 P34b): Base from a statue erected in honor of Gorgias (see line one, "Gorgias of Leontini"), praising him for his τέχνη (see the last word in the third line from the bottom). Illustration from *Die Inschriften von Olympia* (Dittenberger and Purgold 1896).

Accepting, then, that sophists and rhetoricians called their field a τέχνη—in this case, that amounts to claiming an ability to teach, among other things—Plato's route of attack looks reasonable. In the next two sections, we will see how Plato is able to use the idea of τέχνη to criticize his educational rivals on two fronts. First, sophistry and rhetoric will be criticized as unspecialized and thus sham knowledge. Second, these fields will be characterized as irrational and thus more akin to γοητεία (magic, charlatanry) than τέχνη.

II. Specialization (*Hippias Minor, Euthydemus, Protagoras,* and *Gorgias*)

To review what specialization means in the context of τέχναι: I argued in the second chapter that an individual's τέχνη was his full-time job, not merely one of potentially many skills; this was argued from the fact that the authors I cited do not describe learning

additional τέχναι, as we might describe learning various skills throughout a lifetime. Instead, one would spend years training as an apprentice in a given τέχνη—I cited the papyrus contract that described a four-year, full-time apprenticeship in weaving, for instance (P. Oxy. 1647. G).[145] Having accomplished this, one then worked in that craft in order to make a living. This was true for the more elite[146] τέχναι as well;[147] I adduced evidence in the second chapter that shows Thucydides thinking about military τέχναι in the same way. As a side note, we can see how unsurprising it is, then, that Plato would begin from the τέχναι (weaving, building, and shoemaking) in order to show that specialization of labor will characterize (indeed, must characterize) the ideal city in the *Republic* (2.369d–370d).

Plato assumes, with good reason, that rhetoricians and sophists see their τέχνη also as a specialized field, one that involves lengthy study and practice. Indeed, meeting both Protagoras and Gorgias in their old age, they themselves demonstrate that their τέχνη, just like weaving or carpentry, is this kind of pursuit. Protagoras reflects on his life, saying he's been occupied "in this profession for many years already" (καίτοι πολλά

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[145] See Hasaki 2012, 186–7. See further Westermann 1914 and Bergamasco 1995, esp. 162–7 (the "Prospetto dei Documenti"), which lists the lengths of courses and payment methods recorded in these contracts.

[146] Some elite τέχναι, e.g., military training, differed from the rest of the τέχναι inasmuch as their practitioners did not want financial compensation for their work. This, on the other hand, is not true for, e.g., sophistry or rhetoric, since the practitioners of those trades famously did teach expecting compensation. That this should be unsurprising—given that the vast majority of the τέχναι were practiced specifically for the sake of making a living—should be clear from the second chapter.

[147] One might think Athenian elites like Alcibiades, who knows how to play the *kithara* and to write and to wrestle, have multiple τέχναι. In fact, Plato clarifies that they do not have these skills qua τέχναι, but instead learn them ἐπὶ παιδείᾳ (*Prt.* 312b). See chapter two.

γε ἔτη ἤδη εἰμὶ ἐν τῇ τέχνῃ, *Prt.* 317c; cf. *Grg.* 448a) when he meets Socrates and Hippocrates at the house of Callias.

Yet, as portrayed in the dialogues, each sophist or rhetorician seems woefully mistaken about their τέχνη. They want the name τέχνη, but fail to understand the demands that come with that title—chief among them, specialization. Three of the sophists—Hippias and the brothers Dionysodorus and Euthydemus—clearly fail to have a τέχνη on these grounds. Hippias is a parody of a polymath who "knows" everything, and really knows nothing. He is said to have been dressed entirely in items of his own manufacture when he went to Olympia—his ring, his strigil, his oil-flask, his sandals, and his cloak—and to have brought poems of all kinds (dithyrambs, tragedies, epics) and to have impressed people with his mathematical knowledge as well (*Hp. mi.* 368b–d). One must imagine, following Plato's insight in the *Republic* and Xenophon's in the *Cyropaideia*, that all these garments had a rustic, homespun look. He may have made them himself, but that doesn't mean he made them well. I suspect we are supposed to picture Hippias beaming with pride entering Olympia wearing all his handmade clothes—and to picture craftsmen all around snickering under their breath, noticing misplaced stitches on the cloak and unfinished edges on the soles of his shoes. If he knows as little about clothes as he does about poetry and justice, we cannot imagine he was a master weaver *and* shoemaker *and* ringmaker, too. We have to imagine it was obvious from the start to the real professionals that this man was, in a word, an ἰδιώτης;[148] the weavers, cobblers, and ringmakers simply do not need to verbally cross-

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[148] See my discussion of the ἰδιώτης in the chapter three, III.E.

examine him to prove that he is a fool, when the proof is before their eyes. Hippias fails to know what *any* τέχνη entails, namely, specialization: so it is no surprise he crumbles during cross-examination.[149]

Dionysodorus and Euthydemus, of course, are quite a bit quicker with words than Hippias, but we should note where the status of their craft as τέχνη is questionable. In the *Euthydemus*, Socrates introduces the two sophists to his friend Clinias as experts in war and legal oratory, before they correct him (claiming these topics are now just πάρεργα for them, 273d) and claim to be able to teach virtue in the "most excellent and speedy manner" (κάλλιστ'…καὶ τάχιστα, 273d). Socrates responds with surely ironic hyperbole: he asks their forgiveness, as though they were gods, for his mistake, i.e., introducing them as chiefly skilled (δεινός)[150] at fighting in armor (ἐν ὅπλοις μάχεσθαι, 273e) when they in fact had this other, much grander expertise.

For our purposes, I wish to highlight the fact the brothers claim that speed characterizes their pursuit. This is true in two ways: they both have acquired it themselves quickly (since they only recently were experts in another field), and they claim to be able to teach virtue quickly (as quoted above, 273d). This should raise a red flag as to their field's status as a τέχνη; it's a bit like a friend who claims to be an expert in investing after reading the latest bestseller on the topic. In other words, we have a

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[149] Christian Wildberg has pointed out to me that Plato is being seriously uncharitable (in fact, hostile) to Hippias here; the foregoing should be taken not as an assessment of the contributions of the historical figure, but as exegesis on Plato's slanderous portrayal of him.

[150] This entire passage is quite carefully structured using the vocabulary of expertise described in the last chapter. Note especially the use of δεινός, Plato's preferred adjective for sham wisdom (see: *Prt.* 312d; *Ion* 536d; *Euthyd.* 272b; cf. Thuc. 8.68.1), and πάρεργον, the contrary for τέχνη (see chapter three, III.C).

reason *prima facie* to doubt their claims, and to think what they really have learned is merely a trick, rather than an expertise. Of course, their claim is even more dubious because they claim to be able to teach virtue, something Socrates here hints is extremely difficult, if not impossible (274d–e). He, of course, famously questions this elsewhere as well (*Meno* 99e–100a*; Prt.* 319a–320c).

Some sophists, then, make particularly erroneous claims because they misunderstand the focused nature of any τέχνη, and in their overly zealous desire to show off their knowledge, end up appearing superficial and blind to their own limitations. This is a less significant problem for Gorgias and Protagoras, who, as already noted, do not pretend to teach everything or extremely quickly. Plato's problem with their τέχνη goes deeper.

Each of these figures will be treated again in the next section, but we should note here that they *too* have problems with the specialization theme. To take Protagoras first: he presents the idea of a πολιτικὴ τέχνη and claims that this is what he teaches. Yet, in contrast to every other τέχνη we have encountered so far, and every τέχνη Socrates gives as an example in the *Protagoras*, Protagoras claims everyone has a share in this τέχνη. This, of course, directly conflicts with Socrates' view, which was stated earlier (319b–c):

> ὁρῶ οὖν, ὅταν συλλεγῶμεν εἰς τὴν ἐκκλησίαν, ἐπειδὰν μὲν περὶ οἰκοδομίας τι δέῃ πρᾶξαι τὴν πόλιν, τοὺς οἰκοδόμους μεταπεμπομένους συμβούλους περὶ τῶν οἰκοδομημάτων, ὅταν δὲ περὶ ναυπηγίας, τοὺς ναυπηγούς, καὶ τἆλλα πάντα οὕτως, ὅσα ἡγοῦνται μαθητά τε καὶ διδακτὰ εἶναι: ἐὰν δέ τις ἄλλος ἐπιχειρῇ αὐτοῖς συμβουλεύειν ὃν ἐκεῖνοι μὴ οἴονται δημιουργὸν εἶναι, κἂν πάνυ καλὸς ᾖ καὶ πλούσιος καὶ τῶν γενναίων, οὐδέν τι μᾶλλον ἀποδέχονται, ἀλλὰ καταγελῶσι καὶ θορυβοῦσιν, ἕως ἂν ἢ αὐτὸς ἀποστῇ ὁ ἐπιχειρῶν λέγειν καταθορυβηθείς, ἢ οἱ τοξόται αὐτὸν ἀφελκύσωσιν ἢ ἐξάρωνται κελευόντων τῶν πρυτάνεων. περὶ μὲν οὖν ὧν οἴονται ἐν τέχνῃ εἶναι, οὕτω διαπράττονται.

> I see then, when we gather in the assembly, whenever something concerning building needs to be done in the city, we send for builders to have as advisors concerning the building-related matters; and when something concerning shipbuilding needs to be done, we send for shipwrights; and so in all other such situations, wherein we think the thing is a matter of learning and teaching. But, if anyone else tries to advise us, who we do not think is a professional, even if he is very handsome and rich and from a good family, this is not accepted, but they laugh at him and yell at him, until the one trying to speak, having been yelled at, goes away, or the [Scythian] archers drag him out or carry him off, at the order of the presiding officers. That is how matters proceed when we consider something a τέχνη.

The argument framing this passage connects τέχνη and teachability; Socrates begins by questioning if the πολιτικὴ τέχνη can be taught, goes through this example to show that in all the τέχναι, there is specialization (as a consequence, only some people have the τέχνη). He then moves to showing that in matters concerning the state, there is no specialization—in a democracy, everyone can contribute their opinion. Hence, this is not a subject that is taught. He does not specify precisely that the reason a non-specialized field is unteachable is because an unspecialized field is not a τέχνη, but that logic seems to be behind it.[151] The general view that τέχναι are, by definition, not something that everyone has—that is, that there are amateurs and professionals, there are laymen and priests, there are δημιουργοί and ἰδιῶται—is widespread both inside the Platonic corpus (*Cri.* 47a–b; *Soph.* 221c; *Leg.* 11.916a–c) and outside it (see chapter two, III; chapter three, III.E).

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[151] This also is the logic behind the statement at the end of the last passage, which contrasts matters ἐν τέχνῃ, with, presumably, matters *not* ἐν τέχνῃ (319c).

Socrates' view is met with the reply that, in short, the πολιτικὴ τέχνη is *sui generis*: unlike every other τέχνη, *this* one is not specialized.[152] In fact, everyone has a share in it (322c–323a). This objection is not met head on in this dialogue, but the *Republic* and *Statesman* (see esp. *Plt.* 292d–e and 297b–c) make it clear that Protagoras' reasoning has proven unconvincing to Plato, who maintains that there *is* a πολιτικὴ τέχνη/ἐπιστήμη, but, like all other τέχναι, it is the province of the select few.

We will return to the *Protagoras* in the next section, but we will finish our discussion of specialization by turning to the *Gorgias*. In both the *Gorgias* and *Protagoras*, the most ultimately damning critiques of their fields as pseudo-τέχναι derive from a problem about the rationality of their fields. This will be discussed in the next section. But this does not necessarily mean the problems with specialization are unimportant; in fact, it seems clear that problems pertaining to specialization will be crucial for Plato in the *Republic* and *Statesman*.

The problem with specialization in the *Gorgias* is on the agenda from the beginning. Indeed, Socrates' first questions to the orator focus on nailing down what the rhetorician's τέχνη is about: Gorgias gives answers that are unsatisfyingly broad, such as that rhetoric is about speech (449d)—which is criticized as being so broad as to include other arts which use speech, which is virtually all of them. Similar problems are

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[152] It may be worth underlining here that the issue is specifically about the πολιτικὴ τέχνη being specialized. Consider a parallel with the geometric τέχνη: lots of people know some geometry, as for instance I know how to make sure my car will fit in a parking spot; some even know quite a bit, such as architect who must know relatively complex formulae; but only geometers have the geometric τέχνη. The problem isn't that non-experts have some knowledge of justice, but that they are claimed to have the τέχνη. The "learning Greek" example actually emphasizes this point: as Lyons points out (1963, 221), learning your own native language isn't a τέχνη.

identified with other practitioners of other so-called "second-order arts," to borrow Rosamond Sprague's helpful terminology (1976, 6–7; and see the introduction to this dissertation). Sprague defines a second-order art, such as rhetoric or poetry, as one that has another art as its subject matter—for instance, Homer's poetry (a second-order art) talks about generalship (a first-order art). For these second-order arts, it can be difficult to precisely identify their specialized field, and thus why they are a τέχνη at all. For instance, in the *Ion*, Socrates refutes the eponymous rhapsode's claims to expertise by showing that he is not able to judge Homer's poems since he lacks all the τέχναι that sort of skill would require. Ion thinks Homer is a good poet since Homer speaks well about horse-racing and medicine and fishing, but Socrates points out that in each case only the person who actually knows about these things would be able to tell if Homer speaks correctly or incorrectly (537a–538d). Similarly, rhetoric can seem to have no proper subject of its own,[153] which seems to be the direction of Socrates' argument until a further problem arises, namely that without even having a proper subject, rhetoric actually usurps the prerogatives of the other arts. In a variation on the idea cited earlier from the *Protagoras*, Socrates again asserts that, in the Athenian assembly, advice on building and shipbuilding come from the relevant experts (*Grg.* 455b). But, Gorgias interjects that what Socrates claims is not true; in fact, the building of the shipyards and walls of Athens was not a matter of the assembly consulting the shipbuilders and architects, but rather was at the behest of Themistocles and Pericles—that is, the orators! This makes rhetoric something more than human (δαιμονία, 456a). The idea is further elaborated by Gorgias, who describes rhetoric as having "all the powers" (ἁπάσας τὰς

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[153] Sprague notes the similarity between the treatments of rhetoric and poetry (24).

δυνάμεις, 456a) and as a skill that can usurp the prerogatives of virtually every other τέχνη.

Hence, another problem is raised: while Protagoras had invented a non-specialized τέχνη, Gorgias is describing a τέχνη that controls all the others, a kind of omnipotent pan-τέχνη. Unlike the idea of a non-specialized τέχνη, the idea of a τέχνη that controls the others will become an important idea in Plato's political thought—it is, in some sense, the root of the idea of the ἀρχιτεκτονικὴ τέχνη.[154] We can flag two features of Gorgias' conception of it. First of all, rhetoric gets its power from speech. Sprague did not distinguish between two different kinds of second-order arts, but I think we might be helped by distinguishing two ways in which an art can be second-order: it can *talk* about another one, or it can *control* another one. For rhetoric, these are connected; for the ἀρχιτεκτονικὴ τέχνη, only power and control matter. The second feature is connected to this: rhetoric operates by seeming, not being. In fact, this connects rhetoric with mimesis and poetry: there's a clear echo of the danger of the rhetorician with the description of the danger of the poet who, unlike the other members of Kallipolis, has unspecialized knowledge (3.397e–398a; 10.596c–e).

Ultimately, the most profound critiques of sophistry and rhetoric will lie with their failures as rational practices; but we should note here the problems already raised by the fact Protagoras and Gorgias are describing oddly unspecialized τέχναι.

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[154] Connected here, too, is surely the idea that knowledge *should* rule. See Lane forthcoming.

III. Rationality (*Gorgias* and *Protagoras*)

We turn here to what is probably the best-known reason for Plato's critique of the sophistic and rhetorical τέχναι: they are irrational. We can begin by noting that Plato often polemically assimilates rhetoric and sophistry to magic. In the *Euthydemus*, for instance, the brothers are portrayed as sorcerers (288b) and compared with Medea (285c). When Socrates and Hippocrates enter the house of Callias in the *Protagoras,* the great sophist is "enchanting" (κηλῶν) his "enchanted" (κεκηλημένοι) followers, leading them around the room as if he were Orpheus (314e–315a).[155] Gorgias is not portrayed as a wonder-worker in the *Gorgias*, although perhaps that's because Plato did not need to do so: Gorgias had already done it himself in the *Encomium of Helen,* where speech is described as a magical power (8–14, esp. 10). In contrast, Socrates is at pains to show that he is no magician. In the *Meno*, he is accused of bewitching Meno with spells and incantations (80a–b); Socrates counters that he is no such figure—he has a rational account (λόγος) which he can give.

At least as a polemical strategy, then, Plato is actively portraying rhetoric and sophistry as magical. But the charge against them as irrational goes deeper than that. I'll begin with the somewhat more straightforward *Protagoras*: the τέχναι are heavily thematized in this dialogue, which begins with Socrates asking Hippocrates about Protagoras' τέχνη outside the house of Callias. Socrates begins by asking why Hippocrates wishes to train with Protagoras. He notes that if one goes to a physician for

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[155] Denyer 2008, 81 *ad loc* notes that this is "somewhat derogatory of Protagoras' followers" since "the song of Orpheus was renowned for being able to charm not only rational beings, but also birds, fish, wild beasts, trees and rocks." The same verb is used to describe Thrasymachus' effect on his audiences at *Phdr.* 267d and also of Thrasymachus as a charmed snake in the *Republic*, at 2.358b.

training, one wishes to become a physician; from this, we can draw the inference that Hippocrates is going to Protagoras in order to become a sophist himself (310a–312a). Hippocrates blushes at the suggestion—after all, sophist is something of a dirty word—and Socrates helps him out of the quandary. Socrates asks rhetorically:

> ἀλλ᾽ ἄρα, ὦ Ἱππόκρατες, μὴ οὐ τοιαύτην ὑπολαμβάνεις σου τὴν παρὰ Πρωταγόρου μάθησιν ἔσεσθαι, ἀλλ᾽ οἵαπερ ἡ παρὰ τοῦ γραμματιστοῦ ἐγένετο καὶ κιθαριστοῦ καὶ παιδοτρίβου; τούτων γὰρ σὺ ἑκάστην οὐκ ἐπὶ τέχνῃ ἔμαθες, ὡς δημιουργὸς ἐσόμενος, ἀλλ᾽ ἐπὶ παιδείᾳ, ὡς τὸν ἰδιώτην καὶ τὸν ἐλεύθερον πρέπει.
>
> But instead, Hippocrates, you are going to receive not this kind of learning from Protagoras, but the kind you receive from your language-teacher and *kithara*-teacher and physical trainer; for you learned each of these subjects not for technical education (ἐπὶ τέχνῃ), with a view to becoming a professional, but for general education (ἐπὶ παιδείᾳ), as is proper for an amateur (ἰδιώτης) and a free-born man. (312a–b)

This theme—learning ἐπὶ τέχνῃ versus learning ἐπὶ παιδείᾳ—is repeated shortly thereafter, when we meet the sophist in the company of his followers, one of whom is learning the craft ἐπὶ τέχνῃ (315a). Before that, Socrates does not quite let Hippocrates go: he instead wants Hippocrates to spell out what kind of things he expects to learn from the sophist, which Hippocrates fails to do, in an argument that closely resembles the first argument in the *Gorgias* about rhetoric.[156]

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[156] In both arguments, the lack of specificity in the trade is a problem for those trying to define it. When asked what he wants to learn from the sophist, Hippocrates attempts to answer "wise matters," τὰ σοφά, but Socrates quickly asks wise about what (312c–e), since carpenters are wise about some things; Hippocrates then says he thinks the sophist will try to teach him to speak cleverly (δεινόν), which Socrates again criticizes as unspecific, since *kithara*-players speak cleverly about *kithara*-playing. The argument follows the same track, then, as the first argument in the *Gorgias*, wherein Socrates examines Gorgias' unqualified claim to teach his pupils how to speak.

Protagoras himself has a clearer idea of what his τέχνη entails: he teaches men virtue, the πολιτικὴ τέχνη. He compares this with the other τέχναι and describes it as *sui generis*; the problem with this has already been described. Ultimately, Socrates' critique rests on a problem with rationality: Protagoras is trapped in a logical inconsistency about what virtue is (which suggests he doesn't know, and thus cannot teach it).

In the course of the argument, it becomes clear that Protagoras does not have a consistent view about what virtue is: he claims courage is different from the other parts of virtue, but is refuted by Socrates (347b–360e). More problematically still, in the course of the argument, on the basis of Protagoras' admissions, the interlocutors "discover" a rational procedure that surely should be taught—and seriously looks like virtue—but this is clearly *not* what Protagoras has been teaching, in spite of the fact this τέχνη would be mankind's salvation (356e).[157] So, we must wonder what *has* he been teaching? Apparently, some inconsistent views about virtue: we must suppose this would be a bit

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[157] Two recent interpretations, Lane (forthcoming) and Callard (2014), go further than I do in pinning the disagreement with Protagoras on a misunderstanding of the nature of ἐπιστήμη. These two pieces share the same strategy in broad outline (each focuses on the nature of ἐπιστήμη, not the hedonistic thesis or Socratic intellectualism, as the most important piece in the debate about akrasia in the *Protagoras*); but they differ in most of the details. Lane argues that the akratic man misunderstands the nature of knowledge (ἐπιστήμη) and especially that ἐπιστήμη *ipso facto* is such as to rule. Callard argues, on the other hand, that Socrates in the *Protagoras* is especially targeting the "container" view of knowledge (that is, that knowledge can be transmitted from person to person, like money or a bag of grain). These interpretations I understand to be mutually compatible, and they are both most welcome to my own project insofar as I view ἐπιστήμη (as defended in the third chapter) as partly constitutive of τέχνη—indeed, my claim, or something like it, must be behind the ambiguity about τέχνη and ἐπιστήμη at 357b. If Lane and/or Callard are right, then my overall picture has yet more bite: not only does Protagoras not understand what a τέχνη is, but neither do the akratic *hoi polloi*.

like a weaver teaching the right views about how to make the warp, and the wrong ones about the weft. We'd expect his pupils wouldn't make very sturdy cloaks, indeed.

The charges levied against Gorgias are both clearer and deeper. In the dialogue, Socrates proceeds through discussions with Gorgias himself, Polus, and Callicles. Like the *Protagoras*, the τέχνη theme is apparent from the beginning: Socrates wants to find out the δύναμις[158] of Gorgias' τέχνη, and what kind of δημιουργός he is (447b–d). Gorgias, of course, professes his τέχνη is rhetoric (449a), and endures a cross-examination by Socrates about what this specifically means. This was described in the previous section.

Gorgias thereafter gives up as Socrates' sparring partner, but the dialogue is not yet half through: Polus picks up the charge, and in the course of their conversation, Socrates' deepest charge against rhetoric is introduced. Rhetoric, he claims, is no τέχνη at all, but just a knack and a kind of flattery (463a–466a; with Callicles, 500a–501c). Scholars have tried to connect the two features—that is, to show that because rhetoric is

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[158] Wolfsdorf 2008, 100–110 discusses the connection between δύναμις and τέχνη, although I suspect this interpretation is led astray by Aristotle on one specific point: Plato regularly discusses the δύναμις *of* a τέχνη, but nowhere to my knowledge calls a τέχνη a δύναμις. Of course, Aristotle does precisely this in *Metaphysics* Θ. For the language of τὴν δύναμιν ἔχειν, see *Resp.* 1.346a, 7.532c; *Leg.* 5.747b. Nevertheless, I think Wolfsdorf's discussion has a valuable insight: he brings together the idea of the δυνάμεις like sight and the δυνάμεις of a given τέχνη. I think the comparison between these two things is the hinge which connects ἐπιστήμη qua the faculty of knowledge (which is often compared with the sensory δυνάμεις) and ἐπιστήμη qua τέχνη. I, of course, prefer to hold these two apart, one aspect of which (I suggest) is clarified by noting that Plato does not call the τέχναι forms or types or instances of δυνάμεις. See also: Benson 2000, 195, who recognizes the linguistic point I'm making, but dismisses it as too narrow-minded.

a form of flattery, it must be artless (and, thus, irrational).[159] But I do not think we need to connect these two; and, indeed, they are not connected by Socrates. As Socrates puts it:

> κολακείαν μὲν οὖν αὐτὸ καλῶ, καὶ αἰσχρόν φημι εἶναι τὸ τοιοῦτον…ὅτι τοῦ ἡδέος στοχάζεται ἄνευ τοῦ βελτίστου: τέχνην δὲ αὐτὴν οὔ φημι εἶναι ἀλλ᾽ ἐμπειρίαν, ὅτι οὐκ ἔχει λόγον οὐδένα ᾧ προσφέρει <ἢ>[160] ἃ προσφέρει ὁποῖ᾽ ἄττα τὴν φύσιν ἐστίν, ὥστε τὴν αἰτίαν ἑκάστου μὴ ἔχειν εἰπεῖν. ἐγὼ δὲ τέχνην οὐ καλῶ ὃ ἂν ᾖ ἄλογον πρᾶγμα:…
>
> So I call [the cooking of side-dishes] a form of flattery, and I say that it is a shameful kind of thing…viz., because it aims at pleasure without the best; and **I say it is not a τέχνη but a matter of experience because it does not have a rational account (λόγος) of the nature of the patient or the prescription, so it cannot speak of the cause of each. And I won't call an irrational practice a τέχνη**… (464e–465a)

Rhetoric is not a τέχνη because it is irrational: we can specifically connect the vocabulary with the account of τέχνη given in the previous chapter, wherein τέχνη is composed of ἐπιστήμη, φύσις, and ἐμπειρία. Without the ἐπιστήμη component, we end up with irrational ἐμπειρία, which can mask itself as a pseudo-τέχνη. In particular, the association of ἐπιστήμη with reasons and causes makes sense of this analysis.

So rhetoric is arguably not a τέχνη because it is irrational—and *only* because it is irrational, viz., not able to give a λόγος. Its status as a τέχνη is actually independent of its status as a type of flattery—this controversial claim is quite compatible with the text (which never makes the connection between the two, although commentators have tried

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[159] See, for instance, Dodds 1959, 228–9; Irwin 1979, 209–10; Roochnik 1996, 185–6.
[160] This passage has a well-known crux. I accept Dodds's solution, which is simply supplying the ἢ indicated, and follow his translation of that clause. Alternative readings would not change the points I am making. See Dodds 1959, 229–30.

to bridge the gap). I defend this elsewhere, since it certainly is a view that needs defending;[161] but, to keep this chapter on topic, I proceed here to analyze rhetoric as irrational as the argument is made in the text and without going down the path of using the connection with flattery to make that argument.

Rhetoric fails to be rational because it has no account (λόγος)[162] to give in terms of causes (αἰτίαι). What does this mean? Socrates does not explain here, so it is worth exploring what this would have meant to a fourth-century audience by looking elsewhere. In the second chapter, we saw two examples of this: the Hippocratic author of *On the Sacred Disease* explained the (non-divine) αἰτίαι of epilepsy, while critiquing his opponent's flawed causal reasoning on grounds that the effects his model predicted did not come to fruition. And Xenophon wrote an account of household management, the *Oeconomicus*; he there discusses the αἰτίαι of how to arrange one's household (3.3; 6.11). This is connected to various natures: for instance, the nature of the land being used to grow crops (16.2, 16.5–6), the nature of a woman as a partner in this endeavor (7.22, 7.28), the natures of different kinds of slaves (13.9, 13.10).[163] In light of these accounts, we can see a bit more clearly what the failure of rhetoric consists in: it is not giving

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[161] See my forthcoming article, "The Good-Directedness of Τέχνη and the Status of Rhetoric in the Platonic Dialogues," in *Apeiron*.

[162] I translate λόγος here as account or rational account, rather than, e.g., rational principle (as Dodds translates, 228). As Moss 2014 has shown, it is often both difficult to determine which meaning of λόγος is at play *and* it does make a material difference. Here, since the conversation falls under the rubric of τέχνη, it seems clear to me that Socrates is not talking about a mere principle (like, say, the principle of allopathy), but a body of such principles.

[163] This may be compared with Xenophon's λόγοι (as he calls them, *Eq.* 12.14) on horsemanship and cavalry commanding. See n.101 above.

explanations in terms of causes and natures. This is what a λόγος does in medicine or household management.

A rationality failure in both the *Protagoras* and *Gorgias* prevents rhetoric or sophistry from being a τέχνη. In the *Protagoras*, Socrates does not state exactly where the rationality failure occurs, although it is clear that one has happened somewhere along the road;[164] in the *Gorgias*, this is specified as a failure to have a λόγος. What this means, arguably, is that the sorts of rational accounts that other δημιουργοί could and did give in the classical period were not being given for rhetoric. This charge is clarified in the *Phaedrus*, where Plato acknowledges the existence of accounts of rhetoric, and shows why they remain wanting: they do not give proper accounts in terms of causes and natures.[165] Meanwhile, he seems to leave open the possibility that such an account of the art of persuasion could be given, if rhetoricians construed their craft as a matter of manipulating the psychological natures of their audience.[166]

Conclusion

This strategy of denigrating rhetoric and sophistry as pseudo-τέχναι is plausibly part of a strategy to put forward philosophy as the "right" way to learn about virtue; in other

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[164] Different interpreters point to a number of places in the dialogue where the failure occurs. It is clear that somehow by accepting the hedonistic thesis and Socratic intellectualism, Protagoras has ended up in contradiction; but some pin the problem on one of those these in particular (see, e.g., Klosko 1980, who sees hedonism as the problem), while others identify the problem with Protagoras' misconception of what ἐπιστήμη is (Callard 2014; Lane forthcoming).

[165] Some existing accounts instead provide preliminaries for the study of rhetoric—names for figures of speech and the like—but do not give the causal accounts we need for a true λόγος (*Phdr.* 269a–c); others, like Tisias, give accounts which are refuted as incomplete (273a–274a).

[166] See further my forthcoming article, "The Good-Directedness of Τέχνη and the Status of Rhetoric in the Platonic Dialogues," in *Apeiron*.

words, these are not three independent fields, but one. This is connected with something else we should observe, which is that Plato's critique of rhetoric and sophistry obtains only against rhetoric and sophistry as practiced in the fifth and fourth centuries generally, and by these figures specifically. That it is possible on Platonic terms to construe these as legitimate τέχναι, I think, is shown by the *Phaedrus* and *Statesman* (for rhetoric) and by the *Sophist* (for sophistry). How this works is clearer for rhetoric. In the *Gorgias*, rhetoric is denigrated as a form of pseudo-justice, which, lacking its own field, usurps the prerogatives of another (464c–d). In the *Phaedrus*, by way of contrast, rhetoric is assigned its own field, and allowed to hold the title of τέχνη (259e–274b). Even more clearly in the *Statesman*, rhetoric is assigned a *subordinate* role to statesmanship (304d–e). The *Sophist* assigns sophistry its own place in the diaresis of τέχναι, and so, while Plato uses the opportunity to denigrate sophistry in just about every possible way, he is happy to call it a τέχνη so long as it is contrasted with philosophy.

In the next chapter, we turn to the idea that philosophy itself is a τέχνη. If philosophy is a τέχνη, it is not a πάρεργον; hence, Callicles' complaint in the *Gorgias* is misguided precisely because he took philosophy to be one thing when it was the other. A key component of Plato's argument will be showing how philosophy actually does require lengthy experience—hence, the philosopher-rulers will not flit from one expertise to another, like Hippias or Dionysodorus and Euthydemus, but be invested in a serious profession.

Chapter 5: The Craft of the Philosopher

Introduction

In the *Republic*, Socrates contrasts the flaky philosophy students of his day with real philosophers:

> Νῦν μέν, ἦν δ’ ἐγώ, οἱ καὶ ἁπτόμενοι μειράκια ὄντα ἄρτι ἐκ παίδων τὸ μεταξὺ οἰκονομίας καὶ χρηματισμοῦ πλησιάσαντες αὐτοῦ τῷ χαλεπωτάτῳ ἀπαλλάττονται, οἱ φιλοσοφώτατοι ποιούμενοι, λέγω δὲ χαλεπώτατον τὸ περὶ τοὺς λόγους· ἐν δὲ τῷ ἔπειτα, ἐὰν καὶ ἄλλων τοῦτο πραττόντων παρακαλούμενοι ἐθέλωσιν ἀκροαταὶ γίγνεσθαι, μεγάλα ἡγοῦνται, πάρεργον οἰόμενοι αὐτὸ δεῖν πράττειν·
>
> At present, those who take up [philosophy] at all do so as young men, just out of childhood, who have yet to take up household management and moneymaking. Then, just when they reach the most difficult part they abandon it and are regarded as the most fully trained philosophers. By the most difficult part, I mean the one concerned with argument [i.e., dialectic]. In later life, if others are engaged in it and they are invited and deign to listen to them, they think they have done a lot, since they think this should only be a sideline (πάρεργον). (6.497e–498a, Reeve trans., modified)[167]

Socrates hammers home in this dialogue again and again the idea that philosophy involves the significant investment of time that a full profession requires: it requires a lot of work that people, even those who are philosophical by nature, don’t want to do (494d); it requires severe exercises (498b); and is characterized as serious labor that necessitates years of training (531d; 536b). In contrast, many of his contemporaries apparently like to toy with philosophy for the sake of education as young men: but, for Socrates, the true

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[167] Note especially the language of πάρεργον, and contrast with 6.498c: the true philosophers will do philosophy, and nothing else, except those things they do as πάρεργα.

philosopher is not one of those who "merely dabble in it while still young in order to complete their upbringing, and then drop it" (τοῦ πεπαιδεῦσθαι ἕνεκα ἀψάμενοι νέοι ὄντες ἀπαλλάττωνται, 6.487c–d, Reeve trans.).

In the last chapter, I began with Callicles' charge against philosophy: Socrates is pathetic as an old man because he has spent his whole life in philosophy when philosophy is proper for a young man to dabble in, but not as a career (485a–d). This chapter will take up the Platonic reply to that charge: philosophy is a craft, a profession, a full time job. We saw in the third chapter that one standard polar expression captured this contrast: τέχνη/πάρεργον ("profession"/"hobby") with their standard nouns of occupation, δημιουργός/ἰδιώτης ("professional"/"amateur"). In this chapter, then, we will explore how specifically Plato replies to the charge of men like Callicles by showing how philosophy isn't a πάρεργον, as it has been treated (see 496a, above), but a τέχνη.

This chapter will focus on the *Republic*, which provides an especially full picture of what the craft of philosophy would look like in the ideal city. The language of the dialogue supports the contention that the philosopher-rulers have a craft: they are repeatedly called δημιουργοί, and the design of the city is predicated on their possession of a specialized craft, differentiated from all the others. But we should note that more generally philosophy is construed as a craft in other dialogues (see esp. *Tht.* 149a); and I believe this is meant to be the very same craft, since it is suggested in the *Republic* that a philosopher-ruler could arise in another city, in another way (6.499b–d).

The main burden of this chapter will be to show how the philosopher-ruler has a τέχνη: first, in the sense of what it means to call philosophy a τέχνη; and, second, in the sense that he has this τέχνη and no other one. The first of these will be tackled via examining the passage in book two which explains that individuals in the city will each

practice their own τέχνη and no other because (i) natural capacities differ between individuals; (ii) proficiency in a trade requires extensive practice; and (iii) expertise requires specialized knowledge. This will be taken as a programmatic passage and will guide analysis of the rest of the dialogue: how do, in short, nature, practice, and knowledge contribute to the philosophical τέχνη? With this account in hand, then, I will turn to the second question: why do philosopher-rulers have the philosophical τέχνη and no other τέχνη? In brief, while it may seem *prima facie* that the philosopher-ruler has two forms of expertise—not one—I show that in fact politics is just a commission for an expert in philosophy, not an independent expertise. This reading has the additional upshot of engendering an important continuity between the treatment of τέχνη in the early dialogues, where it is most often construed as analogous to individual virtues like piety or courage, and the *Republic* and later political dialogues (like the *Statesman* and *Laws*) which construe τέχνη as the broader category to which politics belongs.[168]

The chapter will proceed in three sections. I briefly review the literature on the subject: this study opposes the view that τέχνη either was never meant as a model for virtue or philosophy or that it only was meant as such a model in the early dialogues.[169] On the other hand, it supplements studies which construe philosophy as a craft but only in the sense of rational expertise[170] by making the further point that philosophy requires a certain kind of nature and high level of focused practice. The second and longest section

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[168] Scholars have not pinned down whether Socrates in the so-called early dialogues is claiming that a given individual virtue (e.g. courage) is a craft or merely analogous to a craft. See, e.g., Irwin's careful language on this (1977, 8; 75). For a synopsis of views on the closeness of the analogy, see van Ackeren.
[169] See Irwin 1977 and 1995; Penner 1992; Roochnik 1996; Jenks 2008.
[170] See Sprague 1976; Kahn 1997, 209; Reeve 2000, 2003, and 2010, and Parry 1996 and 2003.

demonstrates how this works: first, I draw on the discussion of specialization in book two to show that the notion of craft as a rational expertise that requires an appropriate nature and focused practice is operative in this dialogue (and, in fact, is a guiding principle of the development of the city); I then turn to pinning down what the unique craft of the philosopher-ruler is, which I argue is dialectic. After this, I show how nature, knowledge, and practice each contribute to his or her expertise in dialectic. In the last section, I consider the relationship between philosophy and politics: while it may seem *prima facie* that the philosopher-ruler has two forms of expertise—not one—I show that in fact politics is just a commission for an expert in philosophy, not an independent expertise.

I. Literature Review

The object of this chapter is to complete the picture sketched earlier in this dissertation: τέχνη as an important epistemological and ethical term in Plato's works, and one that isn't bound by any particular period, interlocutor, or dialectical setting. The previous chapter focused on the use of τέχνη to critique Plato's educational rivals; and this chapter is meant to complement this picture by showing its use as a positive model. This challenges at least two kinds of interpretation: those that hold that τέχνη is an important term only in the early dialogues (for example, Irwin 1977 and 1995 and Penner 1992) and those who see the use of τέχνη as exclusively negative (Roochnik 1996; see also Jenks 2008) or read the use of τέχνη later as disconnected with the τέχνη-analogy of the "early" dialogues (Angier 2010). None of these views seem very plausible to me: even accepting a developmentalist picture, clearly τέχνη is still an important theme as late as the *Statesman* (259a, 311c, *et passim*), or even the *Laws* (4.720b–e; 8.846d–847b); and it doesn't seem particularly plausible that later uses are not of the same ilk as the earlier ones, since much of the same work is done: comparisons focusing on specifying an

ἔργον*,* for example, are as characteristic of the *Euthyphro* (13a–e), which Irwin gives as an example of the craft-analogy (1977, 72), as the lengthy and complex analogy between weaving and statesmanship in the *Statesman*. The idea that the τέχνη-analogy is used exclusively negatively runs aground with the same problem in the later dialogues, and doesn't seem particularly attractive for the earlier dialogues either: Roochnik's view hinges on the idea that Plato cannot conceive of a value-laden τέχνη, which amounts to simply denying what Plato says in, e.g., the *Euthydemus* (291c–292c).

My analysis, then, continues the project of those who have seen τέχνη as an important and continued theme throughout the dialogues. Already Sprague in 1976, and more recently Reeve (2000, 2003, and 2012) and Parry (1996 and 2003), have advocated for the importance of τέχνη in the *Republic*, but with a focus on the role of reason. On the other hand, scholars like Greco (2009) and Silverman (2013) have considered the importance of specialization in Plato's account of the philosopher-rulers, but not joined this with the role of reason and especially training in dialectic. The special contribution of this study will be to show how τέχνη as a composite of reason and practice is what Plato has in view.

II. The Craft of the Philosopher-Rulers

The guardians of the *Republic* are craftspeople (δημιουργοί): they are called the "craftsmen of the city's freedom" at 3.395c; "craftsmen of temperance, justice, and all

civic virtue" at 6.500d; and simply "craftsmen" at 4.421c. This alone, I take it, implies that the philosopher-rulers have a τέχνη in the *Republic*.[171]

But what does this mean? Let us take our first steps towards tracing this conception of τέχνη by unpacking first what Plato means in the first reference cited above: at 3.395b, Socrates asks his interlocutors to keep to the πρῶτος λόγος ("first principle"), which is the principle of specialization of labor, introduced in book two.[172]

A. Division of Labor in the Ideal City

First, recall how the ideal city comes about, as this is the context for the specialization of labor. The interlocutors claim that society originates in the fact none of us is self-sufficient (2.369b–c). Then, since the minimal human needs are food, housing, clothing, and healthcare (2.369c–370a), a city of minimum size will need a farmer, a builder, a weaver, a shoemaker, and a doctor, and rather than each man doing each of these tasks with part of his time, we will have five specialized laborers. Why do we specialize? First, individuals have different natural talents. And, second, specialization ensures superior results:

> Ἐκ δὴ τούτων πλείω τε ἕκαστα γίγνεται καὶ κάλλιον καὶ ῥᾷον, ὅταν εἷς ἓν κατὰ **φύσιν** καὶ ἐν καιρῷ, σχολὴν τῶν ἄλλων ἄγων, πράττῃ
>
> The result, then, is that more plentiful and better-quality goods are more easily produced, if each person does one

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[171] Philosophy is also referred to as a τέχνη in the *Phaedo* (89e), *Theaetetus* (150b *et passim*), and (by implication) the *Sophist* and *Statesman* (*Soph.* 217a and 219a; *St.* 258b–d). On this last point, see Gill 2013. Melissa Lane has pointed out to me that this immediately raises the question of what the ἔργον of the philosopher's τέχνη is. For the *Republic*, I believe that we should understand the ἔργον as virtue (as 6.500d indicates), with the freedom of the city being a direct consequence of that virtue. See also Keyt 2006, 205 on the various putative ends of statesmanship in the Platonic dialogues.

[172] The second citation, 4.421c, also refers to the principle of specialization.

> thing for which he is naturally suited and does it at the opportune moment, because his time is freed from all other [occupations] (2.370c, Reeve trans., modified)

According to Plato, when one man does one job, the one that is according to his nature, the result will be an increase in quantity (πλείω) and quality (κάλλιον), and the products will be more easily made (ῥᾷον). This, in the first instance, is applied to the craftsmen of the first city (weavers, housebuilders, farmers, and shoemakers, 2.369c–d) and then will be applied to further craftsmen (carpenters, smiths, 2.370d), and so on, until we arrive at the thought that we will need specialized soldiers, too.

The grounds for this are as follows: having discovered the origins of war (2.373d–e), the interlocutors realize they will need soldiers. The needs of warfare will not be suitably met by simply expecting the cobblers and weavers to suit up for battle; instead, we need a specialized army. As Socrates explains, the grounds for this are precisely the same as the grounds for having specialized weavers and smiths and farmers. I quote this passage at length (2.374b–d):

> Ἦ οὖν τι σκυτικῆς δεῖ μᾶλλον κήδεσθαι ἢ πολεμικῆς;
> Οὐδαμῶς.
> Ἀλλ᾽ ἄρα τὸν μὲν σκυτοτόμον διεκωλύομεν μήτε γεωργὸν ἐπιχειρεῖν εἶναι ἅμα μήτε ὑφάντην μήτε οἰκοδόμον ἀλλὰ σκυτοτόμον, ἵνα δὴ ἡμῖν τὸ τῆς σκυτικῆς ἔργον καλῶς γίγνοιτο, καὶ τῶν ἄλλων ἑνὶ ἑκάστῳ ὡσαύτως ἓν ἀπεδίδομεν, πρὸς ὃ **ἐπεφύκει** ἕκαστος καὶ ἐφ᾽ ᾧ ἔμελλε τῶν ἄλλων σχολὴν ἄγων **διὰ βίου** αὐτὸ ἐργαζόμενος οὐ παριεὶς τοὺς καιροὺς καλῶς ἀπεργάσεσθαι· τὰ δὲ δὴ περὶ τὸν πόλεμον πότερον οὐ περὶ πλείστου ἐστὶν εὖ ἀπεργασθέντα; ἢ οὕτω ῥᾴδιον, ὥστε καὶ γεωργῶν τις ἅμα πολεμικὸς ἔσται καὶ σκυτοτομῶν καὶ ἄλλην τέχνην ἡντινοῦν ἐργαζόμενος, πεττευτικὸς δὲ ἢ κυβευτικὸς ἱκανῶς οὐδ᾽ ἂν εἷς γένοιτο μὴ αὐτὸ τοῦτο ἐκ παιδὸς ἐπιτηδεύων, ἀλλὰ παρέργῳ χρώμενος; καὶ ἀσπίδα μὲν λαβὼν ἤ τι ἄλλο τῶν πολεμικῶν ὅπλων τε καὶ ὀργάνων, αὐθημερὸν ὁπλιτικῆς ἤ τινος ἄλλης μάχης τῶν κατὰ πόλεμον ἱκανὸς ἔσται ἀγωνιστής, τῶν δὲ ἄλλων ὀργάνων οὐδὲν οὐδένα δημιουργὸν οὐδὲ ἀθλητὴν ληφθὲν ποιήσει, οὐδ᾽ ἔσται χρήσιμον τῷ **μήτε τὴν ἐπιστήμην**

> ἑκάστου λαβόντι **μήτε τὴν μελέτην ἱκανὴν** παρασχομένῳ;
>
> So, should we be more concerned about the craft of shoemaking than the craft of warfare?
> Not at all.
> Well, now, we prevented a shoemaker from trying to be a farmer, weaver, or builder at the same time, instead of just a shoemaker, in order to ensure that the shoemaker's job was done well. Similarly, we also assigned just the one job for which he had a natural aptitude to each of the other people, and said that he was to work at it his whole life, free from having to do any of the other jobs, so as not to miss the opportune moments for performing it well. But isn't it of the greatest importance that warfare be carried out well? Or is fighting a war so easy that a farmer, a shoemaker, or any other artisan can be a soldier at the same time, even though no one can become so much as a good checkers player or dice player if he considers it only a sideline and does not practice it from childhood? Can someone just pick up a shield, or any other weapon or instrument of war and immediately become a competent fighter in an infantry battle or whatever other sort of battle it may be, even though no other tool makes someone who picks it up a craftsman or an athlete, or is even of any service to him unless he has acquired knowledge of it and has had sufficient practice? (Reeve trans.)

Guardianship here is compared with shoemaking: as Plato observes, specialization improves the results in shoemaking. And, if it is important for a city to have well-made shoes, how much more important, Socrates asks rhetorically, is it to have well-trained soldiers. Hence, the guardians will practice a specialized expertise, like the cobblers and the other craftsmen. On the basis of the analogy alone, it seems like Plato has some warrant for calling the guardians δημιουργοί. But I wish to home in on further features of the analogy, and show how these come into play later in the dialogue. Three words are in bold in this passage and the previous one: ἐπιστήμη ("knowledge"), μελέτη ("practice"),

and φύσις ("nature").[173] For the guardians, as for other craftsmen, success in a τέχνη requires these three things: knowledge, practice, and the right nature.

In the next subsection, we will first consider which τέχνη the philosopher-rulers have, and then in the subsequent three subsections, the contributions of ἐπιστήμη, μελέτη, and φύσις to this τέχνη will be examined.

a. Dialectic as the Τέχνη of the Philosopher-Rulers

It is clear from the passage in book two, then, that we should suppose that the philosopher-rulers have a specialized expertise. But which expertise will it be? We should consider, in my view, three contenders; I argue that dialectic is the correct answer.[174]

First, in the passage about specialization, the expertise at stake is the military expertise: recall that Socrates asks rhetorically if "we should be more concerned about the craft of shoemaking than the craft of warfare" (2.374b, Reeve trans., slightly modified) and that the motivation for the discussion is the need for a specialized army (2.374a). So why not suppose the craft of the guardians is that?

In fact, this seems to be the craft of the auxiliaries, not the philosopher-rulers. We should recall at this stage that the auxiliaries and philosopher-rulers have not yet been differentiated; indeed, we haven't even *begun* the discussion of education that will

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[173] In the case of the longer passage, φύσις is picked up by a form of the verb φύω.
[174] My view should be contrasted with Sedley (2007), who argues that the "kind of knowledge Plato's philosophers bring to the art of government" is "mathematical knowledge, albeit at a higher level" and focuses on "proportionality" (270). His idea is that the notion of the good that the philosophers will have will be highly mathematical (which then at least explains why Plato claims that mathematical forms, like odd and even, are only intelligible in the light of goodness, 269–70). But dialectic is also to be strongly *differentiated* from mathematics: dialectic examines exactly what mathematics takes for granted (6.511c–d).

separate the two groups. They will be distinguished at 414b. In fact, I take it that training as a soldier is an important component of training to be a guardian, as is training in a number of other specialized fields (e.g., geometry). But the guardians are neither geometers or soldiers by trade. Their craft is distinguished by its highest and unique job: he or she stamps (πλάττειν) human nature with the eternal forms they understand via dialectic and are thereby he or she is "a craftsman of temperance and justice and all civic virtue" (δημιουργὸν …σωφροσύνης τε καὶ δικαιοσύνης καὶ συμπάσης τῆς δημοτικῆς ἀρετῆς, 500d). In section (d) below, I will consider at greater length how various other trades, including the military craft, are necessary prerequisites for a guardian, but do not properly constitute his or her τέχνη.

The quotation from 500d, and more general reflection on what guardians *do*, might suggest two alternative crafts that they do. First, we might think their craft is dialectic; after all, the highest field they learn is dialectic: it is the capstone (θριγκός, 7.534e) of their studies. This is both what they practice when they study philosophy (7.540b) and presumably what they use when they apply themselves to use their studies in the service of the city. The latter is described as how they are craftsmen of virtue in the city: they use the form of the good as a pattern for the city; presumably, dialectic is both how they examine the form of the good (7.532a–b; 543c) *and* what underwrites their understanding of how they can impress these forms into the material world (6.484c), since dialectic has transformed how they understand the world itself.

On the other hand, we might think they have a bifurcated τέχνη: they practice pure dialectic when they are off-duty, so to speak, but the τέχνη of politics when they are asked to serve in the city. This would entail the knowledge of how to write laws, select judges, organize the economy, and so on. I do not think this is how Plato looks at the

problem. In general, a person in the city is meant to specialize in one trade—no cobbler-soldiers, for example—so this would go against the principle of specialization that motivated inquiry into their special expertise in the first place. So this interpretation has a serious cost. On the other hand, we will have to see how we can incorporate the more practical looking aspects of the philosopher-ruler's trade into their overall expertise. I suspect the right way to look at these is just as was argued previously about the military training of the guardians: a precondition, but not the expertise itself.

Another piece of evidence, in my view, in favor of the interpretation that the τέχνη of the guardians is dialectic is the continuity between those who practice philosophy outside the Kallipolis and those who practice it in the Kallipolis. While at the beginning of the chapter I highlighted how philosophy is commonly construed as a πάρεργον by the interlocutors' contemporaries, they do not claim there are not any true philosophers in existing states. In fact, quite the contrary: they give a few examples (e.g. Theages and Socrates himself, 6.496b–c) and generalize that a philosopher in non-ideal cities stays out of harm's way by "keeping quiet and minding his own business, like a man standing behind a wall in a storm of dust or sleet driven by the wind" (ἡσυχίαν ἔχων καὶ τὰ αὑτοῦ πράττων, οἷον ἐν χειμῶνι κονιορτοῦ καὶ ζάλης ὑπὸ πνεύματος φερομένου ὑπὸ τειχίον ἀποστάς, 6.496d, Reeve trans.). These apolitical philosophers also practice dialectic (5.474b–480a; 6.489d–490b) and, in the right state, could be the philosopher-rulers that the interlocutors are looking for (6.499a–c; cf. 6.502a–b). It is hard to see how the latter would be possible if the philosophers who weren't raised in the Kallipolis actually don't have the expertise the philosopher-kings and -queens should have. This, on a whole, tends to support the idea that the core competence the guardians have is in dialectic—not some other political trade.

This topic will be revisited in section III, at which point we will have a much clearer picture of what the τέχνη of the guardians, i.e., dialectic consists in. With a sharper image of that in mind, I contend, we will see that the political skills of the philosopher-rulers simply fall out of their core expertise in dialectic. In order to see that, I propose we turn to analyzing the τέχνη of the guardians in terms of their φύσις, ἐπιστήμη, and μελέτη: the three elements that contribute to a τέχνη in the Principle of Specialization passage (2.374).

b. Φύσις

What natural characteristics are necessary for the would-be philosopher-ruler? The nature[175] of the guardians is first described in book two, with the metaphor of the "noble hound" (2.375a), which is meant to reply directly to the question of the relevant φύσις in the Specialization of Labor passage. In this passage, these dogs are characterized as having a philosophical nature insofar as they are sharp-eyed and gentle towards those whom they know—the latter being a philosophical characteristic insofar as the criterion of knowledge (in the sense of familiarity or recognition) is what these "noble hounds" use

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[175] Complications of what is meant by φύσις have vexed interpreters. For one, the Greek term can mean something like acquired nature: just as we can say it is "in his nature to do his taxes very carefully"—something that is clearly an acquired skill, and sometimes marked by a term like second nature—in English, so in Greek, φύσις can be used of acquired tendencies or habits. Susan Sauvé Meyer gives an example in the *Republic*: at 3.395d, Socrates explains that future guardians cannot imitate bad characters, lest these habits become part of her nature (2005, 237). This, however, does not mean φύσις never indicates what we could call innate nature.

Second, this should, I think, be distinguished from another phenomenon, which is the unfolding of innate nature over time. Take a simple case: suppose we think a person's height is largely fixed by innate nature. This, of course, does not mean that a baby needs to be six feet tall for the adult to be six feet tall by nature. Similarly, we might think that there are cognitive capacities in our innate nature that only become activated over time.

to distinguish between friend and foe (2.375a–376b). Similarly, those who will be the guardians must be philosophers by nature, which means they love learning (2.376b–c). It may seem implausible that Socrates thinks people are like this innately; but that this is what he means is ensured by the phrasing at 376c: "then that is what he would have to be like at the outset. But how are we to bring these people up and educate them?" (οὗτος μὲν δὴ ἂν οὕτως ὑπάρχοι. θρέψονται δὲ δὴ ἡμῖν οὗτοι καὶ παιδευθήσονται τίνα τρόπον, Reeve trans.). This characterization is supposed to obtain for the future guardians *at the outset*. While there are, to my eye, other ways to render the Greek of that sentence, for all material purposes, the meaning is sealed by the next sentence: this is meant to describe what the future guardians will be like *before* their education, that is, as children.

The second passage I would like to consider is the discussion of the nature of the guardians in book five. Here, again, the discussion of nature is tied back to the principle of specialization. This is in the passage introducing the role of women in the city: while, according to Socrates and his interlocutors, men *do* differ from women by nature, it is not in a way that is relevant to their craft (πρὸς τέχνην τινὰ, 454d–e). Taking care to pinpoint at this juncture, then, what they mean by nature, Socrates asks,

> ἆρα οὕτως ἔλεγες τὸν μὲν εὐφυῆ πρός τι εἶναι, τὸν δὲ ἀφυῆ, ἐν ᾧ ὁ μὲν ῥᾳδίως τι μανθάνοι, ὁ δὲ χαλεπῶς; καὶ ὁ μὲν ἀπὸ βραχείας μαθήσεως ἐπὶ πολὺ εὑρετικὸς εἴη οὗ ἔμαθεν, ὁ δὲ πολλῆς μαθήσεως τυχὼν καὶ μελέτης μηδ᾽ ἃ ἔμαθε σῴζοιτο; καὶ τῷ μὲν τὰ τοῦ σώματος ἱκανῶς ὑπηρετοῖ τῇ διανοίᾳ, τῷ δὲ ἐναντιοῖτο; ἆρ᾽ ἄλλα ἄττα ἐστὶν ἢ ταῦτα, οἷς τὸν εὐφυῆ πρὸς ἕκαστα καὶ τὸν μὴ ὡρίζου;
>
> Is this what you mean by one person being naturally well suited for something and another naturally unsuited: that the one learns it easily, the other with difficulty; that the one, after a little instruction, can discover a lot for himself in the subject being studied, whereas the other even if he gets a lot of attention and instruction, does not even retain what he was taught; that the bodily capacities of the one adequately

> serve his mind, while those of the other obstruct his? Are there any other factors than these, by which you distinguish a person who is naturally well suited for each pursuit from one who is not? (5.455b–c, Reeve trans.)

What is most notable is how cognitive this list of natural abilities is: ability to learn easily; ability to make further discoveries; and bodily capacities that do not get in the way of the mind. Even the last of these, while technically about the body, is parasitic upon cognitive considerations.

Later discussions will continue this trend: a heavy emphasis on cognitive abilities or characteristics. For instance, the idea that the leaders will be lovers of wisdom is emphasized at the end of book five, with the division of faculties passage (5.474b–480a, esp. at 474b, 475b–c, and 479e–480a) and the discussion of their love of learning, truth, and being (6.485a–b) and ability to learn easily and not be forgetful (6.486c–d). In another passage that clearly picks out innate qualities, since it specifies that these are "the advantages of nature [fitting] for this kind of education," we again hear that the philosopher must be keen on learning and learn without difficulty; have a good memory; and be a lover of hard intellectual work (7.535b–d). Finally, he states at 537c that "the greatest test of which nature is dialectical and which is not" is that "the person who can achieve a unified vision is dialectical, and the one who cannot isn't" (καὶ μεγίστη γε, ἦν δ' ἐγώ, πεῖρα διαλεκτικῆς φύσεως καὶ μή· ὁ μὲν γὰρ συνοπτικὸς διαλεκτικός, ὁ δὲ μὴ οὔ, Reeve trans.).[176] This isn't to say there are no other considerations: he maintains, for

[176] Note that this example is of a nature as in a developed person: Socrates is referring to what a dialectical person will be like when they are over twenty years old.

example, that they should be good-looking "so far as possible" (7.535a); but these overall seem to be relatively secondary considerations.[177]

It might be objected that there do, indeed, seem to be high physical standards for philosophers in the *Republic*: after all, candidates for training in dialectic must first be able to withstand years of physical training. But these don't seem to be standards for the guardians *qua* philosophers: the language often picks out the cognitive components as part of having a philosophical nature, while other requirements are described as necessary for other reasons. For example, in the discussion of the noble hounds, he says they are strong and fast (2.375a), and so too the guardians should be strong and fast (2.376c) but this is *in addition* to their love of learning, i.e. philosophy, not part of it. Moreover, we should note that, outside the Kallipolis, a weak body may be an outright boon to philosophical education, as in the case of Theages (6.496b–c). On this basis, I think physical nature is not particularly relevant in Socrates' eyes for the philosophers; while it is a prerequisite for them to play the social role of guardian, it is not part of being a philosopher as such.

In the main, then, the nature that a philosopher needs is as follows: he or she must be a lover of knowledge—in fact, a lover of all types of learning—and quick to learn and possessing a good memory.

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[177] Along these lines, we should remember that they physical training regimen is prescribed to improve the soul, *not* to make the body stronger, "except as a byproduct" (εἰ μὴ εἰ πάρεργον, 3.411e, Reeve trans.).

c. Ἐπιστήμη

If we accept that the τέχνη of the philosophers is dialectic, then the relevant ἐπιστήμη will be dialectic—that is, ἐπιστήμη in the true sense (7.531c–535a).[178]

Dialectic brings out the commonalities and affinities in all subjects (7.531c–d) and thereby is able to turn the eye of the soul to look at the good itself (532a–b). This is relevant, we should remember, to the philosopher-guardians because it was agreed that we needed the leaders of the city to have knowledge of the forms themselves in order to lead the ideal city (5.473c–6.487a; 499a–502a; cf. 7.521b). Dialectic is the only way to get this knowledge (533a): the dialectician

> τῷ διαλέγεσθαι †[179] ἐπιχειρῇ ἄνευ πασῶν τῶν αἰσθήσεων διὰ τοῦ λόγου ἐπ᾽ αὐτὸ ὅ ἐστιν ἕκαστον ὁρμᾷ, καὶ μὴ ἀποστῇ πρὶν ἂν αὐτὸ ὅ ἐστιν ἀγαθὸν αὐτῇ νοήσει λάβῃ
>
> …tries, by means of dialectical discussion and without the aid of any sense-perceptions, to arrive through reason at the being of each thing itself, and does not give up until he grasps what good itself is with understanding itself… (532a–b, Reeve trans.)

This is the only field that can get this knowledge because "dialectic is the only method of inquiry that, doing away with hypotheses, journeys to the first principle itself" (ἡ διαλεκτικὴ μέθοδος μόνη ταύτῃ πορεύεται, τὰς ὑποθέσεις ἀναιροῦσα, ἐπ᾽ αὐτὴν τὴν ἀρχήν, 533c–d, Reeve trans.). Hence, it alone fully counts as ἐπιστήμη, "knowledge" (533d).

The expertise of the dialectician, then, consists in being able to examine things in this way and by the same token give accounts (534b). Hence, ultimately, the dialectician

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[178] See my third chapter on the true/restrictive sense of ἐπιστήμη.
[179] See Slings 2005, 129–31.

is the one who can give an account of the good and thus is the one—the only one—who has knowledge of it (534b–c). This knowledge underwrites his ability to rule the ideal city, imposing his vision of what the good, the just, and the beautiful truly are on the city and the citizens.[180]

d. Μελέτη

Finally, then, we can turn to the third component of the philosopher's τέχνη: μελέτη, "practice." This was the term used in 2.374d, and the first thing to note is that allied terms—ἐμπειρία, γυμνάζεσθαι, etc.—are frequently used to denote the same idea. For example, in Isocrates' description of the training of an orator, which was discussed in chapter two, he used these two terms to pick out what, along with the right nature (φύσις) and knowledge (ἐπιστήμη) is required for success. Plato, discussing oratory in the *Phaedrus*, uses the terms ἐπιστήμη, φύσις, and μελέτη at 269d. The triadic conception of what went into a τέχνη was more stable than the terms for each component. [181]

Two kinds of practice will be relevant for the education of the philosopher-rulers. First, there is experience in preparatory subjects. We should register first the difference between this and the subject itself.

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[180] I have tried to give an ecumenical paraphrase of what the *Republic* says on this topic. See esp. Benson 2015 and Schwab 2016.

[181] See Böhme, 130–1 and Wilms 1995, 36–9 on the three-part conception of learning in Isocrates and earlier authors. This is called the "educational trinity" in the older literature: see, e.g., Jaeger 1945, 312; and Johnson 1959, 26, who attaches it to Protagoras on the basis of DK B3 (=D11 LM); it is worth noting, however, that some authors vary the three factors they claim make up the trinity. For example, Johnson 1973, 139, attributes the view that the trinity is derived from Protagoras to F. Beck, but the trinity there is different: study (ἐπιμέλεια), training (ἄσκησις), and teaching (διδαχή). See Beck 1964, 161. See also P. Shorey 1909, who discusses parallels (including some beyond those discussed in the main text here) for the construal of τέχνη as a combination of nature, practice, and teaching in Isocrates and Plato. See also n.112.

In the *Laws* at 1.643b–c, the Athenian Guest makes remarks that clearly echo some of the thoughts about specialization we've been considering in the *Republic*. He says:

> φημι τὸν ὁτιοῦν ἀγαθὸν ἄνδρα μέλλοντα ἔσεσθαι τοῦτο αὐτὸ ἐκ παίδων εὐθὺς μελετᾶν δεῖν, παίζοντά τε καὶ σπουδάζοντα ἐν τοῖς τοῦ πράγματος ἑκάστοις προσήκουσιν. οἷον τὸν μέλλοντα ἀγαθὸν ἔσεσθαι γεωργὸν ἤ τινα οἰκοδόμον, τὸν μὲν οἰκοδομοῦντά τι τῶν παιδείων οἰκοδομημάτων παίζειν χρή, τὸν δ᾽ αὖ γεωργοῦντα, καὶ ὄργανα ἑκατέρῳ σμικρά, τῶν ἀληθινῶν μιμήματα, παρασκευάζειν τὸν τρέφοντα αὐτῶν ἑκάτερον, καὶ δὴ καὶ τῶν μαθημάτων ὅσα ἀναγκαῖα προμεμαθηκέναι προμανθάνειν, οἷον τέκτονα μετρεῖν ἢ σταθμᾶσθαι καὶ πολεμικὸν ἱππεύειν παίζοντα ἤ τι τῶν τοιούτων ἄλλο ποιοῦντα
>
> What I assert is that every man who is going to be good at any pursuit must practice that special pursuit from infancy, by using all the implements of his pursuit both in his play and in his work. For example, the man who is to make a good builder must play at building toy houses, and to make a good farmer he must play at tilling land; and those who are rearing them must provide each child with toy tools modelled on real ones. Besides this, they ought to have elementary instruction in all the necessary subjects,—the carpenter, for instance, being taught in play the use of rule and measure, the soldier taught riding or some similar accomplishment. (Bury trans.)

In this passage, then, the Athenian Guest, while emphasizing the same thought about practice that we saw in book two of the *Republic*, differentiates between "elementary instruction in necessary subjects" and play versions of the work itself. It is worthwhile to note this both because it is quite common to many trades that there is instruction in the trade itself as well as preparatory instruction and because this is observed at an important junction in the *Republic*. At 7.536d, Socrates notes "calculation, geometry, and all the preparatory education" is "preparation for dialectic" (Reeve trans.).

Experience in these kinds of fields will prove crucial for the dialectician, because, in Plato's view, one cannot become a dialectician without serious preparatory work. This is not necessarily an obvious view. For example, one might think that dialectic is like mathematics, in that they are both abstract fields; and, as Aristotle notes in the *Nicomachean Ethics*, it is quite possible to be an expert mathematician from a young age, because the starting points for mathematics derive from abstraction, not from experience (6.1142a16–19).[182] But Plato does not think that: on the contrary, he thinks dialectic is downright dangerous for the young. To see why this is the case, let's examine how experience in preparatory subjects is meant to contribute to dialectic.

i. Preparatory Subjects: Elementary Education

The elementary education—that is, education in music and gymnastics—is not explicitly listed as one of the preparatory subjects at 7.536d, but the phrasing leaves room for interpretation. In fact, I think it is quite clear that Plato *does* see musical education, physical education, and probably mathematics taught in the early years as preparation for dialectic.

Musical education plays a twofold role in this by both furnishing the future dialectician with some of the beliefs (or, better yet, patterns) they will later examine and come to fully understand *and* with the appropriate character to learn dialectic. Physical education will support the latter. To see the connection, we should first consider why

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[182] Klosko (2006, 173) thinks that Aristotle's insight about the need for experience for political leaders is an argument *against* Plato's construal of the knowledge of the philosopher-rulers. I think Aristotle's point would be well-taken by Plato: he too doesn't think young people have what it takes to be philosopher-rulers. The rest of this section is my attempt to show why this is the case, and thus, contrary to Klosko, Plato and Aristotle turn out to be in broad agreement on this point.

character is relevant to dialectic. After all, one might think whether someone is virtuous or vicious—courageous or cowardly, a teetotaler or a lush—is irrelevant to their ability to perform a craft in general, or, in particular, the craft of dialectic. This simply isn't the way Plato thinks of it.

At 7.539a–b, Socrates describes the danger of teaching dialectic to the young. Dialectic *should* be the craft that turns the mind's eye to the form of the good. It can be abused, however, and actually tend to inculcate lawlessness, when an individual has their childhood beliefs about justice overturned by argument. Hence, Socrates suggests this must be avoided, and suggests to that effect:

> Ἆρ' οὖν οὐ μία μὲν εὐλάβεια αὕτη συχνή, τὸ μὴ νέους ὄντας αὐτῶν γεύεσθαι; οἶμαι γάρ σε οὐ λεληθέναι ὅτι οἱ μειρακίσκοι, ὅταν τὸ πρῶτον λόγων γεύωνται, ὡς παιδιᾷ αὐτοῖς καταχρῶνται, ἀεὶ εἰς ἀντιλογίαν χρώμενοι, καὶ μιμούμενοι τοὺς ἐξελέγχοντας αὐτοὶ ἄλλους ἐλέγχουσι, χαίροντες ὥσπερ σκυλάκια τῷ ἕλκειν τε καὶ σπαράττειν τῷ λόγῳ τοὺς πλησίον ἀεί…
>
> Οὐκοῦν ὅταν δὴ πολλοὺς μὲν αὐτοὶ ἐλέγξωσιν, ὑπὸ πολλῶν δὲ ἐλεγχθῶσι, σφόδρα καὶ ταχὺ ἐμπίπτουσιν εἰς τὸ μηδὲν ἡγεῖσθαι ὧνπερ πρότερον· …
>
> Ὁ δὲ δὴ πρεσβύτερος, ἦν δ' ἐγώ, τῆς μὲν τοιαύτης μανίας οὐκ ἂν ἐθέλοι μετέχειν, τὸν δὲ διαλέγεσθαι ἐθέλοντα καὶ σκοπεῖν τἀληθὲς μᾶλλον μιμήσεται ἢ τὸν παιδιᾶς χάριν παίζοντα καὶ ἀντιλέγοντα, καὶ αὐτός τε μετριώτερος ἔσται καὶ τὸ ἐπιτήδευμα τιμιώτερον ἀντὶ ἀτιμοτέρου ποιήσει.
>
> And isn't one very effective precaution not to let them taste argument while they are young? I mean, I don't think it has escaped your notice that when young people get their first taste of argument, they misuse it as if they were playing a game, always using it for disputation. They imitate those who have refuted them by refuting others themselves, and, like puppies, enjoying dragging and tearing with argument anyone within reach…

> Then, when they have refuted many themselves and having been refuted by many, they quick fall into violently disbelieving everything they believed before…
>
> But an older person would not be willing to take part in such madness. He will imitate someone who is willing to engage in dialectical discussion and look for the truth, rather than someone who plays at disputation as a game. He will be more moderate himself and will bring honor, rather than discredit, to the practice (539a–d, Reeve trans.)

I wish to highlight here the reasons why the older person is a better candidate for training in dialectic: first, he picks a better subject to imitate—not those who have refuted him purely for the sake of disputation, but those who engage in dialectical discussion looking for the truth. Moreover, he is more moderate (μετριώτερος) than the young men. The next line recapitulates this thought: he must be well-ordered (κόσμιος) and steady (στάσιμος).

We can connect this, then, with the elementary education because that program, in fact, aimed at creating moderate, harmonious souls: the combination of physical training and education in music was meant to make balanced souls (3.410b–412a; see esp. μετριώτατα at 412a). For the future guardians, then, this education prepares them by molding their character: irascible, melancholy, or otherwise unbalanced students will not, in fact, be able to profit from learning dialectic.

But musical education also provides students with an initial grasp of the patterns that they will eventually more seriously examine and use as dialecticians. The general idea is that experiences as a young person create models in their souls to which they refer later in life; we might notice already that the reverse of this will happen when adult guardians are in charge of the city and use the models of the eternal world and impress them upon the city. I'll draw here on two passages that discuss how the experiences in elementary education or as a young person generate models in the soul; the second does

not deal with elementary education in music, but is a helpful comparison since it demonstrates the relationship between experience and models.

First, experience in good art impresses the soul with appropriate models that guide a young person even before they understand why a good thing is good. The most essential passage describing this is at 3.401c–402c. The education of the guardians was first introduced as instilling the correct patterns into the young men and women (τύπος, e.g., at 377b and c; 379a; 383c). These good patterns will "guide them from earliest childhood into being similar to, friendly toward, and concordant with the beauty of reason" (εὐθὺς ἐκ παίδων λανθάνῃ εἰς ὁμοιότητά τε καὶ φιλίαν καὶ συμφωνίαν τῷ καλῷ λόγῳ ἄγουσα, 401c–d, Reeve trans., slightly modified). As a result, children educated this way will instinctively be able to identify fine things, and will be pleased by them, while equally being able to instinctively notice aberrations from this good standard and will be disgusted by them, although they do not yet know the reason (λόγος, 402a) why these things are good or bad.

Musical education, then, gives the pupils extensive experience in what good things are like; in fact, it gives them enough experience that they are able to reliably identify good things, if not yet explain why. This latter skill will come with the understanding of dialectic, which will identify the relationship between a particular instance of the fine or good with its relationship to the forms. Socrates makes clear even here that this will be continuous with these primary exercises in music: it is *one and the same craft and practice* (τῆς αὐτῆς …τέχνης…καὶ μελέτης) to be able to see the forms in the immaterial world and the real world (3.402b–c).

We should also note that the preliminary education in music tips the scales, as it were, towards the good: the pupils experience good art constantly, and never bad art. The

reason why is that Socrates asserts that the principle of specialization holds for art and education as much as for professional specialization. In general, you should not practice what you do not want to be (2.394d–398b). The most relevant corollary of this is that the guardians should not practice being bad; there is no value to the experience of being bad or sympathizing with bad men.

This is specifically brought out in the second passage, which compares the experience needed by doctors and the experience needed by judges at 3.408c–309d. Glaucon challenges Socrates at 408c–d with the thought that the best doctors are those who have treated "the greatest number of healthy and diseased people" (πλείστους μὲν ὑγιεινούς, πλείστους δὲ νοσώδεις), so the best judges would be those "who have associated with people with multifarious natures," (οἱ παντοδαπαῖς φύσεσιν ὡμιληκότες, Reeve trans.) i.e., both bad and good people. Socrates denies the force of the analogy: experience with bad people will not be added neutrally to the cache of experiences that informs a young person, but will inevitably corrupt them (3.409a). They should be inexperienced (ἄπειρος, 409a; see also οὐκ ἐμπειρίᾳ οἰκείᾳ at 409b) in these bad characters. As a result, they will not have any models (παραδείγματα, 409b; see also 409c and d) of bad people, which can have the unfortunate consequence that they are somewhat naïve. This is better, however, than being a savvy criminal: the shrewd thief has committed injustices and looks to the models he has developed on the basis of his own actions (πρὸς τὰ ἐν αὐτῷ παραδείγματα ἀποσκοπῶν, 409c), which is useful when he is dealing with other criminals, but makes him, in turn, look foolish when he is around good people. For he lacks the model of the good in himself.

In both this case and the description of the final understanding that dialectic gives us at 402b–c, Socrates claims that the older guardian or judge will know the opposites of

the just, the good, etc., too. In the case of the judge, he specifies that this won't be by experience, but by theoretical knowledge (ἐπιστήμῃ, οὐκ ἐμπειρίᾳ οἰκείᾳ, 409b); and he further asserts that while the young just man might be naïve, he eventually comes to understand virtue and vice, while the unjust man knows *neither.* This is a rather startling asymmetry: why exactly is it impossible that the unjust man come to the same kind of knowledge as the just man? He, for instance, could come to know justice "in theory," just as the just young man eventually comes to know injustice in theory. At any rate, why deny he knows injustice—he has extensive experience with it, and apparently has even developed a model of it in his soul, so why not call that a sort of knowledge?

A full response requires working out the relationship between the form of the good and ἐπιστήμη in books 5–7. But, by way of concluding this discussion of the preparatory education in books 2–3, let me point out the relevance of the discussion of the character required for dialectic and the preliminary models of the good. First of all, the shrewd thief will be barred from ever learning dialectic—that is, true ἐπιστήμη—because of his immoderate character. Rather than learning dialectic, he would, at best, end up skilled in disputation. Second, the models he develops in his soul are fundamentally unusable even if he were somehow incidentally moderate in character. For the models we need are of good things, since ultimately (according to Plato), true being will be somehow underwritten by the form of the good.

ii. Preparatory Subjects: Military Training and Political Experience

Another major component of the dialectician's training is in combat and political offices: Socrates claims the future guardians will be brought on campaigns in order to become accustomed to their future job (5. 466e–467e; cf. 7.537a) and that they will spend fifteen years taking command in war and in other political offices (7.539e–540a).

The value of this for the dialectician is two-fold: first, a dialectician must possess a steadfast character *in order to do dialectic at all* (7.539d), and experience in the fears and pleasures on offer in war and politics both gives the budding philosophers the opportunity to test their mettle, and their supervisors to examine what kind of character they have or are developing (7.537a; 7.539e–540a). Second, the final step in the education of the philosopher is exposure to the light of the good (7.540a), after which they are meant to use this form as a model and apply to the city, the citizens, and themselves. For this task, experience in the particularities of warfare and politics will be useful. So political experience plays two roles in the development of a philosopher-ruler: 1) political experience, like military experience, helps develop the character of a budding philosopher such that he can be a dialectician at all—because being a dialectician requires having a steadfast character; 2) political experience, in the sense of experience in the particularities of political life in the Kallipolis itself, is essential for the philosopher when he is given the social role of ruler. I have a bit more to say about this in the last section of the chapter.

iii. Dialectic Itself

Having treated the preliminary studies, we turn now to the description of dialectic itself. What dialectic does as a form of knowledge—indeed, the only real form of ἐπιστήμη—has been covered in a previous section. The focus here is on how practice and experience plays a role in it.

To that end, it is quite noticeable that Plato is at some pains to emphasize that dialectic is no easy task. We already discussed that it should be reserved for moderate older men, not easily excitable teenagers. In that discussion, Plato refers to the study of dialectics being continuous and intense for six years (ἐνδελεχῶς καὶ συντόνως, 539d)—

equal to the intensity of the physical training, but twice as long. This echoes earlier talk of the labors of dialectic: it is like a battle (μάχη, 534c). Those who are going to make it through dialectic must love hard work (φιλόπονος, 535c).

What makes dialectic so difficult, at least at a glance, is that it requires students to both do away with their senses (537d) *and* hypotheses. By the time students in the Kallipolis are studying dialectic, they will have extensive practice in the former, since mathematics[183] already trained them to work independently of sensory perception. But the elimination of hypotheses is the decisive move that brings the students from the mathematical subjects to dialectic (7.533c–d).

What will practice in dialectic look like? We have some general descriptions in the *Republic*: the students will be "striving to examine things not in accordance with belief, but in accordance with being" (534c, Reeve trans.) and examining what different subjects (or perhaps individual particulars) have in common with one another (7.531c–d), eventually achieving "a unified vision of their kinship with one another and with the nature of what is" (7.537c; Reeve trans.). But better still, I think, is the example of the *Parmenides*.

In this dialogue, we, unusually, see Socrates not as an old philosopher, but as a young man. Having tried out his theory of forms on Parmenides and Zeno, he finds himself thwarted over and over again. He then turns to his interlocutor for advice. Parmenides obliges, telling Socrates:

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[183] See Burnyeat 2000, 22: mathematics provides experience in abstract reasoning for the budding philosopher-ruler. See also Burnyeat 2000, 37–8 on the difference between dialectic and mathematics: "It is…no criticism to say that mathematicians give no account of their hypotheses. It is simply to say that mathematics is what they are doing, not dialectic."

> Πρῲ γάρ, εἰπεῖν, πρὶν γυμνασθῆναι, ὦ Σώκρατες, ὁρίζεσθαι ἐπιχειρεῖς καλόν τέ τι καὶ δίκαιον καὶ ἀγαθὸν καὶ ἕκαστον τῶν εἰδῶν. ἐνενόησα γὰρ καὶ πρῴην σου ἀκούων διαλεγομένου ἐνθάδε Ἀριστοτέλει τῷδε. καλὴ μὲν οὖν καὶ θεία, εὖ ἴσθι, ἡ ὁρμὴ ἣν ὁρμᾷς ἐπὶ τοὺς λόγους· ἔλκυσον δὲ σαυτὸν καὶ γύμνασαι μᾶλλον διὰ τῆς δοκούσης ἀχρήστου εἶναι καὶ καλουμένης ὑπὸ τῶν πολλῶν ἀδολεσχίας, ἕως ἔτι νέος εἶ· εἰ δὲ μή, σὲ διαφεύξεται ἡ ἀλήθεια.
>
> You are trying to define some beautiful and just and good thing and each of the forms before you have trained. For I noticed this earlier, listening to you talk here with this man, Aristotle. So while your drive toward dialectic is good and divine, you know, you should put in effort and train yourself while you are a young man still in a field considered useless and called pointless conversation by the many; and, if you don't, the truth will escape you (135c–d).

Practice—or training (γυμνάζεσθαι) becomes the key word for Parmenides' proposal: he will give Socrates an exercise in order to improve him as a dialectician (136a). Parmenides himself has experience (ἐμπειρία, 137a) which means he can do these kinds of tasks, and has done them in the past, while this is precisely what Socrates must gain. The rest of the dialogue gives an extended example of what this should look like: Parmenides himself takes the hypothesis "if one is" (and its inverse, "if one is not") through a battery of predications and examines what follows in each case.

In the case of the dialecticians in the *Republic*, we can imagine then something like a six-year course of these kinds of exercises. At this point, we can only speculate how this will unfold, although maybe it is helpful to suggest something more concrete. Given that the final subjects before the study of dialectics are mathematical, I suggest they might start by examining the hypotheses of these subjects—not using other hypotheses, of course, but doing away with them in order to travel to unhypothetical first principles. Since the *Parmenides* takes "if one is" as its hypothesis to be examined, it would look, in some way, like that. Later exercises would take up other forms—virtues

like Justice and Courage. These exercises would begin with the models of these things that pupils had developed during the course of their musical education. Perhaps the course would include both examining these things in order to get to the unhypothetical first principles and then re-evaluating either axioms in lower fields or previously held beliefs that were held firmly but without reason. This last thought would bring us back to the discussion of musical education in book three. There, pupils understood certain instances of the good as good, but without knowing the reason why they were good (402a). It was foreshadowed there that the "same craft and practice" would capture both the forms themselves (τὰ τῆς σωφροσύνης εἴδη καὶ ἀνδρείας καὶ ἐλευθεριότητος καὶ μεγαλοπρεπείας καὶ ὅσα τούτων ἀδελφὰ καὶ τὰ τούτων αὖ ἐναντία, 402c) and the things that participate in them ("images of them," εἰκόνας αὐτῶν, 402).

III. Philosophy and Politics

A common objection to the *Republic* as an account of the τέχνη of philosophers is that not *one* but *two* τέχναι seem to be in view: the τέχνη of ruling and the τέχνη of being a philosopher.[184] Each of these may trade under a few names: for instance, we might think the τέχνη of ruling is the same thing as the τέχνη πολιτική or the τέχνη βασιλική in other dialogues (e.g. *Plt.* and *Euthyd.*), and here we might call it φυλακική;[185] and, as I've argued, the τέχνη of philosophy is dialectic. Surely these aren't the very same specialized field?

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[184] See esp. Reeve 1988, 173; Schofield 2000, 227–8 (with n.53); Lane 2005; Greco 2009, 35–42; Long 2013, 20–1; Silverman 2013, 134.

[185] The adjectives βασιλικός and πολιτικός are not ever used in the *Republic* to describe the philosopher-ruler's expertise.

In the first section, I proposed to return to this question once we had an understanding of what the τέχνη of the guardians amounted to. I will now attempt to answer this problem in two steps.

First, and most important, I think we have to see that the virtue of the private individual and the virtue of the political leader are one and the same. This identification both eliminates the problem of these two fields being in tension and suggests a way to read the proposal of *Republic* 2–10 in conversation with the τέχνη-analogies of *Republic* 1 and the "early" dialogues.

Second, we need to think about the relationship between a τέχνη and a social role. I build here on an idea in Lane (2005). The suggestion there is that, in the *Statesman*, statesmanship is a "job for philosophers:" the statesman is a philosopher, in the sense that he has philosophical knowledge, but is not best defined as a philosopher, since he in fact has a job which has its own requirements and gives him the newer, more precise title of "statesman." The ideal statesman will have philosophical knowledge because he needs to know the good, but the practical orientation of this τέχνη or ἐπιστήμη distinguishes it from pure philosophy (336–8). She brings out how this differs from the account given in the *Republic* (and this even allows Plato in the *Statesman* to avoid entirely some of the central and difficult topics of the Republic, such as the happiness of the statesman, 334–7). I suggest, nevertheless, that we can use the idea of a disjunction between a job and an expertise to unpack how philosophy and political activity work in the *Republic*, too. In brief, my notion is that philosophy, in ideal conditions, does manifest in political agency; but, in general, the social conditions at broad and granular levels can affect both what experts are required to do (or what traits they are required to have) and what they are allowed to do.

A. The Virtue of the Private Individual and the Virtue of the Politician

It is worth first noting that the idea that we can nicely split the virtue of the politician away from the virtue of the individual might not be so clear. One might observe first that there's a historical reason for thinking personal virtue and political virtue go hand in hand. Evenus of Paros, one of the sophists, was said to teach both: "he is knowledgeable in this kind of virtue, that of a man and also a citizen" (τῆς τοιαύτης ἀρετῆς, τῆς ἀνθρωπίνης τε καὶ πολιτικῆς, ἐπιστήμων ἐστίν, 20b). Similarly, Protagoras advertises that "his field of study is good judgment concerning one's private life, in order that he will run his own household well, and good judgment concerning the city-state, so that he would be very influential in political matters in word and deed" (τὸ δὲ μάθημά ἐστιν εὐβουλία περὶ τῶν οἰκείων, ὅπως ἂν ἄριστα τὴν αὑτοῦ οἰκίαν διοικοῖ, καὶ περὶ τῶν τῆς πόλεως, ὅπως τὰ τῆς πόλεως δυνατώτατος ἂν εἴη καὶ πράττειν καὶ λέγειν, 318e–319a).[186] While Long flagged this passage as evidence that political expertise and philosophy are not one and the same (2013, 16), we should note that the interlocutors happily call this the τέχνη πολιτική (319a): no one objects there that Protagoras is illicitly combining two τέχναι. Of course, the fact that the sophists claimed to teach both personal and political virtue need not mean that Plato thought these were the same.[187]

We should also dwell for a moment on what counts as "political" expertise, or the goal of politics, for ancient philosophers. Political experts, in Plato and Aristotle's view,

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[186] See also Aristotle's critique of those who thinking running a household and running a state are the same thing (*Pol.* 1.1 1252a7–13); it is commonly thought he means Plato (see, e.g., Newman 1887, 98).

[187] Meyer (2005, 233) reads the *Republic* as training guardians in ethical virtues. In n.13, she suggests, in fact, the part of the Republic describing the education of the guardians might have started as a "self-standing treatise on the education of citizens in virtue" and notes the Aristotle's account of habituation clearly builds on this model.

don't aim to make the best compromises between factions, to secure the most freedom, or to learn exhaustively about all existing constitutions—although they may think about any or all of these things as means to an end to a greater or lesser degree. That end is human happiness, something they both take to be achieved through virtue: Pl. *Resp.* 4.419a–421c and 6.500e; Arist. *EN* 1.2 1094a27–b11; 1.9 1099b25–32.[188] That, of course, is also the end ethics has.

But the fact that human happiness is the goal of both politics and ethics for Plato need not mean these are the same skill; it could be that there are two methods for achieving this goal, one which is applicable when an individual is working on their own character, and another when they are shaping a city. But that doesn't seem to be the model Plato has in mind: on the contrary, he compares at 7.500d the philosopher's ability to shape his own soul with his ability to shape others' souls. The idea, then, is that philosophy is more like medicine: a doctor can treat others and himself, insofar as both have human bodies.[189]

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[188] See also Schofield 2006, 30–5, on the relationship between the political and ethical projects of the *Republic*. He reports Proclus' solution, which I too favor, that "these are just really two constituents of one and the same project." On happiness as the final end of statesmanship, see Keyt 2006, 205.

[189] Hendrik Lorenz has raised for me the further question of why we should think (with Plato) that ethical and political philosophy fall so easily out of theoretical philosophy. In other words, the education of the guardians looks primarily like practice in theoretical philosophy; so why should we suppose that this training is sufficient for their work as political leaders? I think the first thing to remember is that their education begins with the inculcation of good habits via musical and gymnastic training, which Plato takes to be a precondition of their ability to flourish as dialecticians. In other words, being a good theoretician actually requires having good character; so there is already a connection forged between being able to do dialectic and having the right kind of ethical orientation.

B. Why Aren't All Philosophers Politicians (and Vice Versa)?

We might wonder, then, if politics and philosophy just are the same τέχνη, why aren't all philosophers politicians (and vice versa)?

The main thing is to attend to how social circumstances affect the professions. Suppose, for sake of argument, that the τέχνη of a pharmacist is actually the same as the τέχνη of chemistry. In a world where there are no pharmacists (say, one in which the whole of medicine is diet and exercise, never drugs), or in which alchemists or herbalists are recognized as pharmacists, we won't see chemists playing the role of pharmacists—they'll be squeezed out by these other pseudoscientists. I think this is more or less the picture we get of politics in Athens in the Platonic dialogues, including the *Republic*. Socrates, e.g., in the *Gorgias* can claim he is the "only true politician" while never being recognized as such (521d), just like an *avant la lettre* chemist could claim (in our hypothetical society) that he, not the herbalists, was the one true pharmacist. So too in the *Republic*, we get the idea that philosophers taking generally the opposite tack, staying out of politics, hiding away as private citizens, because they realized they will not be acknowledged as political experts. Like the chemists, they in some sense are the true politicians—they have the knowledge a politician should have—and in another sense, they aren't politicians (or, especially, rulers) at all, since they don't have political power.

In the ideal city, the philosophers *do* take on the role of leaders. But this role they take on is not the same as a secondary expertise: it is a job, or as I somewhat prefer to say, as a grand commission. Imagine an architect being hired to build, say, Notre Dame. What's the relationship between his knowledge of Catholic doctrine and his knowledge of architecture? Well, architecture is his expertise, while knowledge of Catholic doctrine is, nonetheless, essential for his actual production of a good cathedral: for instance, use of

the number three—symbolizing the trinity—or crosses has a significance for the building's users that the architect will want to be aware of. Whether he is a practicing Catholic or not, he'll want to learn these sorts of things at some point in his training or when he is hired with this job in mind. But our point will be that these sorts of facts, necessary as they are to making a successful cathedral, are no part of *architecture*. So too politics does not count as another full-time job for philosophers, just as the architect need not become a Catholic priest in order to build a cathedral.

Conclusion

This chapter has focused on the τέχνη of the philosopher-rulers: I argued this is to be identified as dialectic and to be understood in light of the considerations about specialization of labor in book two. The latter points to an important continuity in how τέχνη is treated in the Platonic dialogues and elsewhere: in the second chapter, we saw how this triadic construal of τέχνη was a commonplace, and, in particular, that the role of practice in τέχνη was an important feature in other accounts as well. But the identification of philosophy as a τέχνη, on the other hand, is something quite new: as we saw at the beginning of the last chapter and this one, philosophy was understood as something for young men to dabble in during their general education. What Socrates is arguing for in the *Republic* is nothing less than a complete reversal. Young men, so far from being the appropriate pupils for dialectic, are forbidden from participating in it. Philosophy is to be a full-time job, just like the other τέχναι, and thus requires the extensive education described in the *Republic*. This move of equating philosophy on some level with shoemaking and the other crafts is itself notable since it rides roughshod over

commonplace status distinctions; in short, it is an argument that philosophy is not a leisure activity for elites, but quite simply a job. This is striking.[190]

Earlier scholars have rejected the continuity of τέχνη as a model for virtue on the grounds that virtue *must* be about actions chosen for their own sake, while crafts are models of productive knowledge.[191] We might worry about applying Aristotle's distinction between production and action here;[192] but I'll end by observing that philosophy may be quite a bit more productive on Plato's model than has been previously appreciated. After all, the description of what the philosopher-rulers do in the *Republic* is a kind of production: molding (πλάττειν) himself and others in accordance with the forms (6.500d), exalted artists modelling their earthly works on the highest and most beautiful things known to man.[193]

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[190] Carlo Natali's discussion of what is at stake in the founding of the Peripatetic school is particularly interesting on this point: while he is at pains to not equate philosophy with work (2013, 66), he recognizes that part of the raison d'être for the Lyceum is economic (that is, "to assure the philosophers of moderate prosperity and the freedom from need" 87) and that there are striking commonalities between men practicing their father's craft and elite families that seem to practice philosophy as a sort of family business (89).
[191] See Irwin 1995, 198.
[192] See, e.g, *EN* 6.4 1140a3–5.
[193] See especially Allen 2010 on Plato's vocabulary of molding and image-making.

Conclusion

This dissertation has focused on a single term—τέχνη—but with an eye to a wide context. The first part of the dissertation sought to re-open the question of what τέχνη meant to Plato's audience. Attending to the fact that Plato draws a connection between philosophy and τέχνη via the god Hephaistos (*Criti.* 109c), and that Socrates repeatedly calls this same deity his ancestor, I first examined the place of Hephaistos in Athenian culture. As a crippled but intelligent craftsman, he is, in fact, a sort of Socratic figure; and, examining his cult in Athens lays the scene for thinking that Plato's elevation of τέχνη to a central role in philosophy is a particularly Athenian (and yet ultimately anti-democratic) move. The second chapter moved beyond Athens and beyond Hephaistos and brought together literary, epigraphic, and art historical sources to make the case that τέχνη was particularly associated with four qualities: (I) low social status; (II) teachability; (III) specialization; and (IV) rationality. The first and third of these go hand in hand and have important ramifications for how we think about τέχνη. Because the practitioners of τέχνη were plying their trade for economic reasons as a job, not a hobby, they focused on only one. This means a τέχνη is not a mere skill, like swimming or being able to read. While the translation "skill" has its attractions (in particular, it avoids prejudging what *kinds* of practices—handicrafts vs. fine art, practical vs. theoretical—count), it was neither the historical norm that individuals practiced more than one τέχνη, nor is it what Plato has in mind when he asserts, for example, in book two of the *Republic* that each person must only practice one.[194]

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[194] See chapter two, section III.

The second part of the dissertation then turned to Plato himself and began with a chapter analyzing Plato's vocabulary of expertise. Inspired by the structuralist approach of John Lyons, I sought to bring out the meaning of τέχνη via its relationships (antonymy, synonymy, etc.) with other terms. This had several important results. First, I demonstrated that the relationship between τέχνη and ἐπιστήμη is one of interchangeability by synecdoche: ἐπιστήμη functions as the rational or theoretical part of τέχνη, to which practice or experience (ἐμπειρία) must be added. One important implication of this is that ἐμπειρία is not the *opposite* of τέχνη, but a crucial part or prerequisite for it. If we can adopt the language of parts, then ἐμπειρία is no more the opposite to τέχνη than ham is to a ham sandwich; on the contrary, the former is a necessary part of the latter. Second, it was shown that τέχνη does have a set antonym, πάρεργον, and the two terms have corresponding (and correspondingly opposed) nouns of occupation as well: δημιουργός and ἰδιώτης, respectively. As part of a structured vocabulary, any one of these terms can call up the concept of τέχνη. In tandem with the second chapter, this chapter brings out how important practice and experience is for τέχνη: as already noted, ἐμπειρία is an essential component of τέχνη, and the ἰδιώτης is precisely the person who does not get enough practice to make his hobby (πάρεργον) into his profession (τέχνη).

The fourth and fifth chapters, then, build on this via taking a closer look at individual dialogues. The fourth chapter examines how the concept of τέχνη is used as a cudgel against rhetoricians and sophists. In particular, problems with specialization—not just rationality—scuttle Hippias' ability to claim he can make his own shoes *and* weave his own cloak *and* design his own ring *and* write poetry, and Protagoras' ability to "teach" something that apparently everyone already has. It is not possible to learn

something as an expert in short amount of time, which is the reason Hippias' claim is suspect. And, a defining feature of a τέχνη is the fact that some have it (δημιουργοί, "experts" or "professionals") while others (ἰδιῶται, "laypeople" or "amateurs") do not, and Protagoras' idea that everyone shares in the political τέχνη runs aground this basic premise. The fifth chapter, in turn, examines the τέχνη of the philosopher-rulers. I argue that Plato adapts the already extant notion of τέχνη to show how philosophy, construed as dialectic, is a τέχνη: it requires knowledge, practice, and the right kind of nature, just as Isocrates claimed the τέχνη of rhetoric did, and the Hippocratics claim the τέχνη of medicine does. I then assessed how to avoid the *prima facie* tension between the roles of philosopher and politician, arguing that Plato makes politics out to be a grand commission for a philosopher, rather than a full-blown profession in its own right.

This dissertation, then, focused on τέχνη—an abstract noun picking out the expertise that an individual practitioner had in order to fulfill his social role. By way of conclusion, I would like to turn us briefly from the expertise to the expert, starting first by revisiting the Hippocratic *Oath.* The *Oath* lays out several demands on the would-be physician: for example, he must respect his teacher and his teacher's sons; he is to abstain from surgery, since that is a different kind of expertise; he should not gossip about his patients; and, famously, he swears to do no harm. At the heart of the *Oath*—in fact, right in the middle—is the promise that he will "conduct his life (βίος) and profession (τέχνη) in a pure and holy way" (ἁγνῶς δὲ καὶ ὁσίως διατηρήσω βίον τὸν ἐμὸν καὶ τέχνην τὴν ἐμήν, ll. 21–22 Jones). This juxtaposition of βίος and τέχνη is worthy of further reflection.

To start, the Hippocratic author is not the only one to pair these two words. In Aristophanes' *Peace,* an armor seller accuses Trygaeus of ruining his trade and livelihood

(ἀπώλεσάς μου τὴν τέχνην καὶ τὸν βίον, 1212). Here, the meaning is a bit clearer and, in fact, more pedestrian: Trygaeus, by bringing peace to Greece, is putting the arms dealers and weapon makers out of business. The καί is epexegtic: Trygaeus is destroying his trade, that is, his livelihood.[195] In the first two chapters, we saw exactly this connection with τέχνη: these are not just rational practices, but something one does to make a living. I argued there that this is the origin of subjective specialization: an individual only does one trade, because this is not a mere skill that one can pick up or put down at will. It is a full-time job, pursued for the sake of making money by those who haven't inherited enough land to spend their days at leisure.

One could take βίος in the Hippocratic passage, then, to mean something similar: the oath swearer is being asked to protect his livelihood, that is, his trade. Heinrich von Staden, however, has argued that this is not correct: the rest of the oath uses highly evaluative language for the medical τέχνη, and the prescriptions about the doctor's behavior and habits suggests βίος means something more all-encompassing (1996, 419–22). He suggests this word refers to "a consistent manner of living one's life or to the series of coherently related and consistently shaped activities and experiences that constitute a person's 'life' and hence provide him or her with a distinct character and identity" (421). This reading would indicate, then, that the oath swearer is being asked not to protect his financial interests, but (in a word) his character. I suggest that we can retain the epexegtic reading of καί all the same. When you protect your character, you are

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[195] On βίος as livelihood (in the sense of way of making money; cf. English, "living," as in "to make a living"), see LSJ s. v. A.II and von Staden 1996, 419–20.

protecting your τέχνη as well. The latter cannot be isolated from the former. Your work self is still your self.

I suggest that this is ultimately a habituation story, with the special twist that the habits at stake are related to your economic role. What you spend all your time doing makes a difference for who you are. Three moments in the dialogues, I think, make this connection between τέχνη and βίος. We should begin, I think, with the *Gorgias*, and particularly James Doyle's reading of the conversation between Gorgias and Socrates in the first part of the dialogue. Doyle points out that the dialogue begins with the question of *who* Gorgias is (ὅστις ἐστίν, 447d); and this is quickly re-described in terms of what τέχνη he practices. Doyle reads this as of a piece with Socrates' examinations of others' lives in the *Apology*, and develops the idea that rhetoric and philosophy are "ethically-charged categories," i.e., "to characterise someone as an orator is to characterise their way of life, or (equivalently) to say who an orator fundamentally is" (2010, 5) That is, these trades amount to ways of life, or βίοι.

Doyle hesitates to call all the τέχναι ethically-charged categories: for him, being a cobbler isn't ethically-charged, for example (5 n.7). But I suspect this is a mistake on grounds of specialization, at least in the *Republic*. This brings us to the second place in the dialogues where, I think, we can see a connection between τέχνη and βίος: the *Republic*.

The division of labor that undergirds the ideal city means each individual is set to one task *and no other*. At various points, this idea that meddling is a significant wrong is highlighted: "justice is doing one's own work and not meddling" (τὸ τὰ αὑτοῦ πράττειν

καὶ μὴ πολυπραγμονεῖν δικαιοσύνη ἐστί, 4.433a).[196] So, cobblers make shoes, certainly, but they are also defined by what they don't do: philosophy. Plato's system, by making philosophy a τέχνη, also eliminates the possibility of cobbler-philosophers, and thereby cobblers who have knowledge of the forms. They are pre-empted from being capable of doing philosophical thinking by their job: we can remember the harsh statement at 6.495d–e that craftsmen have souls that are deformed and mutilated by their τέχναι.

For me, this suggests that every profession in principle for Plato is an ethically-charged category.[197] This need not mean they make individuals better. Every τέχνη pushes you to spend time on some things, at the expense of spending time on others. And Plato thinks what you spend time on does matter ethically. Perhaps in classic Platonic form, then, this gives with one hand what it takes away with other: now being a cobbler has ethical consequences, even if individuals have no choice over the matter.

Finally, let us consider the most famous βίος in the Platonic corpus: Socrates'. Socrates began life as the son of a statue-maker, Sophroniscus, and the "burly midwife" Phranete. He, following the standard pattern, learned his father's trade, even making a famous statue that was installed at the entrance to the Akropolis. In the subsequent years, he—like Plato[198]—underwent a conversion, as he narrates in the *Apology*: his friend

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[196] Correspondence with Brennan McDavid, as well as her paper, "Meddling in the Work of Another," presented at the Pacific APA in March 2018, has pushed me to think more fully in the last year about the meddling clause in Plato's definition of justice.
[197] This is to be distinguished from thinking every τέχνη is good-directed; I argue elsewhere ("The Good-Directedness of Τέχνη and the Status of Rhetoric in the Platonic Dialogues," forthcoming in *Apeiron*) that τέχναι do not need to be good-directed.
[198] Diogenes Laertius tells us that Plato was trained as a poet and was on his way to compete for the prize in tragedy when he encountered Socrates. This interaction so moved him that he burned his poems, invoking the god Hephaistos for help in incinerating them.

Chaerephon visited the oracle at Delphi and asked if there was anyone wiser than Socrates (21a). Upon returning, he told Socrates, who then decided to investigate the matter, annoying first the politicians, then the poets, and then the craftsmen with his questions (21b–22e). None of these men impressed him with their wisdom, although the craftsmen did the least poorly. He, of course, identifies his particular wisdom as the modest and human kind, whereby he realizes that he knows nothing of value.

This investigation has become his ἀσχολία (23b–c; 29c; 31b; 36b):[199] he spends all his time on it, and has forsaken his own affairs, in order to pursue this calling. His new τέχνη is the examination of others. Elsewhere, he ties this to his mother's τέχνη, midwifery (*Tht.* 149a), arguing that just as she treats human women who give birth to babies, he treats human men giving birth to ideas.[200] In the second chapter, we saw an example of craftsmen considering changing their trades in the face of financial difficulties. A sculptor might become a cook, or a fisherman a carpenter. So too we here see Socrates doing just that, moving from his life, presumably, as a stonemason to the life of philosophy. Like those craftsmen, Socrates' transition was fraught with economic risk, and in fact, left him destitute. Yet everyone knows there is something ethical at stake in his choice. The Platonic point I want to make is that, at least from the perspective of the *Republic*, this is not a unique feature of Socrates' τέχνη: for a job is never *just* a job.

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[199] Ἀσχολία connects with τέχνη via its contrast with σχολή ("leisure")—the latter characterizes what aristocrats have, because they do not need to pursue a τέχνη for a living.

[200] Socrates' transition from one parent's craft to another one is obviously interesting from the perspective of gender. It was not unheard of in the ancient world for craft learning to cross the lines of gender: for example, Timarete, the daughter of Micon (5th c. BCE), learned painting from her father, according to Pliny (*HN* 35.147). I am grateful to Laurence Totelin for discussion of gender and transmission of the τέχναι.

Appendix 1: Diagram of Plato's Knowledge Vocabulary

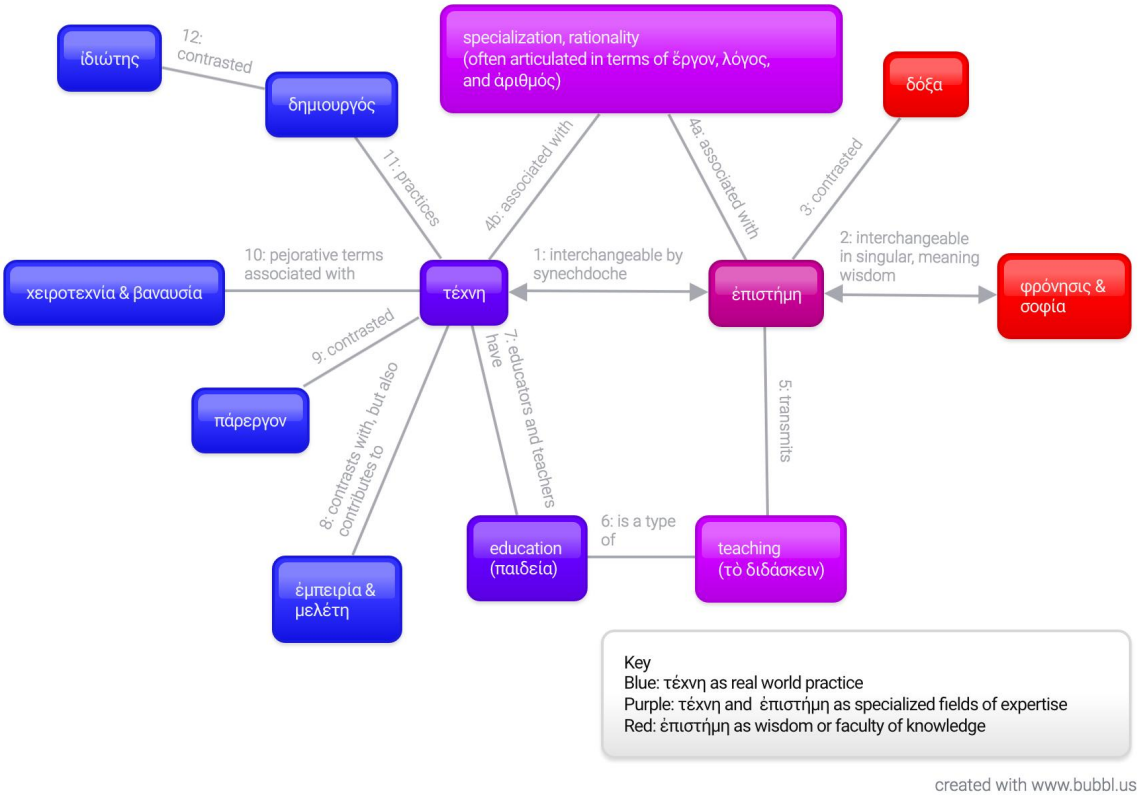


Figure 8: Plato's Vocabulary of Expertise Illustrated.

1 (τέχνη interchangeable with ἐπιστήμη by synecdoche): ***Phdr.* 269c–d, discussed in II.A. *Plt.* 258b–259c (cf. *Ion* 537d–e): same fields called by both terms, indicating significant overlap (at minimum).** See further II., esp. II.A.

2 (ἐπιστήμη interchangeable in singular with φρόνησις and σοφία): ***Phlb.* 55c–59d, discussed in II.C** (cf. *Phlb.* 14b, 18e, **65d); *Prt.* 356c–357e, discussed in II.B. *Resp.* 4.428b–429a: ἐπιστήμη of the guardians is the σοφία of the city. *Symp.* 202a: φρόνησις substitutes for ἐπιστήμη *(*cf. *Meno* 87d–89c).** See further II.B–D and IV.B.

3 (ἐπιστήμη contrasted with δόξα): ***Resp.* 5.476b–480a: ἐπιστήμη contrasted with δόξα (cf. 7.521c–535c; *Meno* 85b–86a, 97b–98c; *Tht.* 187b–210a*; Phd.* 96b: does ἐπιστήμη come from δόξα?; *Prm.* 142a, 155d, 164b: considered alongside δόξα and αἴσθησις; *Ti.* 37b–c; *Resp.* 6.506c);** See further IV.A.

4a (ἐπιστήμη associated with specialization, rationality): ***Chrm.* 165c–d, 171a: each ἐπιστήμη is defined as being about particular subjects. *Resp.* 7.534b–c: λόγος characterized the person who has ἐπιστήμη** (cf. *Phlb.* 62a*; Tht.* **201c–d**); ***Resp.* 7.522c: all ἐπιστῆμαι use mathematics; *Symp.* 202a: how can something ἄλογος be ἐπιστήμη (ἄλογον γὰρ πρᾶγμα πῶς ἂν εἴη ἐπιστήμη;).** See further IV.D.

4b (τέχνη associated with specialization, rationality): ***Resp.* 2.370a–c: specialization in the τέγναι (cf. 2.374a–d, 10.598c–d); *Leg.* 8.846d–847b, esp. 847a–b: citizens will be banned from participating in the crafts, and a foreigner who pursues two will be fined. Cf. *Plt.* 279b–283a. *Grg.* 465a: τέχνη characterized by rationality (λόγος); *Resp.* 7.522c: all τέγναι use mathematics** See further III.F.

5 (teaching transmits ἐπιστήμη): ***Meno* 87c: "men are not taught anything other than ἐπιστήμη" (οὐδὲν ἄλλο διδάσκεται ἄνθρωπος ἢ ἐπιστήμην); cf. *Tht.* 198b** See further IV.C.

6 (education is a type of teaching): ***Leg.* 7.804c–d: teachers from abroad instruct young men for παιδεία;** *Prt.* 312a–b. See further III.A.

7 (teachers have τέχνη): ***Tht.* 198a–b: τέχνη of teaching mathematics; *Meno* 94b: Pericles had his sons taught in the things under the heading of τέχνη (e.g. gymnastics);** *Prt.* 311b–c: the sculptors and doctors teach young men; *Euthyd.* 276a: trivial examples of teachers are κιθαριστής and γραμματιστής. See further III.A.

8 (ἐμπειρία/μελέτη contrasts with & contribute to τέχνη): ***Resp.* 2. 374d: μελέτη contributes to τέχνη; *Resp.* 5.467a: ἐμπειρία contributes to τέχνη;** *Leg.* 1.643b–d: in practices like carpentry, experience from a young age is important (cf. 8.846d–847b). ***Grg.* 463b, 500e–501a; *Leg.* 11.938a: difference between mere ἐμπειρία and τέχνη.** See further III.B.

9 (πάρεργον contrasts with τέχνη): ***Resp.* 2.370b–c, 374c (cf. *Leg.* 8.846d–e;** *Euthyd.* 273d**): πάρεργον vs. τέχνη.** See further III.C.

10 (χειροτεχνία and βαναυσία are pejorative terms associated with τέχνη): ***Resp.* 7.522b: all the τέγναι are βάναυσοί;** *Leg.* 5.741e: citizens banned from trades lest they be corrupted by βαναυσία; ***Symp.* 203a: the man who is σοφός περὶ τέχνας ἢ χειρουργίας is βάναυσος, as opposed to δαιμόνιος.** See further III.D.

11 (a δημιουργός is a practitioner of τέχνη): ***Symp.* 186b–d: a physician is a δημιουργός, medicine is a τέχνη. Cf., for other trades, *Grg.* 454a.** See further III.E.
12 (an ἰδιώτης is the opposite of a δημιουργός): ***Leg.* 11.916b–c: used as technical terms in law, and contrasted (cf. *Plt.* 298c; *Prt.* 312b, 322c, 327c; *Ion* 531c).** See further III.E.

Note: **bold, underlined** indicates the specific words are used in the immediate context. Underline indicates the specific words are used in context, but not in the immediate passage. No underlining indicates that I have inferred what we're talking about (e.g., I have inferred τέχνη, because a non-controversial τέχνη (e.g., ἰατρική) is being discussed). On the diagram, bubbles connected by shorter lines are not more "closely" related than ones connected by longer lines. References are to sections of chapter three.

Appendix 2: Bibliographic Essay

The scholarship on τέχνη is voluminous, so the following is written as a brief guide to the lay of the land. Three already extant bibliographic sources on this topic should be noted first: the introduction to David Roochnik's *The Art of Wisdom* (1996, 1–15, esp. 3-10); Marcel van Ackeren's entry in the *Platon-Handbuch*, "*technê*-Analogie" (2009, 334–9); and Wolfgang Streitbörger's section on the secondary literature (2013, 93–278) in his book on the contemporary application of the notion of τέχνη.

First, there are the landmark, book-length studies of τέχνη in Plato: most recently, in English, Roochnik's *Of Art and Wisdom* (1996), which argues that τέχνη was not meant as a model for moral knowledge, but rather was part of a rhetorical strategy to attack the sophists and orators; in French, Anne Balansard's *Technè dans les Dialogues de Platon* (2001), which similarly argues that τέχνη was used as a strategy to critique Plato's rivals, and was re-defined in dialogical or dialectical context in each dialogue. An earlier work, Rosamond Kent Sprague's *Plato's Philosopher-King* (1976) developed the idea that the distinction (as she put it) between second- and first-order arts that was problematized in dialogues like the *Ion* is the background for the idea that the philosopher-king of the *Republic* has the second-order τέχνη of justice. Giuseppe Cambiano's *Platone e le techniche* (1971) set the terms for much later work: he stresses the importance of reading Plato in light of his contemporaries' discussions of τέχνη, and especially stands out for his reading of Plato against earlier Greek philosophers, such as Anaxagoras and the Eleatics, on this topic.[201]

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[201] See also: René Schaerer's *Epistēmē et technē* (1930); Jörg Kube's *Techne und Arete* (1969); and Morimichi Kato's *Techne und Philosophie bei Platon* (1986).

Articles or book chapters examining the meaning of τέχνη in Plato or before Plato have been equally important: alongside Roochnik's chapter on the subject ("The Pre-Platonic Meaning of 'Techne'", 17–88), Paul Woodruff's account of τέχνη in "Plato's Early Theory of Knowledge" (1990), which advocates for the view that a τέχνη must be good-directed (in the thickest possible sense, such that every τέχνη in fact reduces to a science of good and evil) and Martha Nussbaum's discussion of the pre-Platonic meaning of τέχνη in her chapter on the *Protagoras* in *The Fragility of Goodness* (1986, 89–121) have been especially influential. The latter criticizes the view put forward in Terence Irwin's *Plato's Moral Theory* (1977) that a τέχνη must have an external product. On this debate, see further Irwin (1995), who reads Plato as endorsing Aristotle's view of τέχνη as productive (that is, concerned with ποίησις, not πρᾶξις) and cf. Luc Brisson's preface to Balansard's book (2001), entitled "*Tekhnê* is not productive Craft."

Research has focused heavily on two connections: τέχνη and the critique of sophistry/rhetoric and τέχνη and medicine. In fact, these two connections are combined in Plato's *Gorgias*, where medicine as a true τέχνη is contrasted with rhetoric; and other studies have followed this trend in pairing the two. See, for example, Felix Heinimann, who sees Plato as reacting not to the τέχναι in his world but to a shared Hippocratic-sophistic notion of τέχνη that can be recovered from the Hippocratic texts (1961); and D. S. Hutchinson (1988), who reconstructs the context of Plato and Aristotle's comparisons between virtue and τέχναι via a study of the Hippocratic Corpus and the works of sophists and orators. On rhetoric, see especially James Doyle's article on the *Gorgias*, which argues for the view that, in Plato, rhetoric and philosophy were two "ethically-charged categories" (2010, 5).

On Plato's epistemological vocabulary in general, the importance of John Lyons's work (1963; 1979; 1981) cannot be overstated. The main contention of his book (1963) is that Plato's epistemological vocabulary is structured around three main nouns (τέχνη, ἐπιστήμη, and γνῶσις) and three main verbs (ἐπίστασθαι, εἰδέναι, and γιγνώσκειν), and that defined processes of substitution govern their use. In particular, he argues that ἐπίστασθαι is equivalent to τέχνην ἔχειν and this licenses a free substitituion between ἐπιστήμη and either τέχνη or γνῶσις. The view that ἐπιστήμη and τέχνη can freely intersubstitute—and crucially *without change in meaning*—has been the most widely cited result of his study. For substantial engagements with his work, see Burnyeat (2011) and Balansard (2001, 95–118).[202] On the Greek epistemological vocabulary more generally, see also Richard Parry's *Stanford Encyclopedia of Philosophy* article, "*Episteme* and *Techne*" (2014) and David Wolfsdorf's article, "'*Sophia*' and '*Epistēmē*' in the Archaic and Classical Periods" (2018).

[202] I have also written a (yet unpublished) short article on Lyons's work, problems with the ἐπίστασθαι to τέχνην ἔχειν transform, and recent trends in semantics.

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