

Articulation and the origins of proportion in archaic and classical Greece

Lian Chang

School of Architecture
McGill University, Montreal, Canada
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Abstract

This dissertation searches for the origins of western ideas of proportion in the archaic and classical Greek conceptual terrain of articulation. We think of articulation, in the first instance, as having to do with the joining of parts to fabricate an object, such as in the physical connection of pieces of wood, cloth, metal, or stone. However, the early Greek language that described these craft processes also, and inextricably, spoke in a number of ways about what it meant for a person, thing, or the world to be beautiful, healthy, and just. Taking Homer as its primary source, Part One therefore explores archaic ideas of bodily experience (Chapter One); of crafts (Chapter Two); and of the interrelations between the two (Chapter Three). These chapters lay emphasis on how the language and concepts of articulation constructed a worldview particular to early Greece. Part Two then examines early ideas of proportion, in social and political life as depicted by Homer (Chapter Four); in classical ideas about the medicalized human body and the civic body of the *polis* (Chapter Five); and in the cosmogonic theories of Empedocles and Plato (Chapter Six). In so doing, I aim to demonstrate how ideas of articulation allowed for and expanded into those of proportion, binding together the ordering of bodies, of the *kosmos*, and of crafts, including architecture.

Cette dissertation cherche l'origine des idées occidentales de proportion à partir du concept de l'articulation dans la Grèce archaïque et classique. De nos jours, l'articulation est perçue comme étant le jointolement de pièces pour fabriquer un objet, telle la connexion physique entre des pièces de bois, tissu, métal, ou pierre. Toutefois, dans le grec archaïque, les mots utilisés pour décrire ces procédés d'assemblage parlaient aussi, et inextricablement, de la signification pour une personne, une chose, ou le monde, d'être beau, sain et juste. La première section de la dissertation explore, à partir de l'œuvre d'Homère, les idées archaïques d'expérience corporelle (chapitre un); de métiers d'art (chapitre deux); puis de leurs interrelations (chapitre trois). Ces chapitres mettent l'emphasis sur la manière dont le langage et les concepts d'articulation construisirent une perception du monde particulière à la Grèce antique. Ensuite, la deuxième section examine les idées antiques de proportion, dans la vie sociale et politique telle que dépeinte dans Homère (chapitre quatre); dans les idées classiques du corps humain médicalisé et le corps humain civique de la polis (chapitre cinq); puis dans les théories cosmogoniques d'Empédocle et de Platon (chapitre six). Ainsi, cette dissertation vise à démontrer comment les idées d'articulations permirent d'une part et évoluèrent d'autre part en celles de proportions, fusionnant l'ordre du corps, du cosmos, et des métiers d'art, incluant l'architecture.

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Contents

	INTRODUCTION	1
PART ONE ARTICULATION		
1	BEING	19
	Death By Disarticulation Articulating Life Sinews and Self Fluid Articulations	
2	CRAFTING	7
	Achilles' Armor Articulate Objects Fitting Things A House like Armor	
3	CRAFTING BEING	111
	Joined for Battle The Look of Cunning Crafted Life Reintegration	
PART TWO PROPORTION		
4	PORTIONING	157
	Shares and Prizes Those who Fight in Front Equal Feasting Portioning Meat	
5	BODIES	201
	Order Good Mixture Unequal Feasting Marching in Step	
6	PROPORTIONING BODIES	257
	Articulating Mortality One, Two, Three Means as Joints	
<hr/>		
	CONCLUSION	321
	BIBLIOGRAPHY	335

Introduction

Therefore, since nature has composed the human body so that its members are duly proportioned to the frame as a whole, it appears that the ancients had good reason for their rule, that in perfect buildings the many members must be exactly commensurable to the whole general scheme.¹

This statement, from Vitruvius' introduction to the design of temples in his *Ten Books on Architecture*, seems timeless and self-evident: the proportions of the human body are written into its very nature, and from this universal source of beauty and order we find inspiration and guiding principles for what we in turn construct. Although Vitruvius lived over two thousand years ago in Rome, and the Greek temples he described originated five hundred years earlier and a thousand kilometers away in the areas surrounding the Aegean sea, his words—like the temples themselves, whose rows of austere white marble columns lend many of our own courthouses, museums, and homes not only their forms but their sense of order and stability—seem familiar. This familiarity even extends to Vitruvius' Latin: in the above quote, our “nature” is his *natura*, “proportion” is *proportio*, and “commensurable” (or, more literally, as a noun, “commensurability”) is *commensus*. And indeed, in the widest sense, what the ancients sought in their world is not so

¹ Ergo si ita natura composuit corpus hominis, uti proportionibus membra ad summam figurationem eius respondeant, cum causa constituisse videntur antiqui, ut etiam in operum perfectionibus singulorum membrorum ad universam figurae speciem habeant commensus exactionem. Vitruvius *On Architecture* 3.1.4. Trans. Morris Hicky Morgan, modified at *composuit* from “designed,” and at *commensus exactionem* from “in exact symmetrical relations.”

different from what we find today. The expression of order was rooted in bodily experience, in the way that the world and our own selves make themselves present to us. Nothing could be more human, or more universal.

But this familiarity is also deceiving. The ways in which architecture, in its Greek origins, was and is understood and encountered in relation to the larger world and to understandings of the body—and even this formulation of “the body” in the singular, in the face of human experiences that are undeniably both partial and plural—are neither inevitable nor self-evident. Nor are they particularly well understood. Our ideas about our bodies, which literally and metaphorically construct our point of view on everything else in any given time and place—and about our architecture, which frames everything that we place within our sights as human, as within the domain of culture—are so basic to our experience that shifts in this frame of reference, like the rotation of the earth, are difficult to perceive. But it is possible to observe this movement, even if, like ancient astronomers whose inscrutable measurements of the celestial orbits provided reassurance that the earth was at the center of the universe, our observations are always influenced by our own position.

Once in a while, the familiar ground of our observations gives way more radically. One such occasion was brought on by the 19th century discovery that classical temples were not white but painted. Not only painted, but painted in a combination of bright red, blue, green, yellow, and black.² More recently, evidence has also been

² As Peter Collins observes, “The announcement [by Jacques Ignace Hittorff in 1830] need not have caused the emotional disturbance it did, since traces of color on the Athenian antiquities had already been noted by Stuart and Revett in the 1750s, and described by them in their famous book. But here they had confined their observations to incidental verbal descriptions, whereas Hittorff, after his examination of the temples at Selinus, made vivid polychromatic reconstructions which were rendered even more garish when later publicized by the crude techniques of

found that at least a few important religious buildings were fitted with metal plates or hung with metal shields stripped from the bodies of vanquished enemies.³ Temples served, in their primary function, as the backdrop for sacrifice—that is, the ritual killing, bleeding, dismembering, cooking, and distribution of animals that was the central religious act in ancient Greece. They were also filled with and surrounded by various offerings to the gods, including war booty, statues, and all manner of bric-a-brac. Each temple was the home to a particular god, often made present through a statue covered in gold, ivory, and gems. These statues embodied the wonder and terror inspired by divine power, and in a sense were the distillation of power itself: constructed from booty won in war or extracted in tribute from other *poleis* (pl. of *polis*, “city-state”), they could in turn be melted down in times of war to pay for troops and triremes.

Greek temples, and thus the origins of western architecture, were all of these things, and at the same time they were measured and proportioned through the use of modules and sophisticated optical adjustments. All of this is well known, and yet it remains difficult to mesh this more culturally and materially specific information with our perception of proportion as a rarefied and abstract mathematical and aesthetic device. The aim of this dissertation in the broadest sense, then, is to try to understand the earliest ideas about proportion within their cultural context, in archaic and classical Greece.

What is this context? First, it is one in which proportion was developed and used as a tool in the design and construction of temples. We know that modules were used in the setting out of proportions, and that like the Egyptians before them and the Romans after them, the Greeks took their units of measure from the human body (Figure 0.1). Beyond this, there is surprisingly little that we can say with certainty, at

lithographic reproduction current at the time.” Collins 1998, 112. See also Brinkman et al. 2007.

³ Lippman, Scahill, and Schultz 2006. See also Jones (forthcoming).

least in terms of practices that we can consistently identify across multiple projects throughout the Greek world. Vitruvius describes different proportional schemes based on the application of a module, for which he takes the half-diameter of a column at its base to establish the sizes and arrangement of all the parts of different temple types. But as much as Vitruvius was self-conscious about, in his own words, “writing the body of architecture”—a body which at one point he promises to “perfect”⁴—what he presents is in no way an absolute theory of proportion. Instead, he gives us a collection of schemes and strategies that he tells us must be adjusted in each case by the architect, who uses his own skill and judgment.⁵ Corroborating this, archaeologists’ detailed studies of the remains of temples and construction techniques provide no firm indication that any set of methods for proportion—Vitruvian or otherwise—ever gained dominance in Greek antiquity. Measurements taken from the remains of façades or other parts of any given temple can be made to correspond with a number of conflicting schemes; it is difficult to know which, if any, were what the Greeks themselves used.⁶ Even if we did know, we would want to ask why—that is, we would still be left with the question of what the use of proportion in architecture meant.

This question cannot be answered in a straightforward manner because there is no extant theory for architectural proportion prior to Vitruvius. Such a thing may have existed: Vitruvius mentions texts on a number of temples, written by those

⁴ itaque de his, ut corpus emendatum architecturae perficiatur, insequenti volumine incipiam scribere. Vitruvius *On Architecture* 9.8.15. McEwan 2003, 6, 308n33.

⁵ Vitruvius *On Architecture* 5.5.8, 5.6.7. See also, near the very end of the treatise: “Thus by such victory, not by machines but in opposition to the principle of machines, has the freedom of states been preserved by the cunning (*sollertia*) of architects.” ita eae victoriae civitatum <civitates> non machinis, sed contra machinarum rationem architectorum sollertia sunt liberatae. 10.16.12. See also 10.16.2.

⁶ Wittkower 1960, 209.



Figure 0.1: Metrological relief from Salamis, from which various measurements, including those for the foot (*pous*), span (*spithame*), and cubit (*perchus*), can be found. Jones 2000, 76.

responsible for their design,⁷ as well as several people who wrote about *symmetria* (Latin, from the Greek *summetria*, “proportion, symmetry, commensurability”).⁸ It is

⁷ Vitruvius *On Architecture* 7.P.11-14. As J. J. Pollitt notes, “The earliest works on [Vitruvius’] list are the commentaries by Theodoros and Rhoikos on the temple of Hera at Samos and by Chersiphron and Metagenes on the temple of Artemis at Ephesos, both of which must have been written around the middle of the 6th century B.C. and thus have stood virtually at the beginning of the history of Greek prose.” More treatises were written in the 5th and 6th centuries BCE but these, too, are lost. Pollitt 1995, 20.

⁸ Praeterea minus nobiles multi praecepta symmetriarum conscripserunt, uti Nexaris, Theocydes, Demophilos, Pollis, Leonidas, Silanion, Melampus, Sarnacus, Euphranor. non minus de machinationibus, uti Diades, Archytas, Archimedes, Ctesibios,

often assumed that these were short accounts of individual projects or technical descriptions about the use of modules, although some may have been wider in scope: we simply don't know, as none of them have survived.

A number of later writers also mention a treatise on proportion, not for architecture but for statues (of the male body), written by Polykleitos in the late 5th century BCE. But the evidence is underwhelming. The earliest mention of Polykleitos is from Philo, some two centuries later, who simply ascribes to Polykleitos the statement that “perfection arises *παρὰ μικρόν* (*para mikron*) from many numbers (*ἀριθμῶν*, *arithmos*).”⁹ There has been a great deal of debate about what *para mikron* could mean here. J. J. Pollitt classifies the arguments into four general groups: the first translates *para mikron* as “by a minute amount,” suggesting that, in Pollitt’s words, “the success or failure of a work depends on very subtle differences in measurement”; the second translates it as “by means of a small unit,” that is, by the use of a module in a system of proportion or *summetria*; the third translates it as “step by step,” laying emphasis on a sequential application of measurements; and the fourth translates it as “except for a little,” or “almost” from many numbers, suggesting that perfection comes not from proportion itself, but from, as Pollitt describes it, “something else—details emanating from the artist’s intuitive sense of rightness.”¹⁰ It is difficult to

Nymphodorus, Philo Byzantius, Diphiolos, Democles, Charias, Polyidos, Pyrros, Agesistratos. Vitruvius *On Architecture* 7.P.14.

⁹ τὸ γὰρ εὖ παρὰ μικρόν διὰ πολλῶν ἔφη ἀριθμῶν γίγνεσθαι. DK40b2. Trans. J. J. Pollitt.

¹⁰ Pollitt 1995, 21. See also Mark 1995, 28. In terms of interpretations of the Doryphoros statue itself, as Gregory Leftwich has observed, scholars have argued whether its proportions follow a modular system (Leftwich cites O. Benndorf, E. Guillaume, A. Furtwängler, A. Mégret, C. Anti, S. Ferri, and E. Lorenzen), a fractional system (A. Kalkmann), an arithmetic mean (A. F. Stewart), a geometric mean (R. Tobin), or the golden section (D. E. Gordon and D. E. L. Cunningham). Leftwich 1995, 38. See also Hurwit 1995, 10-11. In his own analysis, Pollitt also

draw firm conclusions when there is so much uncertainty surrounding such small scraps of information.

Galen, in the 2nd century CE, mentions Polykleitos as someone who championed proportion (συμμέτρου, *summetros*) between extremes in the body's mixture (κράσεως, *krasis*) and in its outward physical attributes, such as fleshiness or leanness, hairiness or baldness, hardness or softness, hot or cold.¹¹ But these sound like Galen's ideas, and it is almost certain that Galen used Polykleitos as he did Hippocrates—that is, as a revered (and therefore legitimizing) predecessor whose

draws on what little can be said about Pythagorean mathematics, as well as on the fact that the earliest extant Greek temple with “a thoroughgoing series of proportional relationships among virtually all its parts” is the temple of Athena at Paestum, from approximately 500 BCE—that is, from a time and place where the Pythagoreans were flourishing. Pollitt 1995, 22.

¹¹ “The indications of a proportionate *krasis* in the entire constitution of the living being are a mixed complexion of red and white, hair a medium yellow and rather curly and a proportionate degree of fleshiness in amount and quality. For this sort of body is exactly between excesses on all sides...Now the commensurate body is none of these [ie. partakes of no extremes]; but like the Canon of Polykleitos it is the epitome of all proportion, so that when one touches it, it appears neither soft nor hard, neither hot nor cold, and when one looks upon it, it seems neither hairy nor bald, neither fat nor thin, nor exhibiting any other disproportion.” συμμέτρου κράσεως γνωρίσματα πρὸς ὅλην τοῦ ζώου τὴν ἕξιν ἢ χροιά μὲν ἐξ ἐρυθροῦ καὶ λευκοῦ συμμιγῆς· αἱ τρίχες δὲ ξανθαὶ μετρίως καὶ οὐλαὶ τὰ πολλὰ· συμμετρία δὲ σαρκώσεως ἐν ποσότητι καὶ ποιότητι. Μέσον γὰρ ἀκριβῶς ἐστὶ τὸ τοιοῦτον σῶμα πασῶν τῶν ὑπερβολῶν...οὐδὲν οὖν τούτων ἐστὶ τὸ σύμμετρον, ἀλλ’ οἷος ὁ Πολυκλείτου κανὼν εἰς ἄκρον ἤκει συμμετρίας ἀπάσης, ὡς ψαυόντων μὲν μήτε μαλακὸν φαίνεσθαι, μήτε σκληρὸν, μήτε θερμὸν, μήτε ψυχρὸν, ὀρώντων δὲ μήτε λάσιον, μήτε ψιλὸν, μήτε παχὺ, μήτε ἰσχνὸν, ἢ τινα ἐτέραν ἔχον ἀμετρίαν. Galen *The Art of Medicine* 1.342-3 Kühn. Trans. Gregory Leftwich.

teachings happen to completely align with his own. So it is difficult to take Galen's testimony at face value when he says, in a passage that also echoes some of Vitruvius' phrases, that beauty resides

In the proportion (συμμετρία, *summetria*)...of the members: of finger, obviously, to finger, of all the fingers to palm and wrist, of these to forearm, of forearm to upper arm, and of all to all, as is written in Polykleitos' *Canon*.¹²

Gregory Leftwich has worked on reconstructing Polykleitos' notions on proportion based on this and similar evidence from Galen and other late sources. While Leftwich's study provides a precedent for my own in its intuition that a deep correlation exists between ideas of craft and the human body in classical Greece, I would suggest that given the unreliability of Galen's testimony, Leftwich has taken these investigations as far as—and perhaps a bit farther than—they can go.¹³

We face a similar difficulty with Pythagoras and the Pythagoreans. Scholars tend to agree that the Pythagoreans were interested in the Orphic notion of the transmigration (reincarnation) of the soul, and also in the way that number (*arithmos*) harmonizes

¹² τὸ δὲ κάλλος οὐκ ἐν τῇ τῶν στοιχείων, ἀλλ' ἐν τῇ τῶν μορίων συμμετρίᾳ συνίστασθαι νομίζει, δακτύλου πρὸς δάκτυλον δηλονότι καὶ συμπάντων αὐτῶν πρὸς τε μετακάρπιον καὶ καρπὸν καὶ τούτων πρὸς πῆχυν καὶ πῆχεως πρὸς βραχίονα καὶ πάντων πρὸς πάντα, καθάπερ ἐν τῷ Πολυκλείτου Κανόνι γέγραπται. Galen *On the Doctrines of Hippocrates and Plato* 5.3.15-16 Kühn. Trans. Phillip de Lacy.

¹³ For Leftwich, “Galen's reverence for Hippokrates and his preoccupation with the *Canon* as an exemplar for the perfect body” suggests an influence of Hippocratic medicine on Polykleitos, rather than Galen's own synthesis of viewpoints. Leftwich 1995, 39. See also Leftwich 1987, 75-76. Leftwich similarly presents a meticulous argument involving precise anatomical knowledge of the different muscles in the human limbs. Leftwich 1995, 41-47. But, as we know from Kuriyama and others, this notion of “muscle,” let alone such detailed anatomical knowledge of them, simply did not exist in Polykleitos' and the Hippocratics' time.

the universe (*kosmos*). Beyond this, we also know that Archytas, a Pythagorean and friend of Plato, was very interested in proportion, and it seems almost certain that Pythagoras himself thought about it too. But the problem is that Plato's ideas, which seem to have drawn on Pythagorean ones, were so overwhelmingly influential that any evidence for the Pythagoreans that appears after Plato—which is very nearly all of it—is suspect. This fact has not always been obvious: early commentators, including the eminent A. E. Taylor, have seen Plato's *Timaeus* as a relatively unoriginal text, as “a deliberate attempt to amalgamate Pythagorean religion and mathematics with Empedoclean biology.”¹⁴ Today, most scholars agree that Plato seems so “Pythagorean” because the Pythagoreanism that has been passed down to us, through a variety of ancient sources, is so very Platonic. On the other hand, Plato did not invent his theories out of thin air, and Pythagorean influence on his ideas about proportion is likely—but as we know almost nothing about the Pythagoreans, this defers rather than answers our questions.

These difficulties make the question no less tantalizing. To understand what proportion might have meant in the real, colorful, and bloody context in which it first emerged would give us a new insight into the ideas of Vitruvius as it would into our own notions on the relationships between the body, number, and architecture. Most significantly, in the context of this dissertation, it would allow for an understanding of the real similarities and differences between early ideas of proportion and the notions that have been passed down to us today: the role of proportion has changed dramatically over time in both pragmatic and symbolic senses, as Rudolph Wittkower, Dalibor Vesely, Alberto Pérez-Gómez, and others have discussed. In modernity, the increasingly secular role of architecture, as Wittkower points out;¹⁵ and the shift in the uses of number from the symbolic and metaphysical to—on the one hand—the domain of engineering, and—on the other—notions of aesthetic

¹⁴ Taylor 1928, 11.

¹⁵ Wittkower 1960.

composition, Pérez-Gómez argues;¹⁶ have irrefutably and irreversibly changed the place of proportion in architecture.

This observation, as a premise for this dissertation, should not be taken as a call to return to old ideas or methods, but rather as a sign that we may be better equipped to understand our contemporary situation, and to chart future directions, with a clearer understanding of how we got to our present position. This motivation distinguishes this study from those of P. H. Scholfield and Richard Padovan, whose useful histories of the changing theories of proportion over the centuries are explicitly framed by their support for the revival of proportional techniques in the practice of architecture. For Scholfield and Padovan, proportion is ever-present and “out there” in the world, visible if only we look for it; their studies are, accordingly, more interested in documenting the ways in which proportion has been identified and used than in searching for its origins. In contrast, while I am not interested in denying that number and proportion manifest themselves in the natural world in regular and often startling ways, my research is based on the premise that our culture’s fascination with understanding ourselves, our creations, and the world around us through number and proportion is not inevitable or “natural,” but a product of culture.

This has two consequences for my approach. The first is that, to my knowledge, I focus on earlier sources than any other study on proportion: this dissertation examines Homeric and other early evidence at length as a baseline for archaic Greek culture, before dealing with the Pre-Socratics, the Hellenistics, and Plato, who are generally considered the earliest authors to provide evidence of ideas on proportion. The second difference is that—following Jean-Pierre Vernant’s anthropological approach to the study of ancient Greece, in which Greek culture is assumed to be foreign, yet internally consistent in its ideas, rituals, and creations—my study is more keenly interested than others in the differences between early ideas of proportion and our own. Most discussions of proportion within architectural history and theory focus on,

¹⁶ Pérez-Gómez 1983, 8-12.

in Scholfield's words, "visual proportion, with the relationships of the shapes and sizes of objects which please the eye";¹⁷ with proportion in musical harmonies often mentioned only as an analogy, and other kinds of proportion mentioned not at all. For me, what is most interesting is how remarkably consistent classical Greek notions of proportion are across what we consider to be different domains—as, for example, in the ordering of social and political life; in regulating the mixtures of fluids, powers, and other components that govern health for the Hippocratics; and in the construction of the *kosmos* according to Plato's *Timaeus*.

There are a number of scholars in the field of architectural history and theory who have laid out many of the questions and much of the material that I pursue, thus making my research possible. Joseph Rykwert, perhaps most importantly, has examined relationships between the human body and the building in a variety of cultures and from numerous angles, based on close readings of material culture and textual evidence; his work has been crucial in opening up the overall field of inquiry. In his encyclopedic work *The Dancing Column: On Order in Architecture*, Rykwert investigated, in particular, the analogy between the human body and the column. John Onians draws on this relationship in his "Greek Temple and Greek Brain," where he argues that the peripteral temple, with its rows of columns, can be understood a monumentalization of the hoplite phalanx. Onians' argument has been fruitful for me and is one that I also pursue, albeit as part of a rather different argument. George Hersey, in *The Lost Meaning of Classical Architecture: Speculations on Ornament from Vitruvius to Venturi*, examines the forms and names of the parts of different classical temple types. In observing that many of these parts derive from the myths and rituals of sacrifice, he provides a powerful reminder of the original use and context of these buildings. Hersey takes an adventurous approach to the study of architectural history, assuming no ideas or cultural artifacts to be irrelevant or out of bounds, and I have benefited from this approach in general, as well as, in particular, from his attention to animal sacrifice.

¹⁷ Scholfield 1958, 3.

My method differs from those of Rykwert, Onians, and Hersey, however, in the sense that I am interested less in the analogies between specific parts of the human body and of a building, than in the reasons why a human body and a building were in the first place understood as so intimately comparable. This dissertation therefore says very little about actual buildings—and, because there are no extant architectural texts from archaic or classical Greece, it only tangentially addresses architectural theories as such. Instead, I mine a variety of sources that I believe have something to say about craft, whether directly or—more often—indirectly. In this sense, and in terms of the specific arguments that I make about the concept of articulation in early Greek culture, I draw in particular on the work of Alberto Pérez-Gómez and Indra McEwan. Alberto Pérez-Gómez has written on the importance of the “mythical first architect” Daidalos and of *daidala* (a set of well-articulated objects that existed in literature, which I will discuss in Chapter Two) for the origins of western architecture.¹⁸ Indra McEwan, in *Socrates’ Ancestor*, writes on Daidalos, on joints, and on the realm of politics;¹⁹ and in *Vitruvius: Writing the Body of Architecture*, on the body analogy and again, on politics.²⁰

I am also following an important argument made by Dalibor Vesely in “The Architectonics of Embodiment” that proportion did not, in the first place, have to do with mathematics but with linguistic and symbolic analogies, as well as with—in Vesely’s words—“the articulation of the world as a whole.”²¹ While Vesely develops his argument in a more philosophical (and less historical) manner than I do, and in the much more compact form of an essay, the core of his argument on the origins of proportion is corroborated by the results of this dissertation. However, as a reading of his argument is benefited by an understanding of the material that I discuss in the

¹⁸ Pérez-Gómez 1985.

¹⁹ McEwan 1993.

²⁰ McEwan 2003.

²¹ Vesely 2002, 37-38.

next six chapters (and, in fact, of much more than that), I will defer my discussion of it to the conclusion.

A few studies from outside the field of architecture were particularly influential in the development of my argument. Shigehisa Kuriyama's *The Expressiveness of the Body and the Divergence of Greek and Chinese Medicine* presents articulation as a comprehensive and rich concept whose significance, for the Greeks, extended across what we distinguish as diverse areas of thought. This study provided a frame of reference and starting point for much of my research, and I have often tried to emulate its approach. Françoise Frontisi-Ducroux and Guillemette Bolens present powerful and original arguments, based on close readings of Homer and other sources, for an understanding of *daidala*²² and of warrior bodies,²³ respectively, as articulated. Their work has allowed me to make the specific arguments that I pursue in Chapters One and Two. More generally, Marcel Detienne and Jean-Pierre Vernant's *Cunning Intelligence in Greek Culture and Society* establishes the notion of *mētis*, or cunning, which I rely on in Part One in order to discuss how one's bodily expression (in physical form and movements) and craft processes and products can be understood as of a piece. In Chapters Four and Five, my reading of animal blood sacrifice follows those of Jean-Pierre Vernant²⁴ and Jean-Louis Durand,²⁵ who examine myth, language, politics, and ritual to put together a coherent view of this practice.

I should not try the reader's patience any longer without explaining, in brief, my argument. In its search for the origins of the concept of proportion in ancient Greece, this dissertation deals with a range of textual sources from the period extending from Homer to Plato (roughly from the 8th to 4th centuries BCE, or the archaic and classical

²² Frontisi-Ducroux 1975.

²³ Bolens 2000.

²⁴ Vernant 1989.

²⁵ Durand 1989.

periods), thus spanning the time between the earliest literature in the West to the first sustained and deliberate theory of proportion. I argue that there was in archaic Greece a coherent conceptual terrain related to the idea of articulation that was formative in the origins of ideas on proportion. What is fascinating to me about the early Greek sensibility about articulation is that while it has to do with the tangible connection of parts in the way that, for instance, the Greeks built by joining one stone to the next, it also described much more: for example, articulation just as readily described a seemingly diffuse, yet powerful, state of coherence that did not necessarily have to do with any kind of tangible or material parts. As such, early Greek ideas on articulation are at once completely familiar and utterly foreign, and it is worthwhile to spend some time examining them. Part One does just this, primarily drawing on the language and stories in Homer's *Iliad* and *Odyssey* in order to think about the lived experience of the physical self (Chapter One, "Being"), the making of well-joined things (Chapter Two, "Crafting"), and the relationships between these two (Chapter Three, "Crafting Being").

Part Two then looks at how this culture of articulation allowed for the development of ideas on proportion. Chapter Four, "Portioning," first looks at the earliest references to these ideas, which happen to deal with the organization of political life through proportioned exchanges: first, at how bonds between men (that is, a kind of social articulation) are maintained in Homeric society through the exchanges of gifts and other things; and then, at how the social and political body in classical times is constituted by the ritual of animal sacrifice, in terms of the disarticulation of the animal body and the proportioned distribution of meat. Chapter Five, "Bodies," examines ideas about political and medical bodies—that is, about the classical *polis*, and the human body as constructed by the Hippocratics and Pre-Socratics. This chapter looks at the notion of *kosmos* as "order," and at the idea of health as a *eukrasia* or "good mixture" of elements or humors. It also looks at how order is both threatened and maintained in the body of the *polis* through the institution of the symposium—which I describe as an "unequal feast" and a kind of mirror image of animal sacrifice—as well as through the practice of hoplite warfare. In the final

chapter (Chapter Six, “Proportioning Bodies”), I take a brief look at the ideas of Empedocles before turning to Plato, in order to understand how he envisions the crafting of the *kosmos* and of humans within it. Quite simply, for Plato, proportion is a bond: it guarantees the articulation of things.

It is worth acknowledging here that music and mathematics, two areas of obvious interest in discussions of Greek ideas on proportion, are not treated in a sustained manner. While parts of this dissertation would have been broadened by a more careful discussion of these areas, if space and my expertise had allowed, I felt in the end that these fell outside my central focus on the most telling discussions of articulation and proportion in Homer, and on the continuations of these themes in classical notions of political, medical, and crafted bodies. It is also one of my arguments that although proportion has often been expressed in mathematical terms, it—as a proposition about how we can better order ourselves and our world through our politics, medicine, and crafts—did not, in the first place, have to do with mathematics. It stems, instead, from one of our culture’s earliest worldviews, from the way the early Greeks made sense of their surroundings and their lives. I will argue that this worldview can in part be explicated through the early Greek understanding of the one and the many and of how coherence is established—that is, through articulation.

* * *

A technical note on the use of Greek is in order before we begin:

Throughout this dissertation, I am interested in the use of specific words and concepts that have to do with articulation, in terms of the coherence, mixing, and joining of components; as well as with proportion, in terms of the relative or numeric ordering of components within a larger entity or whole. A wide range of Greek words are used to describe these conditions, some of which we will follow closely through certain strands of archaic and classical Greek thought. But the linguistic terrain that

marks out these notions is vast, and I am not convinced that any particular set of terms formed the primary definition of these concepts in archaic and classical Greece. For this reason, I continue to use the English terms “articulation” and “proportion” to refer to these concepts in a general sense, while also providing, transliterating, and translating the Greek where the specific word or phrase is important. While no method of dealing with a foreign language is without its drawbacks, I feel that this allows us access to what strikes me as most interesting about some of these terms—which is that the same word will often be used to describe articulation or proportion in a wide range of circumstances, such as the joining of musical notes, of pieces of leather or metal, and of fluids or powers within the human body—while also emphasizing the coherence of meaning across a number of terms or phrases. This tactic also allows readers without knowledge of Greek to easily follow my argument, and to track the terms that I transliterate (in the nominative singular for nouns and adjectives, and in the first person singular present active for verbs), while also providing the Greek for those who wish to consult it.

PART ONE: ARTICULATION

Chapter One: Being

Let me offer you two images, two climactic encounters between the protagonists of the *Iliad* and the *Odyssey*. In the first, Hector, after being chased around the walls of Troy three times by Achilles, makes his last stand. He and Achilles face each other. Achilles wears the new armor made for him by Hephaestus while Hector—the lesser man—wears Achilles’ old armor, which he stripped off Patroclus’ corpse. Achilles delivers a fatal blow to Hector near his clavicle and Hector falls to the ground.

Achilles stands over him, hurling insults. He boasts “I...who have loosened your knees (ἐγὼ...ὅς τοι γούνατ’ ἔλυσσα).”¹ Aware that he is dying, Hector begs for his corpse to be returned to the Trojans for proper burial, but is disdainfully rebuked by Achilles. Hector dies.

In the second scene, Odysseus has returned home and, with the help of his son Telemachus and some loyal servants, has slain the suitors. He now faces his wife Penelope in order to convince her of his identity and to be reintegrated into his household. Ever cautious, Penelope tests him by asking her maid to move their bed out of the bridal chamber for Odysseus to sleep upon. With indignant pride, Odysseus meticulously describes how he made the bed from the massive trunk of an olive tree, a fact that made it impossible to move the bed. This is the secret sign Penelope had been waiting for; finally recognizing her husband, “her knees and dear heart were

¹ Homer *Iliad* (hereafter *Il.*) 22.334-35. Except where noted, translations from the *Iliad* and *Odyssey* are modified from the translations by A. T. Murray, as revised by William F. Wyatt for the *Iliad*, and as revised by George E. Dimock for the *Odyssey*.

loosened” (τῆς δ’ αὐτοῦ λύτο γούνατα καὶ φίλον ἦτορ).² Bursting into tears, she runs to him, throwing her arms around his neck and kissing his face. Odysseus has returned home.

Why is the same phrase, of the loosening of knees (*luō* is “to loosen,” and *gounata*, pl. of *gonu*, is “knees”), used to capture these two emotional and decisive, but very different, situations? What does it mean to have one’s knees loosened? Answering these questions in the context of the *Iliad*, the *Odyssey*, and archaic Greek culture more generally will be the task of Part One. We’ll begin with Hector and Achilles. This scene is rich and provides a window onto analyses of the articulation and disarticulation of bodies and of the role of articulation in living beings (Chapter One). It also allows us to think about the role of articulated crafted things including a set of objects known as *daidala* (Chapter Two). Chapter Three, which examines the continuity of being and crafting in Homer, will conclude with a reading of articulation in Penelope’s reconciliation scene, thus bringing together these discussions with an example that has surprising parallels with the scene of Hector’s death. These two examples provide Part One with a roadmap for us to unpack the early Greek concept of articulation, while we also lay out three overall areas of investigation that were of special importance to the Greeks, particularly in their thinking on proportion: “being” or conceptualizations of the body, “crafting” or the making of artifacts, and “crafting being,” or the interdependence of our bodily experiences and actions as social beings.

Death By Disarticulation

Achilles is known as the “best of the Achaeans (ἄριστον Ἀχαιῶν).”³ His wrath against Agamemnon, which causes him to hold himself aloof from fighting alongside

² Homer *Odyssey* (hereafter *Od.*) 23.205.

his fellow Achaeans (or Greeks) in the Trojan War, is the theme of the *Iliad*.⁴ But when Hector kills Achilles' beloved Patroclus, Achilles' wrath shifts from Agamemnon to Hector and he is inspired to return to battle. This is a portentous decision that turns the tide of the war and leads to the death of the Trojan prince Hector, in one of the most significant and emotionally charged scenes in all of Greek epic.

Book 22 opens with Hector at the gates of Troy while the Trojans catch their breath within the walls. Hector's father Priam sees Achilles "as he sped all-gleaming over the plain" towards Troy.⁵ In the following lines, as Priam watches with dread, Achilles is described as "bright,"⁶ like the star of harvest-time with shining rays,⁷ and with bronze that shone around his breast as he ran.⁸ Priam and his wife Hecuba desperately plead with Hector to fight from the safety of the walls, but Hector is determined to face Achilles and stand his ground. Nonetheless, when he sees Achilles for himself—"and all around the bronze flashed like the gleam of blazing fire or of the sun as it rises"⁹—he is seized with trembling and flees in terror.

³ See, for example, ἄριστον Ἀχαιῶν at *Il.* 1.244, 412, 16.274; and ἄριστος Ἀργείων at 16.271-2. Agamemnon is also described as ἄριστον Ἀχαιῶν at 1.91 and 2.82; and his men as ἄριστοι at 2.577. Nagy 1979, 26.

⁴ The word "wrath (μῆνιν)" in fact, is the first word of the poem (and therefore the first word we have of western literature), and in the first two lines we are told that this wrath will result in innumerable sufferings for the Achaeans. *Il.* 1.1-2.

⁵ παμφαίνονθ' ὥς τ' ἀστέρ' ἐπεσσύμενον πεδίῳ *Il.* 22.26. Trans. A. T. Murray.

⁶ λαμπρότατος *Il.* 22.30.

⁷ ὅς ῥά τ' ὀπώρας εἶσιν, ἀρίζηλοι δέ οἱ αὐγαὶ / φαίνονται πολλοῖσι μετ' ἀστράσι νυκτὸς ἀμολγῶ, / ὃν τε κύν' Ὠρίωνος ἐπὶ κλησὶν καλέουσι. *Il.* 22.27-29.

⁸ ὥς τοῦ χαλκὸς ἔλαμπε περὶ στήθεσσι θεόντος. *Il.* 22.32.

⁹ ἀμφὶ δὲ χαλκὸς ἐλάμπετο εἵκελος αὐγῇ / ἢ πυρὸς αἰθομένου ἢ ἡελίου ἀνιόντος. *Il.* 22.134-35. Trans. A. T. Murray.

Achilles chases him around the walls of Troy three times before Athena appears in the guise of Deiphobus to persuade him to stop and face his foe. Hector asks Achilles to make a pact that the winner would return the loser's body to his people, but Achilles rejects this suggestion outright and throws his spear. He misses. Hector throws his spear and it rebounds off Achilles' shield. Finding that he has no more spears and that Deiphobus is not in fact by his side, Hector realizes that he is about to die. He draws his sword and approaches Achilles. Achilles looks over Hector's armor and drives his spear in a gap in his armor—the one place where his flesh is visible—at his clavicle.¹⁰

In his final breaths, Hector begs Achilles to return his corpse to the Trojans for it to receive a proper burial by fire, promising him a ransom of bronze and gold. Evoking the Greek posture of supplication, which typically involved kneeling and/or clasping the knees of one's potential benefactor, Hector says "I beg you by your life (*ψυχῆς*, *psuchē*) and knees (*γούνων*, pl. of *gonu*) and your own parents (*τοκῆων*)."¹¹

Achilles' response is scornful—*μή με κύον γούνων γουνάζωο μὴ δὲ τοκῶν*¹²—and involves a play on words: the verb *gounazomai* literally means "to kneel" but typically, as here, it means "to beseech, implore," and he repeats Hector's phrase of "knees and parents"—so this phrase might, however awkwardly, be translated as something like "Dog, do not kneel by my knees and my parents." (The association of knees and parents here also recalls the Greek tradition of fathers placing their newborn babies on their knees to accept them as their own—a tradition which

¹⁰ κληῖδες *Il.* 22.324.

¹¹ "life" here is *psuchē*, and "knees" are *gounata*. λίσσοι' ὑπὲρ ψυχῆς καὶ γούνων σὼν τε τοκῶν *Il.* 22.338. Homer also tells us that although Hector's wound is fatal it has not affected the windpipe, allowing him to exchange his final words with Achilles. 22.328-29. Bolens 2000, 29.

¹² *Il.* 22.345. A. T. Murray translates this phrase as "Implore me not, dog, by knees or parents."

suggests the common etymology between *gonu* or “knee,” *gignomai* or “to give birth,” *genos* or “offspring, kin” and *gnēsios* or “genuine.”¹³) Achilles refuses to return Hector’s corpse to his parents—to the knee of his father, as it were—for a proper burial, even if, as he says, Hector’s father were to offer his weight in gold.¹⁴ And he tells Hector that “I wish that somehow my μένος (*menos*, “might, will”) and θυμός (*thumos*, “breath, spirit”) might drive me to carve your flesh and eat it raw because of what you have done,”¹⁵ adding Hector that the dogs and birds will divide (that is, eat) his corpse.¹⁶ Hector then prophesies Achilles’ death even as his own death enshrouds him, and his ψυχή (*psuchē*, “life, ghost”) flees from his limbs.¹⁷

¹³ See Onians 1951, 176. This root also gives us the English “generation,” “genuflect,” “genuine,” etc.

¹⁴ οὐδ’ εἴ κέν τις αὐτὸν χρυσῷ ἐρύσασθαι ἀνώγοι / Δαρδανίδης Πριάμος *Il.* 22.351-52.

¹⁵ αἰὲν γὰρ πῶς αὐτόν με μένος καὶ θυμός ἀνήη / ὥμ’ ἀποταμνόμενον κρέα ἔδμεναι, οἷα ἔοργας, *Il.* 22.346-47. Trans. A. T. Murray.

¹⁶ ἀλλὰ κύνες τε καὶ οἰωνοὶ κατὰ πάντα δάσσονται. *Il.* 22.354. To be denied proper funeral rites, which included burning, was a fate worse than death because it meant that one’s *psuchē* (life, ghost) would not properly get into Hades. Rawness was associated with barbarism because of the importance of fire in animal sacrifice; for Hector’s raw body to be divided among dogs and birds is a grotesque inversion of the ritual of sacrifice, and by calling Hector a dog and by promising that his corpse will be eaten by dogs, he is connecting Hector’s violation in killing Patroclus to this punishment that Achilles will mete out in return. See Chapter Four for *dateomai* and for more on sacrifice.

¹⁷ ὥς ἄρα μιν εἰπόντα τέλος θανάτοιο κάλυψε, / ψυχή δ’ ἐκ ῥεθέων παμένη Ἄϊδος δὲ βεβήκει *Il.* 22.361-62. Hector prophesies Hector’s fate just before, at 22.355-60.

The Achaeans gather round, mocking and wounding Hector's corpse. Achilles orders the city to be surrounded then changes his mind, deciding instead to first bury Patroclus. He returns to the Achaean camp, dragging Hector's body behind his chariot by thongs of oxhide strung through his tendons from heel to ankle.¹⁸ The city of Troy weeps and mourns; Priam is distraught and has to be physically prevented from rushing to the Achaean camp to beg for his son's body, while Hector's wife Andromache is unaware of what has taken place until she hears the wailing from the city walls and her γυῖα (*guia*, which we'll translate as "joints" for now) quake.¹⁹ A moment later, she tells her handmaids that her knees (γοῦνα, pl. of *gonu*) are stiff beneath her²⁰—and with her weeping, Book 22 closes.

Let's consider the spot where Achilles fatally wounds Hector: "where the κληῖδες (*klēides*, pl. of *kleis*) hold the neck up off from the shoulders—the throat, where the destruction of the ψυχή (*psuchē*) is quickest."²¹ In anatomical terms, the *klēides* refer to the clavicles. But *kleis* more generally names a part that connects two things without collapsing the distance between them: in Homer, it refers to things like bolts, hooks, and rowing benches (which span a distance between two other elements).²² It

¹⁸ *Il.* 22.396-7. Cf. the similar mutilation of Patroclus' corpse at *Il.* 17.290.

¹⁹ κωκυτοῦ δ' ἤκουσε καὶ οἰμωγῆς ἀπὸ πύργου: / τῆς δ' ἐλελίχθη γυῖα, *Il.* 22.447-8.

²⁰ νέρθε δὲ γοῦνα / πῆγνυται *Il.* 22.452-53.

²¹ ἦ κληῖδες ἀπ' ὤμων αὐχέν' ἔχουσι / λαυκανίην, ἵνα τε ψυχῆς ὤκιστος ὄλεθρος *Il.* 22.324-25.

²² For *kleis* as a bolt, see: Hephaistos had joined closely-fitted doors to their doorposts with a secret bolt (*kleis*), πυκινὰς (*puknos*) δὲ θύρας σταθμοῖσιν ἐπήρσε (*arariskō*) / κληῖδι κρυπτῇ *Il.* 14.167-68 (for more on *puknos* see Chapter Seven); and κληῖσαι (*kleiō*, to shut) κληῖδι *Od.* 21.241, *Od.* 1.442, 4.802, 4.838, and *Il.* 24.455; as a key-like instrument for doors, see: αὐτίκ' ἄρ' ἢ γ' ἱμάντα θοῶς ἀπέλυσσε κορώνης, / ἐν δὲ κληῖδ' ἦκε, θυρέων δ' ἀνέκοπτεν ὀχῆας / ἄντα

is, above all, an articulation. Twice in the *Iliad*, the *klēides* are described as the deadliest spot to be wounded.²³ Struck in his *klēides*, Hector falls, and Achilles stands over him, exulting, saying “I...who have loosened your knees.”²⁴ The immediate question here is: why does Achilles say that he has loosened Hector’s knees if the site of the fatal injury—indeed, the only injury that Achilles inflicts on Hector—is clearly described as at the clavicle?

To begin answering this question, we might notice the common status of the clavicle and the knees as significant points of articulation. And here we can turn to Guillemette Bolens, who has cataloged and analyzed each warrior injury and death in the *Iliad* to find that the Homeric warrior dies—and therefore lives—by his articulations.²⁵ It turns out that *luō*, “to loosen, unbind, resolve a whole into its parts,” is the verb most frequently used in the *Iliad* to describe death; and when used in this sense it normally takes for its object either (and interchangeably) the *guia* or *gounata*.²⁶ This is true no matter what the cause: a spear can fatally strike the neck,

τιτυσκομένη *Od.* 21.46-48, *Od.* 21.50, and *Il.* 6.89; as a hook on a clasp, see κληῖσιν ἐϋγνάμπτοις ἀραρυῖαι (*arariskō*) *Od.* 18.294; as a rowing bench in a ship, see *Il.* 16.170, *Od.* 2.419, 8.37, and 12.215; and as an anatomical part between the shoulder, neck, and back, see τὸν δ’ ἕτερον ξίφεϊ μεγάλῳ κληῖδα παρ’ ὤμον / πλῆξ’, ἀπὸ δ’ αὐχένος ὤμον ἐέργαθεν ἥδ’ ἀπὸ νώτου. *Il.* 5.146-47, and for more wounds to the clavicle, *Il.* 5.579, 17.309, 21.117. The English “clavicle” derives from the Latin *clavicula* or “little key,” which is etymologically connected to the Greek *kleis*.

²³ ὅθι κληῖς ἀποέργει / αὐχένα τε στήθος τε, μάλιστα δὲ καίριόν ἐστι, *Il.* 8.325-26 and similarly, as we saw above, 22.325.

²⁴ ἐγὼ...ὅς τοι γούνατ’ ἔλυσα, *Il.* 22.335.

²⁵ Bolens 1999, Bolens 2000. For another reading of war wounds in the *Iliad*, which attempts to reconstruct events from a forensic or medical perspective, see Saunders 1999.

²⁶ Bolens 2000, 40-42. See also Onians 1951, 180.

chest, or belly, and in the next phrase, Homer says that the victim's *guia* or *gounata* are loosened (*luō*).²⁷ Bolens argues that, in contrast, wounds described through the flowing of blood are dramatic, but less often fatal than wounds described through disarticulation.²⁸

Homer's account of Hector's death did not sit well in medieval times; according to Bolens, when Hector's death is re-told by Benoît de Sainte-Maure in the 12th century, it is described rather differently. Instead of a breastplate, this Hector wears a double coat of mail, which Achilles' spear pierces on its way to penetrating his body. Hector's liver and lungs spread over his saddle and he dies, pale and pallid.²⁹ This Hector dies not by disarticulation, but by the passing of organs from the interior to exterior, an event marked by a change of skin color. And whereas in Homer, Hector's corpse is dragged from Achilles' chariot by thongs of oxhide piercing his sinews (τένοντε, dual of *tenōn*) from the heel to the ankle,³⁰ in the medieval version his body is mutilated through the extraction of intestines, liver, lungs, and other entrails and the spreading of an ointment inside and outside the body.³¹

²⁷ See, for example, *Il.* 16.312, 341, 400, and 465.

²⁸ See, for example, Bolens 2000, 21-24.

²⁹ E quant l'aparceit li coilverz, — / C'est Achillès, qui le haeit, — / Cele part est alez tot dreit. / Dreit a lui broche le destrier: / Nel pot guarir l'auberc doblie / Que tot le feie et le poumon / Ne li espanse sor l'arçon. / Mout le trebuche tot envers: / En poi d'ore est pales e pers. Benoît de Sainte-Maure *Le Roman de Troie* 16222-16230. Bolens 2000, 11.

³⁰ *Il.* 22.396-7. Cf. the similar mutilation of Patroclus' corpse at *Il.* 17.290. Bolens 2000, 11.

³¹ "E le ventre del cors sachié. / Oste en ont bien la coraille, / Feie e poumon e l'autre entraille. / Le cors dedenz ont embasmé, / Sin i mistrent a grant plenté, / E si refirent il defors." Benoît de Sainte-Maure *Le Roman de Troie* 16512-16517. Bolens 2000, 11.

To loosen the *guia* is not just to injure joints but to disarticulate, to undo the source of Homeric movement and vitality. By association, *luō* can also describe other states in which one's abilities are suddenly compromised: surprise, fear, sleep, desire, and grief. I've already mentioned that Penelope's knees are loosened when she recognizes Odysseus, and Odysseus' elderly father will also have this reaction.³² When Odysseus announces his identity to the suitors after killing Antinous, the same phrase is used even though their surprise is not one of joy, but of fear: "their knees (γούνατα, pl. of *gouna*) and their dear hearts (ἦτορ, *ētor*) were loosened (λύτο, *luō*) right there."³³ When Odysseus arrives in Ithaca and is receiving counsel from Athena, he worries about his arrival at home—how will he kill the suitors? And, to where will he escape if he manages to kill them?—the goddess reassures him that she will provide her protection and sheds sleep upon his eyelids so that he can rest. This is therefore no ordinary sleep but one which "seized him, loosening (λύων, *luō*) the cares of his *thumos* (θυμοῦ), sleep that loosens the limbs (λυσιμελής) of men."³⁴ This term (*lusimelēs*, *luō* + *melos*), is later used by Archilochus to characterize desire, when he writes "Oh comrade, the limb-loosener (λυσιμελής) crushes me: desire."³⁵ And in the *Iliad*, the news of Patroclus' death anguishes the handmaids that he and Achilles had taken as war booty; as they exhibit the standard Homeric signs of grief, wailing and beating their breasts, "the knees of each one were loosed (λύθεν, *luō*) beneath her."³⁶ Although not all of these situations are on the battlefield, nor are

³² τοῦ δ' αὐτοῦ λύτο γούνατα καὶ φίλον ἦτορ. *Od.* 24.345.

³³ τῶν δ' αὐτοῦ λύτο γούνατα καὶ φίλον ἦτορ. *Od.* 22.68.

³⁴ εὔτε τὸν ὕπνος ἔμαρπτε, λύων μελεδήματα θυμοῦ, / λυσιμελής, *Od.* 20.56-57.
Trans. A. T. Murray.

³⁵ ἀλλά μ' ὁ λυσιμελής ὥταιρε δάμναται πόθος. Archilochus frag. 196 (West).
Trans. Carson 1986, 8. Sappho also describes Eros as a limb-loosener, λυσιμέλης, at frag. 5.81.

³⁶ λύθεν δ' ὑπὸ γυῖα ἐκάστης *Il.* 18.31. Trans. A. T. Murray.

even they all detrimental, for the Greeks the effects of limb-loosening were nonetheless characterized in agonistic, martial terms: Odysseus is “seized” by sleep, and desire “crushes” Archilochus’ character.³⁷ As Brooke Holmes observes, the disarticulated body is one in which the self is not fully possessed, in which the self is overcome.³⁸

In later texts, the word *anarthros*, literally “without joints,” is used in the kind of situations when Homer would have said that someone’s *guia*, *gounata*, or *melea* (pl. of *melos*, “limb”) were loosened. In Sophocles’ *Trachiniae*, Heracles’ body is being eaten away by a poisoned robe, and he is in so much pain that he begs for death: he is ἄναρθρος (*anarthros*).³⁹ In Euripides, Orestes is ἄναρθρός and describes himself as weak in his limbs (μέλη, pl. of *melos*)⁴⁰ out of grief over having murdered his own

³⁷ Cf. μεγάλῳ δηῦτέ μ’ Ἔρως ἔκοψεν ὥστε χαλκεὺς / πελέκει, χειμεριῇ δ’ ἔλουσεν χαράδρῃ. “With his huge hammer again Eros knocked me like a blacksmith / and doused me in a wintry ditch.” Anakreon 413 (D. L Page, *Poetae Melici Graeci*). Trans. Carson 1986, 7.

³⁸ Holmes 2005, 129. See also Nestor’s speech to Achilles, “Yes, surely, my son, all this you have spoken properly (κατὰ μοῖραν, *kata moiran* lit. “according to a part, to fortune or fate”) for my *guia* (γυῖα) are no longer firm (ἔμπεδα, *empedos*), my friend, my feet (πόδες, *pous*), that is, nor do my arms (χεῖρες, *cheir*) as of old dart out lightly from my shoulders (ὥμων, *ōmos*) on either side. I wish that I were as young and my strength as firm...” ναὶ δὴ ταῦτά γε πάντα τέκος κατὰ μοῖραν ἔειπες: / οὐ γὰρ ἔτ’ ἔμπεδα γυῖα φίλος πόδες, οὐδέ τι χεῖρες / ὥμων ἀμφοτέρωθεν ἐπαΐσσονται ἐλαφραί. / εἴθ’ ὥς ἡβώοιμι βίη τέ μοι ἔμπεδος εἴη *Il.* 23.626-29.

³⁹ νῦν δ’ ὦδ’ ἄναρθρος καὶ κατερρακωμένος / τυφλῆς ὑπ’ ἄτης ἐκπεπόρθημαι τάλας, Sophocles *Trachiniae* 1103-4. Heracles begs for death at 1085-88. Kuriyama 1999, 135.

⁴⁰ ἄναρθρός εἰμι κάσθενῳ μέλη. Euripides *Orestes*, 228. Kuriyama 1999, 135.

mother; he cannot even sit up on his own and his sister cares for him, saying “I do not refuse to tend a brother’s limbs (μέλη) with a sister’s hand.”⁴¹ And Apollodorus, in the 2nd century BCE, gives us the only episode from Greek mythology in which Zeus’ sovereignty is seriously imperiled: Typhon, a winged and hundred-headed offspring of Gaia and Tartarus, severs the sinews (νεῦρα, pl. of *neuron*) from Zeus’ hands and feet,⁴² after which he has no trouble tossing the god over his shoulders and carrying him to Cilicia where he dumps him in a cave. Typhon then left the sinews there as well, hidden in a bearskin.⁴³ Zeus lay helpless until Hermes and Aegipan stole them back and fitted them (ἤρμωσαν, *harmozō*, “fit together, join”) to him—at which point he immediately regained his strength and takes his revenge.⁴⁴ In Nonnos’ early 5th century CE version of the myth, the musician Kadmos beguiles Typhon with his flute-playing, then convinces him to give him the sinews (νεῦρα) under the guise of using them to string his lyre and play a μέλος, or melody—which he promises will “bewitch all the trees and the mountains and the temper of wild beasts,” among other things.⁴⁵ Typhon fetches the sinews (νεῦρα) from the cave and gives them to

⁴¹ κοὺκ ἀναίνομαι / ἀδελφ’ ἀδελφῇ χειρὶ θεραπεύειν μέλη. Euripides *Orestes* 221-22. Trans. E. P. Coleridge. See also “my limbs (*melos*) melt (*luō*) with grief,” λύεται μέλη / λύπη at Euripides *Heracleidae* 602-3. Trans. David Kovacs.

⁴² τῶν χειρῶν καὶ ποδῶν διέτεμε νεῦρα Apollodorus *Library and Epitome* 1.6.3.

⁴³ ὁμοίως δὲ καὶ τὰ νεῦρα κρύψας ἐν ἄρκτου δορῇ κείθι ἀπέθετο Apollodorus *Library and Epitome* 1.6.3.

⁴⁴ Ἑρμῆς δὲ καὶ Αἰγίπαν ἐκκλέψαντες τὰ νεῦρα ἤρμωσαν τῷ Διὶ λαθόντες. Ζεὺς δὲ τὴν ἰδίαν ἀνακομσάμενος ἰσχύν, Apollodorus *Library and Epitome* 1.6.3.

⁴⁵ εἰ δὲ ποθ’ εὔρω / νεῦρα πάλιν σφριγύοντα, μέλος πλήκτροισι τιταίνων / θέλξω δένδρεα πάντα καὶ οὔρεα καὶ φρένα θηρῶν. Nonnos *Dionysiaca* 1.492-94. Trans. W. H. D. Rouse.

Kadmos,⁴⁶ who “handled the strings (χορδὴν, “that which is made from guts, string of gut”) carefully, as if they were to be strung on the lyre.”⁴⁷ Indeed, the sinews are to be strung—but on Zeus’ limbs. Here we have an implicit play on words, since *melos* can mean both “melody” and “limb”: Kadmos promised Typhon a μέλος, as in a melody, but Nonnos’ readers know that what he will get is instead *melē* (pl. of *melos*), as in Zeus’ re-strung limbs, activated like a lyre through the tension of their sinews.

The parallel between Kadmos’ lyre and Zeus’ limbs suggests to us that, just like mortal beings, things could also be loosened. The role of articulation in craft is our topic for Chapters Two and Three, but at the moment I would just like to mention one example. In the *Odyssey*, when the traitorous goatherd Melanthius is fetching an old shield belonging to Odysseus’ aged father from the storeroom, the item is as decrepit as its owner. The shield is described as “a broad old shield, flecked with mildew—the shield of the hero Laertes, which he used to bear in his youth, but now it was laid by, and the seams of its straps were loosened (λέλυντο, *luō*).”⁴⁸

Articulating Life

Although the adjective *anarthros* does not appear in Homer, the verb *arariskō*, “to fit, join,” from which it is derived, does. In fact, the idea of articulation seems inherent at the origins of the Greek language itself, in the reconstructed Indo-European root **ar-* which has to do with the ordered unification of disparate or conflicting elements. The

⁴⁶ κείθεν αἰείρας / νεύρα Διὸς δολόεντι πόρεν ξεινήια Κάδμω, Nonnos *Dionysiaca* 1.510-11.

⁴⁷ καὶ τὰ μὲν ἀμφαφάασκε καὶ ἄρμενον οἶά τε χορδὴν / ἐσσομένην φόρμιγγι, Nonnos *Dionysiaca* 1.514-15. Trans. modified from W. H. D. Rouse.

⁴⁸ *Od.* 22.184-86. Trans. A. T. Murray.

**ar-* root relates to a number of Greek terms (verbs, nouns, adjectives) with meanings related to joining, binding or fitting together, making, dividing by joints or taking apart, arranging, setting in order, reconciling, pleasing or satisfying, slapping together, dashing to pieces, taking a wife, uniting, and so on: *harmozō*, *harmonia*, *harmos*, *arthron*, *arithmios*, *arthroō*, and *diarthroō*, to name a few. This root also gives us the Greek word for “male,” *arsēn*, and “best,” *aristos*, as well as—through *arthron* and related terms—the English word “articulation.”⁴⁹ There are also terms such as *haptō*, *mignumi*, *amiktos*, *luō*, *dialuō*, *sunechō*, *suntassō* (and many other *sun-* words, since this prefix means “with” or “together”), which are not etymologically derived from **ar-* but which also enact joining and separating, mediating what was, for the earliest Greek philosophers, the one and many. Many of these terms describe both tangible and intangible forms of articulation. For example, *harmonia* can describe the physical joints in a ship’s planks or in masonry, but also the junctions from one musical note to the next;⁵⁰ *harmozō* can mean to fit together, but also to marry; and *diarthroō* means to divide by joints, but also to describe distinctly, to endow with articulate speech. The name “Homer,” as Gregory Nagy has argued, may derive from *homo-ar* or “he who joins together,” alluding to the notion that the poet’s work was to arrange and join ready-made lines to create stories and images of dazzling effect.⁵¹

⁴⁹ The Latin *articulus*, “a joint, knuckle,” and *articulo*, “to divide into single members or joints, to utter distinctly,” are related to the Greek *arthron*, “joint,” and *arthroō*, “to fasten by a joint, to be jointed or well-jointed, to utter distinctly.” For an early investigation of Greek notions of articulation, see Whitney 1881.

⁵⁰ Greek harmonies were constructed not through chords or the simultaneous sounding of notes with certain intervals between them, but through the sequential arrangement of notes that belonged to a common scale by virtue of such intervals. See Barker 2007.

⁵¹ Nagy 2001, 89-91.

In classical texts, discussions of corporeal articulation centered not around *guia* but around the similar concept of *arthroi* (pl. of *arthron*), which for Shigehisa Kuriyama “were not joints in the modern anatomical sense—at least, not just joints—but the divisions and differentiations that gave the body distinct form.”⁵² *Arthroi* were tangible, but while these divisions at times seem to coincide with skeletal joints—Oedipus is pierced at his ankles, or the “joints (ἄρθρα, pl. of *arthron*) of his feet”⁵³—Oedipus’ other injury, as Kuriyama points out, is to his eyes, the “joints (ἄρθρα, pl. of *arthron*) of the globes.”⁵⁴ The plural *arthroi* designated the male or female genitals,⁵⁵ a fact which may go part (but perhaps not all) of the way towards explaining Apollodorus’ comment that Minos’ jealous wife, Pasiphae, drugged (ἐφαρμάκευσεν, *pharmakeuō*) him such that “whenever he took another woman to his bed, he discharged wild beasts (θηρία) at her joints (ἄρθρα, *arthron*), and so the woman perished (ἀπώλλυντο, *apollumi*).”⁵⁶ *Arthra* can also refer to articles, as the parts of speech that join words into sentences, as well as, in Aristotle’s terms, “the articulation (διάρθρωσις, *diarthrōsis*) of the voice by means of the tongue.”⁵⁷

⁵² Kuriyama 1999, 135.

⁵³ καί νιν ἄρθρα κείνος ἐνζεύξας ποδοῖν Sophocles *Oedipus Tyrannus* 718.

Trans. Shigehisa Kuriyama. Kuriyama 1999, 135.

⁵⁴ ἄρας ἔπαισεν ἄρθρα τῶν αὐτοῦ κύκλων, Sophocles *Oedipus Tyrannus* 1270.

Trans. Shigehisa Kuriyama. Kuriyama 1999, 135.

⁵⁵ Kuriyama 1999, 135.

⁵⁶ εἰ δὲ συνέλθοι γυνὴ Μίνωι, ἀδύνατον ἦν αὐτὴν σωθῆναι: Πασιφάη γάρ, ἐπειδὴ πολλαῖς Μίνως συνηυνάζετο γυναιξίν, ἐφαρμάκευσεν αὐτόν, καὶ ὅποτε ἄλλη συνηυνάζετο, εἰς τὰ ἄρθρα ἀφίει θηρία, καὶ οὕτως ἀπώλλυντο.

Apollodorus 3.15.1. Trans. Sir James George Frazer.

⁵⁷ διάλεκτος δ’ ἡ τῆς φωνῆς ἐστὶ τῇ γλώττῃ διάρθρωσις Aristotle *History of Animals* 535a30-31. Trans. A. L. Peck. Kuriyama 1999, 136.

Articulation, therefore, was what allowed Greeks to utter meaningful sounds, clipped and joined by the teeth and tongue into words. Barbarians (that is, non-Greeks) were by definition inarticulate: the onomatopoeic *barbaros* came from the inarticulate “bar-bar” sounds that the Greeks apparently heard in foreign languages. According to the Hippocratic author of *Airs, Waters, Places*, inarticulateness of barbarians was also evident in their physical selves and personalities: they were “fleshy, ill-articulated (ἄναρθροι, pl. of *anarthros*), moist, lazy and generally cowardly in character.”⁵⁸ Their insensitivity—one could say, a lack of emotional articulation—was, as Kuriyama points out, directly connected to their lack of language; as Diodorus wrote about a barbarian tribe known as the Fish Eaters, when at times children or women were butchered before their eyes they remained ‘insensible’ in their attitudes, displaying no sign of anger or, on the other hand, of pity. ... Consequently they say, they speak no language, but by movements of the hands...they point out everything they need.⁵⁹

How did non-Greeks become so inarticulate? It had to do in part with one’s environment. Herodotus had the Persian king Cyrus state that “soft lands breed soft men; wondrous fruits of the earth and valiant warriors grow not from the same soil.”⁶⁰

⁵⁸ ἐνταῦθα καὶ οἱ ἄνθρωποι σαρκώδεές εἰσι καὶ ἄναρθροι καὶ ὑγροὶ καὶ ἀταλαίπωροι καὶ τὴν ψυχὴν κακοὶ ὥς ἐπὶ τὸ πολὺ. Hippocrates *Airs Waters Places* 24.49-51. Trans. W. H. S. Jones. Kuriyama 1999, 137.

⁵⁹ ἀλλ’ ἐνίοτε τέκνων ἢ γυναικῶν σφαττομένων ἐν ὀφθαλμοῖς ἀπαθείς ταῖς διαθέσεσιν ἔμενον, οὐδεμίαν ἔμφασιν ὀργῆς ἢ πάλιν ἐλέου διδόντες. Diodorus of Sicily *Library* 3.18.5-6, and διὸ καὶ φασιν αὐτοὺς διαλέκτῳ μὲν μὴ χρῆσθαι, μμητικῇ δὲ δηλώσει διὰ τῶν χειρῶν διασημαίνειν ἕκαστα τῶν πρὸς τὴν χρεῖαν ἀνηκόντων. 3.18.6-7. Trans. C.H. Oldfather. Kuriyama 1999, 136-37.

⁶⁰ φιλέειν γὰρ ἐκ τῶν μαλακῶν χώρων μαλακοὺς γίνεσθαι: οὐ γὰρ τι τῆς αὐτῆς γῆς εἶναι καρπὸν τε θωμαστὸν φύειν καὶ ἄνδρας ἀγαθοὺς τὰ πολέμα. Herodotus *Histories* 9.122.3. Trans. A. D. Godley. Kuriyama 1999, 141.

In *Airs, Waters, Places*, our Hippocratic author similarly observes that men from mild, soft climates themselves become soft and mild, whereas men from rugged, dry places which are “oppressed by winter’s storms and burnt by the sun”⁶¹—that is, the Greeks—are

hard, lean, well-articulated (διηρθρωμένους, *diarthroō*), well-braced and hairy; such natures (φύσει, *phusis*) will be found energetic, vigilant, stubborn and independent in character and in temper, wild rather than tame, of more than average sharpness and intelligence in the arts, and in war more than average courage.⁶²

The Greeks’ hard, articulated bodies are a result of their hard land and contrasting (or articulated) seasons. And it is the physical habits of a people—their food, clothing, and activities—that mediate between their land, climate, and natures. In lands of the nomadic Scythians (the people of what is now southern Russia and central Asia),

the changes (μεταβολαί) of the seasons are neither great nor violent, the seasons being uniform and altering but little. Wherefore the men also are like one another in physique (εἶδεα, pl. of *eidos*), since summer and winter they always use similar food and the same clothing, breathing a moist, thick atmosphere, drinking water from ice and snow, and abstaining from fatigue. For neither bodily nor mental endurance is possible where the changes are not violent. For these causes their physiques are gross (παχέα, “thick, stout”), fleshy (σαρκώδεα, from *sarx*, “flesh”), showing no joints (ἄναρθρα,

⁶¹ καὶ ὑπὸ τοῦ χειμῶνος πιεζομένη, καὶ ὑπὸ τοῦ ἡλίου κεκαυμένη, Hippocrates *Airs Waters Places* 24.53-56. Trans. W. H. S. Jones.

⁶² Hippocrates *Airs, Waters Places* 24.56-63. Trans. W. H. S. Jones.

anarthros), moist (ὕγρὰ, *hugros*) and flabby (ἄτονα, *a-tonos*, “slack, not stretched/tense”)...⁶³

The Scythians, with their tepid climate and way of life, even lack differentiation between one individual and another. But the Scythians’ customs also have more dramatic effects. Their “moistness and flabbiness (ἀτονίης, *atonia*, “slackness, enervation, lacking in elasticity or vigor”),” has the result that “they have not the strength either to draw (συντείνειν, “straight, draw tight, exert”; like *atonia*, this word is derived from *teinō*, “stretch”) a bow or to throw a javelin from the shoulder.”⁶⁴ To treat this condition, they have their shoulders, arms, wrists, breast, hips, and loins cauterized (καυμένους, ppl. of *kaiō*, “light up, burn”),⁶⁵ after which “the excess of moisture dries up from their joints (ἄρθρων, pl. of *arthron*), and their bodies become more braced, more nourished, and better articulated (ἡρθρωμένα, ppl. of *arthroomai*).”⁶⁶ Cautery, or the application of a heated instrument to the flesh, was a common treatment in classical medicine; the Hippocratic *Places in Man*, for example, recommended its use to stop the downward flow of a flux (ῥέυσαν, *rheō*, “that which flows”).⁶⁷ Besides drawing on practical uses of cautery to stop bleeding or even, perhaps, the use of much more gentle heat to dry up a runny nose, this practice draws on early associations of fire as a quasi-magical articulating force in the crafting of objects, as we will see in the next chapter. There was also, more generally in Hippocratic and later writers, an association of inarticulateness with that which is cold, moist, and soft, and of articulateness with the hot, dry, and hard.

⁶³ Hippocrates *Airs, Waters, Places* 19.26-38. Trans. W.H.S. Jones. Kuriyama 1999, 137. Aristotle discusses the effects of the climate on the physique; see, for example, Aristotle, *Generation of Animals* 782b34-783b1.

⁶⁴ Hippocrates *Airs, Waters, Places* 20.7-9. Trans. W. H. S Jones.

⁶⁵ Hippocrates *Airs, Waters, Places* 20.2-7.

⁶⁶ Hippocrates *Airs, Waters, Places* 20.9-12. Trans. W. H. S. Jones.

⁶⁷ Hippocrates *Places in Man* 21.

Airs, Waters, Places maintains that not only are Scythian women's wombs unable to absorb seed because of their general fatness and moistness, and their soft, cold abdomens,⁶⁸ but also that the moistness and softness of Scythian men, as well as their "constant jolting on their horses," means that they "have no great desire for intercourse (μίξις, *mixis*)."⁶⁹ The word *mixis* can be used, as it is here, to describe sexual intercourse, but it more frequently means "a mixture, mingling"; the word is one of a cluster of terms related to *mignumi*, which means "to mix (liquids), join, make acquainted with, live with, mix or join in a battle," as well as, in Homer and Hesiod, "have sexual intercourse with." In Chapter Five, we will look at why mixing and joining were closely related notions for the Greeks—why mixing was a kind of articulation—but for now it suffices to notice that the uses of these words encompass these meanings. The Scythians are therefore described as inarticulate in a number of ways (*anarthros*, but also moist, soft, cold, and lacking tension), and their behavior betrays this condition through their inability to apply tension to a bow and their disinterest and inability to mix or join in sexual intercourse.

Articulation did not come easily, even for Greek men. The highly articulated bodies of Greek athletes were developed by strict regimens of food and exercise, which were not without risk. In the Hippocratic *Aphorisms* there is a warning that it is dangerous to be in top condition since such a state cannot last for long, and because it cannot get better it is bound to get worse.⁷⁰ This author, in fact, cautions against extremes in

⁶⁸ τῇσι δὲ γυναιξὶν ἥ τε πύτης τῆς σαρκὸς καὶ ὑγρότης· οὐ γὰρ δύνανται ἔτι ξυναρπάζειν αἱ μήτραι τὸν γόνον· 21.8-11, and αὐταὶ τε ἀταλαίπωροι καὶ πέραι, καὶ αἱ κοιλίαι ψυχραὶ καὶ μαλακαί. 21.14-16.

⁶⁹ Hippocrates *Airs, Waters, Places* 21.2-7. Trans. W. H. S. Jones.

⁷⁰ Ἐν τοῖσι γυμναστικοῖσιν αἱ ἐπ' ἄκρον εὐεξίαι σφαλεραὶ, ἣν ἐν τῷ ἐσχάτῳ ἔωσιν· οὐ γὰρ δύνανται μένειν ἐν τῷ αὐτέῳ, οὐδὲ ἀτρεμέειν· ἐπεὶ δὲ οὐκ ἀτρεμέουσιν, οὐδ' ἔτι δυνάνται ἐπὶ τὸ βέλτιον ἐπιδιδόναι, λείπεται ἐπὶ τὸ χεῖρον. Hippocrates *Aphorisms* 1.3. Kuriyama 1999, 139.

evacuations, new growths, and in regimen in general: while sometimes necessary to combat acute and extreme diseases, strict and extreme regimens are to be avoided whenever possible in favor of a more moderate course.⁷¹ In the *Republic*, Plato similarly observed that the strictness of elite athletes' regimens meant that even the smallest deviance exposed athletes to the risk of "great and violent diseases."⁷²

The process of drying and articulating also characterized the maturation of a fetus. For the Hippocratic author of *On the Seed*, the fetus is a soft, wet mass; and a male fetus begins to articulate at thirty days, while a female fetus, which is inherently moister, must wait forty-two.⁷³ As the process of articulation continues after birth, it involves both physical and behavioral development; Aristotle attributes an infant's lack of speech—or "articulated (ἄρθροις) voice,"⁷⁴ as he puts it—to the fact that just as they have not proper control over their limbs (μορίων, pl. of *morion*, "portion, part, bodily member") generally, so cannot at first control their tongue, which is imperfect and attains complete freedom of motion (ἀπολύεται, *apo-luō*, "undo, set free, release,") later on.⁷⁵

The pseudo-Aristotelian *Physiognomics* gives some insight into how articulation had to do with the visibility and mobility of distinct parts, and through this, with one's character. Its author writes: "Those who have well-grown (εὐφυεῖς, *euphuēs*), large feet, well-jointed (διηρθρωμένοι, *diarthroō*, "divide by joints, articulate") and sinewy (νευρώδεις, *neurōdēs*), are stronger in character (ψυχὴν, *psuchē*); witness

⁷¹ Hippocrates *Aphorisms* 1.3-9.

⁷² ἐὰν συμκρὰ ἐκβῶσιν τῆς τεταγμένης διαίτης, μεγάλα καὶ σφόδρα νοσοῦσιν οὗτοι οἱ ἀσκηταί; *Republic* 3.404a. Trans. Paul Shorey.

⁷³ Hippocrates *On the Seed* 18. Kuriyama 1999, 142.

⁷⁴ ἡ δ' ἐν τοῖς ἄρθροις, ἣν ἂν τις ὥσπερ διάλεκτον εἴπειεν, Aristotle *History of Animals* 536b 11-12. Trans. A. L. Peck.

⁷⁵ Aristotle *History of Animals*, 536b 5-8. Trans. A. L. Peck. Kuriyama 147.

the male sex.”⁷⁶ In contrast, females “have small, narrow, poorly-jointed (ἀνάρθρους, *anarthros*) feet” and are “weak in character.”⁷⁷ The author continues in this vein for many lines; when, for example, he comes to the back and shoulders, he writes: “those who have a large, well-fleshed (εὔσαρκον, *eusarkos*) and well-jointed (ἀρθρῶδες *arthroō*) back are strong in character; witness the male” whereas “those in whom it is weak (ἀσθενές), fleshless (ἄσαρκον, *asarkos*) and badly-jointed (ἀναρθρον *anarthros*) are weak in character; witness the female.”⁷⁸ But then the author gets more specific. He writes that “those in whom the back is very bent with the shoulders driven (συνηγμένοι, *sunagō*, “bring together”) into the chest are of evil disposition; this is appropriate, because the parts in front which should be visible disappear.”⁷⁹ This evokes the description of Thersites in the *Iliad*: his shoulders are rounded (κυρτῶ, *kurtos*) and collapsed (συνοχωκότε, *sunochōka*, “bent in, contracted, collapsed”) over his chest.⁸⁰ He is the ugliest of the lot and his mobility is impaired by a lame foot and bow-legs;⁸¹ accordingly, he is unmeasured in his speech (ἄμετροεπής, *a-metro-epēs*), has a mind full of disorderly words (ἄκοσμά, *a-kosmos*), and quarrels out of order (οὐ κατὰ κόσμον, *ou kata kosmon*) against the kings.⁸² Clearly this is not a favorable configuration for one’s back and shoulders—but, as Pseudo-Aristotle advises—neither is the other extreme: “those whose back curves backwards (ὑπτιον, *huptios*, “laid on one’s back, concave side up, supine, lazy”) are vain and senseless; witness horses. Since the back should be neither bent

⁷⁶ Aristotle *Physiognomics* 810a15-17. Translation modified from W. S. Hett.

⁷⁷ Aristotle *Physiognomics* 810a17-20. Trans. W. S. Hett.

⁷⁸ Aristotle *Physiognomics*, 810b25-28. Trans. W. S. Hett.

⁷⁹ Aristotle *Physiognomics* 810b28-30. Trans. W. S. Hett.

⁸⁰ τὸ δέ οἱ ὦμω / κυρτῶ ἐπὶ στήθος συνοχωκότε: *Il.* 2.217-18.

⁸¹ φολκὸς ἔην, χωλὸς δ’ ἕτερον πόδα: *Il.* 2.217.

⁸² *Il.* 2.212-14.

nor hollow, the mean (μέσον, *meson*) must be looked for in the animal which is well grown.”⁸³

In turning from the appearance to the mobility of the shoulders and clavicles, the *Physiognomics* draws heavily on words deriving from *luō*, to loosen.

Those whose shoulders are loose-knit (εὐλυτοί, *eulutos*, “easy to untie, relaxed”) are generous (ἐλεύθεροι, *eleutheros*, “free, fit for a free man”) in character; this fact is derived from what one has seen, that freedom (ἐλευθεριότης, *eleutheriotēs*) of character follows freedom in the appearance of the body. Those whose shoulders have not free action (δύσλυτοι, *duslutos*, “indissoluble, stiff”) and are light-set are illiberal (ἀνελεύθεροι, *aneleutheros*); this is appropriate. Those who are loose (εὐλυτα, *eulutos*) about the collarbone (κλείδας, pl. *kleis*) are sensitive; for just as they have free movement (εὐλύτων, *eulutos*) about the collarbone so they readily admit free movement of the senses. Conversely, those who are stiff (συμπεφραγμένα, *sumphrassō*, “closely pack, block up”) about the collarbone are insensitive, for as the parts about the collarbone are not easily moved, they cannot easily admit movement of the senses.⁸⁴

These connotations are present in the words themselves: *eulutos* describes connections that are “easy to untie or loose, relaxed, supple, free”; *eleutheros* describes free men or free cities; and *eleutheriotēs* describes a character like that of a free man, suggesting “freeness in giving, liberality, generosity.” Conversely, stiff shoulders (*duslutos* means indissoluble or stiff, but also an insoluble problem), or ones which are *sunespasmenoi* (*suspaō* means to draw together, contract, to be sewn together) cause a loss of mobility, and indicate an illiberal character, the opposite of an *eleutheros*—literally, a tightwad. Finally, just as suppleness in the collarbones

⁸³ Aristotle *Physiognomics* 810b31-34. Trans. W. S. Hett.

⁸⁴ Aristotle *Physiognomics*, 811a1-10. Trans. W. S. Hett.

allows for agile senses, stiffness in this area suggests insensitivity. Although the *Iliad* most frequently describes the loosening of articulations through battlefield injuries, we also find instances in which the shaking or stiffening of articulations entailed incapacitation. Here in the *Physiognomics*, emphasis is laid on the restriction of functions—of the senses or of one’s moral character—through stiffness and its resulting loss of mobility. What all of this suggests is that articulation is a state in which the physical self is held together, yet still mobile, in which parts are connected without their visible differences being obliterated: a kind of mean between the extremes of looseness and stiffness.

Sinews and Self

Shigehisa Kuriyama observes that in comparison with other world cultures, the western interest in muscularity from antiquity until the present is unique. He argues that our perception that muscles are “salient perspicuous structures that we have merely to look to see...is an illusion—as a survey of any summer beach reveals: most muscles on most people in most circumstances can be apprehended but obscurely, if at all.”⁸⁵ So how is it that we have come to see muscles so clearly? The usual answer to this question involves discussing anatomical dissection, a practice characterized not just by the cutting and opening of corpses (“anatomy” stems from the Greek *anatome*, literally “cut up”)—which many cultures do for a variety of reasons—but by a particular way of looking at these corpses with an interest in how the body’s parts are well constructed in relation to each other to serve their functions. From Aristotle onwards, western physicians and thinkers have been avid anatomists, in contrast with other medical traditions—such as the Egyptian, Ayurvedic, and Chinese—which

⁸⁵ Kuriyama 1999, 112.



Figure 1.1: Funerary amphora by the Dipylon Master, ca. 760-735 BCE. National Archaeological Museum, Athens, Inventory number 804.

flourished for thousands of years without examining dismembered corpses in this way.⁸⁶

However, as much as anatomy is necessary to see muscles, Kuriyama points out that it cannot be the original cause of our fascination with them. After all, as he points out, the celebrated sculptures of the Parthenon frieze depict what, to us, clearly looks like exaggerated musculature in the second half of the 5th century BCE, a century before Aristotle and the practice of anatomy.⁸⁷ And three centuries before that, late geometric vase paintings, such as those of the Dipylon Master (Figure 1.1), depict the human form with distinct demarcations. If these demarcations were not depicting muscles, what were they depicting? It is probably evident by now that the answer is articulation.

Homer and later writers have other words besides *guia* to describe the physical stuff that we associated with muscles. Homer also occasionally uses the word *sarkes* (pl. of *sarx*; with one exception, it is used in the plural in Homer) or “fleshes,” which for him indicates meat as often as it suggests part of a living being. *Sarkes* are massive and relatively inert: they are held to the bones by the sinews (*ίνες*, *is*) in life, but not in death,⁸⁸ they can be eaten raw by animals or by the savage Cyclops,⁸⁹ they can receive an injury,⁹⁰ or at best, they can tremble in fear⁹¹—but they do not seem to be

⁸⁶ Kuriyama 1999, 118.

⁸⁷ Kuriyama 1999, 112, 16.

⁸⁸ οὐ γὰρ ἔτι σάρκας τε καὶ ὀστέα ἴνες ἔχουσιν, *Od.* 11.219.

⁸⁹ ἦ τις καὶ Τρώων κορέει κύνας ἢ δ' οἰωνοὺς / δημῶ καὶ σάρκεσσι, πεσὼν ἐπὶ νηυσὶν Ἀχαιῶν. *Il.* 8.379-80, and similarly, ἀτὰρ Τρώων κορέεις κύνας ἢ δ' οἰωνοὺς / δημῶ καὶ σάρκεσσι πεσὼν ἐπὶ νηυσὶν Ἀχαιῶν. *Il.* 13.831-32. For the Cyclops, see ἥσθιε δ' ὥς τε λέων ὄρεσίτροφος, οὐδ' ἀπέλειπεν, / ἔγκατά τε σάρκας τε καὶ ὀστέα μυελόεντα. *Od.* 9.293.

⁹⁰ πολλὸν δὲ διήφυσεν σαρκὸς ὀδόντι / λικριφὶς αἶξας, *Od.* 19.450-51.

associated with vitality and movement in the way that articulation so clearly is. Similarly, from Homer to Plato, the word *mus*, or “muscle,” rarely appears. Homer does not use the word *mus* at all,⁹² although he does, rarely, use the related *muōn*. Usually translated as a “mass of muscles,” *muōn* in Homer is in fact passive, like *sarkes*. In the *Iliad*, the son of Phyleus struck Amphiclus “at the top of the leg, where a man’s μυῶν (*muōn*) is thickest; and around the spear-point the sinews (νεῦρα, pl. of *neuron*) were torn apart; and darkness enfolded his eyes.”⁹³ The *muōn* can be injured, and its injury may well contribute to this death, but there is no sense that this is a part that generates motion or acts as a particular seat of life. In the rare instances that the Hippocratics mention *mus*, they similarly do not give it a distinct status or function. The *mus* of the heart, for example, is differentiated only as *pilēma sarkos* (πίλημα σαρκός); as Kuriyama notes, the verb *piloō* refers to the squeezing of wool to make felt, making the *mus* simply a dense kind of flesh. The heart was a kind of dense, well-insulated container of the body’s innate heat, not a pump.⁹⁴

The parts described as *ines* (pl. of *is*), *tenontes* (pl. of *tenōn*), and *neura* (pl. of *neuron*), however, have more active roles. In Homer, these words all signify something like “sinews,” often corresponding to our tendons and ligaments: cord-like structures that have an articulating and activating role in the living self. When Odysseus visits his mother in Hades, she laments that in death, “the sinews (ἰνες, *is*) no longer hold the flesh (σάρκας, *sarx*) and the bones together, but the strong might

⁹¹ ...δειδιότα: σάρκες δὲ περιτρομέοντο μέλεσσιν. *Od.* 18.77.

⁹² Kuriyama 129.

⁹³ *Il.* 16.313-16. μυώνων at *Il.* 16.324. Trans. A. T. Murray.

⁹⁴ Kuriyama 1999, 130. Hippocrates *Peri kardiēs* 6. The notion of things being densely pressed is, however, conceptually related to the realm of articulation; *puknos*, for example, means “close, compact, dense, well put together, strong, shrewd, cunning,” and is often used interchangeably with **ar-* words to describe the joining together of things like a group of soldiers or a well-built wall.

(μένος, *menos*) of blazing fire destroys these as soon as the life (θυμός, *thumos*) leaves the white bones, and the ghost (ψυχή, *psuchē*), like a dream, flits away.”⁹⁵ Here, the sinews (*ines*, pl. of *is*) hold the flesh and bones together, but this act is also associated with the binding—and in death, the releasing—of two psychosomatic entities, or life forces: the *thumos* and *psuchē*. Not surprisingly, then, sinews are also often implicated in disarticulating injuries: for example, when Diores is hit by a stone on the right leg by the ankle,⁹⁶ it crushes the two sinews (τένοντε, dual of *tenōn*) and the bones.⁹⁷ He falls to the dust, gasping out his *thumos* (θυμὸν).⁹⁸ It is also not surprising that the word *is* is often synonymous with strength.⁹⁹

Like *is* and *tenōn*, the word *neuron* also refers to a “sinew” in Homer, as in the above example when Phyleus strikes Amphiclus at the thick base of his leg, tearing his

⁹⁵ οὐ γὰρ ἔτι σάρκας τε καὶ ὀστέα ἴνες ἔχουσιν, / ἀλλὰ τὰ μέν τε πυρὸς
κρατερόν μένος αἰθομένοιο / δαμνᾷ, ἐπεὶ κε πρῶτα λίπη λεύκ’ ὀστέα θυμός, /
ψυχή δ’ ἥγ’ ὄνειρος ἀποπταμένη πεπότηται. *Od.* 11.219-22. Trans. A. T.
Murray.

⁹⁶ χερμαδίῳ γὰρ βλήτο παρὰ σφυρὸν ὀκρίοντι / κνήμην δεξιτερήν: *Il.* 4.518-19.

⁹⁷ ἀμφοτέρω δὲ τένοντε καὶ ὀστέα λᾶας ἀναιδὴς / ἄχρῃς ἀπηλοίησεν: *Il.* 4.521-22.

⁹⁸ ὃ δ’ ὕπτιος ἐν κονίῃσι / κάππεσεν ἄμφω χεῖρε φίλοις ἐτάροισι πετάσας /
θυμὸν ἀποπνείων: *Il.* 4.522-24.

⁹⁹ At times it seems that *is* seems to suggest strength to the exclusion of naming a part of the physical self—or vice versa—at others both may be implied. What is key, however, is that this distinction seems to have been less relevant to Homeric Greeks than it is for us: sinews are strength. For *is* as strength, see *Il.* 5.245, 7.269, 12.320, 23.720, *Od.* 18.3, 9.538, 11.393, 21.283. See also the strength of the wind, ἰς ἀνέμου *Il.* 15.383 and ἰς ἀνέμοιο *Il.* 17.739 and *Od.* 9.71; and the strength of a river, ἰς ποταμοῖο *Il.* 21.356.

νεῦρα (*neura*, pl. of *neuron*) apart.¹⁰⁰ This same word is also used to name the cord, which may well have been made from an animal sinew, binding the head of an arrow to its shaft.¹⁰¹ The closely related word νευρά (or νευρή, both singular, as opposed to νεῦρα as the plural form of *neuron*) refers to the string of an archer's bow,¹⁰² which would likely have been made of a sinew, or *neuron*. The two words are almost interchangeable, and can describe the same object: when Lycaon shoots Menelaus in the *Iliad*, he first fitted a bitter arrow to the string (νευρή, *neura*),¹⁰³ then, grasping both the notched arrow and the ox's sinews (νεῦρα, pl. of *neuron*),¹⁰⁴ he brought the string (νευρήν, *neura*) to his breast.¹⁰⁵ Homer tells us as that after he drew the bow, making it round, the bow twanged and the string (νευρή, *neura*) made a great cry¹⁰⁶ as the arrow sprang. The string is then described as a *neuron* when Homer specifies that it was made from part of an ox (βόεια).¹⁰⁷

Later, *neura* could refer to the string of a lyre, which would have been made of gut, sinews, or perhaps even strips of hide.¹⁰⁸ A lyre, like the bow (both of which are instruments of Apollo, a god of healing—that is, of articulation and *harmonia*)

¹⁰⁰ περὶ δ' ἔγχεος αἰχμῇ νεῦρα διεσχίσθη *Il.* 16.316.

¹⁰¹ ὥς δὲ ἶδεν νεῦρόν τε καὶ ὄγκους ἐκτὸς ἐόντας *Il.* 4.151.

¹⁰² For example, Τεύκρος δ' ἄλλον οἷστον ἀπὸ νευρήφιν ἵαλλεν *Il.* 8.309, and similarly *neurē* at ἡ ῥα καὶ ἄλλον οἷστον ἀπὸ νευρήφιν ἵαλλεν *Il.* 8.301, and ἡ ἀπὸ νευρήφιν οἷστῳ. *Il.* 21.113.

¹⁰³ αἶψα δ' ἐπὶ νευρῇ κατεκόσμη πικρὸν οἷστόν, *Il.* 4.118.

¹⁰⁴ ἔλκε δ' ὁμοῦ γλυφίδας τε λαβὼν καὶ νεῦρα βόεια: *Il.* 4.122.

¹⁰⁵ νευρήν μὲν μαζῶ πέλασεν, *Il.* 4.123

¹⁰⁶ λίγξε βίος, νευρὴ δὲ μέγ' ἵαχεν, *Il.* 4.125.

¹⁰⁷ A *neura* is now always made of sinew: in another instance, the string (νευρῆς, *neura*) of a bow is described as being made of a twisted sheep gut. νευρῆς *Od.* 21.410 and ἐϋστρεφὲς ἔντερον οἰός *Od.* 21.408.

¹⁰⁸ Landels 2000, 52.

operates through the active, binding, tension in its strings. It is crucial to observe that these articulations are not passive connections but rather are dynamic and bear the potential for action, even while still.

One of Odysseus' skills is the use of his bow. Near the end of the *Odyssey*, Penelope announces that she will marry whichever suitor can most easily stretch (ἐντανύσῃ, *en-tanuō* or *en-teinō*; the verb *teinō* is a cognate of *tenōn* or “sinew”) Odysseus' great bow (βιὸν, *bios*) in his hands and shoot an arrow through twelve axes.¹⁰⁹ Telemachus tries the bow three times: three times he makes it quiver with his efforts, and three times he let go,¹¹⁰ wishing in his *thumos* that he could stretch (ἐντανύειν, *en-tanuō* or *en-teinō*) the string (νευρῆν, *neura*).¹¹¹ On Telemachus' fourth try, Homer tells us that he would have stretched (*tanuō*) it in his might (*bia*)¹¹² had his father not silently discouraged him with a discreet gesture. The suitors then take turns trying, and failing. Odysseus, still disguised as a beggar, asks for a turn; after some controversy he is given the bow, as the doors to the halls are shut, locking the now-doomed suitors inside. He deftly turns the instrument around in his hands, examining its condition as the suitors look on.

Then,

as when a man skilled in the lyre and in song easily stretches (ἐτάνυσσε, *tanuō*) a gutstring (χορδήν) around a new peg, fastening (ἄψας, *haptō*) the twisted sheep-gut at both ends—so without effort did Odysseus string the

¹⁰⁹ *Od.* 21.75.

¹¹⁰ τρις μὲν μιν πελέμειξεν ἐρύσσεσθαι μενεαίνων, / τρις δὲ μεθήκε βίης, *Od.* 21.125-26.

¹¹¹ ἐπιελπόμενος τό γε θυμῷ, / νευρῆν ἐντανύειν *Od.* 21.126-27.

¹¹² καὶ νύ κε δὴ ὅ' ἐτάνυσσε βίη τὸ τέταρτον ἀνέλκων *Od.* 21.128.

great bow. And he took it in his right hand and tested the string (νευρῆς, *neura*), which twanged sweetly beneath his touch, like a swallow in tone.¹¹³

As Zeus thunders and the suitors look on in anguish, Odysseus takes an arrow, draws the bow, and lets it fly through the twelve axes. He addresses Telemachus, giving him a sign—embedded in the parallel between the bow and the lyre, and perhaps evoking the joy and violence of animal sacrifice as both feast and slaughter—that the battle is about to begin: “But now it is time that supper too be made ready for the Achaeans...and thereafter must yet other sport be made with song and with the lyre; for these things are the accompaniments of a feast.”¹¹⁴ Odysseus’ strength and station are embodied in the tension of his bow, in its articulation and capacity to impart motion to an arrow. Like the sound of the stretched strings of a lyre and a bow, the homophony between *bia* or “strength,” and *bios* or “bow,”¹¹⁵ would not have gone unnoticed by Homer’s audience; and while the word *bios* or “life” does not appear in this passage, it is clear that this is what is at stake.

Since *neura* or “string of a bow” could refer to cords made from a number of animal parts, it is not tied to *neuron* or “sinew” in an anatomical sense—in terms of one naming a part in the living body, and the other naming the same part removed from a corpse, cleaned, and dried. Instead, these terms share a similarity of action, of the life in self and bow. When Teucer, who “had selected a sharp arrow from his quiver and placed it on the string,”¹¹⁶ began to draw it back, Hector struck him with a stone “beside the shoulder where the collar-bone (κληῖς, *kleis*) parts the neck and the

¹¹³ *Od.* 21.406-11. Trans. modified from A. T. Murray.

¹¹⁴ νῦν δ’ ὥρη καὶ δόρυπον Ἀχαιοῖσιν τετυκέσθαι / ἐν φάει, αὐτὰρ ἔπειτα καὶ ἄλλως ἐψίασθαι / μολπῇ καὶ φόρμιγγι: τὰ γάρ τ’ ἀναθήματα δαιτός. *Od.* 21.428-30. Trans. A. T. Murray.

¹¹⁵ *bia* at *Od.* 21.128, and *bios* at *Od.* 21.75, as quoted above.

¹¹⁶ ἦτοι ὁ μὲν φαρέτρης ἐξείλετο πυκρὸν οἰστόν, / θῆκε δ’ ἐπὶ νευρῇ: *Il.* 8.323-24.

breast, where [sic] is the deadliest spot.”¹¹⁷ Without further explanation, Homer tells us that this broke Teucer’s *neura* (νευρήν) and that his hand grew stiff at the wrist;¹¹⁸ he then fell to his knees as the bow fell from his hand.¹¹⁹ Man and weapon are loosened at once.

In later texts, *guia* are most often translated as the “feet, womb, hands,” and in Homer as “joints, limbs, or members.” For Bolens, *guia* are skeletal joints,¹²⁰ and indeed, she demonstrates that there is a strong association between injuries to points of skeletal articulation such as the ankle, hip, knee, elbow, and so on, and the loosening of *guia*. But I would suggest that *guia* are less tangible than this: not once in Homer do we find the singular form, *guion*, and not once in the *Iliad* is a warrior actually struck in the *guia*; the *guia* seem to exist in a multiple or dispersed sense rather than as tangible or isolatable parts of the body that can be located by a spear. In the rest of this chapter, I will also argue that a number of fluid forces are also at play, and that—in opposition to Bolens’ assertion that the Homeric self is defined through its articulations as opposed to a notion of container and contained—these fluids, and their encapsulation, play an important role in activating the articulate self.

Bruno Snell speaks of *guia* as “the limbs as moved by the joints”;¹²¹ and Jean-Pierre Vernant describes them as “the bodily members in their suppleness, their articulated mobility.”¹²² If we are inclined think that “limbs” or “bodily members” refer only to the arms and legs, we need only recall Snell’s comparison between a typical drawing

¹¹⁷ τὸν δ’ αὖ κορυθαίολος Ἑκτωρ / ἀνερύοντα παρ’ ὤμων, ὅθι κληῖς ἀποέργει / αὐχένα τε στήθος τε, μάλιστα δὲ καίριόν ἐστι, *Il.* 8.324-26. Trans. A. T. Murray.

¹¹⁸ ῥήξε δέ οἱ νευρήν: νάρκησε δὲ χεὶρ ἐπὶ καρπῷ, *Il.* 8.328.

¹¹⁹ στή δὲ γνύξ ἐριπών, τόξον δὲ οἱ ἔκπεσε χειρός. *Il.* 8.329.

¹²⁰ Bolens 1999, 149-51.

¹²¹ Snell 1953, 5.

¹²² Vernant 1989, 22.

made by a contemporary child and those of late geometric vases of the 8th and 7th centuries BCE—when the texts of the Homeric poems would most likely have been developed (Figure 1.2). He argues that whereas modern children tend to draw a central body with arms, legs, and a head sprouting from this mass, on geometric vases a typical figure will have a triangular upper torso with the head and arms attached, and below, massive haunches with calves and feet attached. Between the upper torso and the lower torso/thighs there is an impossibly small narrowing: a (non-skeletal) joint takes the place of a bodily center, and the entire physical self is composed of

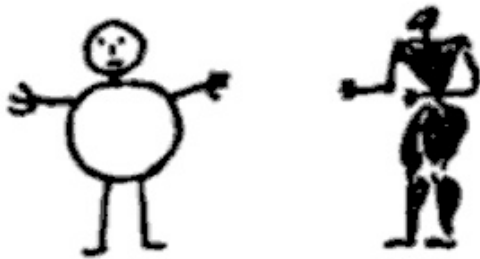


Figure 1.2: A modern child's (left) and archaic Greek (right) views of the body, according to Bruno Snell. Snell 1953, 7.

limbs.¹²³ We might, then, translate *guia* as the “articulation of a mobile, living being” (with articulation as a verbal noun); *guia* describe a state of being as much as a part of the body. And although the *gounata* can be grasped or struck—suggesting a literal translation as “knees”—they can also be loosened by an injury at a place remote from the knees; like the *guia*, the *gounata* can name a state of articulation which is anchored in, but not synonymous with, physical parts of the self.

Snell argues that while Homer had detailed descriptions of parts, motions, and emotions, he had no single word—and therefore no concept—for the body. He observes that the closest words were *demas*, which refers to one's “frame” or “build”; *chrōs*, which refers to the “outer surface, complex, or color”—something like skin, but not identical to it in an anatomical sense; and of course *guia*, which for him are

¹²³ Snell 1953, 6-8.

“limbs as they are moved by their joints.” While the word *sōma* later came to mean “body,” in Homer it refers to a corpse and never a living being.¹²⁴ Snell’s argument, put forward in 1953, has been criticized for its teleological overtones—that the early Greeks “lacked” a concept that would later be developed.¹²⁵ But in light of Homer’s descriptions of lived experience, which are evocative and precise while also undeniably foreign to us, what can be phrased as a “lack” can also be understood as a difference. Vernant has argued along these lines, observing that in Homer “there is no term that designates the body as an organic unity which supports the individual in the multiplicity of his vital and mental functions.”¹²⁶

What does it mean to not have this kind of body, or physical container for the individual’s vital and mental functions—the thinking and willing self, in Kuriyama’s terms?¹²⁷ One result is that the self is not divided into the physical and psychological, or in Plato’s terms, body and soul;¹²⁸ as Holmes suggests, in order to identify and describe a soul or *psuchē* as an immaterial locus of personal agency and identity, there needs to be a body—a bounded material thing—in which this “I” resides, and which acts out its intentions.¹²⁹ This is not the place to fully discuss this idea or its implications; my more modest aim in this section will be to outline how this absence of both a central, internally motivated locus of agency, and of a notion of a bounded body, is not a “lack” in the negative sense but simply a difference—or how the

¹²⁴ Snell 1953, 5-6. Robert Renehan takes an opposing view, arguing that there are eight cases in Homer in which it is ambiguous whether the use of *sōma* refers to a dead or living person. Renehan 1981. See also Bolens 2000, 56.

¹²⁵ For a recent discussion this question, see Porter and Buchan 2004, 8-13.

¹²⁶ Vernant 1989, 21. See also Holmes 2005, 34.

¹²⁷ Kuriyama 1999, 150-51.

¹²⁸ Renehan 1981, 279. Cf. Snell 1960, 53-54. Redfield 1985, 96.

¹²⁹ Holmes 2005, 5. Holmes 2007, 56.

physical self in Homer is neither incoherent nor empty, but articulated and full of various things.

Corporeal experience in Homer is relatively unstable. When a hero is inspired, compelled, or assisted by a god to act, his physical form and appearance may be changed.¹³⁰ Odysseus lands naked, filthy, and exhausted on the shores of the Phaeacians, but when he washes himself in the river and dresses in clothes borrowed from Nausicaa, Athena augments his new appearance by making him taller and more robust.¹³¹ She even curls his hair.¹³² Homer uses a simile to describe Athena's work: she "shed grace (χάριν, *charis*) on his head and shoulders" in the way that "a skillful man...whom Hephaistos and Pallas Athena have taught every kind of craft (τέχνην, *technē*)...overlays silver with gold."¹³³ This suggests the technical process of making something *sphurēlaton*, or plating with thinly hammered metal sheets, a process reserved for the creation of valuable objects including *daidala*. *Daidala* are luminous and beautiful and indeed, Homer tells us that Nausicaa marveled as Odysseus sat on the shore of the sea, "glistening with beauty and grace."¹³⁴ Nausicaa, who is of a foreign yet exemplarily civilized people, immediately understands that Odysseus'

¹³⁰ Vernant 1989, 31.

¹³¹ μείζονά τ' εἰσιδέειν καὶ πάσσονα *Od.* 6.230.

¹³² καὶ δὲ κάρητος / οὐλάς ῥ' ἦκε κόμας *Od.* 6.230-31. Odysseus' new hair is also ὑακινθίνῳ ἄνθει ὁμοίως at 6.231, "like a hyacinth blossom"—a flower which is composed of thickly packed flowers with curled petals. See the same lines at *Od.* 23.157-58. See also Vernant 1989, 31.

¹³³ ὥς δ' ὅτε τις χρυσὸν περιχέυεται ἀργύρῳ ἀνὴρ / ἴδρις, ὃν Ἥφαιστος δέδραεν καὶ Παλλὰς Ἀθήνη / τέχνην παντοίην, χαρίεντα δὲ ἔργα τελείει, / ὥς ἄρα τῷ κατέχευε χάριν κεφαλῇ τε καὶ ὤμοις. *Od.* 6.232-35. I have adjusted the sequence of phrases here in order to be clearer in English. Cf. the same lines at *Od.* 23.159-61.

¹³⁴ ἔζετ' ἔπειτ' ἀπάνευθε κιὼν ἐπὶ θίνα θαλάσσης, / κάλλει καὶ χάρισι στίλβων: θηεῖτο δὲ κόρυνη. *Od.* 6.236-37.

changed appearance is proof that he has “not come without the will of the gods,” as she says to her handmaids.¹³⁵ She is completely charmed, and even muses aloud, “would that such a man as he might be called my husband.”¹³⁶ On the other hand, when Odysseus returns to Ithaca, Athena transforms him into an old beggar, with wrinkles, a bald head, old flesh on his limbs, dim eyes, and rags for clothes;¹³⁷ and even the swineherd, the servants, the suitors, and his own son and wife do not suspect his identity. For us, these physical changes might be a kind of phenomenological description of lived experience, metaphors for an inner psychological life, or perhaps just good storytelling. But Homeric gods and goddesses often changed the physical attributes of their favorite mortals, and the ways in which they did so explains the rule, not the exception, in the workings of Homeric corporeality. In other words, these changes were real.

Individuals had lasting physical characteristics, to be sure—Achilles is always tall and brawny, and Helen is beautiful even on a bad day—but one’s appearance and abilities would fluctuate according to the circumstance and the will of the gods. For example, Achilles is swift of foot—he, and only he, is described as “relying on his feet,” “swift with his feet,” and “swift-footed”¹³⁸—but his victories are not won without divine assistance. While he prepared for battle, without appetite and stricken with grief over Patroclus’ death, Athena dripped (στάξ’, *stazō*) nectar and

¹³⁵ οὐ πάντων ἀέκητι θεῶν, οἳ Ὀλυμπον ἔχουσιν, *Od.* 6.240.

¹³⁶ αἶ γὰρ ἐμοὶ τοιόσδε πόσις κεκλημένος εἴη *Od.* 6.244. Trans. A. T. Murray.

¹³⁷ *Od.* 13.430-38. See also 13.398-403.

¹³⁸ Achilles’ speed is essential to his characterization as a hero, and described through epithets such as *podarkēs* or “relying on his feet,” *podas ōkus* or “swift with his feet,” and *podōkēs* or “swift-footed,” which are together used to describe him over seventy times in the *Iliad*. Nagy notes only one instance in which these terms apply to someone other than Achilles: Dolon is called ποδώκης at *Il.* 10.316. Nagy 1979, 326-27.

ambrosia—the preferred foods of the gods—into his breast (στήθεσσι) so that hunger would not overtake his knees (γούναθ', pl. of *gonu*).¹³⁹ Then, after donning the new armor that Hephaistos had crafted for him, he “tested himself in his armor to see if it fitted (ἐφαρμόσσειε, *eph-armozō*) him and if his shining *guia* (ἀγλαὰ γυῖα) moved freely (ἐντρέχοι); and it became like wings to him and lifted the shepherd of men.”¹⁴⁰ Fortified by the food of the gods and enhanced by armor made by a god, his *guia* are wonderfully mobile. When the Trojans see Achilles, in contrast, the effect is one of incapacitation: “grim trembling struck the *guia* of every man in their terror.”¹⁴¹

Fluid Articulations

Mortals were aware of the gods' effects on them. Aeneas says that he would have been slain at the hands of Achilles and of Athena (Achilles' protector) had he himself not been saved by Zeus, who roused his *menos* (“impulse, will, might, martial fury”) and made his *gouna* nimble (λαιψηρά, *laipsēros*).¹⁴² Similarly, when Poseidon wants the two Aiantes to return to battle, he strikes them with his staff and “filled them with a mighty *menos* and made their *guia*—their feet and their hands above—

¹³⁹ ἦ δ' Ἀχιλῆϊ / νέκταρ ἐνὶ στήθεσσι καὶ ἀμβροσίην ἐρατεινὴν / στάξ', ἵνα μὴ μιν λιμὸς ἀτερπῆς γούναθ' ἴκοιτο: *Il.* 19.352-4.

¹⁴⁰ πειρήθη δ' ἔο αὐτοῦ ἐν ἔντεσι δῖος Ἀχιλλεύς, / εἰ οἱ ἐφαρμόσσειε καὶ ἐντρέχοι ἀγλαὰ γυῖα: / τῷ δ' εὖτε περὰ γίγνεται, ἄειρε δὲ ποιμένα λαῶν. *Il.* 19.384-6. Trans. modified from A. T. Murray. Sarah P. Morris calls this a “moment of metaphor become reality.” Morris 1992, 15. As Ruth Padel argues, there was in Homer—and indeed, until Aristotle—no distinction between “literal” and “metaphorical” descriptions of corporeal experience in Homer. Padel 1992, 34-39. See also Holmes 2005, 9.

¹⁴¹ Τρῶας δὲ τρόμος αἰνὸς ὑπήλυθε γυῖα ἕκαστον / δειδιότας *Il.* 20.44-45.

¹⁴² ὅς μοι ἐπῶρσε μένος λαιψηρά τε γούνα. *Il.* 20.93.

nimble (ἐλαφρὰ, *elaphros*).¹⁴³ When Poseidon flies off, the Aiantes realize by the shape of his feet and legs that they have been visited by a god; the first Aias says that “my *thumos* (“heart, soul, life, seat of emotion, reason”) in my dear breast is more roused to war and to fight, and my feet beneath and my hands above rage with eagerness,”¹⁴⁴ and the other responds, “so too my invincible hands are now raging to grasp the spear, and my *menos* is roused, and both my feet rush beneath me.”¹⁴⁵ The limbs and articulations act and are affected in concert with the *menos* and *thumos*, two principles which often act—as above—as fluids. What are the *menos* and *thumos*? This question will guide our inquiry in this section. While these principles are difficult to define, we can start by observing that the *thumos* is related to a variety of emotions including anger, delight, the love of a woman, and sorrow;¹⁴⁶ and that the *menos* has a more strictly martial role, as something that is breathed in high-pitched moments in battle,¹⁴⁷ and that can fill the *phrenes*.¹⁴⁸

¹⁴³ ἀμφοτέρω κεκόπων πλήσεν μένεος κρατεροῖο / γυῖα δ’ ἔθηκεν ἐλαφρὰ πόδας καὶ χεῖρας ὑπερθεν. *Il.* 13.60-1. The same phrase is repeated at 5.122 and 23.772 when Athena assists Diomedes and Odysseus in response to their prayers.

¹⁴⁴ καὶ δ’ ἐμοὶ αὐτῷ θυμὸς ἐνὶ στήθεσσι φίλοισι / μᾶλλον ἐφορμάται πολεμίζειν ἢ δὲ μάχεσθαι, / μαιμώωσι δ’ ἔνερθε πόδες καὶ χεῖρες ὑπερθε. *Il.* 13.73-5.

¹⁴⁵ *Il.* 13.77-79. Bolens points out that here and in the quote above, *thumos* or *menos* are the subject with “I” in the dative, so, literally, “to myself the *thumos* in my chest is the more eager for war,” and “to me, the *menos* is roused.” Bolens 2000, 47.

¹⁴⁶ For anger (*cholos*), and pondering in his *phrenes* and *thumos*, see ἦος ὃ ταῦθ’ ὥρμαινε κατὰ φρένα καὶ κατὰ θυμόν, *Il.* 1.192-3; for delight ὃ γε θυμὸν ἔτερεπεν, 9.189, for love of a woman, ἐγὼ τὴν / ἐκ θυμοῦ φίλεον 9.343; for fatherly love, using the same phrase, ἐκ θυμοῦ φιλέων *Il.* 9.486; and for sorrow, ἄλγος ἐμῷ θυμῷ, *Il.* 22.53-4. Koziak 1999, 1072-3. See also Caswell 1990.

¹⁴⁷ See, for example, μένεα πνείοντες at *Il.* 2.536, 3.8, 11.508, 24.364.

Menos and *thumos* often act like vapors or breaths. Barbara Koziak observes that the *thumos* “has an indeterminate status, somewhere between flesh and air, less a piece of the body which could be cut out, more a piece that can dematerialize and rush out of the body during a fainting spell and near death.”¹⁴⁹ Richard Onians describes the *thumos* as a warm and moist vapor, something like breath.¹⁵⁰ When a warrior is wounded he exhales his *thumos*,¹⁵¹ but when he recovers and breathes again, he gathers his *thumos* into his *phrenes*.¹⁵² The *thumos* can increase with nourishment,¹⁵³ or waste away in pining.¹⁵⁴ When Odysseus is preoccupied by his comrades, whom

¹⁴⁸ μένεος δὲ μέγα φρένες ἀμφιμέλαιναι / πίμπλαντ’ *Il.* 1.103. See Padel 1992, 24-5. The *menos* can also fill the *thumos*: μένεος δ’ ἐμπλήσατο θυμὸν / ἀργίου *Il.* 22.312.

¹⁴⁹ Koziak 1999, 1080. For more on *thumos*, see Caswell 1990. Bremmer 1983, 54-56. Redfield 1975, 173-74. Snell 1953, 9-10.

¹⁵⁰ Onians convincingly argued against earlier ideas that the *thumos* should be translated as a “blood-soul,” or simply as the soul or heart. Onians 1951, 23, 44-50.

¹⁵¹ See, for example, θυμὸν ἀποπνείων at *Il.* 4.524 and 13.654.

¹⁵² ἀλλ’ ὅτε δὴ ῥ’ ἄμπνυτο καὶ ἐς φρένα θυμὸς ἀγέσθη *Od.* 5.458. Animals can also lose their *thumos*: when the horse Pedasos was wounded, he bellowed, gasping out his *thumos*, then fell into the dust as his *thumos* [sic] flew from him. ὃ δ’ ἔβραχε θυμὸν αἰσθων, / καὶ δ’ ἔπες’ ἐν κονίησι μακῶν, ἀπὸ δ’ ἔπτατο θυμός. 16.468-69. See also sacrificed lambs gasping and lacking *thumos*, ἀσπαίροντας / θυμοῦ δευομένους *Il.* 3.292.

¹⁵³ ἀλλ’ ἄγετ’ ἐσθίετε βρώμην καὶ πίνετε οἶνον, / εἰς ὃ κεν αὖτις θυμὸν ἐνὶ στήθεσσι λάβητε, *Od.* 10.460; and after receiving nectar and ambrosia, the Titans’ *thumos* grows in their chests, ἐν στήθεσιν ἀέξετο θυμὸς ἀγήνωρ Hesiod *Theogony* 641. Onians 1951, 48.

¹⁵⁴ μηδὲ τι θυμὸν / τήκε *Od.* 19.263, and θυμὸν ἀποφθινύθουσι *Il.* 16.540. Onians 1951, 48.

Circe has turned into hogs, he wishes in his *thumos* not to eat, and his *thumos* foresees evil; finally, Circe asks him why he is not eating but instead “eating *thumos*.”¹⁵⁵

Material yet insubstantial, *menos* and *thumos* strike us as psychosomatic, which is perhaps unsurprising in a context in which the psychological was not separated from the somatic. What is interesting for our purposes is that they are also inextricable from the limbs and articulations. The *thumos* is often activated through the language of motivation and mobility—Snell calls it the “organ of (e)motion”¹⁵⁶—and is therefore related to one’s state of articulation: whereas it activates the limbs in life, in death it leaves the bones¹⁵⁷ to descend to Hades.¹⁵⁸ The *menos* can be loosened alongside the *guia* (“Mēkisteus loosened the *menos* and shining *guia* from underneath” the twin sons of Bucolion¹⁵⁹), or on its own, leaving little doubt that it is itself somehow bound or articulated within the self.¹⁶⁰ The only disease in Homer—the “hateful wasting-away”—acts by removing the *thumos* from the limbs.¹⁶¹ And

¹⁵⁵ ἐμῷ δ’ οὐχ ἦνδανε θυμῷ, *Od.* 10.373; κακὰ δ’ ὅσσετο θυμός. 10.374; θυμὸν ἔδων 10.379.

¹⁵⁶ Snell 1953, 9.

¹⁵⁷ λίπε δ’ ὀστέα θυμός at *Il.* 12.386 and 16.743, and similarly, λίπ’ ὀστέα θυμὸς at 20.406.

¹⁵⁸ θυμὸν ἀπὸ μελέων δύναι δόμον Ἄϊδος εἴσω. *Il.* 7.131. Similarly, the *thumos* also flies from the limbs, ὦκα δὲ θυμὸς / ὥχετ’ ἀπὸ μελέων *Il.* 13.671-72 and 16.606-7; and similarly, when a bird is shot, ὠκὺς δ’ ἐκ μελέων θυμὸς πτάτο *Il.* 23.880.

¹⁵⁹ τῶν ὑπέλυσσε μένος καὶ φαίδιμα γυῖα *Il.* 6.27. Bolens 2000, 47.

¹⁶⁰ λύθη μένος 17.298. Bolens 2000, 47.

¹⁶¹ ἦ τε μάλιστα / τηκεδόνι στυγερῇ μελέων ἐξείλετο θυμόν *Od.* 11.201.

when Athena throws a stone at Ares' neck, thereby loosening his *guia*, several lines later he "gathered his *thumos* with trouble."¹⁶²

Onians associates the *thumos* with the breath so much that he argues that the *phrenes* (pl. of *phrēn*), which is frequently described as containing the *thumos*, should be understood as the lungs.¹⁶³ And like *thumos*, *menos* is also breathed. Ruth Padel asks, "when Homeric warriors 'breathe *menos*' ...do they breathe it in or out?"¹⁶⁴ She finds that while in classical tragedies, *menos* can come from the outside or inside, in Homer, it comes from the outside;¹⁶⁵ as Albrecht Dihle observes, it is in Homer "an additional gift, provided only on a special occasion and not supposed to become a lasting part of the person."¹⁶⁶ At the end of the *Odyssey*, Athena blew (ἔμπνευσε) a great *menos* into Odysseus' aged father Laertes, so that he could fight alongside his son and grandson.¹⁶⁷ But divine inspiration is not limited to the *menos* and *thumos*: a god can breathe ideas or abilities into a mortal without any mention of either, as when

¹⁶² λῦσε δὲ γυῖα at *Il.* 21.406, and ἔσαγείρετο θυμόν at 21.417, see also ἔσαγείρετο θυμόν for Hector at 15.240.

¹⁶³ For the *thumos* in the *phrenes*, ἐν φρεσὶ θυμός, see *Il.* 8.202 and 9.456. The *phrenes*, for Homer, is *puknos*, πυκινὰς φρένας *Il.* 14.294. The word *puknos* can describe overgrown foliage, close-laid stones, thick-falling rain or a shower of darts, fast-beating wings, or even a cunning mind. Here, *puknos* may, as Onians suggests, describes the fine grain of the lungs' alveoli and capillaries. Onians 1951, 28. But it also (as we'll see in Chapter Three) ties the *phrenes* to the wider connotations of articulation, and of things which are closely-set, well-jointed, and produced through a kind of practical and wily intelligence.

¹⁶⁴ Padel 1992, 90. See also 24-25, 88-90.

¹⁶⁵ Padel 1992, 90.

¹⁶⁶ Dihle 1982, 34.

¹⁶⁷ ὃ' ἔμπνευσε μένος μέγα Παλλὰς Ἀθήνη *Od.* 24.520. See also, for example, *Il.* 10.482. Onians 51.

a god breathed courage (θάρσος) into Odysseus and his men so that they could blind the Cyclops.¹⁶⁸

Wind was seen as divine breath and as a means for the gods to influence and toss about the lives of mortals. The powers of divine breath or wind (*pnoē* can refer to both) are difficult for us to fathom, but for the ancients, they characterized the unpredictability of mortal life; and the immediate and highly personal impact of wind on the self blurred any separation between these external winds, or divine breath, and the winds or breath inside the self.¹⁶⁹ One's breath was never fully one's own, but could be given or taken away according to the will and breath of the gods, just like a wind could fill your sails, sending you on your way, or it could stop, leaving you stranded.¹⁷⁰ For example, in the *Odyssey*, Aiolos, the keeper of winds, bound (κατέδησε) a sack containing the paths of the howling winds—all except the west wind—and then bound (κατέδει) that sack in Odysseus' ship with a radiant silver cord.¹⁷¹ With the west wind at his back and all the other winds bound inside the sack, Odysseus' ship headed straight towards Ithaca; they were within sight of the island when Odysseus' attention slackened and, out of curiosity, his men loosened (λύσαν,

¹⁶⁸ θάρσος ἐνέπνευσεν μέγα δαίμων. *Od.* 9.381. An (idea or urge) is blown in to the *phrenes* φᾶρος μὲν μοι πρῶτον ἐνέπνευσε φρεσὶ δαίμων, *Od.* 19.138; and, for an inspired divine voice, without mention of *menos*, *thumos*, or *phrenes*, see: ἐνέπνευσαν δέ μοι αὐδὴν / θέσπιν Hesiod *Theogony* 31.

¹⁶⁹ Kuriyama 1999, 233-37. For Vitruvius, the qualities of the various winds had such a strong effect on the bodies of men that he spends an entire chapter of Book One on the siting and layout of cities for optimum health in terms of the winds.

¹⁷⁰ Kuriyama 1999, 233-42. See also Vernant 1989, 29.

¹⁷¹ ἔνθα δὲ βυκτάων ἀνέμων κατέδησε κέλευθα *Od.* 10.20; νηὶ δ' ἐνὶ γλαφυρῇ κατέδει μέρμητι φαεινῇ / ἄργυρῇ 10.23-24.

luō) the sack, allowing the other winds to rush out and sending the ship far off course.¹⁷²

The Homeric self existed and acted only to the extent that it partook of these willful, divine forces.¹⁷³ While these forces may at times correspond to what classical philosophers would understand as components of nature—specific fluids, vapors, elements, or parts of the body—they were not described as such in Homer. For example, the Chimera, a monster “of divine race,” is described as “breathing the terrible *menos* of blazing fire”;¹⁷⁴ and Poseidon and Apollo drive “the *menos* of all the rivers that flow forth from the mountains of Ida to the sea—Rhesus and Heptaporus and Caresus and Rhodus, and Granicus and Aesepus, and goodly Scamander, and Simois” against the Achaean’s wall by turning these rivers’ mouths (στόματ’, pl. of *stoma*) all together.¹⁷⁵ This *menos* is not a force of nature (*phusis*);¹⁷⁶ that is, it is not something which grows or acts in a predictable manner according to a set of innate characteristics. It is personified, its force wielded by the gods.

There is another fluid known as *psuchē*, with a meaning later translated as “life,” “ghost,” “personality”; or “the emotional, moral, or intellectual self,” and in Homer as “ghost,” “breath-soul,” “warm blood,” or “consciousness.” As a cognate of *psuchō*, “blow,” we would expect that it means something like breath; and indeed, like *menos* and *thumos*, *psuchē* is often breathed out or lost when one dies or is near

¹⁷² ἄσκον μὲν λῦσαν *Od.* 10.47.

¹⁷³ In fact, as Dihle observes, there was no Greek word for “will” or “intention,” as such. Dihle 1982, 20.

¹⁷⁴ θεῖον γένος *Il.* 6.180, δεινὸν ἀποπνείουσα πυρὸς μένος αἰθομένοιο 6.182.

¹⁷⁵ *Il.* 12.17–24. δὴ τότε μητιόωντο Ποσειδάων καὶ Ἀπόλλων / τεῖχος ἀμαλδῦναι ποταμῶν μένος εἰσαγαγόντες at 12.17–18; and τῶν πάντων ὁμόσε στόματ’ ἔτραπε Φοῖβος Ἀπόλλων at 12.24. Trans. A. T. Murray.

¹⁷⁶ φύσιν *Od.* 10.303.

death. For example, when Andromache saw her husband Hector's corpse being dragged by the Achaeans, she blacked out and breathed forth her *psuchē*; but several lines later she got her breath back and gathered her *thumos*.¹⁷⁷ When Sarpedon is stabbed in his thigh and his comrade Pelagon removes the spear, "his *psuchē* left him, and a mist was poured over his eyes. But then he was breathed upon in turn; in blowing upon him, the wind/blast of Boreas [ie. the personified north wind] saved him as he miserably breathed out his *thumos*."¹⁷⁸ In this moment, wind, breath, and divinity are literally one. Elsewhere, *psuchē* is disarticulated along with the *menos*: on three occasions, a warrior or charioteer is struck from his car and "his *psuchē* and *menos* were loosened on the spot."¹⁷⁹ But in its actions the *psuchē* is also distinct from both the *menos* and *thumos*. Whereas the *thumos* thinks and feels, and is active in the chest of a living person, and the *menos* is particularly related to martial will and courage, the *psuchē* is more of a "life-principle," a ghost or spirit not involved in ordinary consciousness.¹⁸⁰ It is what leaves the body in death to dwell in Hades, where it is identified with the *eidōlon*, "the visible but impalpable semblance of the once living."¹⁸¹

The *psuchē* may have resided in the head (*kephalē*); to support this point, Onians points out that the head and *psuchē* are interchangeable in a few phrases in Homer

¹⁷⁷ ἀπὸ δὲ ψυχὴν ἐκάπυσσε. *Il.* 22.467 and ἡ δ' ἐπεὶ οὖν ἔμπνυτο καὶ ἐς φρένα θυμὸς ἀγέσθη *Il.* 22.475. Onians 1951, 93.

¹⁷⁸ τὸν δ' ἔλιπε ψυχὴ, κατὰ δ' ὀφθαλμῶν κέχυτ' ἀχλύς: / αὐτὶς δ' ἐμπνύνθη, περὶ δὲ πνοιῇ Βορέας / ζώγρει ἐπιπνεΐουσα κακῶς κεκαφηότα θυμόν. *Il.* 5.696-68.

¹⁷⁹ τοῦ δ' αὖθις λύθη ψυχὴ τε μένος τε *Il.* 5.296, 8.123, and 315.

¹⁸⁰ Onians 1951, 94.

¹⁸¹ Onians 1951, 94.

and in the Pythagorean Oath, and are both associated with life and fertility.¹⁸² This association is more explicit in classical times: Hippo of Samos described the *psuchē* as being in the head (ἐγκέφαλον),¹⁸³ and as a kind of “generative water” (ὑδωρ γονοποιόν)¹⁸⁴ or seed that flowed from the marrow (*medullis*).¹⁸⁵ Alcmaeon described the ἐγκέφαλος as the “leading factor” in man and says that it, together with the flesh, was the source of the seed,¹⁸⁶ and Democritus describes the *psuchē* being bound and rooted in the marrow.¹⁸⁷ This marrow was understood as fluid in the skull, the vertebrae or spinal column, and other bones and joints. As a kind of innermost part where life was anchored, it was protected, but was ultimately a point of fragility. In Euripides’ *Hippolytus*, the nurse recommends moderation (μετριάς) in affection: “mortals should not mix the cup of their affection to one another too strong,” preventing it from sinking πρὸς ἄκρον μυελὸν ψυχῆς, or to the very marrow of their *psuchē*.¹⁸⁸ In Plato’s *Timaeus*, a fatal disease progresses as bile seeps from the blood to the marrow, where it loosens the bonds holding the *psuchē*, setting it free.¹⁸⁹ Also for Plato, the male seed (σπέρμα) is equated with the generative

¹⁸² See for example πολλὰς δ’ ἰφθίμους ψυχὰς Ἄϊδι προΐαψεν / ἡρώων, *Il.* 1.3-4; and πολλὰς ἰφθίμους κεφαλὰς Ἄϊδι προΐαψεν. *Il.* 11.55 Similarly, see παρθέμενοι κεφαλὰς *Od.* 2.237 and ψυχὰς παρθέμενοι *Od.* 3.74. Onians 1951, 99, 112.

¹⁸³ DK38a3. Onians 1951, 118.

¹⁸⁴ DK38a10. Trans. Richard Onians. Onians 1951, 118.

¹⁸⁵ DK38a12. Onians 1951, 118.

¹⁸⁶ ἐν τῷ ἐγκεφάλῳ εἶναι τὸ ἡγεμονικόν· DK24a8. Trans. Richard Onians. See also 24a13. Onians 1951, 115.

¹⁸⁷ τῆς δὲ ψυχῆς οἱ περὶ τὸν μυελὸν ἔμενον ἔτι δεσμοὶ κατερριζωμένοι DK68b1. Onians 1951, 118.

¹⁸⁸ Euripides *Hippolytus* 253-55. Trans. David Kovacs. Onians 1951, 118.

¹⁸⁹ πρὸς τὸ τοῦ μυελοῦ διαπεράσασα γένος κάουσα ἔλυσεν τὰ τῆς ψυχῆς αὐτόθεν οἶον νεῶς πείσματα μεθῆκέν τε ἐλευθέραν, Plato *Timaeus* 85e. The

marrow (τὸν γόνιμον...μυελόν),¹⁹⁰ which originates in the head, travels along the spine, and is emitted from the male organ.¹⁹¹

The association of fertility with fluids—with what we know as the semen or the cerebrospinal fluid that encapsulates the brain—also extends to what we know as the synovial fluid of the knees.¹⁹² Pliny the Elder lists the knees first among parts of the body which have religious associations; he observes that suppliants clasp or reach out to knees, worshipping them like altars, hypothesizing that this may be “because in them is centered the vital strength (*vitalitas*).”¹⁹³ “For,” he says, on the frontal part of the knee joint there is “a certain empty space, which bears a strong resemblance to a mouth, and through which, like the throat, if it is once pierced, the vital powers (*spiritus*, “breath, spirit”) escape (*fluit*, “flow, come forth, dissolve”).”¹⁹⁴ Homer’s descriptions are never this anatomical, but he provides similar associations between

notion that a disease becomes fatal when it reaches the bone marrow is also found in ancient Chinese medicine. See Sima Qian, *Shiji*, chap. 105 (vol. 6, 2793), as cited by Kuriyama 1999, 163.

¹⁹⁰ Plato *Timaeus* 77d. Onians 1951, 119.

¹⁹¹ Plato *Timaeus* 91a-b. Since the *psuchē* is what survives after death, Onians notes that this connection via the spine between the head, as the source and receptacle of life and fertility, and its outlet at the penis, could help explain the form of herms set over graves: a head on a squared pillar with an erect phallus. Onians 1951, 122.

¹⁹² Onians also observes that the knees are the largest site of synovial fluid in the body. Onians 1951, 108-10, 77-78, 82.

¹⁹³ *hominis genibus quaedam et religio inest observatione gentium. haec supplices attingunt, ad haec manus tendunt, haec ut aras adorant, fortassis quia inest iis vitalitas.* Pliny, *Natural History* 11.108. Trans. John Bostock.

¹⁹⁴ *namque in ipsa genus utriusque commissura, dextra laevaue, a priore parte gemina quaedam buccarum inanitas inest, qua perfossa ceu iugulo spiritus fluit.* Pliny, *Natural History* 11.108. Trans. John Bostock.

life and knees: when a character wants to say “as long as I live,” he says “as long as I am among the living and my dear knees (γούνατ’) are mobile,”¹⁹⁵ or “as long as my breath (ἀϋτμή) stays in my chest and my knees (γούνατ’) are mobile.”¹⁹⁶ Onians argues that the knees, together with the head, were the seat of the *psuchē*,¹⁹⁷ similarly, Vernant describes the knees in Homer and Hesiod as “the seat of vital energy, a virile power related to the humid element.”¹⁹⁸ This association between fertility and the head and knees helps explain Zeus’ ability to give birth to Athena from his head¹⁹⁹ and to Dionysos from his thigh (Figure 1.3).²⁰⁰ Euripides uses the phrase γόνιμα μέλεα, or “limbs that gave me birth.”²⁰¹ Plato says that the *psuchē* breathes through the male genital organ,²⁰² and Aeschylus says, three times, that Io was impregnated by the ἐπίπνοια, breath or inspiration, of Zeus.²⁰³

We have already observed the relationship between *gonu* or “knee,” and *gignomai* or “give birth,” *genos* or “offspring, kin” and *gnēsios* or “genuine”; in Latin, the *gen* root similarly gives us *gigno*, or “to produce, give birth to,” and *genialis* or “of

¹⁹⁵ ὄφρ’ ἂν ἔγωγε / ζωοῖσιν μετέω καί μοι φίλα γούνατ’ ὀρώρη, *Il.* 22.387-88.

¹⁹⁶ εἰς ὃ κ’ ἀϋτμή / ἐν στήθεσσι μένη καί μοι φίλα γούνατ’ ὀρώρη *Il.* 10.89-90.

¹⁹⁷ Onians 1951, 185.

¹⁹⁸ Vernant 1991, 101. Cf. Hippocrates *Airs Waters Places* 22, where the author speculates that cutting the φλέβας (*phleps*, vein or artery), as a treatment for κέδματα, or swellings at the joints, causes infertility.

¹⁹⁹ Hesiod *Theogony* 924. Onians 1951, 111.

²⁰⁰ Euripides *Bacchae* 94-98, 242-45, 286-87, 521-25; and later Ovid *Metamorphoses* 3.308-10; and Pliny the Elder *Natural History* 35.40.

²⁰¹ Euripides *Electra* 1209. Trans. E. P. Coleridge.

²⁰² Plato *Timaeus* 91b. Onians 1951, 119.

²⁰³ ἐξ ἐπαφῆς καὶ ἐπιπνοίας / Διὸς Aeschylus *Suppliant Women* 17-18; προγόνου ... ἐξ ἐπιπνοίας Ζηνὸς Aeschylus *Suppliant Women* 43-45; καὶ θείας ἐπιπνοίας Aeschylus *Suppliant Women* 577. Onians 1951, 119.



Figure 1.3: Birth of Dionysos from Zeus' thigh. Proto-Apulian red figure volute krater, ca. 405 – 385 BCE. Museo Nazionale Archeologico di Taranto, catalogue number 8264.

generation, birth, agreeable, congenial,” among others.²⁰⁴ The thighbone, the largest bone in the body and the bone most closely associated with the kneecap, had similar associations. As Onians observes, the Latin word for “thigh,” *femur*, “should according to its form mean ‘that which engenders,’”²⁰⁵ since its root, *feo*, has to do

²⁰⁴ See also Onians 1951, 175-76. This also gives us the relation between the English “generation,” “genuflect,” “genuine,” etc.

²⁰⁵ Onians 1951, 182.

with fertility, as in *fecundus*, *femina*, and *felix*; the related Greek *phuō* means “bring forth, produce, grow, beget.” With all of these associations, Hector’s appeal to Achilles “by your ψυχῆς (*psuchē*) and γούνων (*gounata*) and your own parents τοκῆων (*tokeus*, “one who begets, parent, ancestor”)” can be read anew, with a compact force.²⁰⁶

If life and fertility were associated with vital fluids, humidity and dryness were not neutral concepts. In Homer, the word *dieros*, which usually means “wet” in later texts, is used interchangeably with *zōos* (“living”).²⁰⁷ On this scale between living and dead, wet and dry, articulate and disarticulate, a self without its vital fluids is on its way to being a pile of dry, disjointed bones.²⁰⁸ The drying and weakening effect of the expenditure of semen, of *psuchē*, was therefore akin to having one’s limbs loosened or to gasping out one’s *menos*, *thumos*, or *psuchē*. This expenditure, as Michel Foucault has shown, was thought to be costly and dangerous;²⁰⁹ Aristotle counseled against both early and excessive sexual activity for this reason.²¹⁰ But other causes of dryness were equally damaging: Hesiod warns of the drying effects of “the season of wearisome heat” when, he writes, “women are most wanton, but men are feeblest, because Sirius parches head (κεφαλὴν) and knees (γούνατα) and the

²⁰⁶ *Il.* 22.338.

²⁰⁷ διερὸς βροτός, *Od.* 6.201. Cf. ζωὸς βροτός at *Od.* 23.187. Plato also refers to the dead as ἀλίβαντες, or “without moisture.” Plato *Republic* 387c.

²⁰⁸ In Homer, bones often refer to the entire corpse. *Il.* 4.174, 23.222 and 224; and *Od.* 1.161. Onians 1951, 80.

²⁰⁹ Foucault 1990, 120.

²¹⁰ καὶ τὰ τῶν ἀρρένων δὲ σώματα βλάπτεσθαι δοκεῖ πρὸς τὴν αὐξήσιν, ἐὰν ἐπὶ τοῦ σπέρματος αὐξανομένου ποιῶνται τὴν συνουσίαν: Aristotle *Politics* 1335a24-26.

skin (χρῶς) is dry through heat.”²¹¹ He also warns that a wife with a greedy soul will “[roast] her man without fire.”²¹²

It was nonetheless not healthy for a man to be overly wet: dryness, as we have seen, was also associated with being hard, articulate, and masculine, whereas wetness was associated with being soft, inarticulate, and effeminate. The Hippocratic *Airs, Waters, Places* ascribes the infertility of the Scythian man to “the laxity of his constitution,” and “the coldness and wetness of his belly.”²¹³ The word ὑγρότης, related to *hugros*, “liquid, wet, moist,” means “wetness, fluidity” as well as “pliancy, suppleness,” and can also refer to the motion of a flame or to a person’s movable emotions or disposition; to be soggy is therefore to be fluid and pliant, a passive mobility rather than the active and willful mobility suggested by articulation. Just as there was a kind of gradient between stiffness and looseness where articulations become mobile, vitality relied on being possessed of certain fluids while not being overly wet. Mobility and articulation, in this sense, refers not only to the work of joints that connect while separating, or hold firm while allowing for motion, but also to the mobilizing action of these vital fluids that connect the self to one’s surroundings and the gods through the breath, and that connect one generation to the next through a productive act of intercourse—an act which, it might be mentioned, relies on the genitals, which can be called *ta arthra* (plural of *arthron*, “joint”).

²¹¹ θέρεος καματώδεος ὥρη Hesiod *Works and Days* 584. μαχλόταται δὲ γυναῖκες, ἀφαιρότατοι δὲ τοὶ ἄνδρες / εἰσὶν, ἐπεὶ κεφαλὴν καὶ γούνατα Σείριος ἄζει, / ἀναλέος δὲ τε χρῶς ὑπὸ καύματος Hesiod *Works and Days* 586-88. Trans. Hugh G. Evelyn-White. Onians 1951, 110-11.

²¹² Hesiod *Works and Days* 704-5. Trans. Hugh G. Evelyn-White.

²¹³ οὔτε γὰρ τῷ ἀνδρὶ ἡ ἐπιθυμία τῆς μεΐσιος γίνεται πολλὴ διὰ τὴν ὑγρότητα τῆς φύσιος καὶ τῆς κοιλίης τὴν μαλθακότητά τε καὶ τὴν ψυχρότητα, Hippocrates *Airs, Waters, Places* 21. Trans. Charles Darwin Adams.

These associations will shift in Roman times; if we look forward to Galen in the 2nd century CE, we find that he speaks confidently about muscles as “organs of voluntary motion.”²¹⁴ For Galen, muscles move when they receive signals from the body’s *pneuma* (breath) and ultimately the soul; as Kuriyama observes, by allowing us to act on our intentions, muscles establish us as genuine agents.²¹⁵ Kuriyama argues that this distinction between voluntary actions and involuntary bodily processes is what marks “the emergence of a fundamental schism in Western self-understanding.”²¹⁶ The intentional work of the brain, *pneuma*, and muscles in willing, sensing, and acting were contrasted with so-called “involuntary” functions of the body—the work of the heart, pulse and all of the physiological, pathological, and emotional changes that remain beyond the reach of one’s will.²¹⁷ The body became a collection of tools or *organa* (plural of *organon*, “tool,” and later “organ of the body”) to answer to this will; and because these tools acted according to regular principles and were eminently well constructed for their purposes, it made sense for the first time to investigate the nature of these tools, to understand the body anatomically, as an objectified thing.

Galen’s muscular body and Homer’s articulations are both moved by the fluid vapors of the breath; they are both marked, in art, by exaggerated bodily demarcations; and they both allow for motion and therefore life and the ability to act. But whereas Galen’s *pneuma* had an internal source and moved as an enclosed fluid within the body, in Homer, the source of breath was external: Homeric gods blew their will into men and women, literally inspiring them to act. For pre-classical Greeks, there was no willful self as a source of individual agency, and there was no body as a stable and

²¹⁴ Galen *On the Movement of Muscles* 1.1, as cited in Kuriyama 1999, 144.

²¹⁵ Kuriyama 1999, 144. The *pneuma*, for Galen, conversed intimately with the soul; although he stopped just short of saying so, a number of texts suggest that he flirted with the notion the *pneuma* was, in fact, the soul. Reiss 2003, 220-22.

²¹⁶ Kuriyama 1999, 151.

²¹⁷ Kuriyama 1999, 150-51.

rationally ordered, physical entity, so clues about life and health were sought in signs from the gods rather than in the physical details of a corpse. Homeric Greeks were also freer to explain phenomena not through actions or forces emerging from (or exerted upon) the relatively stable physical entity of the body, but through the often-bewildering transformations that we can feel in our lived experience. Homer speaks remarkably little about illnesses. Instead, physical struggles occur through wounds and divine intervention, with the occasional death from fear or grief; and medical treatments are restricted to treating wounds.²¹⁸ There is no malnutrition, no cold or flu, and in fact no illness at all except the pestilence that Apollo uses to punish the Achaeans at the outset of the *Iliad*—and even this is described not through the language of illness, but of divine intervention and war: Apollo strides down from Olympus with his bow and for nine days rains his arrows upon the Achaean camp.²¹⁹

And because the self is not defined as a thinking and willing “I” within a physical body, the limits of the self and will were not marked by the boundary of the skin, as they would be later.²²⁰ We’ve discussed the porosity of the self in Homer to the breaths and suggestions of the gods; the flip side of this is that in an inspired state, the reach of one’s will could extend well beyond the skin. These inspired states were associated with assistance from the gods; with the wearing and use of special clothing, armor and defensive weapons; and with the solidarity of a group and a hero’s *aristeia*. As we will see in the next chapter, these conditions are not unrelated.

* * *

²¹⁸ Bolens 2000, 20. Grmek 1989, 35-37.

²¹⁹ *Il.* 1.44-53.

²²⁰ Whether the self, will, or “I” existed at all in antiquity is much debated; but it is at any rate safe to say that this concept certainly did not exist in Homer, and that certain steps towards this concept were developed in classical times.

In this chapter, we've considered the meaning of Achilles' "loosening" of Hector's knees, both in terms of warrior injuries in the *Iliad*, and within the wider context of articulation in archaic and classical Greek culture. We've seen how articulation distinguishes the self and its actions, how it is engaged with a number of vital fluids, and how all of these psychosomatic entities tie the self to the will of the gods. All of this goes a certain way towards explaining what is at stake in the face-off between Achilles and Hector—why the loosening of Hector's knees had so much poignancy for Homer's audience, why Athena strengthens Achilles' knees and why Hector later begs at them. But we have overlooked one crucial characteristic of Achilles.

As the son of the nymph Thetis, who cared for the craftsman god Hephaistos when he was thrown from Olympus, Achilles receives special favors from the gods. These favors include additional strength and speed at crucial moments, the deception of his opponents, and the retrieval of his spear after it is thrown—but the most important favor that Achilles receives is the armor that he wears when he kills Hector. This armor is made for him by Hephaistos to replace that which Achilles had earlier loaned to Patroclus, and which Hector stripped off Patroclus' body after slaying him. Homer's description of the crafting of Achilles' shield makes this one of the most famous—albeit fictional—artifacts from all of antiquity. What is this armor and how does it assist Achilles? This will be the starting point for the next chapter, which will look at the role of articulation in other crafted things in Homer and the early Greek world.

Chapter Two: Crafting

In classical Greece the wealthy did not often engage in manual labor and crafts, which were the trades of slaves and poor men, but this era has nonetheless been described as a civilization of craftsmen. And justifiably so: not only were crafts and craftsmen necessarily central to the Greek way of life and economy, but a high value was placed on works of craftsmanship that were particularly beautiful or well made, and there is wide-ranging evidence for a strong general interest in craft procedures throughout antiquity. Further, the number of divinities and heroes whose roles were primarily as craftsmen and craftswomen—including Athena, Hephaistos, Prometheus, Daedalos, Palamedus, and Epeios—lends credence to what Françoise Frontisi-Ducroux describes as a kind of “sacralization” of technical work.¹

The armor that Hephaistos makes for Achilles in the *Iliad* is one of the most powerful of works by a craftsman god. When Thetis delivers the armor to Achilles,

all the δαίδαλα (*daidalon*) rang aloud in their splendor. Then trembling seized all the Myrmidons, and no man dared to look on it, but they shrank in fear. But when Achilles saw the arms, then wrath came on him still more, and his eyes showed forth terribly from beneath their lids, like flame; and he rejoiced as he held in his arms the glorious gifts of the god. But when in his mind he had rejoiced in gazing on the splendor of the δαίδαλα, at once he spoke winged words: ‘Mother, the arms that the god has given me are such

¹ Frontisi-Ducroux 1975, 24.

that the works of immortals should be, such as no mortal man could accomplish.²

As finely crafted as the armor is, Achilles' rejoicing when he first sees it, and his elation when he later puts it on, are not the result of any detached aesthetic contemplation but of the immediate prospect of his revenge. What can we learn from what Homer says about Achilles' shield and armor? In this chapter, we will examine the articulation of crafted things in Homer and the early Greek world, starting with Achilles' shield and the special class of objects, known as *daidala*, to which it belongs.

Achilles' Armor

What do we need to know about Achilles' new armor? The most famous item is the round shield, made with bronze, tin, gold, and silver in five layers and decorated with many cunning adornments (δαίδαλα πολλὰ).³ There is also a pair of greaves to cover his shins, a breastplate, and a helmet, each also made of one or more of these metals.⁴ Achilles will also carry into battle a spear, which, as a gift from Cheiron to Achilles' father Peleus, has its own prestigious lineage.⁵ But neither this spear, nor any weapons at all, are included in the special pieces of armor made for Achilles by Hephaistos: these pieces are purely defensive. What lends these items their immediate interest is their role in the plot of the *Iliad*. This new armor is the replacement for

² *Il.* 19.13-22. Trans. A. T. Murray.

³ *Il.* 18.482.

⁴ χαλκὸν δ' ἐν πυρὶ βάλλεν ἀτειρέα κασσίτερόν τε / καὶ χρυσὸν τιμῆντα καὶ ἄργυρον: *Il.* 18.474-75; and τεῦξ' ἄρα οἱ θώρηκα φαεινότερον πυρὸς αὐγῆς, / τεῦξε δέ οἱ κόρυθα βριαρὴν κροτάφοις ἀραρυῖαν / καλὴν δαιδαλέην, ἐπὶ δὲ χρύσειον λόφον ἤκε, / τεῦξε δέ οἱ κνημίδας ἑανοῦ κασσιτέροιο. *Il.* 18.610-13.

⁵ Πηλιάδα μελίην, τὴν πατρὶ φίλῳ πόρε Χείρων / Πηλίου ἐκ κορυφῆς *Il.* 19.390-91.

Achilles' old armor, which Patroclus borrowed to wear into battle. As the son of a goddess and the greatest of the Achaean heroes, Achilles had closer connections to the gods than any other mortal in the *Iliad*. His old armor was a wedding gift from the gods themselves to Achilles' mortal father Peleus, at the unusual occasion of his marriage to the immortal Thetis. Needless to say, this armor was very special—so much so that Achilles laments its loss in the same breath that he mourns his beloved:

Mother...what pleasure have I...since my dear comrade is dead, Patroclus, whom I honored above all my comrades and equally (ἴσον, *isos*) with myself? Him I have lost, and his armor Hector who slew him has stripped from him, that beautiful (καλά) armor, huge of size, a wonder to behold (θαῦμα ἰδέσθαι, *thauma idesthai*), that the gods gave as a glorious gift (ἄγλαα δῶρα) to Peleus on the day when they placed you in the bed of a mortal man.⁶

As a *thauma idesthai* or “wonder to behold,” Achilles' old armor belonged to a loose class of objects in Homer that evoked both awe and terror for their beauty, craftsmanship, materials, and the divine power often suggested by their presence. Patroclus' hope in borrowing this armor was that the Trojans, thinking he was Achilles, would be frightened into backing off, and that he might thus be able to push back the Trojans⁷ at a moment when they had come dangerously close to the Achaean ships. When he dressed himself in this borrowed armor, his fate was ominously foreshadowed by an implicit suggestion that he was insufficient to take Achilles' place: he “took two valiant spears that fitted (ἀρήρει, *arariskō*) his grasp,”⁸ but left behind the one that Achilles would ultimately carry into battle, “the spear heavy and huge and strong; this no other of the Achaeans could wield, but Achilles alone was

⁶ *Il.* 18.79-85. Trans. A. T. Murray (modified at θαῦμα ἰδέσθαι).

⁷ δὸς δέ μοι ὥμουν τὰ σὰ τεύχεα θωρηχθῆναι, / αἶ κ' ἐμὲ σοὶ ἴσκοντες ἀπόσχονται πολέμοιο / Τρῶες, ἀναπνεύσωσι δ' Ἀρήϊοι νῆες Ἀχαιῶν / τειρόμενοι: *Il.* 16.40-43.

⁸ εἶλετο δ' ἄλκιμα δοῦρε, τὰ οἱ παλάμῃφιν ἀρήρει. *Il.* 16.139. Trans. A. T. Murray.

skilled to wield it.”⁹ And indeed, although for some time Patroclus seemed to be invincible as he enjoyed his *aristeia* (excellence), hacking through ranks of Trojan warriors, it was not his fate to vanquish Hector. Apollo struck Patroclus with the flat of his hand, causing his helmet to fly off,¹⁰ his spear to break in his hands,¹¹ his shield to fall from his shoulders,¹² his breastplate to loosen (λύσε, *luō*),¹³ and for his own shining limbs (φαίδιμα γυῖα) to be loosened (λύθεν, *luō*) beneath him.¹⁴ Then—and only then, as Patroclus stood, disarmed and in a daze, is he first wounded by Euphorbus,¹⁵ then killed by Hector’s spear, driven into his uncovered belly.¹⁶ Hector then collects the armor while the Trojans and Achaeans fight over the corpse, and Achilles is left to mourn both friend and goods.

Thetis, ever sensitive to the sufferings of her mortal son, arrives and promises that she will bring a new set of armor from Hephaistos. She goes to Hephaistos’ house, where we find the famed craftsman making twenty tripods, which he has equipped with golden wheels in order for them to propel themselves to the assembly of the gods and back to his house on command; they are θαῦμα ἰδέσθαι (*thauma idesthai*) and at the moment that Thetis arrives at his house, he is busily preparing δαιδάλεα ears for them by hammering bonds (δεσμούς, *desmos*).¹⁷ Hephaistos graciously welcomes Thetis, recalling the debt that he owes her: when his mother Hera threw him from

⁹ βριθὺ μέγα στιβαρόν: τὸ μὲν οὐ δύνατ’ ἄλλος Ἀχαιῶν / πάλλιν, ἀλλὰ μιν οἶος ἐπίστατο πῆλαι Ἀχιλλεὺς *Il.* 16.141-42. Trans. A. T. Murray.

¹⁰ τοῦ δ’ ἀπὸ μὲν κρατὸς κυνέην βάλε Φοῖβος Ἀπόλλων: *Il.* 16.793.

¹¹ πᾶν δέ οἱ ἐν χεῖρεσσιν ἄγη δολιχόσκιον ἔγχος *Il.* 16.801.

¹² αὐτὰρ ἀπ’ ὤμων / ἀσπίς σὺν τελαμῶνι χαμαὶ πέσε τερμιόεσσα. *Il.* 16.802-3.

¹³ λύσε δέ οἱ θώρηκα ἄναξ Διὸς υἱὸς Ἀπόλλων. *Il.* 16.804.

¹⁴ λύθεν δ’ ὑπὸ φαίδιμα γυῖα, *Il.* 16.805.

¹⁵ στή δὲ ταφών: ὅπιθεν δὲ μετάφρενον ὀξείῃ δουρὶ / ὤμων μεσσηγὺς σχεδόθεν βάλε Δάρδανος ἀνὴρ *Il.* 16.806-7.

¹⁶ οὐτα δὲ δουρὶ / νείατον ἐς κενεῶνα, διὰ πρὸ δὲ χαλκὸν ἔλασσε: *Il.* 16.820-21.

¹⁷ *Il.* 18.373-79.

Olympus out of shame for his misshapen body, Thetis and Eurynome took him in and for nine years he lived with them and “forged much cunning handiwork (δαίδαλα πολλά), brooches, and spiral armbands, and rosettes and necklaces.”¹⁸ He moves with a curious mixture of disability and grace, “a huge, panting, bulk (πέλωρ, lit. a “monster”), limping along, but beneath him his slender legs moved nimbly,”¹⁹ and is helped along by quick-moving “handmaids made of gold in the semblance of living girls”²⁰ who have “understanding in their minds, and in them speech and strength, and they know cunning handiwork (ἔργα) by gift of the immortal gods.”²¹ Sorrowfully, Thetis explains the reason for her visit, presenting herself as a suppliant at Hephaistos’ knees.²² Hephaistos immediately bids his assent, promising beautiful armor that will cause all men who look at it to marvel (θαυμάσσεται, *thaumazō*),²³ although he laments that even this armor will not ultimately reverse Achilles’ fate—which is as well known to Thetis and Achilles as it was to Homer’s audience—of dying in battle.

The 140-line description of Hephaistos’ crafting of the armor is famously detailed, but it tells us almost nothing about his technical process. Homer mentions that Hephaistos’ tools include bellows and melting-pots at the fire, an anvil, hammer and

¹⁸ *Il.* 18.400-1. Trans. A. T. Murray.

¹⁹ ἦ, καὶ ἀπ’ ἀκμοθέτοιο πέλωρ αἶητον ἀνέστη / χωλεύων: ὑπὸ δὲ κνήμαι ῥώνοντο ἄρραιαί. *Il.* 18.410-11. Trans. A. T. Murray. For the relationship between Hephaistos’ movement and his *mētis*, see Detienne and Vernant 1978, 271-73.

²⁰ χρύσειαι ζωῆσι νεήνισιν εἰοικυῖαι. *Il.* 18.418-20. Trans. A. T. Murray.

²¹ τῆς ἐν μὲν νόος ἐστὶ μετὰ φρεσίν, ἐν δὲ καὶ αὐδὴ / καὶ σθένος, ἀθανάτων δὲ θεῶν ἅπο ἔργα ἴσασιν. *Il.* 18.419-20. Trans. A. T. Murray.

²² τοῦνεκα νῦν τὰ σὰ γούναθ’ ἰκάνομαι, *Il.* 18.457.

²³ οἷά τις αὖτε / ἀνθρώπων πολέων θαυμάσσεται, ὅς κεν ἴδῃται. *Il.* 18.466-67.

tongs²⁴—all items for metalworking; and his actions are described through the rare and evocative, but technically vague, verbal participle δαιδάλλων, which presumably means that the craftsman was “*daidal-ing*” or “making *daidala*.”²⁵ But the description does not focus on Hephaistos’ actions and techniques, instead dwelling on the microcosmic images he works into the shield—images organized into the earth, heavens, and sea, and depicting the life of two cities, one at peace and one at war. Homer describes an incredible, and indeed impossible, level of detail in these scenes, which come alive with activity.

While all this is happening, Achilles is waiting. Although he is eager to avenge Patroclus’ death it is clear that he cannot enter battle without a new set of armor to replace the one lost: Achilles’ mother, Thetis, tells him so and he does not question the issue.²⁶ While waiting, Achilles goes to the Achaean trench, in front of the wall, following Iris’ suggestion to “show [himself] to the men of Troy, in the hope that seized with fear of [him] the Trojans may hold off from war.”²⁷ This is similar to Patroclus’ rationale for entering battle in the guise of Achilles. Taken together, the appearances in battle of Achilles’ old armor as worn by Patroclus, and of Achilles himself without his armor, comprise two partial entrances of Achilles into the war which anticipate his decisive appearance on the battlefield—his only appearance in battle in the *Iliad*—once Hephaistos’ handiwork is delivered to him. For this initial, armor-less appearance in the Achaean trench, Athena lends Achilles her tasseled aegis (a protective breastplate given to her by Zeus), sets “a thick golden cloud” around him, and lights a gleaming fire above his head.²⁸ He shouts three times with his “voice of bronze” and Athena augments his voice with her own, so that it rings as “clear as the trumpet’s voice when it sounds aloud when a city is pressed by murderous foes.”²⁹ An “unspeakable confusion” breaks out among the Trojan ranks,³⁰

²⁴ φῦσαι δ’ ἐν χοάνοισιν εἰκοσι πᾶσαι ἐφύσων *Il.* 18.470, and αὐτὰρ ἔπειτα / θῆκεν ἐν ἄκμοθέτῳ μέγαν ἄκμονα, γέντο δὲ χειρὶ / ῥαιστήρα κρατερήν, ἐτέρηφι δὲ γέντο πυράγρην. *Il.* 18.475-77.

²⁵ πάντοσε δαιδάλλων *Il.* 18.479.

and Homer tells us that even their horses are afraid.³¹ Like an awesome spectacle of thunder and lightning associated with Zeus—or like *daidaleos* armor made of precious metals and associated with Hephaistos or Athena—Achilles’ appearance does not manifest itself through sight or sound alone, but through both at once, inducing an immediate and visceral panic and terror.

Panic (*deimos*) and terror (*phobos*) are powerful weapons and are personified as the gods Deimos and Phobos, sons of Ares who fight alongside him on the battlefields of the *Iliad*. Deimos and Phobos are also depicted on several important shields in Greek mythology, reflecting the fact that for the Greeks, the best offense was often the awe and fear induced in one’s enemies by well-built defensive constructions such as shields, towers, and walls—or later, by the orderly formations of hoplites or of men in triremes. These effects should not be underestimated. When Achilles appears in the Achaean trench to frighten the Trojans, twelve of the finest Trojan warriors drop

²⁶ *Il.* 18.134-37, and *Il.* 18.188-91.

²⁷ ἀλλ’ αὐτως ἐπὶ τάφρον ἰὼν Τρῳέσσι φάνηθι, / αἶ κέ σ’ ὑποδείσαντες ἀπόσχονται πολέμοιο / Τρῳές, *Il.* 18.198-200. Trans. A. T. Murray.

²⁸ ἀμφὶ δ’ Ἀθήνη / ὤμοις ἰφθίμοισι βάλ’ αἰγίδα θυσσανόεσσαν, / ἀμφὶ δέ οἱ κεφαλῇ νέφος ἔστεφε δῖα θεάων / χρύσεον, ἐκ δ’ αὐτοῦ δαΐε φλόγα παμφανόωσαν. *Il.* 18.203-6. Trans. A. T. Murray. See also *Il.* 18.225-27.

²⁹ The shouting scene runs from *Il.* 18.217-29. See, for Achilles’ three shouts, τρὶς μὲν ὑπὲρ τάφρου μεγάλ’ ἴαχε δῖος Ἀχιλλεύς, / τρὶς δὲ κυκήθησαν Τρῳές κλειτοὶ τ’ ἐπίκουροι. *Il.* 18.228-29; for his voice of bronze, ὅπα χάλκεον *Il.* 18.222 (my translation); for Athena’s vocal augmentation, ἀπάτερθε δὲ Παλλὰς Ἀθήνη / φθέγξατ’ *Il.* 18.217-18; and for “clear as the trumpet’s voice...” see ὡς δ’ ὅτ’ ἀριζήλη φωνή, ὅτε τ’ ἴαχε σάλπιγξ *Il.* 18.219, Trans. A. T. Murray.

³⁰ ἀτὰρ Τρῳέσιν ἐν ἄσπετον ὥρσε κυδοιμόν. *Il.* 18.218. Trans. A. T. Murray.

³¹ ἀτὰρ καλλίτριχες ἵπποι / ἄψ ὄχρεα τρόπεον: ὅσσοντο γὰρ ἄλγεα θυμῷ. *Il.* 18.223-34.

dead, apparently out of terror, “there and then. . .among their own chariots and their own spears.”³²

We know the rest of the story. Thetis obtains the new pieces of armor from Hephaistos and presents them to Achilles, who receives them with renewed wrath and a terrible eagerness for war. Achilles repeatedly refuses food and drink before avenging Patroclus’ death, but again receives divine aid, in the form of a direct infusion of nectar and ambrosia from Athena so that his knees (γούναθ’, *gouna*) would not become hungry in battle.³³ He puts on his new armor in a scene that culminates a series of arming scenes of other heroes preparing for important battles throughout the epic. When he finishes arming himself, he “tested himself in his armor to see if it fitted him (ἐφαρμόσσειε, *epi + harmozō*) and if his glorious limbs (ἀγλαὰ γυῖα) moved free; and it became like wings to him, and raised up the shepherd of men.”³⁴ Later tradition will accredit Daidalos with the invention of wings, but in this moment Achilles is literally levitated “as if” on wings in what Sarah P. Morris describes as “a moment of metaphor become reality.”³⁵ He goes into battle, has his *aristeia* as he wreaks havoc among the Trojans, then chases Hector around the walls of his own city three times before slaying him.

In this final battle, as he slaughters ranks of Trojans and finally Hector himself, Achilles’ armor is associated with a quasi-magical protection. He repeatedly slices past or through his opponents’ armor while his own remains intact. Agenor strikes

³² ἔνθα δὲ καὶ τότε ὄλοντο δώδεκα φῶτες ἄριστοι / ἀμφὶ σφοῖς ὀχέεσσι καὶ ἔγχεσιν. *Il.* 18.230-31. Trans. A. T. Murray.

³³ ἦ δ’ Ἀχιλῆϊ / νέκταρ ἐνὶ στήθεσσι καὶ ἀμβροσίην ἐρατεινὴν / στάξ’, ἵνα μὴ μιν λιμὸς ἀτερπῆς γούναθ’ ἴκοιτο: *Il.* 18.352-54.

³⁴ πειρήθη δ’ ἔο αὐτοῦ ἐν ἔντεσι δῖος Ἀχιλλεύς, / εἰ οἱ ἐφαρμόσσειε καὶ ἐντρέχοι ἀγλαὰ γυῖα: / τῷ δ’ εὖτε περὰ γίγνεται, ἄειρε δὲ ποιμένα λαῶν. *Il.* 19.384-86. Trans. A. T. Murray.

³⁵ Morris 1992, 15.

Achilles “on the shin below the knee”³⁶ with his spear, “and missed him not; and the greave of new-wrought tin rang terribly upon him; but back from him it smote leapt the bronze, and pierced not through, for the gift of the god stayed it.”³⁷ Similarly, when Hector throws his spear at Achilles, striking his shield squarely: it “missed him not; but far from the shield the spear leapt back.”³⁸ Direct divine intervention protects him in an identical manner; earlier, when Hector threw his spear at Achilles, “Athena with a breath turned it back from glorious Achilles, breathing only lightly; and it came back to noble Hector and fell there before his feet.”³⁹

The creation and gifting of Achilles’ new armor, in a sense, marks the climax of the *Iliad* since it is what allows him to return to battle, formally ending his wrath against Agamemnon. The poem’s plot would have been no less familiar to Homer’s audience than it is to us, and we can assume that interest in its performance stemmed less from any uncertainty about the outcome than from the pleasure of witnessing the greatness of the gods and heroes as their fates unfold. Part of this pleasure comes from the fact that Homer explains the back-stories behind each significant character, action, and work of craftsmanship. When Achilles and Hector face off and Achilles’ spear is poised as he scans his opponent’s armor for an opening, Homer can remind us, mid-sentence, that this is the “armor of bronze, the fair armor that he had stripped

³⁶ κνήμην ὑπὸ γούνατος *Il.* 21.591. Trans. A. T. Murray.

³⁷ οὐδ’ ἀφάμαρτεν. / ἀμφὶ δέ οἱ κνημὶς νεοτεύκτου κασσιτέροιο / σμερδαλέον κονάβησε: πάλιν δ’ ἀπὸ χαλκὸς ὄρουσε / βλημένου, οὐδ’ ἐπέρησε, θεοῦ δ’ ἠρύκακε δῶρα. *Il.* 21.591-94. Trans. A. T. Murray.

³⁸ οὐδ’ ἀφάμαρτε: / τήλε δ’ ἀπεπλάγχθη σάκεος δόρυ: *Il.* 22.290-91. Trans. A. T. Murray.

³⁹ καὶ τό γ’ Ἀθήνη / πνοιῇ Ἀχιλλῆος πάλιν ἔτραπε κυδαλίμοιο / ἦκα μάλα ψύξασα: τὸ δ’ ἄψ’ ἔκεθ’ Ἑκτορα δῖον, / αὐτοῦ δὲ προπάροϊθε ποδῶν πέσεν. *Il.* 20.438-41. Trans. A. T. Murray. Of course, Achilles is not the only one receiving divine protection; when Achilles subsequently leaps upon Hector, Apollo snatches him up and obscures him in a heavy mist to protect him. *Il.* 20.441-44.

from mighty Patroclus when he slew him,”⁴⁰ and we immediately understand that this moment speaks about the wrath that Achilles felt against Agamemnon until Hector killed Patroclus and incurred a greater rage; about the vengeance that Achilles is about to deal to Hector; about the storied origin and history of the two sets of armor, old and new, worn by two men who are parallel but unequal opponents; and about the struggles of the gods and the divine interventions on both sides that have contributed to this moment.

Achilles’ armor is therefore a key element in the back-story that the audience needs to know. Recognizing the importance of these items, Homer’s audience would have shared in the awe that the Trojans and Achaeans felt in their presence. And so should we. We now know quite a bit about Achilles’ armor, but to complete this story we need to now turn to the wider conceptual ground from which these objects emerged. This brings us to discuss, in the rest of this chapter: *daidala*, a group of eminently articulate objects; *arariskō*, a verb which deals with joining and adjusting, or articulation; and the role of *arariskō* in the action of Odysseus’ house in the *Odyssey*.

Articulate Objects

Daidala are literary (rather than real) objects that exist primarily in the world of epic poetry, as identified through the noun *daidalon*, and its associated adjectives (*daidaleos*, *poludaidalos*), a verbal participle (*daidallōn*), and the proper name Daidalos. Collectively, these words appear in Homer thirty-six times to describe this group of objects, of which Achilles’ shield is the most famous example; and these thirty-six instances, together with nine instances in Hesiod that confirm and slightly expand the meanings established by Homer, construct the early sense upon which all

⁴⁰ χάλκεα τεύχεα / καλά, τὰ Πατρόκλαιο βίην ἐνάριξε κατακτάς: *Il.* 22.322-23.

Trans. A. T. Murray.

later uses of these words rely for their significance.⁴¹ The meaning of these words is less technical than evocative—although, as we will see, what they evoke is very specific and powerful⁴²—and their role in Homer is in many ways similar to that of other praise words and phrases used to describe works of craftsmanship.⁴³

If we try to understand Homeric *daidala* according to modern logic, then these terms describe a dizzying array of items, including: a helmet, breastplate, belt, shield, chariot, throne, chest, tripod, bowl, brooches, bracelets, rosettes, necklaces, earrings, clasps, crown, bed, and a bedroom.⁴⁴ If we include *daidal-* objects (including works of Daidalos) in later writers the array becomes even greater: a dancing floor at Knossos, a labyrinth, wings, a sail, an artificial bull, a veil, a dress, and even—in Lucretius—verbal images made visible through their articulateness.⁴⁵ But because *daidala* exist in the imagination of epic poetry, we can learn about them by paying attention—as Frontisi-Ducroux and Morris have done—to the stories in which they appear.

Because the most exemplary *daidalon* of all is Achilles' shield, we already know a surprising amount about *daidala*. We know that these objects are immediately distinguished by their craftsmanship, value, and beauty, and that they are made by famous craftsmen such as Hephaistos. We know that they can play significant roles at the turning point of a story: Achilles' return to war and the end of his wrath against Agamemnon depend on his new *daidaleos* armor.⁴⁶ We know that in terms of armor, *daidala* include only defensive items rather than weapons such as swords and spears,

⁴¹ Frontisi-Ducroux 1975, 35-36, Morris 1992, 4. See also Pérez-Gómez 1985.

⁴² Morris 1992, 12-15.

⁴³ Frontisi-Ducroux 1975, 37-44, 65, 73.

⁴⁴ Frontisi-Ducroux 1975, 40.

⁴⁵ For *daidala lingua* in Lucretius, see Holmes 2005.

⁴⁶ For *daidal-* words being used at crucial moments in battle, see Frontisi-Ducroux 1975, 65, Morris 1992, 6.

but that they can nonetheless have terrifying and deadly effects.⁴⁷ Although *daidala* cannot guarantee complete protection, as Hephaistos lamented, the powers of these kinds of items are strong: Apollo had to remove Achilles' armor from Patroclus before Hector could wound and kill him.

We can also suggest that a *daidalon*'s powers seem to stem from its intricacy, gleaming appearance, and clashing sound.⁴⁸ In fact, *daidala* inspire panic and terror in very much the same way as the sight and sound of Achilles himself when he appeared in the Achaean trench. This effect, tied to the *daidalon*'s status as a *thauma idesthai* or “wonder to behold,” is not limited to one's enemies: even Achilles' own comrades trembled, averted their gaze, and shrank away from his new armor.⁴⁹ Part of the effect may stem from the fact that wearing or possessing *daidala* is often related to divine assistance, which also contributes to the quasi-invisibility of a hero during his moments of *aristeia*. This, in turn, is connected to the point that *daidala* are also often associated with fire, whether literally—as when flames burst above Achilles' head or Hephaistos employs fire in forging metal—or through similes, as when Achilles' eyes “showed forth terribly...like flame” when he first laid eyes on his armor.⁵⁰ Associated with Prometheus and with mankind's need of technology and of rewarding but dangerous relationships with divine powers to survive, fire stood for the ancient Greeks as a sign of both our special status and our mortality.

And, although all of this would need to be established more systematically by a reading of *daidal*- words in Homer, we can already notice a few more things about *daidala*. While *daidala* received from gods and goddesses can ostentatiously signal

⁴⁷ Frontisi-Ducroux 1975, 66.

⁴⁸ See Frontisi-Ducroux 1975, 65, 68.

⁴⁹ Μυρμιδόνας δ' ἄρα πάντας ἔλε τρόμος, οὐδέ τις ἔτλη / ἄντην εἰσιδέειν, ἀλλ' ἔτρεσαν. *Il.* 19.14-15.

⁵⁰ ἐν δέ οἱ ὅσσε / δεινὸν ὑπὸ βλεφάρων ὥς εἰ σέλας ἐξεφάνθεν: *Il.* 19.16-17.

Trans. A. T. Murray.

one's divine connections, they more generally play a role in the wider Homeric gift economy, which is marked by debts and obligations among both mortals and immortals.⁵¹ As a result of being exchanged in this gift economy, *daidala*, like other precious items, acquire a specific lineage related to their manufacture and their change of hands that valorizes both object and owner. On the other hand, given that both Patroclus and Hector die while wearing Achilles' old armor, there is a suggestion that the *hubris* involved in usurping (even with permission) the role of another may be dangerous. In fact, as we will see, *daidala* are often as treacherous as they are beautiful.⁵²

Daidala become interesting in the context of this dissertation because they are articulate objects. Frontisi-Ducroux has considered the archaic techniques used in making objects similar to the *daidala* described by Homer. She finds that the common characteristic across these techniques—which deal with metal, wood, cloth, and other materials—is a focus on the cutting and joining of parts.⁵³ The “cutting and joining of parts” describes a broad range of activity, but where this notion gains its specificity is in the extent to which archaic Greek language and thought took this general descriptor of craft processes and valorized it, endowing it with specific connotations and implications across a broad domain of activities which emerge from—but are not limited to—the techniques of craft.

The technical process of cutting and joining is perhaps most obvious in the case of wood: raw lumber is cut into straight planks, which are then further cut, adjusted, and joined in place. Besides Odysseus, other carpenters in Homer include Harmon, his son Tecton, and his grandson Pherecles. This legendary lineage of carpenters brings together, through their actions and names, a number of ideas. Pherecles was “skilled in fashioning all manner of *daidala* (δαίδαλα πάντα)” and built “shapely ships” for

⁵¹ Frontisi-Ducroux 1975, 64-65.

⁵² Frontisi-Ducroux 1975, 65.

⁵³ Frontisi-Ducroux 1975, 45-51. See also Pérez-Gómez 1985.

Alexander;⁵⁴ the word for carpenter was *tektōn*, so Tecton's name is etymologically tied to this as well as to *architektōn* or "architect," and to *technē* or "art, still, device, craft, cunning"; and Harmon's name literally means "a fitting together, joining, proportion, concord, harmony."⁵⁵ Related to Harmon, the word *harmonia* takes for its earliest meaning in Homer the notion of "joining together"; but by the 6th century BCE it could also refer to the joining of musical notes in a mode or system of harmonies, or to the act of tuning an instrument; and, in the 5th century BCE, to political and cosmic concord.⁵⁶

Real archaic craft techniques in wood echo this linguistic focus on articulation. Homer's description of Odysseus' process of raft building paid special attention, as we saw in the previous chapter, to the forging of articulations. In Mycenaean times and in Homer's own Iron Age, shipbuilding was based on a kind of carpentry with particular focus on the joints to create a curved hull from straight planks, which were themselves derived from more or less irregularly shaped trees. A more expedient method—of constructing a wooden frame onto which wooden planks are then nailed—would later be adopted; but in Homer's time the ship's hull was both

⁵⁴ *Il.* 5.59-62. Trans. A. T. Murray. For the first instances of *architekton*, see ἀρχιτέκτονα at Herodotus 2.175.5, and 4.88.1; ἀρχιτέκτων at 3.60.3, 3.60.4, 4.87.1; and ἀρχιτέκτονες at 7.36.1; other early instances include ἀρχιτέκτοσιν at Euripides *Cyclops* 477, and κἀρχιτεκτόνει at Aristophanes *Peace* 305. I am indebted to Lisa Landrum for providing this information.

⁵⁵ See Frontisi-Ducroux 1975, 56-57.

⁵⁶ Bundrick 2005, 11. See γόμφοισιν δ' ἄρα τήν γε καὶ ἀρμονίησιν ἄρασεν. *Od.* 5.248. Bundrick also observes that the first extant use of *harmonia* in the musical sense, of joining together notes, occurs in a fragment by the music theorist Lasos of Hermione in the late 6th century BCE. Similarly, *harmoniai* came to mean the various modes of music (such as the Dorian, Phrygian, Lydian, etc.) of the sixth and fifth centuries BCE. Bundrick 2005, 140.

structure and surface, painstakingly constructed through the strong and waterproof jointing of one piece of wood to the next.⁵⁷

As Frontisi-Ducroux points out, weaving and embroidery involve making thread from a mass of wool or vegetal matter, and then interlacing or joining the threads orthogonally to make cloth, or in various patterns in embroidery.⁵⁸ This two-step process is analogous to the work of carpentry in forming straight planks out of raw lumber, then in bending and fitting these straight planks into the curved hull of a ship or other object. In both processes, the resolution of irregular and straight, of binding and loosening, is the work of *mētis*, or cunning intelligence.⁵⁹ Homer does not associate any specific technical process (such as weaving or embroidery) with *daidala*; in fact, we cannot even be sure that he spoke of *daidala* in cloth or thread at all.⁶⁰ In the *Iliad*, Hera dresses in an ambrosial robe adorned with many *daidala* (δαίδαλα πολλά)⁶¹ in order to seduce Zeus and distract him from the war; here, Homer evokes the thaumatic qualities and powers of *daidala* without telling us whether these *daidala* are made of embroidered or woven threads, or of other materials such as precious metals and stones.⁶² The situation becomes clearer in

⁵⁷ Mark 1991, 445. Experts disagree on whether Homer is describing a Mycenaean shipbuilding technique of mortise-and-tenon joinery, or a simpler Iron Age combination of dowels, pegs, and lacings. If he is referencing the Mycenaean technique, this places an even stronger emphasis on articulation while also appealing, as Homer often does, to the glamour of the past heroic age.

⁵⁸ Frontisi-Ducroux 1975, 48-50.

⁵⁹ Frontisi-Ducroux 1975, 80. Detienne and Vernant make this clear throughout their study; see, for example Detienne and Vernant 1978, 205-6, 19, 31, 86-87.

⁶⁰ Frontisi-Ducroux 1975, 50.

⁶¹ ἀμφὶ δ' ἄρ' ἀμβρόσιον ἑανὸν ἔσαθ', ὃν οἱ Ἀθήνη / ἔξυσ' ἀσκήσασα, τίθει δ' ἐνὶ δαίδαλα πολλά: / χρυσεῖης δ' ἐνετῆσι κατὰ στήθος περονᾶτο. *Il.* 14.178-80.

⁶² Fabric *daidala* and other crafts described as *poikila* are often interpreted as embroidery; however, as Frontisi-Ducroux points out, while there is nothing that

Hesiod: in the *Theogony* there is a cloth *daidalon* in the form of the veil (καλύπτρην δαιδαλέην) that Athena uses to adorn Pandora,⁶³ and in *Works and Days* Athena teaches Pandora “*daidal-ic*” weaving (πολυδαίδαλον ἱστὸν ὑφαίνειν).⁶⁴ Cloth *daidala* tend to be the provenance of women in terms of both manufacture and use—the later story of the sail on a raft built by Daidalos for escape from Crete being an exception—but it is worth pointing out that their action is no different from other *daidala*: they are *thauma idesthai*, dazzling and disarming one’s opponents. And, given that Hera’s *daidala* help her turn the tide of war, while those of Pandora help her to be “sheer guile, not to be withstood by men,”⁶⁵ and an “evil thing” through which they would “embrace their own destruction,”⁶⁶ it is clear that the *daidala* of women are as dangerous, even on military terms, as their male counterparts.

Daidala could also be made of metal, as we have seen in the case of Achilles’ armor. The δαιδάλεια ears that Hephaistos was preparing were to be fixed on their tripods with metal bonds (δεσμούςς, *desmos*) that he was hammering.⁶⁷ An important process in the crafting of valuable metal goods in the Bronze Age and later is that of

specifies embroidery or any other technique, we do know that Homer’s heroines weave. Frontisi-Ducroux 1975, 52-55. *Hyphanein*, “to weave,” derives from *phainō*, “to bring to light,” and can also mean “to construct,” or “to contrive cunning schemes”; and the related *epiphaneia* means “appearance, coming into light, birth,” and the “visible surface” or even “skin of the body.” See McEwan 1993, 53-54.

⁶³ κατὰ κρήθεν δὲ καλύπτρην / δαιδαλέην χεῖρεςσι κατέσχεθε, θαῦμα ιδέσθαι Hesiod *Theogony* 574-75.

⁶⁴ Hesiod *Works and Days* 64.

⁶⁵ ὥς εἶδον δόλον αἰπύν, ἀμήχανον ἀνθρώποισιν. Hesiod *Theogony* 589. Trans. Hugh. G. Evelyn-White.

⁶⁶ τοῖς δ’ ἐγὼ ἀντὶ πυρὸς δώσω κακόν, ᾧ κεν ἅπαντες / τέρπονται κατὰ θυμὸν ἐὼν κακὸν ἀμφαγαπῶντες. *Works and Days* 57-58. Trans. Hugh. G. Evelyn-White.

⁶⁷ *Il.* 18.378-79.

sphurēlaton (literally, “hammer-driven”), which involved cold-hammering metal into thin pieces that were then nailed or otherwise affixed as a veneer on a wooden or other base. It may also have been employed to make chryselephantine sculptures as objects of cult worship, with veneers of gold leaf, ivory, and other materials. This seems to have been the technique employed in the crafting of Aias’ shield in the *Iliad*, which Homer tells us was “like a tower (πύργον),” and made of seven layers of bull hides, with an eighth layer of bronze set on top.⁶⁸ In archaic and classical times, the sheets of metal on shields and other defensive and decorative items were hammered to a thickness of less than one millimeter; the defensive effect of metal-plated shields would have stemmed less from their physical strength than from their appearance and effect of *thauma*, their ability to provoke awe and fear in a manner not unlike the cult statues also crafted through *sphurēlaton*. Corroborating this notion, some of the most coveted pieces of armor in the *Iliad* are made in gold, one of the softest metals;⁶⁹ while in the Spartan Constitution (4th century BCE), Xenophon states that bronze was advantageous for plating a shield because it was most easily polished and holds its shine.⁷⁰

⁶⁸ ὅς οἱ ἐποίησεν σάκος αἰόλον ἑπταβόειον / ταύρων ζατρεφέων, ἐπὶ δ’ ὄγδοον ἦλασε χαλκόν. *Il.* 7.222-23. Trans. A. T. Murray.

⁶⁹ See, for example, the exchange of armor between Glaucus and Diomedes, χρύσεια χαλκείων, ἐκατόμβοι’ ἐννεαβοίων. *Il.* 6.236; or Dolon’s description of Rhesus’ chariot and armor, ἄρμα δέ οἱ χρυσῷ τε καὶ ἀργύρῳ εὖ ἥσκηται: / τεύχεα δὲ χρύσεια πελώρια θαῦμα ιδέσθαι / ἦλυθ’ ἔχων: *Il.* 10.412.

⁷⁰ Xenophon, *Constitution of the Lacedaimonians*, 11.3. Cf. Fortenberry 1991, 627. See also Wees 1994, 134. The fear inspired by gold-plated items may in part be related to the wealth and martial power that rare metals represent: Wees points out that it was acceptable, by the mid 5th century BCE at the latest, for Athenians to “borrow” money from the gods for warfare and other efforts by converting gold plated items in sanctuaries into coin. Wees 2004, 237.

My point in discussing *daidala* according to their materials is to suggest that a number of physical notions the Greeks associated with articulation and *mētis* (or cunning intelligence, a notion we will discuss in Chapter Three)—that is, joining and loosening, a well-adjusted fit, the resolution of the irregular and the straight—are inherent to the construction of *daidala* no matter which material is used. While the actual practice of these trades would have been divided by material since the skills, equipment, and the economics of production were specific to each, there is nothing to suggest that Homer drew distinctions in the action or poetic effect of *daidala* along material or technical lines. Instead, the fact that he tells us so little about the technical construction of these items—that the little we can glean is often based on other sources and extrapolation from archaeological finds—suggests that while fine craftsmanship is for Homer a mandatory feature of *daidala*, his interest in these objects has much less to do with the specific techniques than with the more generalized power or magic of *technē*.⁷¹ In the next section, through a discussion of the verb *arariskō* in Homer we will see how the craftsmanship of *daidala* can also be understood as a heightened and particular example of the more general case of articulated crafts, and of articulation itself.

⁷¹ Some *daidala*, like Odysseus' bed, are explicitly made of a combination of materials. Odysseus describes adorning his bed, cut from the stump of an olive tree, with gold, silver, and ivory, and stretching a purple-dyed ox hide over it: δαιδάλλων χρυσῷ τε καὶ ἀργύρῳ ἥδ' ἐλέφαντι: / ἐκ δ' ἐτάνυσσα ἱμάντα βοῶς φοῖνικι φαεινόν. *Od.* 23.200-1. In many other cases, there are also possible, although not explicit, combinations of materials, including: silver-studding of wooden chairs, *Il.* 18.390; metal decorations on a cloth dress, *Il.* 14.179; precious gems or ivory within metal jewelry, *Il.* 18.400, and 19.227; shields made of metal over leather layers, *Il.* 18.479, and 22.314; a silver bridge on a wooden lyre, *Il.* 9.187; and inlaying of various materials into wooden items including a chest, chairs, a chariot, and a bedroom, *Il.* 16.222, 17.448, and 24.597, and *Od.* 1.131, 6.15, 10.315, and 10.367.

Fitting Things

The verb *arariskō* occurs sixty-seven times in Homer, and can often be translated as “to join or fit.” It is only one of several early Greek words that map the conceptual terrain of articulation, but it is one that appears frequently in Homer in a variety of contexts and which maps a wide range—although not the entirety—of the meanings that articulation can hold.⁷² Because of this, although an examination of the uses of this word in Homer is only one of many possible windows onto the world of articulation, it is a useful one.

When Odysseus and Aias, two of the finest Achaean warriors, wrestle at Patroclus’ funeral games, they are fighting for glory and for a tripod offered by Achilles as a prize. For a long time, their strengths are matched in an apparent stalemate:

Then the two, when they had girded themselves (ζωσαμένω), stepped into the midst of the place of gathering (ἐς μέσσον ἀγῶνα), and laid hold each of the other in close grip with their mighty hands, even as the rafters (ἀμείβοντες) of a high house, which some famous craftsman (τέκτων) joined (ἤραξε, *arariskō*) together, that he may have shelter from the might of the winds. And their backs creaked beneath the violent tugging of bold hands, and the sweat flowed down in streams; and many a welt, red with blood, sprang up along their ribs and shoulders; and ever they strove for victory, to win the fashioned tripod. Neither was Odysseus able to trip Aias and throw

⁷² As I mentioned in the previous chapter, there are words with related meanings such as *harmozō*, *harmonia*, *harmos*, *arthros*, *anarthros*, *arithmios*, *harmozō*, and *diarthroō*, which derive from the **ar-* root; and *hapto*, *mignumi*, *amiktos*, *luō*, *dialuō*, *sunechō*, and *suntassō*, which do not.

him to the ground, nor Aias him, for the mighty strength (ἰς) of Odysseus held firm.⁷³

The men's strength is expressed through the firmness of their grip, which is in turn expressed through a simile: their hands are *joined* just as a “famous craftsman” joined the rafters of a high house. For the house, this joining is associated with defense—not from men, but from the wind. And for the men, this joining is motionless and yet active; the men hold each other immobile even while they exhibit the most vigorous life and strength. The life and energy of static configurations, the strength of a defensive stance, the overall valorization of articulation, and the fluidity between the joining of beings and of crafts are all characteristic to uses of *arariskō*. We might also observe that in the last sentence, the tendon (ἰς) is in the nominative while “Odysseus” is in the genitive, as paraphrasis for the person: Odysseus’ “mighty tendon” stands for his own self.⁷⁴

What happens next has a pleasing symmetry to this image. In order to break the stalemate, Aias challenges Odysseus, saying, “either you lift me, or let me lift you; but the issue will rest with Zeus.”⁷⁵ He then lifts Odysseus, who “forgot not his guile (δόλου, *dolos*)” and “with a sure blow he struck the hollow of Aias’ knee (κώληπα) from behind, and loosed his limbs (ὑπέλυσε δὲ γυῖα), so that he was thrown

⁷³ *Il.* 23.710-20. Trans. A. T. Murray, modified at ἦραρε from “joins.” Note that in “girding” themselves, Odysseus and Aias are fixing a bond around their waists. The word for “rafters” here is ἀμείβοντες, a participle of *ameibō*, “to change, exchange” and also “to repay, to answer (in dialogue),” and it is in the sense of members “that meet and cross each other” that *ameibontes* suggests “rafters.”

⁷⁴ The word *is*, or “tendon,” is synonymous with strength: see “the mighty force (*is*) of the river,” ἰς ποταμοῖο *Il.* 21.356.

⁷⁵ ἢ μὲν ἀνάειρε, ἢ ἐγὼ σέ: τὰ δ’ αὖ Διὶ πάντα μελήσει. *Il.* 23.724. Trans. A. T. Murray.

backward.”⁷⁶ Where Odysseus and Aias were joined they are now unjoined; where they were equal in strength, they are unequal in *mētis*; Odysseus has gained the upper hand by loosening Aias’ *guia*, disrupting his stance. Both the stalemate and the conclusion of the wrestling match are told through the language of articulation.

Let’s look at another example, this time from the *Odyssey*. Odysseus’ *oikos*—that is, the house itself but also its inhabitants and belongings—is both his prize and a source of his strength. Early in the epic, when Telemachus goes to his father’s storeroom to select provisions for his journey, the room’s fine construction and its bountiful, orderly goods signify everything to which Odysseus is to return.

There too, stood great jars of wine, old and sweet, holding within them an unmixed (ἄκρητον, *akratos*) divine drink, and ranged (ἀρρηρότες, *arariskō*) in order along the wall, if ever Odysseus should return home even after many grievous toils. Shut were the doors, close-fitted (πυκινῶς ἀραρυῖαι, *puknos* + *arariskō*), and there both night and day a stewardess remained...⁷⁷

The use of *arariskō* in describing the arrangement of the jars does not imply the existence of tangible “joints” as physical things or parts, but rather, a condition of orderly arrangement which here evokes that which is bountiful and well prepared. We can imagine the pleasing sight of a shelf full with many jars of wine—so many jars, in fact, that they may be touching, or joining each other as they stand along the wall.

A similar use of *arariskō* can be found when Achilles addresses his men in the *Iliad* to prepare them for war.

⁷⁶ δόλου δ’ οὐ λήθετ’ Ὀδυσσεύς: / κόψ’ ὄπιθεν κώληπα τυχών, ὑπέλυσε δὲ γυῖα, / καὶ δ’ ἔβαλ’ ἐξοπίσω *Il.* 23.725-7. Trans. A. T. Murray. Although most translators render κώληπα as “bend or hollow of the knee,” this is, in fact, an unknown word and the translation is based solely on the context of this one instance.

⁷⁷ *Od.* 2.340-46. Trans. A. T. Murray.

So saying, he roused the *menos* (μένος) and *thumos* (θυμὸν) of every man, and yet more tightly were their ranks joined (ἄρσεν, *arariskō*) when they heard their king. And as when a man joins (ἀράρη, *arariskō*) the wall of a high house with close-set (πυκνοῖσι, *puknos*) stones, to avoid the might of the winds, so close were joined (ἄραρον, *arariskō*) their helmets and bossed shields; shield pressed on shield, helmet on helmet, and man on man. The horsehair crests on the bright helmet-ridges touched each other, as the men moved their heads, in such close (πυκνοὶ, *puknos*) array did they stand by one another.⁷⁸

As the men crowd forwards in their bravery and eagerness for battle, they touch or *join* each other like the jars of wine, or again, like the rafters of a house. But whereas Odysseus' and Aias' wrestling grip was aptly expressed by the meeting of two rafters in a peak, this group of warriors is appropriately likened to the more numerous stones of a wall, an analogy strengthened by the fact that, as John Onians points out, the word *laos* meant both man and stone.⁷⁹ The preparedness, order, and strength implied by the jars lined up along the wall, or by the warriors clad in full armor and clamoring for battle, radiate a kind of beauty that is, in a sense, not unlike that of a *daidalon*.

Like the spectacles of Achilles' armor worn by Patroclus, of Achilles' unarmed self enhanced in sight and sound by Athena, and ultimately of Achilles in his full splendor wearing his new armor, this kind of thaumastic power can be related to the appearance of a being or of a crafted thing but is most potent when craft and being are combined.

⁷⁸ *Il.* 16.210-7. Trans. A. T. Murray. See also: the Trojans joining (*arariskō*) their shields before charging the Achaeans, οἱ δ' ἐπεὶ ἀλλήλους ἄραρον τυκτῆσι βόεσσι / βάν ῥ' ἰθὺς Δαναῶν λεληγμένοι, *Il.* 12.105-6; the Trojans joining (*arariskō*) one another, ὥς Τρῶες πρὸ μὲν ἄλλοι ἀρηρότες, αὐτὰρ ἐπ' ἄλλοι, *Il.* 13.800; and a joined mass of men, "towerwise (adv. of *purgos*)," withstanding attack and being compared to a cliff by the sea, ἴσχον γὰρ πυργηδὸν ἀρηρότες, ἥύτε πέτρῃ / ἡλίβατος μεγάλη πολιῆς ἀλὸς ἐγγὺς ἐοῦσα, *Il.* 15.618.

⁷⁹ Onians 1999, 1.

Not infrequently *arariskō* suggests the joining of what we would describe as a being or beings (whether mortal or divine) with what we would describe as a crafted thing or things. For example, when Athena is advising Telemachus to prepare a ship for his voyage, she tells him to fit out (ἄρσας, *arariskō*) his best (ἀρίστη) ship with twenty rowers.⁸⁰ Again, *arariskō* conveys a sense of preparedness, order, and strength—but it also conjures the notion of the skillful joining of men to ship in the way that Hephaistos joins wheels to a tripod: the men complete the ship, making it at once more intricate and more beautiful, but also mobile and alive.

Arariskō is also used to describe ideas or actions that are “fitted” to one’s temper and are therefore pleasing or satisfying: at the opening of the *Iliad*, Agamemnon says to Achilles, “...give me a prize (γέρας), fitting (ἄρσαντες, *arariskō*) it to my *thumos* (θυμὸν) so that it is equivalent (ἀντάξιον).”⁸¹ Similarly, in the *Odyssey*, Antinous says, “let us...put into effect our plan which fitted (ἤραρεν, *arariskō*) all our *phrenes* (φρεσὶν, “midriff, diaphragm, mind, feelings”),”⁸² and a similar formulation is used to describe the satisfaction felt after enjoying a meal offered by a host.⁸³ Here, *arariskō* expresses the suitability or appropriateness of an idea or thing to oneself (or rather, to one’s *thumos* or *phrenes*), but this meaning is also apparent when *arariskō* is used in a more tangible sense to describe how pieces of armor such as a breastplate or helmet fit one’s chest or head, or how a weapon or tool fits one’s hand.

Arariskō is used to describe the fitting of armor, clothing, tools, and weapons to a being in two ways: as an active verb describing the act of dressing or arming, and as a past participle describing the relationship between the thing and its bearer. In the first

⁸⁰ νῆ’ ἄρσας ἐρέτησιν ἐείκοσιν, ἥ τις ἀρίστη, *Od.* 1.280.

⁸¹ ἀλλ’ εἰ μὲν δώσουσι γέρας μεγάθυμοι Ἀχαιοὶ / ἄρσαντες κατὰ θυμὸν ὅπως ἀντάξιον ἔσται: *Il.* 1.135-36.

⁸² ἀλλ’ ἄγε σιγῇ τοῖον ἀναστάντες τελέωμεν / μῦθον, ὃ δὴ καὶ πᾶσιν ἐνὶ φρεσὶν ἤραρεν ἡμῖν.” *Od.* 4.776-77.

⁸³ αὐτὰρ ἐπεὶ δείπνησε καὶ ἤραρε θυμὸν ἐδωδῇ, at *Od.* 5.95 and 14.111.

sense, armor and clothes are being attached and adjusted around a man or woman. To take just one example: when Odysseus arrives at his property in Ithaca, the first person he meets is his loyal swineherd Eumaeus, “fitting (ἀράρισκε, *arariskō*) sandals about his feet, cutting an oxhide of good color.”⁸⁴ Here, the full scene helps us to understand the swineherd’s significance. Homer tells us that he is sitting in the forecourt of his house, “an open court built high, and in a place visible from all sides (περισκέπτῳ, *periskeptos*), beautiful and big and with a distinct border (περίδρομος, *peridromos*).”⁸⁵ Of his own accord and in his master’s absence, the swineherd built this court, and its complex of pigsties, out of stones, which he “surrounded...with thorn” and with stakes “thick-set and numerous (πυκνοὺς καὶ θαμέας),” which he made by splitting a tree.⁸⁶ Evoking the order of Odysseus’ jars of wine, Achilles’ battle-ready men, or of Telemachus’ ship with its rowers, the court is arranged with “twelve sties close by one another, as beds for the swine, and in each one were penned fifty wallowing swine, females for breeding.”⁸⁷ This plentitude and productivity is immediately compared with the well kept, but depleted, ranks of Odysseus’ male swine, which were kept outside, protected by “four dogs, savage as wild beasts,” and which were “far fewer” at a total of three hundred and sixty, since

⁸⁴ αὐτὸς δ’ ἀμφὶ πόδεσσιν ἑοῖς ἀράρισκε πέδιλα, / τάμνων δέρμα βόειον ἐϋχροές: *Od.* 14.23-24. Trans. A. T. Murray.

⁸⁵ ἔνθα οἱ αὐλὴ / ὑψηλὴ δέδμητο, περισκέπτῳ ἐνὶ χώρῳ, / καλὴ τε μεγάλη τε, περίδρομος: *Od.* 14.5-7. Note that *periskeptos* may mean “in a place visible from all sides,” or “shut in on all sides”; and *peridromos* literally means “it can be run around,” or, “with something running round.”

⁸⁶ ῥυτοῖσιν λάεσσι καὶ ἐθρίγκωσεν ἀχέρδω: / σταυροὺς δ’ ἐκτὸς ἔλασσε διαμπερὲς ἔνθα καὶ ἔνθα, / πυκνοὺς καὶ θαμέας, τὸ μέλαν δρυὸς ἀμφικεάσας: *Od.* 14.10-12.

⁸⁷ συφεοὺς δυοκαίδεκα ποίει / πλησίον ἀλλήλων, εὐνὰς συσίν: ἐν δὲ ἐκάστῳ / πεντήκοντα σύες χαμαιευνάδες ἐρχατόωντο, / θήλειαι τοκάδες: *Od.* 14.13-16. Trans. A. T. Murray.

the suitors continually feasted on them.⁸⁸ It is within the protected court, where Eumaeus kept the female swine, where Odysseus finds him, fitting leather to his feet. What could better the humble but productive skill of Odysseus' most loyal slave?

The second sense of *arariskō* in describing armor, clothing, and tools appears nine times in Homer in reference to the fit of a helmet to one's temples, or of a weapon or tool to one's hands. For example, Hector lunges at Amphimachus to tear from his head the helmet that was fitted (*ἀραρυῖαν*, *arariskō*) to his temples, but Aias prevents him from doing so.⁸⁹ In the *Odyssey*, Calypso gave Odysseus a bronze axe that fitted (*ἄρμενον*, *arariskō*) his hands so that he could build his raft,⁹⁰ which in terms of works of craftsmanship in the epic is second only to his marital bed. And there are many more examples.⁹¹ In each case, a close physical fit is inextricable from the notions of skill, suitability, and the pleasure one derives from a well-made thing. When *arariskō* is used to describe defensive armor, we can see its role as a praise word with connotations similar to, although often not as potent or portentous as, those of *daidal-* words. As with *daidal-* words, *arariskō* most often describes a

⁸⁸ τοὶ δ' ἄρσενες ἐκτὸς ἵαυον, / πολλὸν παυρότεροι: τοὺς γὰρ μινύθεσκον ἔδοντες / ἀντίθιοι μνηστήρες, ... οἱ δὲ τριηκόσιοί τε καὶ ἐξήκοντα πέλοντο. / παρ δὲ κύνες, θήρεσσιν ἐοικότες αἰὲν ἵαυον / τέσσαρες, *Od.* 14.16-18 and 14.20-22. Trans. A. T. Murray.

⁸⁹ *Il.* 13.188-91.

⁹⁰ δῶκέν οἱ πέλεκυν μέγαν, ἄρμενον ἐν παλάμῃσι, / χάλκεον, *Od.* 5.234-35.

⁹¹ For two spears that fitted (*ἀρήρει*) Patroclus' hands, see *Il.* 16.139; a potter's wheel fitted (*ἄρμενον*) between his hands, *Il.* 18.600; Hephaistos fashions a helmet fitted to Achilles' temples, and also described as beautiful and *daidaleos* (*ἀραρυῖαν* / *καλὴν δαιδαλέην*), *Il.* 18.611; a whip that fitted (*ἀραρυῖαν*) Automedon's hands, *Il.* 19.396; a spear that fitted (*ἀρήρει*) Odysseus' hand, *Od.* 17.4; Odysseus describes a helmet "well fitted (*ἀραρυῖα*) to my temples," *Od.* 18.378; and, in an almost identical phrase, Telemachus tells his father that he will bring him a helmet "well fitted (*ἀραρυῖαν*) to the temples" *Od.* 22.102.

piece of armor when a warrior dresses himself with it in an arming scene, or when it saves his life in battle. This is true whether the life-saving action of a piece of armor is attributed to the *fittedness* of the armor itself, to the lineage of the armor, to divine intervention, to the skill or *mētis* of a warrior or a healer—or, apparently, to luck. These causes are not unrelated, but rather, it is at the convergence of these qualities where *daidal-* words are most often found.⁹²

These connotations also appear when *arariskō* describes the physical connection of crafted things to other things. *Arariskō* is used in the description of Pandarus' bow, as he strings it in order to shoot Menelaus during a cease-fire—a cunning but underhanded act that will result in the resumption of war;⁹³ of the felt lining of a helmet given to Odysseus by Meriones before his successful night raid;⁹⁴ of the sharp stakes set at the top of the Achaeans' defensive wall;⁹⁵ of a mule yoke which will be used for the auspicious purpose of delivering the elderly Priam to Achilles to negotiate for the return of Hector's body;⁹⁶ of a wagon which Nausicaa's father gives her to wash her clothes in the river (with the aim of preparing herself for marriage);⁹⁷ and of the placement of huge marker stones of the Phaeacian place of assembly

⁹² See the lovingly described scene in which Pandarus is tricked by Athena into breaking the truce by wounding Menelaus with an arrow, at *Il.* 4.127-40. Athena intervenes to misdirect the arrow, so that it pierces Menelaus' δαιδαλέοιο belt, *Il.* 4.135, and his πολυδαιδάλου corselet, *Il.* 4.136, and grazes his skin, making his blood flow and stain his thighs, shins, and ankles—but the arrow's sinew and barbs remain outside the flesh, *Il.* 4.151, so it is not serious. See also *Il.* 13.402-12 and *Il.* 15.527-34, where Homer describes the craftsmanship and lineage of pieces of armor at the moment of their action.

⁹³ καὶ τὰ μὲν ἀσκήσας κεραοξόος ἤραρε τέκτων, *Il.* 4.110.

⁹⁴ μέσση δ' ἐνὶ πῖλος ἀρήρει. *Il.* 10.265.

⁹⁵ ὕπερθεν δὲ σκολόπεσσιν / ὀξέσιν ἠρήρει, *Il.* 12.55-56.

⁹⁶ πύξινον ὀμφαλόεν εὖ οἰήγεσσιν ἀρηρός: *Il.* 24.269.

⁹⁷ ἀπήνην / ὑψηλὴν ἐύκυκλον, ὑπερτερὴν ἀραρυῖαν. *Od.* 6.69-70.

around the temple of Poseidon.⁹⁸ But the most common use of *arariskō* in describing crafted things is in reference to armor and doors. Both uses are common across the two epics, although in the *Iliad*, the armor is more common whereas in the *Odyssey*, the doors are more common, as appropriate for a story of war and a story of homecoming.

There are four arming scenes in the *Iliad*—those of Paris, Agamemnon, Patroclus, and Achilles—each preceding a significant battle and composed from a basic sequence of stock phrases that are modified in each case to suit the occasion. These scenes are opened by an identical stock phrase describing the warrior putting on the greaves: “the greaves first he set about his legs; beautiful they were, and fitted (ἀραρυίας, *arariskō*) with silver ankle pieces.”⁹⁹ In each case, the warrior then dons his breastplate, sword, and shield in order before finally reaching for his spear. As James Armstrong points out, the repetition of familiar, formulaic lines in each these scenes would have been pleasurable to Homer’s audience while also allowing for a subtle change in a phrase to build suspense by signaling a turn in the plot. For example, in Patroclus’ arming scene, the line “and he took two valiant spears that fitted (ἀρήρει, *arariskō*) his grasp,”¹⁰⁰ is a composite from the arming scenes of Paris

⁹⁸ ῥυτοῖσιν λάεσσι κατωρυχέεσσ’ ἀραρυία. *Od.* 6.267.

⁹⁹ κνημίδας μὲν πρῶτα περὶ κνήμησιν ἔθηκε / καλὰς, ἀργυρέοισιν ἐπισφυρίοις ἀραρυίας: *Il.* 3.330-31, 11.17-18, 16.131-32, and 19.369-70. Trans. A. T. Murray. Because speed and agility come from the knees, ankles and feet in Homer (one of Achilles’ epithets is “swift-footed”), the use of *arariskō* to describe the connection between the ankle piece and the greave is apt. For the use of *arariskō* during the arming scenes, see *Il.* 3.331, 3.338, 11.18, and 11.31. See also ἡρμωσε (*harmozō*) at *Il.* 3.333.

¹⁰⁰ εἴλετο δ’ ἄλκιμα δοῦρε, τὰ οἱ παλάμῃφιν ἀρήρει. *Il.* 16.139. Trans. A. T. Murray.

(“and he took a valiant spear that fitted (ἀρήρει, *arariskō*) his grasp”),¹⁰¹ and of Agamemnon (“and he took two valiant spears, tipped with bronze”),¹⁰² and its familiarity makes the following alteration all the more quietly unsettling:

only the spear of the incomparable son of Aeacus he took not, the spear heavy and huge and strong; this no other of the Achaeans could wield, but Achilles alone was skilled to wield it, the Pelian spear of ash, that Cheiron had given to his dear father from the peak of Pelion, to be for the slaying of warriors.¹⁰³

After Patroclus’ death, when Achilles finally prepares to enter battle, the audience is treated to the most elaborate arming scene in the epic. In this scene, set in the midst of the Achaean camp as the entire army is busily preparing itself, we find Athena’s pouring of nectar and ambrosia into Achilles’ knees (γούναθ’); as well as the participation of Achilles’ chariot driver; and a speaking part for Achilles’ immortal horse, Xanthus, to prophesy Achilles’ death. After donning his armor, piece by piece, Achilles also takes his father’s spear—the one which Patroclus had to put back—and carries it into battle.¹⁰⁴

Arariskō also refers to doors or gates seven times in the *Iliad* and another seven times in the *Odyssey*. For the Greeks, doors, gates, and thresholds were points of articulation. For example, Hermes was a divinity of the crossing, threshold, and door, and had names such as Strophaios (the Pivoter) and Prothuraios (Before the Door). He also, like Odysseus, who also did his work at crossings and thresholds, was a

¹⁰¹ εἴλετο δ’ ἄλκιμον ἔγχος, ὃ οἱ παλάμηφιν ἀρήρει. *Il.* 3.338. Trans. A. T. Murray.

¹⁰² εἴλετο δ’ ἄλκιμα δοῦρε δύω κεκορυθμένα χαλκῷ *Il.* 11.43. Trans. A. T. Murray.

¹⁰³ *Il.* 16.140-44. Trans. A. T. Murray. Armstrong 1958, 346-47.

¹⁰⁴ *Il.* 19.351-424. Hephaistos is mentioned twice as the craftsman, at *Il.* 19.368 and 19.383; and the shield is described as καλοῦ δαιδαλέου or beautiful cunningly-wrought, at *Il.* 19.380.

master of cunning and of the ambiguities of communication.¹⁰⁵ Five instances of *arariskō* in the *Iliad* describing gates appear in contexts when the protective strength of the gates and their walls is being emphasized: the verb is used three times in describing the high wall, with close-fastening (ἄραρυίας, *arariskō*) gates and a deep trench, that the Achaeans built in front of their ships;¹⁰⁶ and it is used two more times (ἄραρυῖαι and ἄραρυίας, *arariskō*) in dialogue when the Trojans describe the gates of their own city wall.¹⁰⁷ The reassurance provided by doors qualified with *arariskō* is strong enough to endow a simile with its meaning at a key moment in the *Iliad*: when Priam is getting ready to visit Achilles to beg for the return of Hector's body, he prays to Zeus that he might be received "as one to be welcomed and pitied."¹⁰⁸ By way of a response, Zeus immediately

sent an eagle, surest of omens among winged birds...Wide as is the door of some rich man's high-roofed treasure-chamber, a door well fitted (ἄραρυῖα, *arariskō*) with bolts, so wide spread his wings this way and that; and he appeared to them on the right, darting across the city. And at sight of him they rejoiced, and the *thumos* in the *phrenes* (ἐνὶ φρεσὶ θυμὸς) of all were warned.¹⁰⁹

¹⁰⁵ Padel 1992, 6-8.

¹⁰⁶ Nestor suggested building the wall, ἐν δ' αὐτοῖσι πύλας ποιήσομεν εὖ ἄραρυίας, *Il.* 7.339; and, in a very similar phrase, the Achaeans followed his recommendation, ἐν δ' αὐτοῖσι πύλας ἐνεποίηον εὖ ἄραρυίας, *Il.* 7.438. Hector bears a stone against the gates, αἶ ῥα πύλας εἵρυντο πύκα στιβαρῶς ἄραρυίας *Il.* 12.454.

¹⁰⁷ ἄστυ δὲ πύργοι / ὑψηλαί τε πύλαι σανίδες τ' ἐπὶ τῆς ἄραρυῖαι / μακροὶ ἐύξεστοι ἐξευγμένοι εἰρύσσονται: *Il.* 18.274-76, and σανίδας πυκινῶς ἄραρυίας: *Il.* 21.535.

¹⁰⁸ δός μ' ἐς Ἀχιλλῆος φίλον ἐλθεῖν ἥδ' ἐλεεινόν, *Il.* 24.309. Trans. A. T. Murray.

¹⁰⁹ *Il.* 24.315-21. Trans. A. T. Murray.

The other occasion in the *Iliad* when doors are qualified by *arariskō* deals with a woman's space. When Hera prepares herself to seduce Zeus, Homer tells us that Hephaistos had fitted (ἐπήρσε, *epi-arariskō*) strong doors to the doorposts of her chamber, adding a secret bolt that no other gods could open;¹¹⁰ her privacy is thus guaranteed while she puts on a dress affixed with δαίδαλα πολλά (or, “many cunning adornments.”)¹¹¹ On one hand this is the female equivalent of a warrior's arming scene, and *arariskō* twice praises Hera's preparations by describing the fitted (ἐπήρσε) doors to her chamber, and the belt, fitted (ἄραρυίη, *arariskō*) with one hundred tassels, that she dons.¹¹² On the other hand, this scene also taps into a series of descriptions of inner, protected rooms for women in Homer that suggest the sanctity of a woman's chastity (in the case of the young Nausicaa), loyalty (in the case of Penelope), more generally the protected state of women who belong to an *oikos* (in the sense of the female servants at Odysseus' house)—or perhaps, even, of the protected and fertile state of the female swine under Eumaeus' care. Nausicaa's bedroom, where she sleeps the night before she meets Odysseus, is described as *poludaidalos* (πολυδαίδαλον) with shut doors and a handmaid sleeping on either side of the doorposts;¹¹³ this, together with Daidalos' dancing-floor (χορὸν, *choros*), mentioned at the culmination of the scene of the crafting of Achilles' shield,¹¹⁴ is the only use of a *daidal-* word in Homer to describe something as large as a room. As Sarah P. Morris observes, the use of *poludaidalos* at this moment signals “her marriageable age and the subtle relationship, near courtship, between herself and

¹¹⁰ πυκινὰς δὲ θύρας σταθμοῖσιν ἐπήρσε / κληῖδι κρυπτῇ, τὴν δ' οὐ θεὸς ἄλλος ἀνῶγεν: *Il.* 14.167.

¹¹¹ ἀμφὶ δ' ἄρ' ἀμβρόσιον ἐάνδον ἔσαθ', ὃν οἱ Ἀθήνη / ἔξυσ' ἀσκήσασα, τίθει δ' ἐνὶ δαίδαλα πολλά: *Il.* 14.178-79.

¹¹² ζώσατο δὲ ζώνη ἑκατὸν θυσάνοις ἄραρυίη, *Il.* 14.181

¹¹³ παρ δὲ δὺ' ἀμφίπολοι, Χαρίτων ἅπο κάλλος ἔχουσai, / σταθμοῖν ἐκάτερθε: θύραι δ' ἐπέκειντο φαειναί. *Od.* 6.18-19.

¹¹⁴ ἐν δὲ χορὸν ποίκιλλε περικλυτὸς ἀμφιγυήεις, / τῷ ἴκελον οἶόν ποτ' ἐνὶ Κνωσῷ εὐρείῃ / Δαίδαλος ἤσκησεν καλλιπλοκάμῳ Ἀριάδνῃ. *Il.* 5.90-92.

Odysseus”; and the scene also acts as an “unconsummated rehearsal for the most famous bedroom scene in the *Odyssey*, the final recognition between Odysseus and Penelope” since, like Nausicaa’s room, that of Penelope went untrodden by men since Odysseus’ departure.¹¹⁵ Suggestively, the noun *arthron*, derived from *arariskō* and meaning “joint,” would also come to mean “genitals”; and *harmozō*, which also derives from **ar-*, could mean “to join, to adapt, to set in order, to tune” as well as “to marry” and “to kiss.”

A House like Armor

In the *Odyssey*, the seven uses of *arariskō* to describe doors all appear in Books 21-23, when Odysseus fights on his home turf with the help of his son and loyal allies. Doors feature prominently in the battle, which begins and ends with Penelope. On Athena’s silent bidding, Penelope takes from her bedroom her “beautiful key of bronze, and on it was a handle of ivory,”¹¹⁶ and goes to the “storeroom, far remote, where lay the treasures of her husband; bronze, and gold, and iron wrought with toil,”¹¹⁷ to retrieve Odysseus’ formidable bow. Before she gets there, Homer has described the bow as “back-bent” (παλίντονον)¹¹⁸ and has told us a story about its lineage as a gift won by Odysseus on a quest in his youth. So it is with anticipation that we hear,

Now when the beautiful woman had come to the storeroom, and had stepped on the threshold of oak—which in the old days the carpenter (τέκτων) had skillfully planed and trued to the line, and fitted (ἄρσε, *arariskō*) doorposts on

¹¹⁵ Morris 1992, 25-26.

¹¹⁶ καλὴν χαλκείην: κώπη δ’ ἐλέφαντος ἐπῆεν. *Od.* 21.7. Trans. A. T. Murray.

¹¹⁷ βῆ δ’ ἵμεναι θάλαμόνδε σὺν ἀμφιπόλοισι γυναιξίν / ἔσχατον: ἔνθα δέ οἱ κειμήλια κείτο ἄνακτος, / χαλκός τε χρυσός τε πολύκμητός τε σίδηρος. *Od.* 21.8-10. Trans. A. T. Murray.

¹¹⁸ *Od.* 21.11.

it, and set on them bright doors—without delay she quickly loosed (ἀπέλυσε, *apo-luō*) the thong from the hook and thrust in the key, and with sure aim shot back the bolts. And as a bull bellows when grazing in a meadow, even so bellowed the beautiful doors, struck by the key; and quickly they flew open before her.¹¹⁹

The storeroom is fragrant, orderly, and laden with Odysseus' riches. Penelope takes the bow from its peg, lays it on her knees, and weeps for Odysseus. She then takes it to the hall, where she announces that she will marry whoever among the suitors is able string the bow and shoot an arrow through twelve axes.¹²⁰

The suitors try the bow in turn, each inevitably failing, until one of the suitors lays it against the closely glued (κολλητῆσιν), polished door.¹²¹ Odysseus sees the cowherd and swineherd leave the hall and he quietly follows them out past the gates. Ever cautious, he first tests their loyalty, then reveals his identity and prepares the two men for battle: he tells Eumaeus, the swineherd, to give him the bow once they are back inside, and to then tell the women to bar the close-fitting (πυκνῶς ἀραρυίας, *puknos* and *arariskō*) doors of their hall,¹²² adding “if any one of them hears groanings or the din of men within our walls, let them not rush out, but remain where they are in silence at their work.”¹²³ And he tells Philoetius, the cowherd, “to fasten

¹¹⁹ *Od.* 21.42-50. Trans. A. T. Murray. Archaic doors were often made of two panels, jointed in the middle and set in notches or tracks cut in stone doorframes, so *arariskō* could refer to either or both details.

¹²⁰ *Od.* 21.51-79. Telemachus then deftly sets up the axes in a trench that he dug in a straight line (καὶ ἐπὶ στάθμην ἴθυνεν); amazement (τάφος) seizes everyone who saw this, because he did it in such an orderly (εὐκόσμως, *eu-kosmos*) manner. *Od.* 21.122-4.

¹²¹ κλίνας κολλητῆσιν ἐϋξέστης σανίδεσσιν, *Od.* 21.164.

¹²² κληῖσαι μεγάροιο θύρας πυκνῶς ἀραρυίας, *Od.* 21.236.

¹²³ *Od.* 21.237-39. Trans. A. T. Murray.

with its bar the gate of the court, and swiftly to throw a binding (δεσμὸν, *desmos*) around it.”¹²⁴ The three men return to the hall, and Eumaeus and Philoetius carry out their master’s bidding.

When Odysseus is given the bow, he strings it with ease. When he tests the string (νευρῆς, *neurē*) by plucking it, it “sang sweetly beneath his touch, like a swallow in tone.”¹²⁵ Now, we should not be surprised at Odysseus’ deftness with the bow, an instrument which, like the lyre—that other instrument of Apollo—relies on the tension of string, or sinew, in a resolution of opposite directions that is characteristic of *mētis*. Since a bow, like a lyre, acts through the tension of its sinews, neither should we be surprised at its musical sound. The suitors, however, are surprised: they become pale and terror-stricken.¹²⁶ Without even rising from his seat, Odysseus sends an arrow flying through the twelve axes, and gesturing with his brow he gives a signal to Telemachus, who immediately stands by his father’s side with sword in hand. Odysseus strips off his rags, “spr[ings] to the broad threshold”¹²⁷ of the hall, and cleanly kills Antinous with an arrow to the neck. As chaos ensues among the suitors, he announces his identity and his intentions, and the suitors’ “knees

¹²⁴ θύρας ἐπιτέλλομαι αὐλῆς / κληῖσαι κληῖδι, θοῶς δ’ ἐπὶ δεσμὸν ἱήλαι. *Od.* 21.240-41. Trans. A. T. Murray.

¹²⁵ δεξιτερῇ ἄρα χειρὶ λαβὼν πειρήσατο νευρῆς: / ἥ δ’ ὑπὸ καλὸν ἄεισε, χελιδόνη εἰκέλη αὐδὴν. *Od.* 21.410-11. Trans. A. T. Murray. Apollo used the bow and the lyre, both of which rely on the tension of string, or sinew, in a resolution of opposite directions that is characteristic of *mētis*; he also received the lyre from the cunning baby Hermes in the Homeric *Hymn to Hermes*. Since a bow, a lyre, and one’s limbs are all activated by sinews, it is no surprise that the bow is the weapon of choice of the *polumetis* Odysseus, and that it is musical like a lyre.

¹²⁶ To mark the occasion, Zeus “thundered loud, showing forth his signs.” Ζεὺς δὲ μεγάλ’ ἔκτυπε σήματα φαίνων: *Od.* 21.404-13. Trans. A. T. Murray.

¹²⁷ ἄλτο δ’ ἐπὶ μέγαν οὐδόν, *Od.* 22.2. Trans. A. T. Murray.

(γούνατα, *gonu*) and dear hearts were loosened (λύτο, *luō*) right there.”¹²⁸

Eurymachus sizes up the situation, and it is clear to him that control of the doors is crucial. Stating the obvious—that Odysseus “will shoot from the smooth threshold until he slays us all”¹²⁹—he encourages his fellow suitors to draw their swords and rush towards him together, “in the hope that we may thrust him from the threshold and the doorway.”¹³⁰ The battle is on. Telemachus tells his father that he will bring “a shield and two spears and a helmet all of bronze, well fitted (ἀραρυῖαν, *arariskō*) to the temples,”¹³¹ and Odysseus responds: “run, and bring them, while I still have arrows to defend me, for fear they thrust me from the door, alone as I am.”¹³² There was another possible exit at the back of the hall, a passage wide enough for only one attacker at a time and closed by well-fitting (εὖ ἀραρυῖαι, *arariskō*) doors,¹³³ and Odysseus orders Eumaeus to guard it.¹³⁴

Odysseus’ operation is not watertight. They make a mistake—their sole mistake in

¹²⁸ τῶν δ’ αὐτοῦ λύτο γούνατα καὶ φίλον ἦτορ. *Od.* 22.68-69.

¹²⁹ οὐδοῦ ἄπο ξεστοῦ τοξάσσεται, εἰς ὃ κε πάντας / ἄμμε κατακτείνει: *Od.* 22.72-73. Trans. A. T. Murray.

¹³⁰ εἴ κέ μιν οὐδοῦ ἀπώσομεν ἠδὲ θυράων, *Od.* 22.76. Trans. A. T. Murray.

¹³¹ σάκος οἶσω καὶ δύο δοῦρε / καὶ κυνέην πάγχυαλκον, ἐπὶ κροτάφοις ἀραρυῖαν *Od.* 22.101-2. Trans. A. T. Murray.

¹³² “οἶσε θεῶν, ἦός μοι ἀμύνεσθαι πάρ’ οἶστοί, / μή μ’ ἀποκινήσωσι θυράων μούνον ἐόντα.” *Od.* 22.106-7. Trans. A. T. Murray.

¹³³ ὀρσοθύρη δέ τις ἔσκεν ἐϋδμήτῳ ἐνὶ τοίχῳ, ἀκρότατον δὲ παρ’ οὐδὸν ἐϋσταθέος μεγάροιο ἦν ὁδὸς ἐς λαύρην, σανίδες δ’ ἔχον εὖ ἀραρυῖαι. *Od.* 22.125-28.

¹³⁴ Doors are mentioned a few more times, although I will not discuss each instance: εἴρυτο δὲ φάσγανον ὀξύ, / εἴ πῶς οἱ εἴξειε θυράων. *Od.* 22.90-91; τόξον μὲν πρὸς σταθμὸν ἐϋσταθέος μεγάροιο / ἔκλιν’ ἐστάμεναι, *Od.* 22.120-21; and ἄγχι γὰρ αἰνῶς / αὐλῆς καλὰ θύρετρα καὶ ἀργαλέον στόμα λαύρης: *Od.* 22.136-37.

the battle — when Telemachus forgets to close the close-fitting (πυκινῶς ἀραρυῖαν, *pukinos* and *arariskō*) door of the storeroom,¹³⁵ allowing a treacherous servant, Melanthius, to fetch arms for the suitors.¹³⁶ Understandably, “Odysseus’ knees and dear heart were loosened (λύτο, *luō*)” when he saw the suitors arming themselves and brandishing the spears.¹³⁷ But Odysseus and his allies are able to rectify the situation: Odysseus tells Eumaeus and Philoetius to catch Melanthius and “twist back (ἀποστρέψαντε, *apo-strephō*, turn back, reverse the direction) his feet and hands above,”¹³⁸ then throw him in the storeroom, tie (ἐκδῆσαι, *ek-deō*) boards behind his back, bind (πειρῆναντε, *peirainō*) his body with a twisted (πλεκτήν, *plektē*) rope, and hoist him up on the tall pillar near the roof-beams, so that he will remain alive but suffer harsh pains.¹³⁹ The men do as they are told, waiting for Melanthius “on either side of the doorposts”¹⁴⁰ as he searches for armor deep in the storeroom, and catching him as he is “about to pass over the threshold.”¹⁴¹ They “[bind] (δέον, *deō*) his feet and hands with grieving bonds (δεσμῶ, *desmos*), turning them completely around,”¹⁴² and string him up as instructed. The traitor is caught and tortured not by having his limbs loosened, but by having them bound, with both their mobility and their direction reversed while his death is postponed. After the battle, they will literally

¹³⁵ ὃς θαλάμοιο θύρην πυκινῶς ἀραρυῖαν / κάλλιπον ἀγκλίνας: *Od.* 22.155-56.

¹³⁶ *Od.* 22.139-46.

¹³⁷ καὶ τότε Ὀδυσσεύς λυτο γούνατα καὶ φίλον ἦτορ, / ὥς περιβαλλομένους ἶδε τεύχεα χερσὶ τε δοῦρα / μακρὰ τινάσσοντας: *Od.* 22.147-49.

¹³⁸ δ’ ἀποστρέψαντε πόδας καὶ χεῖρας ὑπερθεῖν *Od.* 22.173.

¹³⁹ *Od.* 22.174-77.

¹⁴⁰ τῷ δ’ ἔσταν ἐκάτερθε παρὰ σταθμοῖσι μένοντε. *Od.* 22.181. Trans. A. T. Murray.

¹⁴¹ εὖθ’ ὑπὲρ οὐδὸν ἔβαινε Μελάνθιος, *Od.* 22.182. Trans. A. T. Murray.

¹⁴² σὺν δὲ πόδας χεῖράς τε δέον θυμαλγεί δεσμῶ / εὖ μάλ’ ἀποστρέψαντε διαμπερές, *Od.* 22.189-190.

disarticulate him, leading him “through the doorway and the court”¹⁴³ before—in an act no less brutal than anything in the *Iliad*—they “cut off his nostrils and ears with the pitiless bronze, tore out his genitals for the dogs to divide among themselves (δάσασθαι, *dateomai*) raw, and cut off his hands and feet, being angry in their *thumos*.”¹⁴⁴

But let’s return to the fight at the threshold, where Odysseus and his army of three stand their ground. Athena arrives to inhabit the house first in the form of Mentor, then as a swallow perched on a roof beam; Odysseus is the only one who recognizes her. In a passage that is repeated twice, Athena misdirects the suitors’ spears: “One man hit the doorpost of the well-built hall, another the close-fitting (πυκινῶς ἀραρυῖαν, *pukinos* and *arariskō*) door, another’s ashen spear, heavy with bronze, struck upon the wall.”¹⁴⁵ Moments later when Athena, still at the roof-beam, holds aloft her aegis, the suitors’ *phrenes* (φρένες) are stricken with terror¹⁴⁶ and they run madly about as they are slain. One suitor clasps Odysseus’ knees (γούνων, *gonu*)

¹⁴³ ἐκ δὲ Μελάνθιον ἦγον ἀνὰ πρόθυρόν τε καὶ αὐλήν: *Od.* 22.474. Trans. A. T. Murray.

¹⁴⁴ τοῦ δ’ ἀπὸ μὲν ῥινάς τε καὶ οὐατα νηλεῖ χαλκῷ / τάμνον, μήδεά τ’ ἐξέρυσαν, κυσὶν ὠμὰ δάσασθαι, / χεῖράς τ’ ἠδὲ πόδας κόπτον κεκοτηότι θυμῷ. *Od.* 22.475-77.

¹⁴⁵ τῶν ἄλλος μὲν σταθμὸν ἐϋσταθέος μεγάροιο / βεβλήκειν, ἄλλος δὲ θύρην πυκινῶς ἀραρυῖαν: / ἄλλου δ’ ἐν τοίχῳ μελίη πέσε χαλκοβάρεια. *Od.* 22.257-59 and 274-76. Trans. A. T. Murray. As in the subtle changes in arming scenes that mark dramatic developments, there is a small, but meaningful change in the surrounding text; in the first case, Athena “made it all (πάντα) vain,” *Od.* 22.256, whereas in the second, she “made the larger part of them (πολλὰ) vain,” *Od.* 22.273, and a few lines later we find that Telemachus has been lightly wounded.

¹⁴⁶ δὴ τότε Ἀθηναίη φθισίμβροτον αἰγίδ’ ἀνέσχευεν / ὑψόθεν ἐξ ὀροφῆς: τῶν δὲ φρένες ἐπτοίηθεν. *Od.* 22.297-98.

and begs for mercy,¹⁴⁷ but Odysseus kills him. A minstrel poet, terrified, lingers near the side door (ὀρσοθύρην),¹⁴⁸ the very picture of indecision, before running to clasp Odysseus' knees (γούνων, *gonu*),¹⁴⁹ receiving mercy. Telemachus also speaks up for the herald Medon, who then comes forward to clasp his knees (γούνων, *gonu*).¹⁵⁰ Odysseus sends the poet and herald out of the hall to sit at the altar to Zeus, and then casts his gaze over the house to find that all the suitors are dead and lying about in heaps.

Telemachus goes to the entrance of the women's quarters and has Eurycleia open the doors (θύρας, *thura*).¹⁵¹ Odysseus has the disloyal female servants—those who have slept with the suitors, thereby contributing to the disorder in Odysseus' absence—help with the messy work of returning order to the house by removing the bodies, sponging down the furniture, and scraping the floor and throwing these scrapings “out of doors (θύραζε, *adv. thuraze*).”¹⁵² These women are then led outside the hall into a confined place “between the dome and the goodly fence of the court,”¹⁵³ and hanged. The other women then emerge from their quarters, greeting and embracing Odysseus in the hall. Eurycleia goes to Penelope—since, under Athena's powers, she had fallen asleep—to tell her the news, reporting that while the battle raged, the women “sat terror-stricken in the innermost part of our well-built (εὐπήκτων, *eupēktos*) chambers, and the close-fitting (εὖ ἀραρυῖαι, *arariskō*) doors shut us in,

¹⁴⁷ εἰώδης δ' Ὀδυσῆος ἐπεσσύμενος λάβε γούνων, / καί μιν λισσόμενος ἔπεα πτερόεντα προσηύδα: *Od.* 22.310-11.

¹⁴⁸ ἄγχι παρ' ὀρσοθύρην: *Od.* 22.333.

¹⁴⁹ αὐτὸς δ' αὖτ' Ὀδυσῆα προσαΐξας λάβε γούνων, *Od.* 22.342.

¹⁵⁰ Τηλέμαχον δ' ἄρ' ἔπειτα προσαΐξας λάβε γούνων, *Od.* 22.365.

¹⁵¹ ὣϊξεν δὲ θύρας μεγάρων εὖ ναιετάοντων, *Od.* 22.399. See also *Od.* 22.394, where he shakes the door.

¹⁵² τίθεσαν δὲ θύραζε. *Od.* 22.456. Trans. A. T. Murray.

¹⁵³ δμῳὰς δ' ἐξαγαγόντες ἐϋσταθέος μεγάροιο, / μεσσηγὺς τε θόλου καὶ ἀμύμονος ἔρκεος ἀνλῆς, *Od.* 22.458-59. Trans. A. T. Murray.

until the hour when your son Telemachus coming from the hall called me.”¹⁵⁴ But Penelope, constantly wary, does not believe that it is Odysseus. As we’ll see at the end of the next chapter, Penelope’s recognition of Odysseus, marking the epic’s climax, allows Homer an opportunity to use *arariskō* for one last time in reference to the final threshold Odysseus must cross to complete his return: the doors of his marital bedroom.

In a wonderful display of cunning and coordination, Odysseus’ house becomes an extension of his defenses as he orchestrates the timely use of doors to manage the movement of people, weapons, and ultimately human remains to restore order to his *oikos*. The house is well built, fitted with articulations at the doors, filled with Odysseus’ valuable goods—and of course, it houses Penelope, who is both its cunning mistress and a prize herself. Odysseus inhabits his house like Achilles inhabits his *daidaleos* armor at the moment of his *aristeia*; the articulations of the doors, like Achilles’ *guia* in his armor, are mobile and alive, and help lead him to victory even as they provide evidence of his heroic deeds and rightful identity.

* * *

In this chapter, we examined the role of Achilles’ old and new armor within the central conflict of the *Iliad*, as well as the role of *daidala* and of articulate crafts and conditions in Homer more generally. I aimed to demonstrate that *daidala* may be thought of as exemplarily articulate products of craft, that they acutely exhibit characteristics shared by other crafts (and beings) that are described through *arariskō* and other terms related to articulation. I also argued, following Frontisi-Ducroux and Morris, that what characterizes *daidala* is not a typology of objects or of technical methods, but rather, their status as finely crafted articulate objects and an associated

¹⁵⁴ ἡμεῖς δὲ μυχῷ θαλάμων εὐπήκτων / ἥμεθ’ ἀτυζόμεναι, σανίδες δ’ ἔχον εὖ
ἀραρυῖαι, / πρὶν γ’ ὅτε δὴ με σὸς υἱὸς ἀπὸ μεγάροιο κάλεσσε / Τηλέμαχος: τὸν
γὰρ ὅα πατὴρ προέηκε καλέσσαι. *Od.* 23.41-44. Trans. A. T. Murray.

set of evocative characteristics and quasi-divine powers. These characteristics, which cannot be separated from each other, include: a synesthetic presence, which like fire and lightning includes a gleaming, luminous appearance and a terrifying sound; status as “a wonder to behold” or *thauma idesthai*, and the ability to awe, terrify, and seduce; and the power to endow a quasi-invincibility associated with divine protection.

In examining the uses of *arariskō* in the *Iliad* and *Odyssey*, we found that this word has a set of non-tangible meanings related to arrangement, preparedness, cunning, strength, and skill. We saw that these meanings are also carried into occasions when *arariskō* is used to describe a tangible object or the physical connection of things. But, as in the articulation of human beings described by words such as *guia* and *gounata*, the articulation of objects as described by *arariskō* often does not have to do with joints as locatable and circumscribable “things.” Instead, *arariskō* more often describes articulation as a state of being. The close gathering of warriors eager for battle, the arrangement of stones in a defensive wall, the orderly array of provisions on a shelf, the secure closing of the lid of a jar, the cunning contrivance of a plan between father and son, the satisfaction felt after a meal offered by a host, the adjustment of sandals about a loyal servant’s feet, and the skill with which a warrior holds his weapon (or a craftsman holds his tool), all find their expression through the verb *arariskō*. When we considered the fittedness of armor, doors, and gates, it became clear that the defensive powers of these objects in Homer does not have to do with their materials or construction from a technical point of view, but from their terrifying sound and luminosity, and other characteristics in the poetic sphere of meanings surrounding the notion of articulation.

Throughout Chapters One and Two, which discussed “Being” and “Crafting,” respectively, we have seen many parallels between the ways in which articulation is crucial for both beings and crafts. In Chapter Three I will aim to bring these discussions together, to show that for the early Greeks “living” and “nonliving,” or “beings” and “crafts,” were not fundamentally different, and that the concept of

articulation bridged and tied together these modes of existence. What is at stake here is not just semantics; the radical continuity that the early Greeks saw between beings and crafts means that the later “analogy” between architecture and the body was rooted in a very old understanding that these two things were, in the first place, of the same stuff.

Chapter Three: Crafting Being

The ardor of *menos* burns in the warrior's breast; it shines in his eyes. Sometimes, in exceptional cases when it becomes incandescent, as with Achilles, it bursts into flames above his head. But it also manifests itself in the dazzling brilliance of the bronze worn by the warrior. Rising skyward, the gleam of weapons that incites panic in the enemy's ranks is like an exhalation of the fire that burns in the warrior's body. The hero's accoutrements, the prestigious arms that allude to his career, his exploits and his personal value, are a direct extension of his body. They adhere to him, form an alliance with him, are integrated into his unusual figure like every other trait of his bodily armory.

What military panopolies are to the body of a warrior, rouge, ointment, jewelry and iridescent fabrics and bust-ribbons are to a woman's body. The grace and seductiveness, the power to attract that are part of these adornments, emanate from them like magical charms whose effect on others is no different than that exercised by the charms of the body itself.¹

We've already discussed much of what Jean-Pierre Vernant describes here. We've seen the parallels between the gleam in Achilles' eye, the fire above his head, and the dazzling armor that he wears. We've seen how these things identify and construct

¹ Vernant 1989, 30. Cf. "clothe [lit. "plunge"] yourself in valor." δύσσεο δ' ἀλκίην. *Il.* 19.36. Trans. A. T. Murray.

him as a hero, just as a woman's physical grace and adornments allow her to dazzle and seduce. And we have come across creations that blur any sharp distinctions between being and crafting: Hephaistos' tripods and golden handmaids move of their own accord, the armor he makes for Achilles allows him to levitate, and Odysseus' brooch seems to come alive with its intricate depiction of life. More generally, armor described with *daidal-* and *arariskō* play an active role in deflecting and defending against weapons, with an effect akin to that of divine intervention. These are hardly the characteristics of inert matter.

But what, precisely, does Vernant mean when he says that a hero's armor is "a direct extension of his body," or that "the gleam of weapons...is like an exhalation of the fire that burns in the warrior's body"? Similarly, what does it mean, in Shigehisa Kuriyama's words, for "the border separating inside from outside [to lie] not at the surface of the skin, but rather at the fuzzy contours surrounding the reach of the will"?² The suggestion is that, combined with the wearing of special armor, dresses, or jewelry, the state of inspiration—of being filled with godly breath and intentionality—allows the identity and agency of a Homeric warrior, or extraordinary woman, to expand beyond the self. This returns us to the questions of Chapter One where I suggested that if the Homeric hero's powers can at times extend outwards, it is because—again, in Vernant's words—he is "fundamentally permeable" to the animating breath and will of the gods.³ Drawing on Kuriyama's analysis of the early Greek articulated self in comparison with Galen's muscular body, I argued that the absence of a willful mental self and a bounded physical self in Homer evinces what for Snell was the lack of a concept of "the body."

The difficulty arises when I want to speak of physical experience in Homer without using the word "body," which Homer did not have. I have often turned to the word

² Kuriyama 1995, 19.

³ Vernant 1989, 29.

“being,” and sometimes also to “self,” “physicality,” and so on. Of course, none of these are perfect, and I do not mean to suggest that Homer instead had some specific concept that I am translating as “being”—and certainly not in the way in which Plato would later use the term (*to on*).⁴ But I hope that I have nonetheless been able to convey that physical experience in Homer was expressed through ideas of living and material states more than through those of things—of bodily parts, physical stuff that, implicitly or explicitly, is separate from the force of life.

In considering a similar question, Timothy Reiss, in his study of personhood in ancient and early modern Europe, uses the term “who-ness” to express the ancient sense of identity that he argues is not a “self.”⁵ Michael Clarke uses the Greek terms when he finds that there is no suitable English equivalent—which is nearly all the time.⁶ Kuriyama and Vernant, in contrast, avoid the problem by continuing to speak of “the body” in Homer and other early contexts, and this is sensible in terms of the arguments they make. Brooke Holmes, similarly, does not invoke an alternate English term for “body” in Homer but she makes it abundantly clear that the concept of the body expressed by the Hippocratics in the 6th and 5th centuries—a concept which draws on the ideas of the materialist cosmologists—is profoundly new. This new concept describes a body as an “object of knowledge, with its own laws, an object deprived of intentionality, subjected to force and immune to *logos*,” as she puts it—that is to say, of a body as *sōma*, “against which other terms such as *psuchē* may

⁴ Homer does not use the verb *eimi*, “to be,” in the metaphysical or ontological sense; for example, he does not use the participle *to on* which would be Plato’s term for “being,” or “that which is.”

⁵ Reiss 2003, 1. Redfield also states that “the interior I is none other than the organic I.” Redfield 1985, 100.

⁶ Clarke 1999, 31-36, 47-49, 126.

develop in opposition.” It is, in that sense, the first definitive expression of what we might call “the body.”⁷

This distinction is particularly important to me. Theories of proportion, as developed in Greek antiquity, provided analogies between the human body, the world, and architecture—each as a designed and crafted entity, each drawing on its connections with the others for its meaning. But just as Homer has no word for “body” he has none for “architecture.” In fact, a word for “architecture” is only introduced much later, and it does not exist at all in Greek antiquity.⁸ This is of no small consequence—but far from leaving my search bereft of a trail, this in fact provides the beginning of an answer. By looking at archaic ways of being and crafting through the language of articulation, the classificatory distinctions that we as modern readers would try to make between body and architecture, living and nonliving, organic and inorganic, and so on, start to dissolve. Articulation connected being and crafting long before separate concepts of “the body” and “architecture” were used—that is, before these concepts could be re-connected by analogies, including that of proportion.

This chapter investigates the continuities between being and crafting through five examples: a group of warriors anticipating battle in the *Iliad*; two words, the adjective *poikilos* and noun *mētis*; Hesiod’s account of the crafting of Pandora; and the recognition scene of Odysseus and Penelope, which reintegrates Odysseus into his household at the end of his journey—and which provides us with one more *daidalon*.

⁷ Holmes 2005, 5.

⁸ Parcell 2007, 28. See also Tatarkiewicz 1980, 52, Burford 1972, 14.

Joined for Battle

Although Achilles' *menos* appears through his *daidala* and through the imagery of fire, the more common expression of bravery in the epic is not in the *aristeia* of a hero but in the solidarity of a group. When Achilles gathers his men in Book 16 of the *Iliad*, he addresses them with stern and inspiring word (which we have already seen in Chapter Two), and their response is enthusiastic.

So saying, he roused the *menos* (μένος) and *thumos* (θυμὸν) of every man, and yet more tightly were their ranks joined (ἄρθεν, *arariskō*) when they heard their king. And as when a man joins (ἀράρη, *arariskō*) the wall of a high house with close-set (πυκνοῖσι, *puknos*) stones, to avoid the might of the winds, so close were joined (ἄραρον, *arariskō*) their helmets and bossed shields; shield pressed on shield, helmet on helmet, and man on man. The horsehair crests on the bright helmet-ridges touched each other, as the men moved their heads, in such close (πυκνοὶ, *puknos*) array did they stand by one another.⁹

Joining together in their fervor for battle, this group of warriors would have made an imposing sight. Historians of warfare have debated whether this passage suggests the orthogonal ranks of hoplite warfare, practiced approximately between the 7th and 3rd centuries BCE. In hoplite warfare, each man's shield protected the man to his left in a strict orthogonal formation. Breaking rank endangered the entire unit, so each phalanx aimed to retain its formation while intimidating or forcing the other phalanx

⁹ ὥς εἰπὼν ὅτρυνε μένος καὶ θυμὸν ἐκάστου. / μάλλον δὲ στίχες ἄρθεν, ἐπεὶ βασιλῆος ἄκουσαν. / ὥς δ' ὅτε τοῖχον ἀνὴρ ἀράρη πυκνοῖσι λίθοις / δώματος ὑψηλοῖο βίας ἀνέμων ἀλεείνων, / ὥς ἄραρον κόρυθές τε καὶ ἀσπίδες ὀμφαλόεσσαι. / ἀσπίς ἄρ' ἀσπίδ' ἔρειδε, κόρυς κόρυν, ἄνδρα δ' ἀνὴρ: / ψαῦον δ' ἱπτόκομοι κόρυθες λαμπροῖσι φάλοισι / νευόντων, ὥς πυκνοὶ ἐφέστασαν ἀλλήλοισι. *Il.* 16.210-17. Trans. A. T. Murray.

to break and scatter.¹⁰ In other words, hoplite battles were won through articulation and lost through disarticulation.

John Onians has argued that the prominence of stone in their rough and mountainous landscape led Greeks to strongly identify with this material and to think of themselves as made of stone, whereas the language and myths of other cultures more typically suggest that humans are made of clay.¹¹ In the previous chapter, I mentioned that *laos* means both “man” and “stone”—but Onians also argues that this association runs deeper than this, being older than the Greek language itself; he points to human figurines, carved in marble, found on the Aegean islands and the Greek peninsula dating from the 3rd millennium BCE.¹² Onians notes that the Greeks also thought of themselves as being made of their other favorite raw material, metal: Hesiod wrote about the generations of men, with the first generation being of gold, the next of silver, then of bronze, then another described as “warring heroes,” and finally, in Hesiod’s own time, a generation of iron.¹³ The kinship that the Greeks felt between worked stone and—to a lesser extent—metal and other raw materials, and their tendency to think of themselves as crafted things, in Onians’ view, “was to

¹⁰ Lazenby 1991.

¹¹ Onians 1999, 1-2. Hesiod, however, does speak of a human (albeit, significantly, Pandora and therefore womankind) being made in clay. Ἡφαιστον δ’ ἐκέλευσε περικλυτὸν ὅτι τάχιστα / γαῖαν ὕδει φύρειν, ἐν δ’ ἀνθρώπου θέμεν αὐδὴν / καὶ σθένος, Hesiod *Works and Days* 60-62; and γαίης γὰρ σύμπλασσε περικλυτὸς Ἀμφιγυῆς / παρθένῳ αἰδοίῃ ἔκελον Κρονίδεω διὰ βουλᾶς. Hesiod *Theogony* 571-72.

¹² Onians 1999, 1-2.

¹³ Hesiod *Works and Days* 109-201. Socrates argues that Hesiod did not mean that each generation was literally made from its metal. Plato *Cratylus* 398a. Plato also names four classes of men—gold, silver, iron, and brass—in *Republic* 415a. Onians 1999, 1-2.

become a fundamental feature of Western culture.”¹⁴ To summarize Onians’ argument, the affinity that Homeric Greeks felt with stones predisposed them towards arraying themselves orthogonally in hoplite phalanxes, mimicking the orthogonal masonry of their towers, walls, and houses; and, in turn, the sight and experience of hoplite warfare predisposed classical Greeks towards reconstructing their phalanxes as peripteral temples, with each column standing for a man.¹⁵

The close affinity between man and craft that Onians argues for in the Greeks is convincing, and important. But the problem is that nothing in this or other passages in Homer definitively specifies orthogonal ranks—and, in contrast, there are many passages, some of which we have seen, that describe fluid encounters between individuals and small groups of warriors within a chaotic and decidedly non-orthogonally arranged battlefield.¹⁶ What the above passage does stress, beyond any clear depiction of either orthogonality or non-orthogonality, is the fact that the warriors are standing close together and touching—as expressed through the verb *arariskō*, which appears three times.¹⁷ The kind of masonry that Homer alludes to

¹⁴ Onians 1999, 4.

¹⁵ Onians 1999, 9-11, 27-30.

¹⁶ Wees sums up the debate between historians: at one point, it was commonly held that “Homer barely even attempts to offer a plausible battle-narrative.” Subsequently, Joachim Latacz’ view, published in 1977, that Homer is describing the massed combat of an archaic hoplite phalanx, gained credence. Wees 1994, 1. Wees argues against Latacz’ view, suggesting instead that the battlefield was composed of fluid and changing skirmishes between single warriors and groups. Wees 1994, 3-9. See also Lazenby 1991, 87-88, Wees 2004, 154-60.

¹⁷ We also have a fragment from Tyrtaeus, in the mid 7th century BCE, which echoes Homer’s phrasing, but again, there is no clear suggestion of orthogonality: “with foot placed alongside foot and shield pressed against shield, let everyone draw near, crest to crest, helmet to helmet, and breast to breast” καὶ πόδα πὰρ ποδὶ θείς καὶ ἐπ’

here may well be, in keeping with the Homeric habit of evoking the more glorious, heroic past of the Mycenaeans, those of a cyclopean wall, a decidedly non-orthogonal but—in the astonishing closeness of the joints on its external face—well-articulated arrangement of stones (Figure 3.1). We can also observe that throughout the *Iliad*, *arariskō* is used to praise the defensive strength of a cooperative stance taken by two or more warriors in cases when there is no clear suggestion of orthogonality, much less of the highly rigid tactics of a hoplite phalanx.¹⁸

We should compare this internal evidence to what is known about the historical time during which the Homeric poems as we know them were composed. First, most scholars agree that “Homer”—a convenient name for whoever first wrote down the *Iliad* and *Odyssey*, fixing the version we now know—would almost certainly have lived between 800 and 670 BCE, with most estimates for his active period centering around 750 to 730 BCE, and certainly before Hesiod, who flourished around 710 to 700 BCE. Of course, as the poems are the product of a long tradition of oral poetry, the dates for Homer represent only the latest moments in a very long period of

ἀσπίδος ἀσπίδ' ἐρείσας, / ἐν δὲ λόφον τε λόφῳ καὶ κυνέην κυνέῃ / καὶ στέρνων
 στέρνῳ Tyrtaeus frag. 11.31-33 West. Trans. Douglas E. Gerber. A number of
 Tyrtaeus' comments in the same fragment also stand in decided contrast to the rigid
 formations of hoplites: he recommends that one should “advance towards the front
 ranks,” ἔς τ' αὐτοσχεδίην καὶ προμάχους ἰέναι, Tyrtaeus frag. 11.12 West. Trans.
 Douglas E. Gerber; and that “light-armed men” should “crouch beneath a shield on
 either side” in order to throw rocks and javelins. Tyrtaeus frag. 11.35-38 West.

¹⁸ See, for example, οἱ δ' ἐπεὶ ἀλλήλους ἄραρον τυκτῆσι βόεσσι *Il.* 12.105; a defensive stance compared to the roots of oaks, ῥίζησιν μεγάλῃσι διηνεκέεσσ' ἀραρυῖαι: *Il.* 12.134; ὥς Τρῶες πρὸ μὲν ἄλλοι ἀρηρότες, *Il.* 13.800; and, in comparison to a tower, ἴσχον γὰρ πυργηδὸν ἀρηρότες, *Il.* 15.618.



Figure 3.1: Mycenaean Cyclopean wall at Mycenae, ca. 1350 BCE. Photo by author.

composition and change: the basic stories and many formulaic lines, for example—including some with the names of places that no longer existed and about which little was known in Homer’s time—seem to have been much older. Elements that seem among the youngest in the poem, in contrast, include certain details about social life, and are estimated to date to around 800 to 750 BCE. Outside of arguments—which can be difficult to substantiate—for later interpolations, we can therefore expect the poems to tell us about circumstances that are no later than approximately 700 BCE.¹⁹ In terms of building practices, while basic Doric forms appear soon after 600 BCE, as J. J. Coulton points out, “between about 1100 and 700 BCE there was no truly monumental architecture in Greece.”²⁰ The most impressive architecture known to Homer and his predecessors would have been from the

¹⁹ The date of “Homer” is, of course, a difficult question which has been debated since antiquity. See Burgess 2001, 49-53, Janko 1982, Morris 1986.

²⁰ Coulton 1977, 30.

Mycenaean ruins, which included, prominently, cyclopean masonry of massive and irregularly shaped—but often closely articulated—stones. And finally, in terms of the practices of warfare, hoplite formations seem to have been a product of the first half of the 7th century BCE.²¹ It is therefore tenuous to read passages like the one above as early descriptions of hoplite warfare;²² and, while there would have been examples of orthogonal, dressed stone in Homer's world, it is necessary to remember that these would not have been as conspicuous or normative as they would be in classical times.

Because of this, I would suggest that Onians may be connecting the dots too quickly, that when Homer evokes the strength that comes from the solidarity of men in close formation, or the well-adjusted fit between stones in a wall, we cannot assume that his notion of articulation requires that of orthogonality. Clearly, Homer saw that men in general, and warriors in particular, were like stones arranged in defensive array (and at times like other parts of buildings, whether made from stone or other materials).²³ Just as clearly—and here Onians is entirely persuasive—a classical peripteral temple evokes a hoplite phalanx. This argument finds merit not only in terms of formal similarities of the overall array but also in the comparison, well documented in literary and archaeological sources, between a human being, or the

²¹ Hanson notes that certain elements, such as the heavy *hoplon* shield, appeared as early as the late 8th century BCE, but predate the development of the hoplite formation itself. Hanson 1991, 129. See also Wees 1994, 138-43.

²² There are also no compelling reasons to believe that these passages are later interpolations, as has at times been suggested. Wees mentions the 'later interpolation' thesis in passing. Wees 1994, 3.

²³ For example, see *Il.* 23.712, where Odysseus' and Aias' wrestling grip is compared to the rafters (ἀμείβοντες) of a high house.

human form, and a column;²⁴ and even more importantly, I would suggest, in the fact that a temple's powers, like that of a hoplite phalanx, lay in its ability to inspire fear and reverence through the visible order of its arrangement. But while there are similarities and a deep continuity in these two ways in which man and stone—or, to use an anachronistic phrase, body and architecture—are likened to each other, there is also a distance. In Homer, arrangements of warriors and arrangements of stones and other craft materials are decidedly well-articulated, but not necessarily orthogonal; but in classical Greece, orthogonality and—as I will argue in Part Two—proportion become defining factors in the physical arrangement of things.

In Homer, then, the joining of warriors is what conveys strength and bravery. But a warrior is composed by his weapons and armor and not only by that which is, for us, his body. His activated *guia* and *gounata*, his inspiration of *menos* and *thumos*, his possession and bearing of dazzling armor such as *daidala*, and his articulation with fellow warriors, are all—simultaneously and inseparably—the source and physical expression of his vitality. All of this supports Kuriyama's notion of “the fuzzy contours surrounding the reach of the will.”²⁵ These “fuzzy contours” are extended through articulation: just as Achilles' identity and agency are established and extended through his articulated self and armor, and the articulation (or “fitting”) of armor to self, the identity and agency of this group of warriors is constructed of their articulation as a group, an articulation that extends their powers through and beyond their radiant surfaces, beyond the reach of their limbs and weapons, and beyond their reach as individuals.

We have, thus far, seen a number of fleshy and psychosomatic entities in the self, a number of materials and techniques through which *daidala* can be made, and a

²⁴ For the most comprehensive treatment of this theme within architectural history, see Rykwert 1996.

²⁵ Kuriyama 1995, 19.

number of ways in which one articulated being or craft can endow another with meaning through a simile. The connotations of articulation and disarticulation are remarkably stable across these situations. Because of this, we might say that Homer is more sensitive to the fact of articulation—whether or to what extent something or someone is articulated or disarticulated—than to technical specifics or the material nature of the stuff being articulated. This understanding can inform our view of 8th century BCE vase paintings, such as the Late Geometric works of the so-called Dipylon Master (see Figure 1.1). These constitute the first representations since Mycenaean times of the human form. They have wonderfully intricate depictions of life and—since the vases on which these paintings appear had a funerary purpose—of death: we can find a procession of chariots and warriors with shields, lines of mourners with the typical hands-to-head gesture, sacrificial animals, and of course, the dead body laid out horizontally.

But equally striking is what is around the figures. There are no empty spaces: the surface is filled by and comprised of meanders, swastikas, and other ornamental motifs. Known as *horror vacui*, this style characterizes the Middle and Late Geometric periods of vase painting (ca. 850-735 BCE), and it depicts a world that is not only filled, but activated and organized by several repetitive series of articulated elements that overwhelmingly surround the human figures. The human figures find their form and rhythm through repetition and through the proximity of the forms around them; the parallel with the immersion of Homer's mortal characters in a world of external forces is clear. In contrast, from the late 7th century BCE onwards, black-figure vases began to focus on individualized protagonists whose aesthetic and narrative meaning stems from their own forms and actions (see Figure 1.3). The difference is not so much one of increasing technical ability or a greater interest in detail or complexity, but more, of different ways of seeing and being in the world: a shift in worldview.

What we observe in these Geometric paintings corroborates some characteristics that we noticed in the first and second chapters. Since the waist, for example, was an

important point of articulation in Geometric vase paintings, we can remind ourselves that places of articulation do not always coincide with what we would describe as skeletal joints. There is also no body part at the point of articulation: a joint is not a thing. Instead, places of articulation are marked by the narrowing of forms, so that the body is organized by “jointedness” without containing “joints” as parts or things in themselves. This sensibility is perhaps reflected in the variety of Homer’s uses of *arariskō* and similar words to describe actions as well as beings and things. It is, then, no surprise that Greek masonry, not only in Mycenaean cyclopean walls but also in classical temples and other structures, relies on a close fit of parts more than the use of joining elements, such as mortar.²⁶

The Look of Cunning

I have suggested that the Greek understandings of articulation and proportion rely on a sense that the construction and action of beings and crafts are intimately related. In the case of articulation, these connections are drawn in ways that are not obvious to us as modern readers. The adjective *poikilos* (which suggests intricacy, cunning, and a shifting or ambiguous mobility) and the noun *mētis* (or cunning intelligence) can provide insight into the particularities of how, for the Greeks, crafts emulate being, and how beings craft. Whereas *poikilos* is usually translated in English in terms of

²⁶ While physical “joints” were in fact used in classical temples, such as reinforcing rods were used in columns, or lead joints between stones of a masonry course, the appearance of stones closely fitted to each other without mortar or other connecting pieces is characteristic of Greek monumental architecture as opposed, for example, to Roman and other ancient architectural traditions.

appearance, and *mētis* in terms of characteristics or aptitudes, in Greek the distinction is less tidy.²⁷

In Homer and later texts, *poikilos* is translated as “many-colored,” “intricate,” “shimmering,” “ambiguous,” “swift,” “of many voices or musical notes,” or “cunning.” Its effect is mesmerizing and seductive like the constantly moving play of light from a shimmering object; Detienne and Vernant point out that what is *poikilos* is close to what is *aiolos*, which refers to fast and shifting movement.²⁸ It is also often associated with that which is double, turned or folded back on itself.²⁹ For Plato, *poikilos* is also beset with ambiguity; it is “a variety of things instead of a simple answer,” providing a distraction, even if inadvertently, from the essential truth of things.³⁰ There is therefore something tricky about *poikilos*. “Shimmering sheen and shifting movement” are, for Detienne and Vernant, “so much a part of the nature of *mētis* that when the epithet *poikilos* is applied to an individual, it is enough to indicate that he is a wily one, a man of cunning, full of inventive ploys (*poikiloboulos*) and tricks of every kind.”³¹ *Poikilos* can suggest the physical embellishment of an object (as through complex weaving or embroidery) or the embellishment of a story with crafty words (in English, to “embroider” a tale). A

²⁷ My reading of *poikilos* and *mētis* follows the approach set out by Detienne and Vernant 1978, 18-20, 27-48.

²⁸ Detienne and Vernant 1978, 19.

²⁹ See διπλὴν *Od.* 19.226 and διδύμοισι *Od.* 19.227, in the long quote below; as well as this description an adorned woven cloth with double folds, which is being woven: ἀλλ’ ἢ γ’ ἰστὸν ὕφαινε μυχῷ δόμου ὑψηλοῖο / δίπλακα πορφυρέην, ἐν δὲ θρόνα ποικίλ’ ἔπασσε. *Il.* 22.440-41.

³⁰ γενναίως γε καὶ φιλοδώρως, ὦ φίλε, ἐν αἰτηθεῖς πολλὰ δίδως καὶ ποικίλα ἀντὶ ἀπλοῦ. Plato *Theaetetus* 146d. Trans. Harold North Fowler. Detienne and Vernant 1978, 18-19.

³¹ Detienne and Vernant 1978, 19.

wily fox is described as *poikilos*, as if its cleverness were emblematically expressed on the moving, shining, furry surface of its body.³²

In Book 19 of the *Odyssey*, Athena has changed Odysseus' appearance into that of an old beggar, and he is in his own home disguised as a suppliant. In his first meeting with Penelope, he tells her that he once met Odysseus; to prove his claim, she asks him what Odysseus was wearing. Odysseus, described here as πολύμητις (*polumētis*),³³ replies:

A fleecy cloak of purple did noble Odysseus wear, a cloak of double fold (διπλῆν, *diploos*), but the brooch upon it was fashioned of gold with double clasps (διδύμοισι, *didumos*), and on the front it was δαίδαλον (*daidalos*): a hound held in his forepaws a dappled (ποικίλον, *poikilos*) fawn, and gazed at it as it writhed (ἀσπαίροντα, *aspairō*). And at this all the men marveled (θαυμάζεσκον, *thaumazō*), how, though they were of gold, the hound was gazing at the fawn and strangling it, and the fawn was writhing with its feet and striving to flee.³⁴

Although ποικίλον (*poikilos*) has been translated here simply as “dappled,” the fawn’s convulsing is key to the full context of the word. Autenreith defines *aspairō*

³² Detienne and Vernant 1978, 35-36.

³³ πολύμητις Ὀδυσσεύς: *Od.* 19.220.

³⁴ χλαῖναν πορφυρέην οὔλην ἔχε δῖος Ὀδυσσεύς, / διπλῆν: αὐτὰρ οἱ περόνη χρυσοῖο τέτυκτο / αὐλοῖσιν διδύμοισι: πάροιθε δὲ δαίδαλον ἦεν: / ἐν προτέροισι πόδεσσι κύων ἔχε ποικίλον ἐλλόν, / ἀσπαίροντα λάων: τὸ δὲ θαυμάζεσκον ἅπαντες, / ὥς οἱ χρύσειοι ἐόντες ὁ μὲν λάε νεβρὸν ἀπάγχων, / αὐτὰρ ὁ ἐκφυγέειν μεμαῶς ἥσπαιρε πόδεσσι. *Od.* 19.225-31. Trans. A. T. Murray. Other instances of *poikilos* in Homer, describing: a chariot, at both ἄρματα ποικίλα χαλκῷ: *Il.* 4.226, and ποικίλου ἐκ δίφροιο: *Il.* 10.500-1; and a robe, at both πέπλον μὲν κατέχευεν ἐάνδον πατρὸς ἐπ’ οὔδει / ποικίλον, *Il.* 5.735, and μέγαν περικαλλέα πέπλον, / ποικίλον *Od.* 18.292-93.

as “to move convulsively, quiver; mostly of dying animals.” We can imagine the fawn moving its feet in several directions at once as it tries to flee, while the life is being strangled out of it. It is moving frenetically while also still, pinned down by the dog. The fawn’s ambiguous status, on the edge between life and death, movement and stillness, is reinforced by Homer’s reminder that the fawn and dog are both made of gold: inert, but with life-like qualities associated with the shining and gleaming appearance of this metal. And the dog gazes at the fawn, while the brooch’s audience—“all the men”—gaze at them both in turn, marveling: the brooch comes alive through a mesmerizing kind of vision.

As a brooch, this object has the function of joining or connecting: its double clasps allow it to connect to the fabric, and perhaps also to join and close the cloak itself. In the context of the story, the brooch also allows for a different kind of connection, through the communication of a sign of Odysseus’ identity. Penelope understands the description of the brooch—a gift that she had given her husband, together with the cloak—as true *sēmata* (σήματα) of her husband.³⁵ And indeed it is—but it is also deceptive, since Odysseus is offering a true token of himself even while he conceals his identity. These ambiguous and tricky powers of *mētis* are often characteristic of that which is *poikilos*. If *poikilos* is translated as “dappled,” “many-colored,” or “intricate,” this only reflects the limitations of the English language or perhaps our modern way of thinking; these meanings are not incorrect, but neither are they complete.

Let’s turn, then, to *mētis* or cunning intelligence. While *mētis* can be related to the shimmering appearance and shifting movement of *poikilos*, it more specifically suggests a kind of dexterous action that is purposeful even while ambiguous. *Mētis* navigates ungovernable situations: the unknown dangers of the road, the sea, and of

³⁵ “ὥς φάτο, τῇ δ’ ἔτι μᾶλλον ὑφ’ ἡμερον ὥρσε γόοιο, / σήματ’ ἀναγνούσῃ τά οἱ ἔμπεδα πέφραδ’ Ὀδυσσεύς. *Od.* 19.249-50.

warfare, the subtleties of language and of communication, and the subtle, shifting conditions that one must negotiate to make things from real materials. As Detienne and Vernant write,

Why does *mētis* appear thus, as multiple (*pantoiē*), many-colored (*poikilē*), shifting (*aiolē*)? Because its field of application is the world of movement, of multiplicity and of ambiguity. It bears on fluid situations which are constantly changing and which at every moment combine contrary features and forces that are opposed to each other.³⁶

Mētis is often involved in finding or obscuring a path, in forging or breaking a bond; Detienne and Vernant discuss the linguistic and conceptual connections between these actions through the words *peirar* and *apeirōn*, which represent the notions of the bound (a limit, a bond) and of the boundless (that which is impossible to cross or untie).³⁷ The technical processes of material craft, navigation, slights of hand, and the creation of and escape from traps are therefore all related. *Mētis* has a wide range of actions in different spheres, and this is not the place to rehearse all the nuances of meaning it can assume, but we can start with the idea that the work of the craftsman in a technical sense had to do with forging and managing joints; and in a more general sense with finding solutions to apparently insoluble problems, such as untying a knot or creating a way out. For example, the mythical first “architect,” Daidalos, created a deceptive cow for Pasiphae to hide inside, in order to seduce and copulate with a bull; then the labyrinth to house the Minotaur that was born as a result of that union; and finally, after being imprisoned in his own labyrinth for his contrivances, he built wings in order to escape. In this, we can already observe that *mētis* is not the same as the measured judgment of the wise: like Odysseus, Daidalos finds his way out of impossible situations, but these situations are often of his own making. In this section, we will take a look at four characters who embody *mētis*—

³⁶ Detienne and Vernant 1978, 20.

³⁷ For the Greeks there was also the “paradoxical image of a *peirar apeiron*: an impassable bond and an inextricable path.” Detienne and Vernant 1978, 292-93.

Hermes, Hephaistos, Athena, and Odysseus—to understand what kind of physicality *mētis* implies and how it, for the early Greeks, can link the physicality and movement of certain craftsman, their process of crafting, and the action of their crafts.

Hermes is the god of boundaries and of the travelers who cross them, and of communication, commerce, liars, and thieves. He is also a translator and messenger between gods and mortals, with special powers at points of crossing, thresholds, and doors. His name is derived from (or is the source for) the word *herma*, which describes a stone that marked boundaries on roads and borders. And he earns his names, Strophaios or “the Pivoter,” and Prothuraaios or “Before the Door,” because his powers are concerned with doubleness, with mediating between two sides.³⁸ In the *Hymn to Hermes*, he is born at dawn; at midday he finds a turtle, and from its shell, together with some reeds, an ox-hide, and seven strings of sheep-gut (χορδᾶς, *chordē*), he makes a lyre; and in the evening he steals fifty cows from Apollo.³⁹ In driving the cattle away he employs a cunning trick to make himself difficult to track: he wears a pair of sandals, “wonderful things made by work (θαυματὰ ἔργα)”⁴⁰ that disguise his footprints; he compelled the cattle to walk backwards;⁴¹ and he walked in a zig-zag pattern.⁴² Both his motion and its traces are ambiguous and double.

³⁸ Padel 1992, 6-8.

³⁹ ἥφως γεγωνὼς μέσφῃ ἥματι ἐγκιθάριζεν, / ἐσπέριος βοῦς κλέψεν ἐκηβόλου Ἀπόλλωνος *Hymn 4 to Hermes* 17-18. For Hermes’ crafting of the lyre, see 41-54; χορδᾶς is at 51.

⁴⁰ *Hymn 4 to Hermes* 80.

⁴¹ ἐξοπίσω δ’ ἀνέεργε, κάρη δ’ ἔχεν ἀντίον αὐτῷ. *Hymn to Hermes* 211; and also δολίης δ’ οὐ λήθετο τέχνης / ἀντία ποιήσας ὀπλάς, τὰς πρόσθεν ὀπισθεν, / τὰς δ’ ὀπισθεν πρόσθεν: 76-78.

⁴² ἐπιστροφάδην δ’ ἐβάδιζεν. *Hymn to Hermes* 210. He also drove the cattle in a turning path, πλανοδίας δ’ ἤλαυνε διὰ ψαμαθώδεα χώρον / ἔχνη’ ἀποστρέψας: 75-76.

Hephaistos, the physically deformed craftsman god who makes Achilles' shield and other armor, also moves in a way that incorporates opposing directions. The final image that he creates on Achilles' shield is telling.

On it furthermore the famed god of the two lame legs (ἀμφιγυῆεις, *amphiguēis*) cunningly wrought (ποίκιλλε, *poikillō*) a dancing floor like the one which in wide Knossos Daidalos fashioned of old for fair-tressed Ariadne. There were youths dancing and maidens of the price of many cattle, holding their hands on another's wrists. Of these the maidens were clad in fine linen, while the youths wore well-woven tunics softly glistening with oil; and the maidens had fair chaplets, and the youths had daggers of gold hanging from silver baldrics. Now would they run round with skillful (ἐπισταμένοισι, *epistamai*) feet very nimbly, as when a potter sits by his wheel that is fitted (ἄρμενον, *arariskō*) between his hands and makes trial of it whether it will run; and now again would they run in rows toward each other. And a great company stood around the lovely dance taking joy in it; and two tumblers whirled up and down among them (κατὰ μέσσους, *kata + mesos*), leading the dance.⁴³

Terms such as *poikillō*, *arariskō*, and the mention of Daidalos bring this scene into the horizon of *mētis* and of articulation. From the cunningly inlaid dancing floor and the joining of the dancers' hands, to their luminosity, fine clothing, and nimble motions, the entire scene evokes a sense of skill, elaborateness, beauty, and value—and of some particular kinds of movement. There is some similarity with the agile movement of Achilles, who is frequently described as “swift footed,” *podas ōkus*. But more curious is the comparison between the movements of the dancers and a potter's wheel: the dancers seem to alternate through two kinds of motion, circular

⁴³ *Il.* 18.590-606. Trans. A. T. Murray, modified at ποίκιλλε from “inlaid,” and at ἐπισταμένοισι from “cunning.”

and linear, in the same way that a potter's wheel resolves the back and forth movement of the potter's feet into the smooth spinning of the wheel.⁴⁴ Hephaistos—who is working this scene into Achilles' shield at the moment of its description in the *Iliad*—also incorporates opposites in his own legs and movement. His legs are said to be *kulloi* and *amphiguoi*, or bandy-legged and doubled, possessing opposite directions. In vase paintings this is depicted through curved and twisted legs, or through one foot pointing forwards and the other backwards.⁴⁵ For Detienne and Vernant, Hephaistos' round legs are “the visible symbol of his *mētis*, his wise thoughts and his craftsman's intelligence,” and his movements, “endowed with a double and divergent orientation,” are necessary “in order to dominate shifting, fluid powers such as fire, winds, and minerals” in his work as a blacksmith.⁴⁶

In addition to naming the power of cunning, *Mētis* is also the name of a goddess. She is Zeus' first wife, and he swallows her in order to literally incorporate her powers—“to become pregnant with *mētis*,” in Detienne and Vernant's words⁴⁷—and gain the cunning that he needs to rule over the other gods.⁴⁸ But when *Mētis* is swallowed, she has already conceived a daughter—Athena—who is later born, fully armed and emitting a great war cry, from Zeus' forehead.⁴⁹ Athena is a goddess of warfare. In the Homeric epics, she watches over Achilles, Odysseus, and their comrades, diverting arrows, spears, and other weapons away from them—or at least away from

⁴⁴ Humphrey and Sherwood 1998, 372. See also Bolens 2000, 65-67.

⁴⁵ κυλλοποδίων *Il.* 18.371. Bolens 2000, 68. See also ἀμφιγυήεις *Il.* 18.393. Bolens 2000, 72. See also Detienne and Vernant 1978, 270-73.

⁴⁶ Detienne and Vernant 1978, 269-73. See also the discussion of fire and *mētis* at Bolens 2000, 83-87.

⁴⁷ Detienne and Vernant 1978, 179.

⁴⁸ Detienne and Vernant 1978, 107-9.

⁴⁹ πατέρος Αθαναία κορυφὰν κατ' ἄκραν / ἀνορούσαις ἀλάλαξεν ὑπερμάκει βοῶν: Pindar *Olympian Ode* 7.36-37. Detienne and Vernant 1978, 181.

places where they might cause a fatal injury.⁵⁰ As such, her work is in misdirecting the straight flight of weapons, in shifting the movement of things. What does this movement have to do with Athena's craft? Athena is also the goddess of weaving, an act which consists of juxtaposing one thread with others set at a right angle to it, of repetitively passing a thread over, then under, each thread it crosses. Like the arrows Athena diverts from their mark, the weft thread dodges to each side of the warp threads—and at the end of each row, the weft yarn turns back on itself to continue in the opposite direction.⁵¹

Athena is also the protector of Odysseus *polumētis*, or “of many wiles.” Odysseus is skilled at speaking, scheming and conniving, making crafts such as boats and furniture, and navigating. The *Odyssey* describes Odysseus process in making two special crafts: the first is the raft he builds to escape Calypso's island (which we will consider here), and the second is his marital bed and bedroom (which we will discuss at the end of this chapter). Odysseus makes the raft from scratch, using for tools an adze, augers, as well as an axe, “well fitted (ἄρμενον, *arariskō*) to his hands,”⁵² that Calypso provides for him. The description of his work spans over forty lines, but the first thing Odysseus does, after felling twenty trees for lumber, is trim the trees with the axe, “skillfully (ἐπισταμένως, *epistamenōs*) smooth[ing] them all and tru[ing] them to the line.”⁵³ He displays his *mētis* in making the raft, straightening crooked

⁵⁰ *Il.* 4.130-34; and τὰ δὲ πάντα ἐτώσια θῆκεν Ἀθήνη, *Od.* 22.256; and similarly, τὰ δὲ πολλὰ ἐτώσια θῆκεν Ἀθήνη. *Od.* 22.273. She also tests Odysseus, making him exert himself. *Od.* 22.236-38.

⁵¹ See Detienne and Vernant 1978, 185n33. Control over directionality is also important for driving horses, another area of Athena's expertise. Detienne and Vernant 1978, 206.

⁵² ἄρμενον ἐν παλάμῃσι, *Od.* 5.234. Trans. A. T. Murray.

⁵³ ξέσσε δ' ἐπισταμένως καὶ ἐπὶ στάθμην ἴθυνεν. *Od.* 5.245. Trans. A. T. Murray, modified at ἐπισταμένως from “cunningly.”

pieces of wood and then connecting them, and his work in navigating the raft will require the same skill, carving a straight trajectory over shifting and unpredictable conditions at sea.

After this, we hear how Odysseus “bored (τέτρηνεν, *tetrainō*) all the pieces and fitted (ἤρμοσεν, *harmozō*) them to one another,”⁵⁴ and hammered it together (ἄρασεν, *arassō*) with pegs (γόμφοισιν, *gomphos*) and morticings (ἀρμονίησιν, *harmonia*),⁵⁵ in a sentence that uses three *ar- words to describe the forging of joints. The rest of the narration describes how Odysseus fits the raft with ribs, gunwales, mast, yard arm, steering oar, a willow fence against the waves, and brush along the bottom; *arariskō* is used twice to convey how he bolted (ἀραρῶν, *arariskō*) the decks to the ribs,⁵⁶ and how the yard arm was fitted (ἄρμενον, *arariskō*) to the mast.⁵⁷ The many joints that Odysseus forges are then recalled a few passages later, when he encounters a storm: Poseidon is smashing the raft with furious waves while Odysseus clings desperately to it; he says to himself that “as long as the timbers are joined (ἀρήρη, *arariskō*) in their fastenings (ἀρμονίησιν, *harmonia*),” he will stay with it, but once the waves shake it apart, he will have to abandon it and swim.⁵⁸

The *mētis* involved in navigation is in finding a *poros*, or passageway, in an apparent *aporia*, or situation from which there is no way out. In this way, the *Odyssey* is all

⁵⁴ τέτρηνεν δ' ἄρα πάντα καὶ ἤρμοσεν ἀλλήλοισιν, *Od.* 5.247. Trans. A. T. Murray.

⁵⁵ γόμφοισιν δ' ἄρα τήν γε καὶ ἀρμονίησιν ἄρασεν. *Od.* 5.248.

⁵⁶ ἴκρια δὲ στήσας, ἀραρῶν θαμέσι σταμίνεσσι, *Od.* 5.252.

⁵⁷ ἐν δ' ἰστὸν ποιεῖ καὶ ἐπίκριον ἄρμενον αὐτῷ: *Od.* 5.254.

⁵⁸ ὄφρ' ἂν μὲν κεν δούρατ' ἐν ἀρμονίησιν ἀρήρη, / τόφρ' αὐτοῦ μενέω καὶ τλήσομαι ἄλγεα πάσχων: / αὐτὰρ ἐπὴν δὴ μοι σχεδὴν διὰ κύμα τινάξῃ, / νήξομ', ἐπεὶ οὐ μὲν τι πάρα προνοῆσαι ἄμεινον. *Od.* 5.361-64. Trans. A. T. Murray (modified at ἀρήρη).

about navigation, about Odysseus' struggles to escape one seemingly hopeless situation after another as he finds his way home. (And, as we saw in the last chapter, Odysseus uses this same skill to deny a way out for the suitors as he slays them, since *mētis* governs both the creation and resolution of bonds and obstacles.) The most literal *aporia* in which Odysseus finds himself is the cave of the savage Cyclops, Polyphemos. When Odysseus arrives at the island of the Cyclopes, he wonders "whether they are cruel, and wild, and unjust, or whether they are kind to strangers and fear the gods in their thoughts."⁵⁹ Although his comrades beg him to leave the cave before its owner returns, Odysseus insists on staying, "to see the man himself, and whether he would give me gifts of entertainment."⁶⁰ Unfortunately for Odysseus, Polyphemos is one of the worst hosts in Greek literature. But the Cyclopes, who provide a foil to the exemplarily civilized Phaeacians, also have differences with the Greeks that go beyond their indifference to the customs of guest and host: They live in solitude without laws or assemblies, largely ignoring their neighbors. They have only minimal *technai* (skills or arts), since their island is a naturally fertile place where food springs up without much toil, and their shallow and protected harbor meant that ships did not need to be bound by anchors and cables.⁶¹ They do not even craft their houses: Polyphemos lives in a great cave with a single, enormous boulder for a door. And, in a grotesque inversion of Greek dining traditions, which featured wine mixed with water, and meats duly cooked through the ritual of sacrifice,

⁵⁹ ἢ ῥ' οἳ γ' ὑβρίζται τε καὶ ἄγριοι οὐδὲ δίκαιοι, / ἦε φιλόξεينوι, καὶ σφιν νόος ἐστὶ θεουδής.' *Od.* 9.175–76. Trans. A. T. Murray.

⁶⁰ ὄφρ' αὐτόν τε ἴδοιμι, καὶ εἴ μοι ξείνια δοίῃ. *Od.* 9.229. Trans. A. T. Murray.

⁶¹ We can recall the Persian king's warning, in Herodotus, that soft lands breed soft—or, as I have suggested, inarticulate—men. φιλέειν γὰρ ἐκ τῶν μαλακῶν χώρων μαλακοὺς γίνεσθαι: οὐ γὰρ τι τῆς αὐτῆς γῆς εἶναι καρπὸν τε θωμαστὸν φύειν καὶ ἄνδρας ἀγαθοὺς τὰ πολέμα. Herodotus *Histories* 9.122.3.

Polyphemos subsists on the unmixed (ἄκρητον, *akrētos*) milk and cheese of his sheep, and—when Odysseus and his comrades arrive—on the raw flesh of men.⁶²

Polyphemos traps Odysseus and his men in his cave, since the boulder acting as a door is far too large for them to move, and gleefully takes to eating one man raw at each of his meals. Odysseus contrives a scheme to blind the Cyclops by putting out his single eye, then to evade notice by exiting the cave together with the sheep, as they leave to graze. The act of blinding the Cyclops warrants a careful reading. Polyphemos has a wooden staff lying on the floor of the cave, and Odysseus compares it to the mast of a ship, saying that it is “as large as is the mast of a black ship of twenty oars, a merchantman, broad of beam, which crosses over the great gulf; so huge it was in length, so huge in breadth to look upon.”⁶³ He cuts off (ἀπέκοψα, *apo-koptō*) a length from the staff, and gave it to his men to taper.⁶⁴ The men smoothed it, and Odysseus sharpened the point, before hardening it in the fire, and hiding it in the dung which lay about the cave.⁶⁵ He then, with winning words, offered to Polyphemos the strong wine that he had brought with him. (The wine has its own lineage, being a gift that Odysseus received from a priest of Apollo for protecting his wife and child; Odysseus describes the wine as irresistible,⁶⁶ “sweet and unmixed (ἀκηράσιον, *akērasios*), a drink divine”⁶⁷ which the priest drank mixed

⁶² For milk and curdled milk (for cheese), see *Od.* 9.244-49. For unmixed milk and human flesh, see ἀνδρόμεα κρέ’ ἔδων καὶ ἐπ’ ἄκρητον γάλα πίνων, *Od.* 9.297. That he eats the men raw is implied rather than explicit throughout the episode.

⁶³ *Od.* 9.322-24. Trans. A. T. Murray.

⁶⁴ τοῦ μὲν ὅσον τ’ ὄργυιαν ἐγὼν ἀπέκοψα παραστὰς / καὶ παρέθηχ’ ἐτάροισιν, ἀποξύναι δ’ ἐκέλευσα: *Od.* 9.325-26.

⁶⁵ *Od.* 9.327-30.

⁶⁶ τότε’ ἂν οὐ τοι ἀποσχέσθαι φίλον ἦεν. *Od.* 9.211.

⁶⁷ ἡδὺν ἀκηράσιον, θεῖον ποτόν: *Od.* 9.205.

with “twenty measures of water.”)⁶⁸ The Cyclops—unaccustomed to eating anything but his barbaric diet of milk and cheese, and now, raw human flesh—cannot resist overindulging, and he greedily consumes three helpings. When the Cyclops is drunk and asleep, vomiting up “wine and bits of human flesh,”⁶⁹ Odysseus “thrust in the stake upon the deep ashes until it should grow hot,”⁷⁰ murmuring words of encouragement to his men. “But when presently that stake of olive-wood was about to catch fire, green though it was, and began to glow terribly,”⁷¹ Odysseus brought it towards the Cyclops, where, he tells us,

a god (δαίμων) breathed (ἐνέπνευσεν, *empneō*) into us great courage (θάρος). [My comrades] took the stake of olivewood, sharp at the point, and thrust it into his eye, while I, throwing my weight upon it from above, whirled it round (δίνεον), as a man bores a ship’s timber with a drill, while those below keep it spinning (ὑποσσείουσιν) with the strap, which they lay hold of by either end, and the drill runs unceasingly. Even so we took the fiery-pointed (πυριήκεα) stake and whirled it around (δινέομεν) in his eye, and the blood flowed round it, all hot as it was.⁷²

⁶⁸ ἐν δέπας ἐμπλήσας ὕδατος ἀνὰ εἴκοσι μέτρα / χεὺ’ *Od.* 9.209-10.

⁶⁹ φάρυγος δ’ ἐξέσσυτο οἶνος / ψωμοί τ’ ἀνδρόμεοι: ὁ δ’ ἐρεύγετο οἰνοβαρείων. *Od.* 9.373-74. Trans. A. T. Murray.

⁷⁰ καὶ τότε ἐγὼ τὸν μοχλὸν ὑπὸ σποδοῦ ἤλασα πολλῆς, ἥος θερμαίνονται: *Od.* 9.375-76. Trans. A. T. Murray.

⁷¹ ἀλλ’ ὅτε δὴ τάχ’ ὁ μοχλὸς ἐλάινος ἐν πυρὶ μέλλεν / ἄψεσθαι, χλωρός περ ἐὼν, διεφαίνετο δ’ αἰνῶς, *Od.* 9.378-79. Trans. A. T. Murray.

⁷² αὐτὰρ θάρσος ἐνέπνευσεν μέγα δαίμων. / οἱ μὲν μοχλὸν ἐλόντες ἐλάινον, ὁξὺν ἐπ’ ἄκρῳ, / ὀφθαλμῷ ἐνέρεισαν: ἐγὼ δ’ ἐφύπερθεν ἐρεισθεῖς / δίνεον, ὡς ὅτε τις τρυπῷ δόρυ νήιον ἀνήρ / τρυπάνῳ, οἱ δέ τ’ ἔνερθεν ὑποσσείουσιν ἰμάντι / ἀψάμενοι ἐκάτερθε, τὸ δὲ τρέχει ἐμμενὲς αἰεὶ. / ὡς τοῦ ἐν ὀφθαλμῷ πυριήκεα μοχλὸν ἐλόντες / δινέομεν, τὸν δ’ αἶμα περίρρεε θερμὸν ἔοντα. *Od.* 9.381-88. Trans. A. T. Murray.

Homer again evokes the making of a ship, and with it the *mētis* inherent to that craft, as he compares Odysseus' manner of resolving back-and-forth and spinning motions to the task of drilling a ship's timber. The image also recalls the allusion, in the *Iliad*, to the motion of a potter's wheel. In this way, Homer subtly connects this movement within a web of significations that links Odysseus' escape from Polyphemos' cave with his escape from Calypso's island, which he achieved by building a raft; and, in turn, to the spinning of the potter's wheel which is linked, by its use as a simile for the nimble movement of dancers articulated in gold, to the narration of the crafting of Achilles' shield.

Even in this most gory of scenes, Homer speaks to us about the triumph of *technē* over barbarism. Although we can imagine that a simple stabbing motion might have sufficed to put out Polyphemos' eye as he lay in his drunken stupor, in the way that Homer tells the story, the use of fire and the skilled twisting motion become crucial to the action. Homer compares the hissing of the heated stake, as it is twisted in Polyphemos' eyeball, to the sound of another act of *technē*, the quenching of a heated iron axe in cold water—but it is also the sound of cooking, an apt punishment for the Cyclops, who has eaten Odysseus' men raw. In this way, Odysseus is able to wield against Polyphemos his own unmeasured appetite, his fire, and his wooden stake, deploying the civilized *technē* of cooking against him.⁷³

⁷³ After putting out Polyphemos' eye, Odysseus bound together (συνέεργον, *sunergō*) the rams in threes, tying one of his men beneath the belly of the middle ram in each group; and for himself, Odysseus clings to the belly of the best ram, one which he tells us had particularly shaggy wool. αὐτὰρ ἐγὼ γε — / ἄρνειδός γάρ ἐην μήλων ὃχ' ἄριστος ἀπάντων, / τοῦ κατὰ νῶτα λαβὼν, λασίην ὑπὸ γαστέρ' ἐλυσθεῖς / κείμην: αὐτὰρ χερσὶν ἄώτου θεσπεσίῳ / νωλεμέως στρεφθεῖς ἐχόμεν τετληότι θυμῷ. *Od.* 9.431-35. In this way, Odysseus and his men were protected from Polyphemos' searching fingers as he sends his animals out to graze. *Od.* 9.427-31. Once they have escaped the cave, Odysseus loosens (λυόμεν, *luō*)

Crafted Life

Did Homeric Greeks draw a line between life and that which is lifelike? This question arises when we notice that there is something peculiar about *daidala*, articulation, and movement. In Chapter One we saw how the mobility of articulations was a sign of power and life; and in Chapter Two, we saw how, like an inspiring breath from Zeus, Achilles' *daidala* function by enhancing his motion and mobility: Achilles moves his limbs a bit to see if his new armor fits and the armor becomes "like wings," allowing him to levitate. We can also recall how the tripods that Hephaistos was making had golden wheels and could move themselves at his bidding, and how his golden handmaids made "in the semblance of living girls" moved quickly and gracefully to assist Hephaistos, who had his own unusual (oblique, and in equal parts awkward and agile) movement. We saw how Achilles' shield is adorned with a microcosm of amazingly lifelike images, and how the *daidalon* that Odysseus wore as a brooch had uncannily lifelike images of a dog and fawn. Could these things have been alive? I will not try to answer to this question directly, as it seems that the answer would have been less interesting to Homer's audience than it is to us; Homer certainly does not ask or answer this question. But if we consider *daidala* after Homer, there are examples that bridge craft and being, suggesting that later, crafts and beings may have had a different ontological status even while communication between these states was possible.

Later myths tell us that on the island of Crete, Poseidon provided Minos with a beautiful white bull in answer to Minos' prayers. Minos was so taken with the bull that he decided not to sacrifice it as he had promised, instead substituting an inferior victim. As punishment, Poseidon instilled in Minos' wife Pasiphae an unnatural

himself from the ram, then unties (ὑπέλυσσα, *hupoluō*) his comrades. πρῶτος ὑπ' ἄρνεϊοῦ λυόμεν, ὑπέλυσσα δ' ἐταίρους. *Od.* 9.463.

desire for the bull. Daidalos, who was in Crete at the time, constructed a hollow artificial cow for Pasiphae; this creation was so cunning, and the deception so complete that Pasiphae was successful in seducing the bull and as a result, gave birth to a half-man, half-bull, the Minotaur.⁷⁴ In this sense, a *daidalon* becomes a hybrid being (when worn by Pasiphae), allowing for a strange coupling (or joining), and the birth of another hybrid being.

The story of Pandora as told by Hesiod in parallel, but not identical, versions in *Works and Days* and the *Theogony*, has some similarities with that of Pasiphae's bull. Jean-Pierre Vernant makes clear in his reading that sacrifice, deception, conflict with the gods, and an outcome for humans that is at best ambivalent, all have roles to play in the myth.⁷⁵ In the *Theogony* the episode starts when Prometheus divides (δασσάμενος, *dateomai*) an ox for a feast shared by men and gods.⁷⁶ Always on man's side, he cuts and reassembles the pieces to trick Zeus: he hides the edible flesh and entrails in the stomach (γαστρῖ, *gastēr*) and covers it with the hide, while wrapping the inedible bones in glistening fat.⁷⁷ Like a *daidalon*, this reassembled ox is created through cutting and joining, and is meant to seduce and deceive, to use cunning instead of force to gain an upper hand over Zeus. It acts in the same way that Hera, in donning a dress made by Athena and adorned with many δαίδαλα

⁷⁴ See Apollodorus *Library* 3.1.

⁷⁵ Jean-Pierre Vernant's reading, which I follow here, emphasizes the fundamental coherence of these two versions of the tale. Vernant 1989.

⁷⁶ καὶ γὰρ ὅτ' ἐκρίνοντο θεοὶ θνητοὶ τ' ἄνθρωποι / Μηρώνη, τότε ἔπειτα μέγαν βούν πρόφρονι θυμῷ / δασσάμενος προέθηκε, Hesiod *Theogony* 535-37. Vernant 1989, 27.

⁷⁷ τοῖς μὲν γὰρ σάρκας τε καὶ ἔγκατα πίονα δημῷ / ἐν ῥινῷ κατέθηκε καλύψας γαστρὶ βοεΐη, / τῷ δ' αὖτ' ὅστέα λευκὰ βοὸς δολίῃ ἐπὶ τέχνῃ / εὐθετίσας κατέθηκε καλύψας ἀργέτι δημῷ. Hesiod *Theogony* 538-41. Vernant 1989, 57-58.

(*daidalon*),⁷⁸ and a ποικίλον (*poikilos*) girdle borrowed from Aphrodite,⁷⁹ beguiled him in the *Iliad*. Zeus accepts the inedible portion—but he does so knowingly, as he has not been fooled by Prometheus⁸⁰ as he was by his wife. He punishes mortal men by making them forever replicate this initial deceitful act, making them slaves to their stomach because they always have to stuff their *gastēr* with meat.⁸¹ Likewise, as Hesiod tells us in the *Theogony*, the gods also forever take the bones as their share, burned upon the sacrificial altar by men.⁸² As an additional punishment, Zeus confiscates fire from men.⁸³ In both versions of the story Prometheus steals it back, hidden inside a hollow fennel stalk,⁸⁴ and when Zeus notices the theft he conceives of Pandora as the ultimate response. He has Hephaestus form “the likeness of a chaste virgin” from a lump of clay⁸⁵—that is, she begins as an image, intricately worked but not yet animate. In both versions, *daidala* seem to make her come alive. In the *Theogony*, Pandora is given “silvery” clothes, and is adorned with a δαιδαλέην (*daidaleos*) veil made by Athena⁸⁶ and a gold crown with many δαίδαλα (*daidalon*)

⁷⁸ ἀμφὶ δ' ἄρ' ἀμβρόσιον ἐάνον ἔσαθ', ὃν οἱ Ἀθήνη / ἔξυσ' ἀσκήσασα, τίθει δ' ἐνὶ δαίδαλα πολλά: *Il.* 14.178-79.

⁷⁹ τῇ νῦν τοῦτον ἱμάντα τεῶ ἐγκάτθεο κόλπω / ποικίλον, ᾧ ἔνι πάντα τετεύχεται: *Il.* 14.219-20.

⁸⁰ Hesiod *Theogony* 550-51.

⁸¹ Vernant 1989, 59-61.

⁸² Hesiod *Theogony* 556-57.

⁸³ Hesiod *Theogony* 562-64; and Hesiod *Works and Days* 50. Vernant 1989, 22-23.

⁸⁴ Hesiod *Works and Days* 50-52; and Hesiod *Theogony* 565-67.

⁸⁵ αὐτίκα δ' ἐκ γαίης πλάσσειν κλυτὸς Ἀμφιγυήεις / παρθένω αἰδοίῃ ἕκλον Κρονίδεω διὰ βουλᾶς: Hesiod *Works and Days* 70-71. My translation. Hesiod *Theogony* 571-72; and Hesiod *Works and Days* 60-63.

⁸⁶ ζῶσε δὲ καὶ κόσμησε θεὰ γλαυκῶπις Ἀθήνη / ἀργυφὴ ἐσθήτι: κατὰ κρήθεν δὲ καλύπτρην / δαιδαλέην χεῖρεσσι κατέσχεθε, θαῦμα ιδέσθαι: Hesiod *Theogony* 573-77.

made by Hephaistos.⁸⁷ This crown is also a θαῦμα ιδέσθαι (*thauma idesthai*), “for,” Hesiod tells us, “of the many creatures which the land and sea rear up, he put most upon it, wonderful things, like living beings with voices: and great beauty shone out from it.”⁸⁸ Only after receiving these *daidala* does Pandora appear to us as a living being, and her first action that we hear of is to “[exult] in the order (κόσμος, *kosmos*) given to her from the gleaming-eyed daughter of a mighty father.”⁸⁹ In *Works and Days*, Pandora also receives a variety of crafted finery, but the very first thing that Zeus commands after bidding Hephaistos makes her form in clay—and the first thing recommending her to us as a living being—is for Athena “to teach her needlework and the weaving of the varied (πολυδαίδαλον, *poludaidalos*) web.”⁹⁰

In this way, *daidala* are divine gifts that allow Pandora to cross the threshold between craft and being. In both versions of the story, Pandora’s beautiful and disarming appearance is deceptive, and as a treacherous gift from the gods she conceals the new life of toil, sickness, and reproduction that she brings for mortal man. Contrived by the gods and brought to life, she wears *daidala* but also, in a way, is one. In crossing boundaries between crafted and living things, on the one hand Pandora’s birth

⁸⁷ τῇ δ’ ἐνὶ δαίδαλα πολλὰ τετεύχατο, Hesiod *Theogony* 581.

⁸⁸ θαῦμα ιδέσθαι, / κνώδαλ’, ὅς’ ἤπειρος πολλὰ τρέφει ἡδὲ θάλασσα, / τῶν ὅ γε πόλλ’ ἐνέθηκε,—χάρις δ’ ἀπελάμπετο πολλή,— / θαυμάσια, ζῴοισιν ἐοικότα φωνήεσσιν. Hesiod *Theogony* 581-84. Trans. Hugh G. Evelyn-White.

⁸⁹ κόσμῳ ἀγαλλομένην γλαυκώπιδος ὀβριμοπάτρης. Hesiod *Theogony* 587. My translation. Note that *kosmos* here also suggests “ornament,” in terms of jewelry or other finery; for more on the notion of *kosmos*, see Chapter Five.

⁹⁰ αὐτὰρ Ἀθήνην / ἔργα διδασκῆσαι, πολυδαίδαλον ἱστὸν ὑφαίνειν: Hesiod *Works and Days* 63-64. Trans. Hugh G. Evelyn-White. For the significance of weaving in monumental classical architecture, see Indra McEwen, who suggests that weaving makes the city visible, that looms can be read in the forms of peripteral temples. McEwen 1993, 107-11.

suggests that Hesiod and his audience saw parallels between crafts and beings, making and birthing. On the other, the fact that the stories of Pandora and of Pasiphae's cow speak about the transgression of boundaries, of propriety between men and gods and of the limits of mankind, suggests that for Hesiod, unlike for Homer, a new awareness of these boundaries was developing.

If Pandora, like Aphrodite, Hera, Helen and Penelope, has limb-loosening qualities, it is because of the desire that her beauty and charm inspire in mortal men. In *Works and Days*, Aphrodite is charged with endowing Pandora with both grace (χάριν, *charis*) and limb-gnawing (γυιοβόρους, *guion + bibrōskō*) sorrows.⁹¹ In the *Theogony*, Eros is limb-loosening (λυσιμελής, *luō + melos*), and “overcomes the mind (νόον, *noos*) and wise counsels of all gods and all men within them.”⁹² As Anne Carson observes, for the Greeks, “metaphors for the experience [of desire] are metaphors of war, disease and bodily dissolution.”⁹³

Reintegration

In Plato's *Symposium*, Socrates defines desire as a longing for what we lack.⁹⁴ In this same dialogue, Aristophanes tells a story about the original, spherical people and the origins of desire and of the sexes. In this story, human beings were at first double,

⁹¹ καὶ χάριν ἀμφιχέαι κεφαλῇ χρυσέην Ἀφροδίτην / καὶ πόθον ἀργαλέον καὶ γυιοβόρους μελεδώντας: Hesiod *Works and Days* 65-66.

⁹² ἦδ' Ἔρως, ὃς κάλλιστος ἐν ἀθανάτοισι θεοῖσι, / λυσιμελής, πάντων δὲ θεῶν πάντων τ' ἀνθρώπων / δάμναται ἐν στήθεσσι νόον καὶ ἐπίφρονα βουλήν. Hesiod *Theogony* 120-22. Trans. Hugh. G. Evelyn-White. Carson 1986, 8.

⁹³ Carson 1986, 39.

⁹⁴ Plato *Symposium* 200e.

with two faces, two sets of upper and lower limbs, round all over,⁹⁵ and were either wholly male, wholly female, or a kind of man-woman (ἀνδρόγυνον, *androgynos*) composed of both sexes.⁹⁶ Appropriately, with so many limbs, these beings were swift, able to walk as we do but also able to “run” by “whirling over and over with legs stuck out straight...swiftly round and round.”⁹⁷ But these beings were also proud, and their hubris provoked Zeus to cut (ἔτεμνε, *temnō*) each of them in two as punishment.⁹⁸ After this,

Each half in longing for its fellow would come to it again; and then would they fling their arms about each other and in mutual embraces (συμπλεκόμενοι, *sumplekō*) yearn to grow together (συμφῦναι, *sumphuō*), till they began to perish of hunger and general indolence, through refusing to do anything apart.⁹⁹

By way of summary, Aristophanes refers to the *sumbolon* as a broken half of a knucklebone or other object carried as a token of identity to be verified by the person

⁹⁵ Plato *Symposium* 189e.

⁹⁶ ἀνδρόγυνον γὰρ ἓν τότε μὲν ἦν καὶ εἶδος καὶ ὄνομα ἐξ ἀμφοτέρων κοινὸν τοῦ τε ἄρρενος καὶ θήλεος, Plato *Symposium* 189e.

⁹⁷ ἐπορεύετο δὲ καὶ ὀρθὸν ὥσπερ νῦν, ὁποτέρωσε βουλευθείη: καὶ ὁπότε ταχὺ ὀρμήσειεν θεῖν, ὥσπερ οἱ κυβιστῶντες καὶ εἰς ὀρθὸν τὰ σκέλη περιφερόμενοι κυβιστῶσι κύκλῳ, ὁκτὼ τότε οὖσι τοῖς μέλεσιν ἀπερειδόμενοι ταχὺ ἐφέροντο κύκλῳ. Plato *Symposium* 190a-b. Trans. W. R. M. Lamb.

⁹⁸ Zeus proposes this solution at: Plato *Symposium* 190c-d; and he slices them in two at: ταῦτα εἰπὼν ἔτεμνε τοὺς ἀνθρώπους δίχα, Plato *Symposium* 190d.

⁹⁹ ποθοῦν ἕκαστον τὸ ἥμισυ τὸ αὐτοῦ συνήει, καὶ περιβάλλοντες τὰς χεῖρας καὶ συμπλεκόμενοι ἀλλήλοις, ἐπιθυμοῦντες συμφῦναι, ἀπέθνησκον ὑπὸ λιμοῦ καὶ τῆς ἄλλης ἀργίας διὰ τὸ μηδὲν ἐθέλιν χωρὶς ἀλλήλων ποιεῖν. Plato *Symposium* 191a-b. Trans. W. R. M. Lamb (modified at συμφῦνα from “be grafted together.”)

who has the other half. He says, “each one of us, then, is but the *symbolon* (σύμβολον) of a man—since every one shows like a flat-fish the traces of having been sliced (τετμημένος, *temnō*) in two; and each is ever searching for the *symbolon* (σύμβολον) that will fit him.”¹⁰⁰ Here, the state of desire is literally one of disarticulation: the goal of desire is to be re-joined, or re-articulated, with one’s lover. Desire, like other states of disarticulation, is also a state of weakness. Foucault has argued that for the Greeks, self-mastery and mastery over others had the same form: one governed oneself in the same manner as one governed a household, or as one played a role in the city, following the development of personal virtues. As such, by prevailing over one’s desires rather than giving into them, a Greek asserted his mastery and therefore his status as a “free” man, as Foucault says, “in the full, positive and political sense of the word.”¹⁰¹

Although Penelope’s struggle in the *Odyssey* is not described at great length, its themes are not insignificant. Her response to her predicament is cunning, worthy of her role as Odysseus’ wife: she tells the suitors that before she can re-marry, she must make a funeral shroud for Laertes, and for three years she weaves her web by day and unravels it at night.¹⁰² In weaving, she employs the female craft of deceptive appearances, and in unraveling her cloth each night she doubles and reverses a motion that is in itself already double and reversed. For this masterful display of *mētis*, Agamemnon’s ghost lavishly praises Penelope and exclaims that her fame will

¹⁰⁰ ἕκαστος οὖν ἡμῶν ἐστὶν ἀνθρώπου σύμβολον, ὅτε τετμημένος ὥσπερ αἱ ψήτται, ἐξ ἑνὸς δύο: ζητεῖ δὲ αἰεὶ τὸ αὐτοῦ ἕκαστος σύμβολον. Plato *Symposium* 191d. Trans. W. R. M. Lamb. Carson 1986, 75.

¹⁰¹ Foucault 1990, 77.

¹⁰² ἔνθα καὶ ἡματίη μὲν ὑφαίνεσκεν μέγαν ἱστόν, / νύκτας δ’ ἀλλύεσκεν, *Od.* 2.104-5. This is part of a longer speech by Antinous, describing the situation. *Od.* 2.85-128.

be immortal on earth.¹⁰³ Her character is complex: she is an object of desire for the suitors, whose knees (γούνατ', *gonu*) were loosened (λύτο, *luō*) on the spot when they saw her;¹⁰⁴ and she is depicted as besieged and weakened, frequently liquefied into tears by cycles of hope and despair as she awaits Odysseus' return. But her heart is also strong, hardened by her long defense of her self and her household. Upon Odysseus' return her heart softens in stages. We have already seen an early stage of this softening, when Penelope welcomes the disguised Odysseus as one of his friends after receiving a *sēma* of his identity in the form of the description of his *daidaleos* brooch. But even after the suitors are slain, the house is cleaned, and Odysseus is recognized by the other members of the household, Penelope does not believe that he is her husband.¹⁰⁵

Book 23 of the *Odyssey* tells the story of Penelope's recognition of Odysseus. The book opens with Eurycleia ecstatically waking Penelope with the news that her husband has returned and slain the suitors. Penelope at first dismisses her out of hand, but when Eurycleia insists—telling her that the ragged stranger is Odysseus that Telemachus recognized him “long ago” and participated in his father's plans—Penelope hugs the old nurse, and “let the tears fall from her eyelids.”¹⁰⁶ Eurycleia then recounts what she knows of the battle with the suitors and the aftermath, and Penelope again becomes skeptical, insisting that a god, not Odysseus, must have killed the suitors, and that Odysseus himself has “lost his return to the land of Achaea, and is lost himself.”¹⁰⁷ Eurycleia then tells Penelope that she has a clear

¹⁰³ *Od.* 24.192-98.

¹⁰⁴ τῶν δ' αὐτοῦ λύτο γούνατ', *Od.* 18.212.

¹⁰⁵ This is my reading; the issue of when Penelope first recognizes Odysseus is still a matter of debate among scholars, as it has been since antiquity.

¹⁰⁶ βλεφάρων δ' ἀπὸ δάκρυον ἦκεν: *Od.* 23.33. Trans. A. T. Murray.

¹⁰⁷ αὐτὰρ Ὀδυσσεὺς / ὤλεσε τηλοῦ νόστον Ἀχαιΐδος, ὤλετο δ' αὐτός. *Od.* 23.67-68. Trans. A. T. Murray.

sēma (σήμα)¹⁰⁸ of Odysseus' identity, and describes how she had seen his identifying scar, the trace of an injury he sustained as a child, when she was washing his feet. At this, Penelope agrees to go see Telemachus, as well as the dead suitors, "and him that killed them."¹⁰⁹

Deeply in doubt, as she walks down from her chamber to meet the stranger, Penelope's "heart (κῆρ) pondered whether she should stand aloof and question her dear husband, or whether she should go up to him, and clasp and kiss his head and hands."¹¹⁰ She crosses the threshold of the hall,¹¹¹ and keeps her distance, taking a chair opposite to Odysseus. In a perfect expression of her ambivalence, "amazement came upon her heart (ἦτορ, *ētor*)" as she looked at his face, but she did not recognize the rest of his shabbily dressed form.¹¹² She looks at him and sits for a long time in silence. Telemachus interrupts the stalemate, rebuking his mother for not going to her husband, and saying that her heart is "harder than stone."¹¹³ Odysseus will later also compare her heart to iron;¹¹⁴ these defensive materials suggest the role of her

¹⁰⁸ ἀλλ' ἄγε τοι καὶ σήμα ἀριφραδὲς ἄλλο τι εἶπω, / οὐλήν, τήν ποτέ μιν σὺς ἤλασε λευκῷ ὀδόντι. *Od.* 23.73-74.

¹⁰⁹ ἀλλ' ἔμπης ἴομεν μετὰ παῖδ' ἐμόν, ὄφρα ἴδωμαι / ἄνδρας μνηστήρας τεθνηότας, ἦδ' ὃς ἔπεφνεν. *Od.* 23.83-84. Trans. A. T. Murray.

¹¹⁰ πολλὰ δέ οἱ κῆρ / ὥρμαιν', ἢ ἀπάνευθε φίλον πόσιν ἐξερεεῖνοι, / ἢ παρστώσα κύσειε κάρη καὶ χεῖρε λαβοῦσα. *Od.* 23.85-87. Trans. A. T. Murray.

¹¹¹ ὑπέρβη λάϊνον οὐδόν, *Od.* 23.88.

¹¹² τάφος δέ οἱ ἦτορ ἴκανεν: / ὅψει δ' ἄλλοτε μέν μιν ἐνωπαδίως ἐσίδεσκεν, / ἄλλοτε δ' ἀγνώσασκε κακὰ χροὶ εἶματ' ἔχοντα. *Od.* 23.93-95. Trans. A. T. Murray.

¹¹³ σοὶ δ' αἰεὶ κραδίη στερεωτέρη ἐστὶ λίθοιο. *Od.* 23.103. Trans. A. T. Murray.

¹¹⁴ ἢ γὰρ τῇ γε σιδήρεον ἐν φρεσὶ ἦτορ. *Od.* 23.172. Cf. Eurycleia's statement: ἔξω δ' ὥς ὅτε τις στερεὴ λίθος ἢ σίδηρος. *Od.* 19.494.

heart as the most important site where the integrity of the household was defended in Odysseus' absence. Penelope's response is shrewd:

My child, the heart in my breast is lost in wonder, and I have no power to speak at all, nor to ask a question, nor to look him in the face. But if he really is Odysseus, and has come home, without any doubt we two shall know one another and better than before; for we have signs (σήμαθ', *sēma*) which we two alone know, and which are hidden from others.¹¹⁵

Odysseus finally speaks, sending Telemachus away. Ever cunning, he tells his son to stage a song and dance so that passers-by would not think that the suitors had been slain, but that a wedding was taking place—but we can also see that his being reunited with his wife is not unlike a wedding. This final threshold is to be crossed by Odysseus and Penelope alone.

Odysseus bathes, so that Penelope might better recognize him. While his housekeeper bathes, anoints, and dresses him, Athena makes him taller to look upon and more robust, and even curls his hair.¹¹⁶ The lines that described Athena's transformation of Odysseus upon the occasion of his encounter with Nausicaa are repeated in a nearly identical form: "As when a man overlays silver with gold, a cunning workman whom Hephaestus and Pallas Athena have taught all sorts of craft, and full of grace is the work he produces, just so the goddess shed grace on his head

¹¹⁵ "τέκνον ἐμόν, θυμός μοι ἐνὶ στήθεσσι τέθηπεν, / οὐδέ τι προσφάσθαι δύναμαι ἔπος οὐδ' ἐρέεσθαι / οὐδ' εἰς ὧπα ιδέσθαι ἐναντίον. εἰ δ' ἔτεδον δὴ / ἔστ' Ὀδυσσεὺς καὶ οἶκον ἰκάνεται, ἦ μάλα νῶϊ / γνωσόμεθ' ἀλλήλων καὶ λώϊον: ἔστι γὰρ ἡμῖν / σήμαθ', ἃ δὴ καὶ νῶϊ κεκρυμμένα ἴδμεν ἀπ' ἄλλων." *Od.* 23.105-110. Trans. A. T. Murray.

¹¹⁶ μείζονά τ' εἰσιδέειν καὶ πάσσονα, καὶ δὲ κάρητος / οὔλας ἦκε κόμας, ὑακινθίνῳ ἄνθει ὁμοίᾳς. *Od.* 23.157-58. Cf. the same lines in the scene in which Athena transforms Odysseus for Nausicaa, *Od.* 6.230-31.

and shoulders.”¹¹⁷ Odysseus is now ready. He resumes his seat opposite Penelope, tells her that her heart is of iron, and—apparently incidentally—asks Eurycleia to spread him a bed (λέχος) on which to lie down for the night.¹¹⁸

Penelope picks up this cue and, in language now mirroring that of her husband, provokes Odysseus into providing the *sēma* of his identity. Apparently in the spirit of compromise, she asks Eurycleia to “spread for him the close-packed (πυκινὸν, *puknos*) bed (λέχος) outside the well-built (εὖσταθέος, *eustathēs*) inner room (θαλάμου, *thalamos*) which he made himself. There bring for him the close-packed (πυκινὸν) bed (λέχος), and throw upon it bedding, fleeces and cloaks and bright coverlets.”¹¹⁹ This seemingly casual mark provokes Odysseus to give a proud and indignant monologue of the kind that only a Greek epic hero can deliver:

Woman, truly this is a bitter word that you have spoken. Who has set my bed (λέχος) elsewhere? Hard would it be even for someone of great skill (ἐπισταμένῳ, *epistamai*), unless a god should come and easily of his own choice set it in another place. But of men there is no mortal that lives, however young and strong, who could easily pry it from its place, for a great token (σῆμα, *sēma*) is worked into the making of the curiously-wrought (ἀσκητῷ, *askētos*) bed, and it was I that built it and no one else. A bush of

¹¹⁷ ὥς δ' ὅτε τις χρυσὸν περιχεύεται ἀργύρῳ ἀνὴρ / ἴδρις, ὃν Ἥφαιστος δέδαεν καὶ Παλλὰς Ἀθήνη / τέχνην παντοίην, χαρίεντα δὲ ἔργα τελείει: / ὥς μὲν τῷ περίχευε χάριν κεφαλῇ τε καὶ ὤμοις. *Od.* 23.159-61. Trans. A. T. Murray. Cf. the nearly identical lines at: *Od.* 6.232-35.

¹¹⁸ ἀλλ' ἄγε μοι, μαῖα, στόρεσον λέχος, ὄφρα καὶ αὐτὸς / λέξομαι: *Od.* 23.171-72.

¹¹⁹ ἀλλ' ἄγε οἱ στόρεσον πυκινὸν λέχος, Εὐρύκλεια, / ἐκτὸς εὖσταθέος θαλάμου, τόν ῥ' αὐτὸς ἐποίει: / ἔνθα οἱ ἐκθείσαι πυκινὸν λέχος ἐμβάλετ' εὐνήν, / κώεα καὶ χλαίνας καὶ ῥήγεα σιγαλόεντα.”*Od.* 23.177-80. Trans. A. T. Murray (modified where the Greek is given).

long-leaved olive was growing within the court, strong and vigorous, and in girth it was like a pillar (κίων, *kiōn*). Round about (ἀμφιβαλὼν, *amphi-ballō*) this I built my chamber, till I had finished it, with close-set (πυκνήσιν, *puknos*) stones, and I roofed it over well, and added to it folding doors, close-fitting (πυκινῶς ἀραρυίας, *puknos + arariskō*). Thereupon I cut away the leafy branches of the long-leaved olive, and, trimming the trunk from the root up, I smoothed it round about with the adze well and skillfully (ἐπισταμένως, *epistamenōs*), and trued it to the line, thus fashioning the bedpost; and I bored it all with the augur. Beginning with this, I made smooth the timbers of my bed, until I had it done, inlaying (δαιδάλλων, *daidallō*) it with gold and silver and ivory, and I stretched on it a thong of oxhide, bright (φαεινόν, *phaeinos*) with purple. Thus do I declare (πιφάυσκομαι, *piphauskō*) to you this token (σήμα, *sēma*); but I do not know, woman, whether my bedstead (λέχος) is still fast in its place, or whether by now some man has set it elsewhere, cutting through the trunk of the olive.¹²⁰

¹²⁰ “ὦ γύναι, ἦ μάλα τοῦτο ἔπος θυμαλγὲς ἔειπες: / τίς δέ μοι ἄλλοσε θῆκε
λέχος; χαλεπὸν δέ κεν εἶη / καὶ μάλ’ ἐπισταμένῳ, ὅτε μὴ θεὸς αὐτὸς ἐπελθὼν /
ῥηϊδίως ἐθέλων θεΐῃ ἄλλῃ ἐνὶ χώρῃ. / ἀνδρῶν δ’ οὐ κέν τις ζωὸς βροτός, οὐδὲ
μάλ’ ἡβῶν, / ῥεῖα μετοχλίσσειεν, ἐπεὶ μέγα σῆμα τέτυκται / ἐν λέχει ἀσκητῷ: τὸ
δ’ ἐγὼ κάμον οὐδὲ τις ἄλλος. / θάμνος ἔφυ τανύφυλλος ἐλαίης ἔρκεος ἐντός, /
ἀκμηνὸς θαλέθων: πάχετος δ’ ἦν ἡύτε κίων. / τῷ δ’ ἐγὼ ἀμφιβαλὼν θάλαμον
δέμον, ὄφρ’ ἐτέλεσσα, / πυκνήσιν λιθάδεσσι, καὶ εὖ καθύπερθεν ἔρεψα, /
κολλητὰς δ’ ἐπέθηκα θύρας, πυκινῶς ἀραρυίας. / καὶ τότε ἔπειτ’ ἀπέκοψα
κόμην τανυφύλλου ἐλαίης, / κορμὸν δ’ ἐκ ῥίζης προταμὼν ἀμφέξεσα χαλκῷ /
εὖ καὶ ἐπισταμένως, καὶ ἐπὶ στάθμην ἴθυνα, / ἐρμῖν’ ἀσκήσας, τέτρηνα δὲ
πάντα τερέτρω. / ἐκ δὲ τοῦ ἀρχόμενος λέχος ἔξεον, ὄφρ’ ἐτέλεσσα, /
δαιδάλλων χρυσῷ τε καὶ ἀργύρῳ ἥδ’ ἐλέφαντι: / ἐκ δ’ ἐτάνυσσα ἱμάντα βοὸς
φοίνικι φαεινόν. / οὕτω τοι τόδε σῆμα πιφάυσκομαι: οὐδέ τι οἶδα, / ἦ μοι ἔτ’
ἔμπεδόν ἐστι, γύναι, λέχος, ἦέ τις ἤδη / ἀνδρῶν ἄλλοσε θῆκε, ταμὼν ὕπο

Whether Odysseus has been as cunning as Penelope in setting up and delivering this *sēma* of his identity, or whether this is a genuinely outraged outburst, we will never know. What is clear is that this is the *sēma* that we, and Penelope, have been waiting for. It has already been anticipated several times in preparation for this moment: the word *sēma* is used when Penelope recognizes Odysseus' description of the brooch;¹²¹ Eurycleia, likewise, used the word in describing to Penelope an identifying scar she saw on Odysseus' leg;¹²² and finally Penelope, as we just saw, used the word in responding to Telemachus in the preceding scene.¹²³ And, as if there were any doubt, Odysseus uses the word twice in this speech.

Immediately after Odysseus' speech, Penelope's "knees (γούνατα, *gonu*) and dear heart (ἦτορ, *ētor*) were loosened (λύτο, *luō*) right there, as she recognized the immovable (ἔμπεδα, *em-pedos*, "in the ground, firm-set, certain" signs (σήματ', *sēma*) that Odysseus showed her."¹²⁴ She then liquefies completely, bursting into tears, then binds her arms around his neck and kisses his forehead.¹²⁵ Odysseus weeps also, and some thirty lines later, his wife "still did not loosen her white arms at

πυθμέν' ἐλαίης." *Od.* 23.183-204. Trans. A. T. Murray, modified at ἐπισταμένως from "cunningly." The phrase "curiously wrought" as a translation for ἀσκητῶ, which Murray omitted in his translation, has also been added.

¹²¹ σήματ' ἀναγνούση τά οἱ ἔμπεδα πέφραδ' Ὀδυσσεύς. *Od.* 19.250.

¹²² ἀλλ' ἄγε τοι καὶ σήμα ἀριφραδὲς ἄλλο τι εἶπω, *Od.* 23.73.

¹²³ ἔστι γὰρ ἡμῖν / σήμαθ', ἃ δὴ καὶ νῶϊ κεκρυμμένα ἴδμεν ἀπ' ἄλλων." *Od.* 23.109-10.

¹²⁴ τῆς δ' αὐτοῦ λύτο γούνατα καὶ φίλον ἦτορ, / σήματ' ἀναγνούση τά οἱ ἔμπεδα πέφραδ' Ὀδυσσεύς: *Od.* 23.205-6.

¹²⁵ δακρύσασα δ' ἔπειτ' ἰθὺς δράμεν, ἀμφὶ δὲ χεῖρας / δειρῇ βάλλ' Ὀδυσσῆϊ, κάρη δ' ἔκυσ' ἠδὲ προσηύδα: *Od.* 23.207-8.

all” from around his neck.¹²⁶ Although there is still one book left in the *Odyssey*, the story is essentially complete: Odysseus is home. The *Odyssey*, which is fundamentally about Odysseus’ struggles in search of being reunited, re-articulated with his wife, home, and position of power, mirrors the *Iliad* in the sense that the other epic is about Achilles’ wrath and his subsequent alienation (or disarticulation) from the Achaeans. Just as disarticulation, in Homer, marks injury to a being—and, in classical times, illness in a body—the disarticulation of a Homeric hero from his rightful place among his people suggests that something is amiss in the social and political realms. In both stories the re-articulation of the hero into his proper social fabric marks a happy ending.

A *sēma* is a verbal or material sign or token, which, known to another person, allows for recognition. In facilitating the reunion of Odysseus and Penelope, this *sēma* acts to join, to forge their bond, to make husband and wife like two halves of a *sumbolon* from Aristophanes’ story. But in the telling of this *sēma*, Homer allows Odysseus to do something that no other Homeric craftsman does—to describe his own process of making something. In describing his work, Odysseus uses language and images suggestive of the realm of *daidala*. The chamber is hollow, a protective surface and envelope, having been thrown around (ἀμφιβαλὼν, *amphi-ballō*) the olive bush. It is built out of close-set (πυκνήσιν, *puknos*) stones.¹²⁷ The doors are described with the verb *arariskō* (ἀραρυίας). Odysseus mentions his skill or cunning (ἐπισταμένως, *epistamenōs*) in describing how he made the bedpost by resolving the irregular into the straight—that is, by trimming the trunk, smoothing it with the adze,

¹²⁶ δειρῆς δ’ οὐ πω πάμπαν ἀφίετο πήχεε λευκῷ. *Od.* 23.240. Trans. A. T. Murray.

¹²⁷ *Puknos* describes particles or parts of a thing that are closely packed or dense, such as foliage, a sheep’s wool, a group of warriors, or movements in close succession; and when it describes someone’s mind it means “cunning.” See, for example, ἐμοὶ πυκινὰ φρονέοντι. *Od.* 9.445.

and truing it to the line. But the triumph of this passage is the verbal participle δαιδάλλων (*daidallō*). This is the only use of the *daidal-* root as a verb in the *Odyssey* and only one of two in all of Homer—the other being used in a similarly heated passage describing Hephaistos’ crafting of Achilles’ shield. And it appears in Odysseus’ final statement, before he exclaims with a flourish, “thus do I declare (πιφάυσκομαι, *piphauskō*) to you this *sēma*.” It is worthwhile to note that the verb *piphauskō*, “manifest, made to shine, declare,” has a visual, physical meaning before it names, by association, a speech act. Odysseus is not so much describing the *sēma* as revealing it.

All of these details contribute to the sense of this passage, and to the significance of Penelope’s knees being loosened (λύτο γούνατα) when after her arduous, hardening trials she finally softens, completely recognizes Odysseus, and becomes ready to be reunited with him. It is fitting that this final threshold on Odysseus’ journey home, into his wife’s arms and their marital bedroom, is constructed both as a barrier (a wall, the doors) and a solution (the bed, and again, the doors) in the form of a sign that Odysseus himself literally embedded in its making. Since it was unseen and unknown to anyone else besides Odysseus, Penelope, and their one handmaid, when Odysseus makes the *sēma* shine its effect on her is just as irrefutable as the effect of Achilles’ gleaming armor on his comrades and enemies.¹²⁸

* * *

¹²⁸ Their marital bed, built from a great olive tree rooted into the ground, is also the only *daidalon* in Homer described as emphatically and fundamentally immobile (although Nausicaa’s bedroom, one would assume, is also stationary). Unlike Achilles’ dangerously mobile old armor, which Patroclus wears but ultimately cannot fit, the meaning of Odysseus’ bed is fixed, true, and literally rooted in the earth.

We have seen that *daidala* are powerful. Whether we describe their uses through the notion of “powers,” or through that of “functions,” risking anachronistic associations with modern architectural “functionalism,” the ability of *daidala* and other articulate objects to act, to lend certain abilities to humans, is at the core of why these objects are important for our investigation into the origins of architecture. These objects allow us to see that from the beginning of the western tradition, crafted objects had special powers to protect, reassure, and seduce; to provide an identity; and to facilitate an experience of, or connection to, the larger forces in the world. And are these not the symbolic functions of architecture, even today? In this sense, although Frontisi-Ducroux and Morris analyze *daidala* as the first “works of art” in the western tradition, at the beginning these objects are less works of art—at least in terms of what art means today—and closer to what we know as works of architecture.

And there is evidence that the Greeks may have thought about their buildings in a similar manner: thin-hammered metal plates have been found near proto-temples and other Dark Age ceremonial buildings, and the points of connection where these plates were fastened to the outside of these structures can be traced. It is not difficult to imagine that these plates, with their gleaming appearance like a warrior in full armor or a woman dressed in finery, were used to help transform these structures into *thaumata idesthai*, as points of worship, symbolically protecting a community while acting as a portentous warning to its enemies.¹²⁹ And at the height of classical Greece, the temple of Athena Nike at the Athenian acropolis, for example, was no minimalist work in white stone, but brightly painted, stuffed with miscellaneous war booty and other glittering valuables on the inside, and on the outside, likely hung with—among other things—the shields of vanquished enemies on the outside.¹³⁰

¹²⁹ Jones (forthcoming). I am grateful to Mark Wilson Jones for providing access to his manuscript.

¹³⁰ Lippman, Scahill, and Schultz 2006.

To return to the realm of myth, there is also Daidalos, who was first named in the *Iliad* as the maker of the cunning dancing floor depicted on Achilles' shield, and who would later become known as the first architect. In its origins, what we would now call architecture seems to have been closely bound up with the constellation of meanings surrounding *daidala* and other articulate crafts. But the meaning of *daidala* will begin to change soon after Homer; as we saw in this chapter, even in Hesiod a shift is apparent. As Frontisi-Ducroux has found, whereas in Homer and particularly in the *Iliad* (the earlier epic), *daidala* were essentially wondrous objects that inspired religious awe and fear, a *daidalon* later became closer to an image, something more firmly within the realm of human *technē* and closer to a work of "art."¹³¹ At the same time, the language and ideas surrounding articulation in a wider sense still existed and retained many of their powers, but also began to engage and accommodate other ideas, such as proportion.

Throughout Part One, I laid emphasis on the notions of being and crafting. My aim has been to demonstrate how, in early Greek culture, there was a coherent and powerful notion of articulation that fundamentally connected what today we call the "body" and "architecture." But as we witnessed the exchanges between gods, goddesses, men, and women—whether on the fields of Troy, in distant lands, or at home—we were also learning about the patterns and norms of social life in early Greece. As we watched Hector beg, not for his life to be spared but for his corpse to be returned to his parents to be burned; as Hephaistos dutifully crafted armor for Thetis, because she took him in as a baby; as Hera seduced her husband Zeus to distract him from the Trojan war; and as Penelope's recognition of Odysseus concluded the *Odyssey* by reintegrating him into his rightful place in his household; we also learned that for the early Greeks, social life was always—as it is for us—political.¹³² Chapter Four, which opens Part Two and our discussion of the origins of

¹³¹ Frontisi-Ducroux 1975, 78-79.

¹³² See Cartledge 1998, 1-2, Hammer 2003.

proportion, will lay emphasis on what was present, but not explicit, in Part One: the organization of political life in archaic and classical Greece. This organization, I will argue, largely had to do with the distribution of portions of wealth, honor, and political privilege; and in these matters, which were so crucial to the Greeks, we find the earliest ideas on proportion.

PART TWO: PROPORTION

Chapter Four: Portioning

In Part One, we looked at the language and concepts of articulation as they appear in archaic Greece, primarily in Homer. I argued that articulation was not just—and perhaps not at all—a kind of straightforward or tautological notion that things are composed of joined parts. In so doing, my aim was to demonstrate that articulation had to do not only with connections, cohesiveness, and order in a way that spoke about the work of craft, but that it also—and with equal priority and force—enacted a whole host of ideas describing the strength, vitality, mobility, preparedness, beauty, and cunning of actions, events, mortal beings, and gods. These ideas permeated the early Greeks’ sense of themselves and their worlds—and, in the sense that this linguistic and conceptual terrain framed a coherent way of understanding many of the most important things in their lives, I suggested that the notion of articulation was central to the early Greek worldview.

This worldview doesn’t disappear; its presence is strongly felt throughout the archaic and classical texts examined in this dissertation. And of course, the words for articulation remain, their etymological heritage imprinted on the Greek language as well as many others to follow, including our own. But the potency and singular intensity of these ideas slacken, and there gradually develops a sense of a hierarchy—or at least a distinction—between “literal” and “metaphorical,” or material and non-material, meanings. It is impossible to point to a definitive reason for this shift, which begins as early as Hesiod and other early texts after Homer. But certainly the development of literacy and the formation of the *polis*—which, taken together,

changed pretty much everything—were related.¹ Although this is necessarily an oversimplification of a long, complex, and little understood process, in general we can say that as far as we know, the introduction of literacy meant that the performance of poetry was no longer governed by the process of arranging fixed traditional lines in sequence.² This, in turn, allowed for adjectives and nouns to become unbound from their traditional epithets, giving way for a sudden expansion in the power of poetic description, as Anne Carson has observed in her reading of Stesichorus.³ Similarly, the widening of descriptive and analytical tools that came about through the ability to save, transmit, and review texts over time and across distances made possible texts such as those of the Hippocratic corpus—which are among the earliest extant documents in prose,⁴ and which comprise an important part of the early discussion of proportion in health and illness and in ideas about the natural world.

Looking towards practices of the classical *polis*, we can see that in terms of war, Homeric ideas about standing firm with one's allies, interlocking shields, and protecting the man next to oneself became formalized and ritualized in hoplite warfare with its fixation on both the articulation and the specific arrangement of the phalanx. At approximately the same time,⁵ the monumental Doric style of building was developed, with the stonework and layout of temples becoming precisely measured and proportioned. Classical temples offer some of the most impressive and

¹ For an introduction to this complex issue, see Harris 1989, Ong 2002.

² See Thomas 1992. The groundbreaking, and now classic, work of Milman Parry can be found in Parry 1971.

³ Carson 1998, 4-8.

⁴ Lonie 1983. See also Miller 1990.

⁵ As mentioned in Chapter Three, Doric temples appear to have been developed sometime during the 7th century BCE, and hoplite warfare seems to have been a product of the first half of this same century.

lasting evidence of sophisticated uses of proportion, but they also attest—in the adjustments that ever so slightly, and carefully, shifted their measurements away from regularity—to how much proportion mattered to them not as a pragmatic or instrumental technique, but as an end in itself. In Vitruvius’ account of the design of temples, the purpose of optical adjustments was to make up for the weaknesses of human perception. It is not a stretch to suggest that these adjustments may have been a means for monumentalizing proportion as something of which humans can partake, with tremendous effort and in our limited way—but which remains at the same time greater than we are, just out of reach.

In this chapter, we will look at the organization of political life to see how the distribution of portions, and therefore proportion, facilitate the articulation of the social and political realm. We will start by examining the gift economy of the Homeric elite, and in particular the dual system of equal shares and special prizes that governed the distribution of *timē*, or honor and payment. The breakdown of this system in the conflict between Achilles and Agamemnon allows for a close look at how Homeric society was held together with fluid, constantly negotiated—and proportioned—bonds, and at what happened when these bonds were loosened. We will also look at the notion of an “equal feast (*dais eîsē*),” a Homeric term exemplifying conviviality and harmonious communality, alongside later discussions from Archytas and Plato on how to best proportion wealth, privileges, and honors; and in so doing, we will catch glimpses of the earliest discussions of numeric or mathematical (as opposed to relative) proportion. This chapter will then close by examining the rituals that underline the Greek tradition of feasting—that is, animal blood sacrifice—in order to see how the disarticulation and re-articulation of the animal body, and the distribution of portions, served to bind individuals, whether in the societies of the Homeric world, or the classical *polis*.

The question of “the body” is then taken up in Chapter Five, which examines how the medicalized human body and the *polis*, as a political body, are equally subject to order and strife, or health and illness. What allows us to identify these entities as

bodies is the way in which classical Greeks begin to use the notion of *kosmos*.

Kosmos, in Homer, refers to a kind of deliberate or crafted order, an arrangement of parts which is both beautiful and just, but in classical times it also describes a kind of natural order found in the body, and eventually, in the “universe” itself. The classical body emerges as something with its own *kosmos*, as something which can be sick or healthy according to its own logic or nature (*phusis*). I will describe how this logic of the body depends on the notion of a “good mixture,” which in turn is defined by both articulation and proportion. Alongside a consideration of how food and regimen are used to maintain this good mixture in the human body, we will look at the role of both sacrifice and another dining institution—the *symposium*, which I will describe as the mirror image of sacrifice—in the ordering of the political body. Chapter Five will then close with a return, once more, to hoplite warfare, in order to consider how a hoplite phalanx constructs the body of the *polis*.

In Chapter Six, after a brief look at Empedocles in order to lay some necessary groundwork, this dissertation will end with Plato’s presentation of mathematical proportion, primarily in the *Timaeus*. This is a good place to end because, in describing the crafting of the *kosmos* or universe as a kind of body—albeit a perfect body and therefore also a kind of non-body—Plato states that proportion is a bond. That is, rather than being similar to, coinciding with, or enabling states of articulation, proportion for Plato becomes, for the first time, explicitly equated with articulation and becomes that which harmonizes the *kosmos*. For the history of architectural theory, what is perhaps even more important is the fact that in telling this story, Plato also describes mathematical proportion as a tool and strategy of the craftsman, as the means through which the most perfect creator establishes the *kosmos* of the universe and of our own bodies and souls. In this, we have the earliest extant, but also one of the most thorough and influential, statements on the centrality of proportion in craft, and it is this argument that appears again and again, in different forms, in Vitruvius and in architectural theories throughout the western tradition.

But let's return to the matter at hand—that is, to Homer, and to the earliest discussions of proportion, which occur not in descriptions of craft, the body, or the natural world, but in depictions of social and political life.

Shares and Prizes

Timē, or honor and value, was not an abstract notion in the Homeric world; it was visceral and irrefutable, like the fearful luminosity of a god or the variegated clanging of a warrior's bronze. In Chapter Two, we saw that *daidala* were prestige objects in the elite economy of exchange, but this was just part of a wider exchange of valuables that also included crafted objects, fine cuts of meat, and women. Acquired and exchanged as war booty, ransoms, prizes, and gifts, what these entities shared was their value as signs of *timē*. As T.O. Beidelman observes, "one knew one's rank and standing by knowing with whom one received and gave women, with whom one exchanged gifts and hospitality, what was bestowed to one from others as rewards, and with whom one contended in war and sport."⁶

In Homer, *timē* was not for sale. It was generated and exchanged through agonistic encounters among gods and elite mortals, in a kind of economy separate from the economies of necessities such as everyday food, clothing and other objects that, even if expensive, could be traded with merchants—or later, purchased through coin currency.⁷ For example, as Jonathan Ready argues, in order for spoils of war to bestow *timē* upon their owner, they were circulated through a ritual of exchange: warriors deposited their booty *es meson* or into a common lot and, as in sacrifice, a

⁶ Beidelman 1989, 231-32. See also Reiss 2003, 85.

⁷ Although Homer does not necessarily present a balanced view of exchange in his time, the available evidence makes it clear that both gift and trade economies were important. von Reden 1999.

portion was set aside for the gods before the rest was re-distributed amongst the men under the leadership of a chief. This redistribution, accompanied by public praise, allowed for each warrior to be recognized through a standard portion, or *moira*, and for the best men to also be specially rewarded with a *geras* or prize. Later in this chapter, we will see that the terms *moira* and *geras*, and more generally this dual system of equal and proportioned shares, are precisely the same in the rituals of sacrifice.⁸ Because a *geras* was a “gift of honor or reward” but also a “privilege or prerogative of chiefs and nobles,” and because *timaō* was both to “to pay” and “to honor,” payment was inseparable from honor and privilege.

Book One of the *Iliad* leaves little doubt as to the importance of these exchanges. We find that Agamemnon has refused one of Apollo’s priests, Chryses, in his offer of a generous ransom for his daughter, who was captured in war and claimed by Agamemnon as his *geras*. Outraged, Chryses prays to Apollo, invoking his long service of sacrifices to the god in the same breath that he asks for vengeance, and Apollo heeds his request by raining a plague, via his arrows, upon the Achaeans for nine days.⁹ There is no doubt among the Achaeans that the plague, like everything else, has a divine origin: rather than seeking a healer, they consult a seer to learn how to placate the god. The seer reveals that Apollo’s priest has been dishonored (ἡτίμησ’, *atimaō*) by Agamemnon,¹⁰ who agrees to return the girl while demanding compensation: “But for me make ready a *geras* (γέρας) at once, so that I may not be the only one of the Argives without a *geras* (ἀγέραστος, *a-gerastos*), since that is not right.”¹¹ Underlining the public nature of the *timē* attendant to a *geras*, he adds:

⁸ Ready 2007, 38. See also Detienne 1989, 13.

⁹ *Il.* 1.36-53. See Holmes 2005, 15

¹⁰ ἀρητήρος ὃν ἡτίμησ’ Ἀγαμέμνων, *Il.* 1.94.

¹¹ αὐτὰρ ἐμοὶ γέρας ἀντίχ’ ἐτοιμάσατ’ ὄφρα μὴ οἶος / Ἀργείων ἀγέραστος ἔω, ἐπεὶ οὐδὲ ἔοικε: *Il.* 1.118-119. Trans. A. T. Murray. Agamemnon agrees to return the girl at: ἀλλὰ καὶ ὥς ἐθέλω δόμεναι πάλιν εἰ τό γ’ ἄμεινον: *Il.* 1.116.

“for you all see (λεύσσετε, *leussō*, see, behold) this, that my *geras* (γέρας) goes from me elsewhere.”¹² At this, Achilles reminds Agamemnon that there is no “wealth laid up in common store,”¹³ that all the booty has been divided (δέδασται, *dateomai*, to divide up, cut asunder)¹⁴ and that “it is not right to take this back from the men.”¹⁵ He suggests that Agamemnon’s compensation be deferred until they sack Troy, when he promises that the Achaeans will compensate him “threefold and fourfold.”¹⁶ This is not enough for Agamemnon, who retorts: “Let the great-hearted Achaeans give me a *geras* (γέρας), fitting (ἄρσαντες, *arariskō*) it to my *thumos* (θυμὸν) so that the recompense is equal (ἀντάξιον, *antaxios*)! But if they do not give it, then I will come myself and take your *geras* (γέρας), or that of Aias, or...Odysseus.”¹⁷ With a dark combination of prescience and haste, he adds, “Angry will he be, to whomever I come. But of these things we will take thought later on.”¹⁸

¹² λεύσσετε γὰρ τό γε πάντες ὃ μοι γέρας ἔρχεται ἄλλη. *Il.* 1.120. Trans. A. T. Murray. See also when Agamemnon provides gifts to Achilles to mend the rift, and Odysseus recommends that he place them *es meson*, such that “all the Achaeans may behold them with their eyes.” οἰσέτω ἐς μέσσην ἀγορήν, ἵνα πάντες Ἀχαιοὶ / ὀφθαλμοῖσιν ἴδωσι, *Il.* 19.173-74. Trans. A. T. Murray.

¹³ οὐδέ τί που ἴδμεν ξυνήϊα κείμενα πολλά: *Il.* 1.124. Trans. A. T. Murray.

¹⁴ ἀλλὰ τὰ μὲν πολίων ἐξεπράθομεν, τὰ δέδασται, *Il.* 1.125.

¹⁵ λαοὺς δ’ οὐκ ἐπέοικε παλίλλογα ταῦτ’ ἐπαγείρειν. *Il.* 1.126. Trans. A. T. Murray.

¹⁶ ἀλλὰ σὺ μὲν νῦν τήνδε θεῶ πρόες: αὐτὰρ Ἀχαιοὶ / τριπλῇ τετραπλῇ τ’ ἀποτείσομεν, αἶ κέ ποθι Ζεὺς / δῶσι πόλιν Τροίην εὐτείχεον ἐξαλαπάξει. *Il.* 1.127-29. Trans. A. T. Murray.

¹⁷ ἀλλ’ εἰ μὲν δώσουσι γέρας μεγάθυμοι Ἀχαιοὶ / ἄρσαντες κατὰ θυμὸν ὅπως ἀντάξιον ἔσται: / εἰ δέ κε μὴ δώωσιν ἐγὼ δέ κεν αὐτὸς ἔλωμαι / ἢ τεδὸν ἢ Αἴαντος ἰὼν γέρας, ἢ Ὀδυσῆος / ἄξω ἐλών: *Il.* 135-39. Trans. A. T. Murray.

¹⁸ ὃ δέ κεν κεχολώσεται ὃν κεν ἴκωμαι. / ἀλλ’ ἦτοι μὲν ταῦτα μεταφρασόμεσθα καὶ αὖτις, *Il.* 159-40. Trans. A. T. Murray. The characters are keenly aware that

After giving up his own *geras*, Agamemnon sends two men to seize the girl, Briseis, who is Achilles' *geras*. At this, Achilles "burst into tears and drew apart from his comrades."¹⁹ Since the system of *moirai* and *gera* binds the warriors together, when Achilles' *geras* is confiscated these bonds are broken. Reminding his immortal mother, Thetis, that Zeus owes her a favor, Achilles asks that she appeal to him to punish the Achaeans on the battlefield. She obliges and Zeus concedes. Hera is immediately aware of what has transpired between her husband and Thetis, and is angry because she wants to see the Trojans suffer. Zeus rebukes her and tensions are running high at the dinner table of the gods before Hephaistos steps in, reminding Hera that it would be "ruinous work" if they should allow the affairs of mortals to disturb the pleasure of the gods' excellent feast (δαιτὸς, *dais*).²⁰ He pours her a cup of nectar,²¹ and in turn pours nectar for each of the other gods;²² Hera is placated and for the moment there is peace at the dinner table.

their *timē* is at stake. Achilles says: οὐδέ σ' οἴω / ἐνθάδ' ἄτιμος ἐὼν ἄφενος καὶ
πλοῦτον ἀφύξειν. *Il.* 1.170-71; Agamemnon retorts πάρ' ἔμοιγε καὶ ἄλλοι / οἳ κέ
με τιμήσουσι, *Il.* 1.174-75; and Achilles complains to his mother, μήτερ ἐπεὶ μ'
ἔτεκές γε μινυνθάδιόν περ ἐόντα, / τιμὴν πέρ μοι ὄφελλεν Ὀλύμπιος
ἐγγυαλίσσαι / Ζεὺς ὑψιβρεμέτης: νῦν δ' οὐδέ με τυτθὸν ἔτισεν: / ἦ γάρ μ'
Ἀτρεΐδης εὐρὺν κρείων Ἀγαμέμνων / ἠτίμησεν: ἐλὼν γὰρ ἔχει γέρας αὐτὸς
ἀπούρας. *Il.* 1.352-56.

¹⁹ αὐτὰρ Ἀχιλλεὺς / δακρύσας ἐτάρων ἄφαρ ἔζετο νόσφι λιασθείς, *Il.* 1.348-49.
Trans. A. T. Murray.

²⁰ ἦ δὴ λοίγια ἔργα τάδ' ἔσσεται οὐδ' ἔτ' ἀνεκτά, / εἰ δὴ σφὼ ἔνεκα θνητῶν
ἐριδαίνετον / ὧδε, / ἐν δὲ θεοῖσι κολῶν ἐλαύνετον: οὐδέ τι δαιτὸς / ἐσθλῆς
ἔσσεται ἦδος, *Il.* 1.573-76.

²¹ ὥς ἄρ' ἔφη καὶ ἀναΐξας δέπας ἀμφικύπελλον / μητρὶ φίλῃ ἐν χειρὶ τίθει *Il.*
1.584-85.

²² αὐτὰρ ὁ τοῖς ἄλλοισι θεοῖς ἐνδέξια πᾶσιν / οἰνοχόει γλυκὺ νέκταρ ἀπὸ
κρητῆρος ἀφύσσων: *Il.* 1.597-98.

In this remarkable opening sequence, a complex series of exchanges tumbles out, each following from the other, defining the conflicts of the *Iliad* that will play out through a dense network of favors, insults, friendships, and rivalries. Each dispute is at once political and social, and has everything to do with the order of the group as expressed in the distribution of war booty or the sharing of a meal. As old debts are called in and new ones incurred, the conflict widens and the plot is set in motion: Apollo is implicated when Chryses appeals to him over Agamemnon's refusal to ransom Chryseis; Zeus' wrath is brought into play by Agamemnon's dishonoring of Achilles, since Zeus is indebted to Achilles' mother, Thetis, for long ago intervening to defend his sovereignty from Hera, Poseidon, and Athena; Zeus' participation, in turn, angers his wife Hera, who harbored resentment against the Trojan Paris—and therefore, against all Trojans—for choosing Aphrodite over Hera and her as the most beautiful goddess.²³ And so on.

Achilles' first objection to Agamemnon, as I mentioned, was simply that what has been distributed cannot be reclaimed,²⁴ but as his wrath expands, so do his criticisms. Let's look at their arguments more closely. After Agamemnon threatens to take Achilles' *geras*—"for which I toiled much, and the sons of the Achaeans gave it to me"²⁵—Achilles reminds him that the Achaeans are, in the first place, at war "in order that you might be glad, seeking to win *timē* (τιμὴν) for Menelaus and for you, bitch (κυνῶπα, *kunōpēs*, lit. dog-eyed) from the Trojans."²⁶ He then complains that:

Never do I have a *geras* (γέρας) equal (ἴσον, *isos*) to yours, when the Achaeans sack a well-peopled city of the Trojans; my hands bear the greater

²³ This incident with Paris/Alexander is alluded to at *Il.* 24.25–30.

²⁴ λαοὺς δ' οὐκ ἐπέοικε παλίλλογα ταῦτ' ἐπαγείρειν. *Il.* 1.126.

²⁵ ὃ ἔπι πολλὰ μόγησα, δόσαν δέ μοι νῆες Ἀχαιῶν. *Il.* 1.162. Trans. A. T. Murray.

²⁶ ἄμ' ἐσπόμεθ' ὄφρα σὺ χαίρης, / τιμὴν ἀρνύμενοι Μενελάῳ σοί τε κυνῶπα / πρὸς Τρώων: *Il.* 1.158–60.

part of tumultuous battle, but when the distribution (δασμὸς, *dasmos*) comes, your *geras* (γέρας) is far greater (πολὺ μείζον), while I go to my ships with some small thing, yet my own, when I have grown weary with fighting. Now I will go to Phthia, since it is far better to return home with my beaked ships, nor do I intend, while without honor (ἄτιμος, *a-timos*) here, to pile up goods and wealth for you.²⁷

At this, Agamemnon retorts, “I am not begging you to stay for my sake. With me are others that will do me honor (τιμήσουσι, *timad*),”²⁸ adding that while he will send Chryses back,

I will myself come to your hut and take the fair-cheeked Briseis, that *geras* (γέρας) of yours, so that you may well know how much mightier I am than you, and another too may shrink from declaring himself my equal (ἴσον, *isos*) and likening himself to me to my face.²⁹

While Achilles, enraged, pondered “in his *phren* (φρένα) and his *thumos* (θυμόν)”³⁰ whether to kill Agamemnon, Athena intervenes to restrain him, promising that “one day three times as many (τρὶς τόσσα) glorious gifts (ἀγλαὰ δῶρα) will be yours on account of this insult.”³¹ He obeys her, and limits himself to taunting Agamemnon with the warning that the Achaeans will suffer in battle without him, that “you will gnaw your *thumos* (θυμόν) within you in wrath that you did not at all pay (ἔτισας,

²⁷ *Il.* 1.163-71. Trans. A. T. Murray, modified where the Greek is provided.

²⁸ οὐδέ γ' ἔγωγε / λίσσομαι εἵνεκ' ἐμεῖο μένειν: πάρ' ἔμοιγε καὶ ἄλλοι / οἳ κέ με τιμήσουσι, *Il.* 1.173-75. Trans. A. T. Murray.

²⁹ ἐγὼ δέ κ' ἄγω Βρισηίδα καλλιπάρηον / αὐτὸς ἰὼν κλισίην δὲ τὸ σὸν γέρας ὄφρ' ἐὺ εἰδῆς / ὅσσον φέρτερός εἰμι σέθεν, στυγέη δὲ καὶ ἄλλος / ἴσον ἐμοὶ φάσθαι καὶ ὁμοιωθήμεναι ἄντην. *Il.* 1.184-87. Trans. A. T. Murray.

³⁰ *Il.* 1.193.

³¹ καί ποτέ τοι τρὶς τόσσα παρέσσειται ἀγλαὰ δῶρα / ὕβριος εἵνεκα τῆσδε: *Il.* 1.213-14. Trans. A. T. Murray.

tinō) the best of the Achaeans.”³² Nestor attempts to counsel both men, advising Agamemnon to let Achilles’ girl remain, “just as at the first the sons of the Achaeans gave her to him as a *geras* (γέρας),”³³ and cautioning Achilles to not “strive with a king...for it is no common (ὁμοίης) *timē* (τιμῆς) that is apportioned to (ἔμμορε, *meiromai*) a sceptered king to whom Zeus gives glory.”³⁴ But neither man backs down. After Achilles loses Briseis to Agamemnon, he withdraws from his comrades and cries to his mother: because he is the son of a goddess, he suggests, “*timē* (τιμῆν) surely ought the Olympian to have given into my hands, Zeus who thunders on high; but now he has paid (ἔτισεν, *tinō*) me not at all,”³⁵ complaining that Agamemnon “has dishonored (ἠτίμησεν, *a-timaō*) me, for he has taken away and holds my *geras* (γέρας) through his own arrogant act.”³⁶

Later in the *Iliad*, when the Achaeans are suffering and Agamemnon sends Odysseus, Phoenix, and Aias to make peace with Achilles, our hero has another opportunity to detail the source of his wrath. Bitterly, he observes that “an equal (ἴση, *isos*) portion

³² σὺ δ’ ἔνδοθι θυμὸν ἀμύξεις / χωόμενος ὃ τ’ ἄριστον Ἀχαιῶν οὐδὲν ἔτισας. *Il.* 1.243-44. Trans. A. T. Murray, modified at ἔτισας. Achilles reiterates this notion to his mother: γνῶ δὲ καὶ Ἀτρεΐδης εὐρὺ κρείων Ἀγαμέμνων / ἦν ἄτην ὃ τ’ ἄριστον Ἀχαιῶν οὐδὲν ἔτισεν. *Il.* 1.411-12.

³³ ἀλλ’ ἕα ὥς οἱ πρῶτα δόσαν γέρας υἱὲς Ἀχαιῶν: *Il.* 1.276. Trans. A. T. Murray.

³⁴ μήτε σὺ Πηλεΐδῃ ἔθελ’ ἐριζέμεναι βασιλῆϊ / ἀντιβίην, ἐπεὶ οὐ ποθ’ ὁμοίης ἔμμορε τιμῆς / σκηπτούχος βασιλεύς, ᾧ τε Ζεὺς κῦδος ἔδωκεν. *Il.* 1.277-279. Trans. A. T. Murray, modified at ἔμμορε.

³⁵ μήτερ ἐπεὶ μ’ ἔτεκές γε μινυνθάδιόν περ ἐόντα, / τιμῆν πέρ μοι ὄφελλεν Ὀλύμπιος ἐγγυαλίζαι / Ζεὺς ὑψιβρεμέτης: νῦν δ’ οὐδέ με τυτθὸν ἔτισεν: *Il.* 1.352-54. Trans. A. T. Murray.

³⁶ ἦ γὰρ μ’ Ἀτρεΐδης εὐρὺ κρείων Ἀγαμέμνων / ἠτίμησεν: ἐλὼν γὰρ ἔχει γέρας αὐτὸς ἀπούρας. *Il.* 1.355-56. Trans. A. T. Murray.

(μοῖρα, *moira*) has he who stays back, and he who wars his best, and in one (ἱή, *eis*) *timē* (τιμῇ) are held both the coward and the brave.”³⁷ He continues,

Twelve cities of men have I laid waste with my ships and by land I claim eleven throughout the fertile land of Troy; from all these I took treasures many and noble, and all would I bring and give to Agamemnon, this son of Atreus; but he, staying behind beside his swift ships, would take and apportion (δασάσκετο, *dateomai*) some small (παῦρα) part, but keep the most (πολλὰ).³⁸

Some thirty lines later, Achilles is still raging:

I have many possessions that I left on my ill-starred way here, and yet more I will bring from here, gold and ruddy bronze, and fair-girdled women and gray iron—all that fell to me by lot (ἔλαχόν, *lanchanō*); but my *geras* (γέρας)—he who gave it to me has taken it back in his arrogant pride, lord Agamemnon, son of Atreus.³⁹

Between these two statements, Achilles clearly identifies the source of his wrath in terms of proportion: his share is not big enough—whether in comparison with the larger *geras* of Agamemnon or the basic *moirai* of the other warriors—given the work that he does in battle.

Those who Fight in Front

What, then, is the appropriate share, of work and reward, for a chief? This question is addressed directly later in the *Iliad*, when Sarpedon tells Glaucus that they must fight

³⁷ ἴση μοῖρα μένοντι καὶ εἰ μάλα τις πολεμίζουσι: / ἐν δὲ ἱῇ τιμῇ ἡμὲν κακὸς ἡδὲ καὶ ἐσθλός: *Il.* 9.318-19. Trans. A. T. Murray, modified where the Greek is provided. See Harvey 1965, 101-2.

³⁸ *Il.* 9.328-33. Trans. A. T. Murray.

³⁹ *Il.* 9.364-69. Trans. A. T. Murray.

bravely so that their men can say, “Surely no inglorious men are these who rule in Lycia, our kings, and they eat fat sheep and drink choice wine, honey-sweet: but their might too is noble, since they fight among the foremost (πρώτοισι, *prōtos*) Lycians.”⁴⁰ Chiefs, therefore, earn their portions of privilege and honor by fighting among the *promachoi*, or “those who fight in front.” In Chapter Three we saw how bravery could be expressed either in the blazing *aristeia* of an individual hero or in the solidarity of a group. This opposition mirrors the distribution of portions of war booty or sacrificial meat: the equality of *moirai* emphasizes and forges the common bonds among men, while special *gera* recognize the worth of warriors who are literally outstanding, who stand and fight at the front of the group.

This opposition can also be found in descriptions of battle itself. On one hand, battle seems to be dominated by mass combat—by the efforts of the many who rally, who stand by one another, who are articulated as a group. On the other hand, we hear a great deal about the glamorous exploits of a handful of heroes. This apparent contradiction in Homeric descriptions of battle has been much analyzed.⁴¹ Is Homer taking poetic license? Is he presenting two spatial zones, or two temporal phases of the same battle? Does this reflect different historical periods in the development of styles of warfare, included in the poem through a mixture traditional phrases and later interpolations? Is this evidence that hoplite warfare existed, or was being developed, during Homer’s time? These questions are of more than literary interest: a comment from Aristotle sparked a thesis, much debated by modern historians, that whereas Homeric warfare was won and lost through the actions of individual heroes, the later

⁴⁰ *Il.* 12.318-21. Trans. A. T. Murray.

⁴¹ For an authoritative review of the debate, see Wees 1994.

introduction of hoplite warfare led to a weakening of the aristocracy at the expense of the majority, and therefore to the formation of the democratic *polis*.⁴²

While Homeric descriptions of warriors packing themselves together like “the wall of a high house with close-set stones,” or pressing “shield pressed on shield, helmet on helmet, and man on man,”⁴³ certainly describe a massed formation, there is nothing—as I argued in Chapter Three—to suggest orthogonal ranks. We simply see warriors joining as they press forward in their eagerness for war.⁴⁴ Further, while we see warriors in the *Iliad* joining before a battle, and periodically regrouping (or rearticulating, often around their leaders) to rally and push forward again, they do not seem to fight continuously in close formation. Instead, as Hans van Wees has demonstrated, the scenario most consistent with Homeric descriptions of battle is a fluid front: leaders with small groups of followers move forward to engage the enemy before falling back into the crowd—or even returning to camp—to rest, seek medical

⁴² For hoplites and the rise of power, see Aristotle, *Politics* 4.1297b16-22. Mitchell and Rhodes 1997, 26. See also: Wees 2004, 78, Detienne 1968, 147-48, Hanson 1995, 221-22. Wees argues against this popular view. Wees 1994, 2.

⁴³ ὥς δ' ὅτε τοίχον ἀνὴρ ἀράρη πυκνοῖσι λίθοισι / δώματος ὑψηλοῖο βίας
ἀνέμων ἀλεείνων, / ὥς ἄραρον κόρυθές τε καὶ ἀσπίδες ὀμφαλόεσσαι. / ἀσπὶς
ἄρ' ἀσπὶδ' ἔρειδε, κόρυς κόρυν, ἀνέρα δ' ἀνὴρ: *Il.* 16.212-15. Trans. A. T. Murray. Cf. *Il.* 13.130-35, 13.152

⁴⁴ For example, see οἱ δ' ἐπεὶ ἀλλήλους ἄραρον τυκτῆσι βόεσσι / βάν ῥ' ἰθὺς
Δαναῶν λελημένοι, *Il.* 12.105-6; or ἴσχον γὰρ πυργηδὸν ἀρηρότες, *Il.* 15.618. Wees makes this point at Wees 1994, 3. Tyrtaeus similarly exhorts men to “stand fast at one another’s side and fight, and do not start shameful flight or panic.”
μάχεσθε παρ' ἀλλήλοισι μένοντες, / μηδὲ φυγῆς αἰσχρῆς ἄρχετε μηδὲ φόβου,
Tyrtaeus frag. 10.15-16 West. Trans. Douglas E. Gerber. Wees 1994, 142.

help, fetch weapons, or deposit spoils.⁴⁵ The solidarity of the masses and the heroism of the individual do not sharply define two kinds of men: even the *promachoi* sometimes retreat into the group, and ordinary men also move for a time to the front, or have the front brought to them.

The common and contested space *es meson* or “in the middle” of the two armies is where important negotiations occur, where the *promachoi* of both sides mingle and join in *agōn*, where articulations are forged and loosened.⁴⁶ In the *Iliad*, *es meson* also qualifies the Achaeans’ informal meeting place (which, being described an *agora*, also anticipates the formal *agora* of classical times where citizens joined in argument and in solidarity to define their *polis*). It is a place held in common, a place where words, food, goods, and wounds are exchanged. So, for example, when Agamemnon brings his gifts for Achilles in order to heal their rift, Odysseus tells him

⁴⁵ Wees 1994, 4. This holds true throughout the *Iliad*. To take just one example, in the following passage there is enough space among the forefront fighters for Antilochus to step through the foremost fighters: τὸν δ’ ἶδεν Ἀντίλοχος μεγαθύμου Νέστορος υἱός, / βῆ δὲ διὰ προμάχων: *Il.* 5.565-66. We can also note that there seems to have been enough space and mobility at the front, at least at times, to seek out particular opponents to engage—which is convenient when the *timē* of a hero relies on the worth of those he fights.

⁴⁶ See, for example, Γλαῦκος δ’ Ἴππολόχοιο πάϊς καὶ Τυδέος υἱὸς / ἐς μέσον ἀμφοτέρων συνίτην μεμαῶτε μάχεσθαι. *Il.* 6.119-20. We can also observe that it is part of the particular economy of Homeric warfare that each of these four things—deaths, wounds, gifts, and honor—can be traded for the others: in her study of the expression of pain, in the *Iliad*, through the imagery of weapons and blood, Brooke Holmes has found that in the language of the poem, pains and deaths become interchangeable, allowing Chryses’ tears to be traded for the destruction of warriors by plague, and for deaths of Achaeans to stand in for violence against Agamemnon himself. Holmes 2007, 47-48.

to place the goods “in the middle (ἐς μέσσην, *es meson*) of the place of gathering (ἀγορὴν, *agora*), so that all the Achaeans may see them with their eyes.”⁴⁷ As Detienne points out, this placement of the goods is intended to repair the faulty circulation of gifts that first caused the crisis;⁴⁸ more generally, Detienne has also argued that the rituals of distributing prizes anticipated institutionalized law (which, in the classical *polis*, is enacted *es meson* in the *agora*), in terms of developing standardized procedures.⁴⁹

A peculiar negotiation *es meson* occurs when, during a particularly brutal battle, Glaucus (a Trojan) and Diomedes (an Achaean) “come together in the middle of the two armies, eager to fight.”⁵⁰ Diomedes, second in combat only to Achilles, has gone on a killing spree during his *aristeia* (excellence), and when he comes across Glaucus we are prepared for a bloody encounter. The men introduce themselves to each other with protracted and boastful accounts of their lineage—but when Glaucus speaks of his grandfather Bellerophon, Diomedes introduces a surprising turn of events. Recalling that his own grandfather once received Bellerophon as a guest for twenty days and exchanged gifts with him, he proclaims Glaucus his “guest-friend (ξείνος φίλος),”⁵¹ suggesting that they “shun one another’s spears”⁵² and exchange armor as

⁴⁷ τὰ δὲ δῶρα ἄναξ ἀνδρῶν Ἀγαμέμνων / οἰσέτω ἐς μέσσην ἀγορὴν, ἵνα πάντες Ἀχαιοὶ / ὀφθαλμοῖσιν ἴδωσι. *Il.* 19.172-74. Here, *agora* may also mean the gathered people themselves.

⁴⁸ Detienne 1996, 94-95.

⁴⁹ Detienne makes this case particularly in the context of the rituals of distribution in funeral games. Detienne 1996, 90-96.

⁵⁰ ἐς μέσον ἀμφοτέρων συνίτην μεμαῶτε μάχεσθαι. *Il.* 6.120.

⁵¹ τὼ νῦν σοὶ μὲν ἐγὼ ξείνος φίλος Ἄργεϊ μέσσω / εἰμί, σὺ δ’ ἐν Λυκίῃ ὅτε κεν τῶν δῆμον ἴκωμαι. *Il.* 6.224-25. Trans. A. T. Murray.

⁵² ἔγχεα δ’ ἀλλήλων ἀλεώμεθα *Il.* 6.226. Trans. A. T. Murray. Diomedes’ entire speech extends from *Il.* 6.216-31.

a show of friendship. Glaucus agrees and the two men shake hands and complete the exchange. In the next line, Homer wryly observes that Zeus must have taken away Glaucus' senses in allowing him to give his gold armor in exchange for bronze armor, "the worth of one hundred oxen for the worth of nine."⁵³ But in detailing Diomedes' brilliant *aristeia*, his fearful appearance, and the cunning he displays in abruptly turning the tables on Glaucus, Homer has also prepared us to accept that he will take the upper hand. It is an unusual exchange, but this proportioning of gifts to each man's worth is also what allows these two men to replace wounds with gifts, to forge a bond of friendship across the distance that separates them.

In Homer, the opposite of stepping forward as a hero on the battlefield, or as a speaker in the assembly, is the act of stepping back, of withdrawing from a battle, feast, or meeting and therefore from society. Nestor advises: "Neither let any man, trusting in his horsemanship and his valor, be eager to fight with the Trojans alone (οἶος) in front (πρόσθ', *prosthēn*) of the rest, nor yet let him draw back (ἀναχωρεῖτω, *ana-chōreō*); for so will you be the feebler."⁵⁴ When Achilles withdraws from battle, he disarticulates or cuts himself off from the rest of the Achaeans: "never did he go to the place of assembly (ἀγορὴν, *agora*), where men win glory, nor ever to war, but allowed his heart (κῆρ) to waste (φθινύθεσκε,

⁵³ ἔνθ' αὖτε Γλαύκῳ Κρονίδης φρένας ἐξέλετο Ζεὺς, / ὃς πρὸς Τυδεΐδην Διομήδεα τεύχε' ἄμειβε / χρύσεια χαλκείων, ἑκατόμβοι' ἐννεαβοίων. *Il.* 6.234-36. Trans. A. T. Murray.

⁵⁴ μηδέ τις ἵπποσύνῃ τε καὶ ἡγορέῃ πεποιθὼς / οἶος πρόσθ' ἄλλων μεμάτω Τρῶεσσι μάχεσθαι, / μηδ' ἀναχωρεῖτω: ἀλαπαδνότεροι γὰρ ἔσεσθε. *Il.* 4.303-5. Trans. A. T. Murray. This is not a description of an orthogonal phalanx; the following lines read "But whatever man from his own chariot can come at a chariot of the foe, let him thrust with his spear, since it is far better so." *Il.* 4.306-7. Trans. A. T. Murray.

phthinuthō) away, as he remained there.”⁵⁵ While nobody in the *Iliad* suggests that this behavior is unbecoming of a hero, as he is acting in defense of his confiscated *timē*, his withdrawal nonetheless constitutes a serious crisis. The resolution of this crisis does not happen all at once. One of the first steps occurs after Hephaistos has crafted Achilles’ new armor, and Achilles calls the Achaeans to gather in their *agora* (ἀγορὴν).⁵⁶ This gathering is particularly complete: wounded heroes come limping out of their tents, and even navigators and cooks—who Homer tells us would normally stay at the ships—come to the meeting place to see Achilles formally renounce his wrath.⁵⁷ But as the men prepare for battle, Achilles refuses to eat or drink with the others until he has killed Hector; and even after killing Hector, Achilles eats but still refuses to wash before he can give Patroclus his funeral. Homer gives us a careful description of the funeral: after a false start and some libations and prayers to the gods, Patroclus’ body burns, having been prepared in a manner akin to a sacrificial offering and surrounded by a full array of sacrificial objects.⁵⁸ In this way, Patroclus’ spirit is able to join the other shadows in Hades, and Achilles is a step closer to being restored to his place among the Achaeans.

Although the Trojan War will continue and Achilles will die in battle, the epic ends with the telling of Achilles’ full reintegration, or re-articulation, among the

⁵⁵ οὔτε ποτ’ εἰς ἀγορὴν πωλέσκετο κυδιάνειραν / οὔτε ποτ’ ἐς πόλεμον, ἀλλὰ φθινύθεσκε φίλον κῆρ / αὐθι μένων, *Il.* 1.490-92. Trans. A. T. Murray.

⁵⁶ *Il.* 19.45.

⁵⁷ *Il.* 19.42-46.

⁵⁸ He and his men cover Patroclus in hair they cut from their own heads; and Achilles kills four horses, two dogs, and twelve Trojan warriors, and set them on an enormous pyre, together with “many noble sheep and many sleek cattle” that they slay, wrapping Patroclus’ corpse in the fat and surrounding it with the flayed bodies and with jars of honey and oil. *Il.* 23.161-77. Trans. A. T. Murray. The entire description of the funeral extends from *Il.* 23.161-257.

Achaean—enacted, appropriately, by a just distribution of *timē*. As soon as the pyre is burnt and quenched, and Patroclus’ bones wrapped a second time in fat and buried by Achilles’ men, “Achilles stayed the men where they were, and made them sit in the wide assembly (ἀγῶνα, *agōn*).”⁵⁹ Immediately, he goes to his ships to bring out “cauldrons and tripods and horses and mules and strong oxen and fair-belted women and gray iron” to serve as prizes (ἄεθλα, *athlon*),⁶⁰ setting them out in order for the first, second, third, fourth, and fifth winners of the chariot race.⁶¹ Achilles announces that he will not compete, but will instead distribute prizes, and the rest of Book 23 is occupied with the funeral games: a chariot race, boxing, wrestling, a foot-race, armed combat, something like shot put, and archery. Under his leadership, the Achaeans come together in spirited *agōn*. Although one man uses his *mētis*⁶² at the turn of a chariot-race and is accused of cheating; another has his shining (φαίδιμα, *phaidimos*) *guia* give way underneath him as he is knocked out in boxing;⁶³ and yet another slips in cow manure to lose a footrace;⁶⁴ Achilles’ impeccable judgment, and the willingness of his comrades to negotiate within the bounds of social convention, ensure that the competitions solidify—rather than break—the bonds between them.

Achilles plays his rightful role of the magnanimous hero, presiding over the distribution of prizes with fairness, cunning, and generosity. For example, he awards a prize, unwon, to Nestor, since he is too old—that is, his *guia* (γυῖα) being no longer

⁵⁹ αὐτὰρ Ἀχιλλεὺς / αὐτοῦ λαὸν ἔρourke καὶ ἵζανεν εὐρὺν ἀγῶνα, *Il.* 23.257-58.

Trans. A. T. Murray.

⁶⁰ *Il.* 23.259-61. Trans. A. T. Murray.

⁶¹ *Il.* 23.262-70.

⁶² The incident occurs at *Il.* 23.417-41. His father, Nestor, urges him to use cunning at *Il.* 23.306-18. Μητίσασθαι (*mētiomai*, “to devise, contrive”) appears at *Il.* 23.312; μήτιν (*mētis*) at *Il.* 23.313; and μήτι (*mētis*) at *Il.* 23.315, 316, 318.

⁶³ αὐτοῦ γὰρ ὑπήριπε φαίδιμα γυῖα. *Il.* 23.691.

⁶⁴ *Il.* 23.773-76.

firm (ἔμπεδα)⁶⁵—to compete; and Nestor thanks Achilles for honoring (τετιμῆσθαι, *timaō*) him.⁶⁶ And Achilles presents the final two prizes, for the javelin, without a contest: the greater prize to Agamemnon and the lesser to Meriones (who in turn gave it to Agamemnon’s herald, Talthymbius).⁶⁷ Here, we are left to assume that this distribution, with praise for Agamemnon as “the best in power and in the casting of the spear,”⁶⁸ is Achilles’ way of ensuring that this chief among chiefs gets his share. After the games, the final book of the *Iliad* tells how Achilles receives the grieving Priam with gravitas, sharing a simple sacrifice with him before accepting ransom for Hector’s body; this act is the inverse of Agamemnon’s refusal to accept ransom for the girl Chryses, and marks the real end of the epic.

If the crisis and resolution of the *Iliad*, respectively, are marked by Achilles’ disarticulation and rearticulation to the social and political entity of the Achaeans, how is this entity characterized? I would suggest that Homeric social and political organization is constituted by networks of accumulated connections between individuals more than—as in the modern nation state or even the classical *polis*—by the delimitation of boundaries. Corroborating this is the fact that for Homeric Greeks, honor and security resided in one’s web of personal connections. Just as Achilles returns to the role of the hero by re-establishing bonds both among his own men and with the father of his slain enemy, Telemachus proves his manhood by forging guest-friendships with his father’s distant acquaintances, and Odysseus demonstrates his worth and diplomatic abilities in winning the friendship (and gifts)

⁶⁵ οὐ γὰρ ἔτ’ ἔμπεδα γυῖα φίλος πόδες *Il.* 23.627.

⁶⁶ τοῦτο δ’ ἐγὼ πρόφρων δέχομαι, χαίρει δέ μοι ἦτορ, / ὥς μεν αἰεὶ μέμνησαι ἐννέος, οὐδέ σε λήθω, / τιμῆς ἧς τέ μ’ ἔοικε τετιμῆσθαι μετ’ Ἀχαιοῖς. / σοὶ δὲ θεοὶ τῶνδ’ ἀντὶ χάριν μενοεικέα δοῖεν. *Il.* 23.647-50.

⁶⁷ *Il.* 23.889-94.

⁶⁸ ἦδ’ ὅσον δυνάμει τε καὶ ἡμασιν ἔπλεν ἄριστος: *Il.* 23.891. Trans. A. T. Murray.

of the exemplarily foreign Phaiacians. The society of the gods was similarly constituted, with constantly shifting ties of alliance and—as Achilles’ very existence, as the son of a goddess and a mortal, suggests—a lack of absolute boundaries. While Homeric Greeks fought together and shared a language, religion, and customs, Homer does not explicitly identify the “Greeks” as a group along these or other lines.⁶⁹ The Achaean forces were assembled from twenty-eight tribes, each consisting of a leader and his followers;⁷⁰ and the other chiefs recognized Agamemnon more as a chief among equals than as a ruler over subjects. Homeric society was organized as a network of individual bonds of allegiance and obligation, whether between equals or leaders and followers, close allies or distant guest-friends; it was not, fundamentally, organized by the delimitation of Greek from non-Greek, or of other boundaries between insiders and outsiders.

Equal Feasting

Let’s imagine that we are lucky enough to have been invited to a feast in the Homeric world. The animal—a pig, cow, or bull—has been brought to the hearth. Our host cuts a few hairs from its head and tosses them into the fire with a prayer to a particular god, or to the all the gods in general. The animal is killed, with a blow to the head or knife to the throat, the blood drained, and the carcass cut up. The thighbones, or perhaps a few bits of raw flesh from each limb, are wrapped in fat, sprinkled with wine or barley meal, and set in the fire as the offering. Some of the viscera might be tasted; after this, the rest of the meat is set on spits and roasted. Our host then divides the portions of meat among all the guests and offers a libation of

⁶⁹ The Trojan forces were also composed of several tribes; but, unlike the Achaean forces, they spoke a variety of languages—a fact which may symbolize a greater cohesion or sense of identity on the Achaean side. *Il.* 4.437-38.

⁷⁰ See the Catalogue of Ships at *Il.* 2.484-877.

wine. Bread is passed around and, enjoying the communal cheer of good company, we dine and drink until we are sated.

A few variations: The feast may be large or small, elaborate or humble. We may be a handful of men in a small hut, a crowd in a military camp, or a council of chiefs and elders in the great hall of one of our peers. We may dine on a single animal or a hecatomb (a hundred sacrificed cattle). We may be waited on by a team of servants or directly by our host. If we are of unusually high status, such as the peers of Agamemnon, Achilles, and Odysseus, and if the event marks an auspicious occasion and is carried out with particular joy and propriety under the approving eyes of the gods—or indeed if we are ourselves gods and goddesses, eating not for sustenance but purely for the pleasure of each others’ company and of sipping ambrosia and nectar from golden cups—our feast might be described as a *dais eĩsē*, an equal feast.⁷¹ In such cases, it seems fair to presume that the usual standard of equally distributing meat and wine is being carried out with punctilious care. Or, perhaps we are mortals and our host wishes to honor a particular guest, such as when Eumaeus honored (γέραιρεν, *gerairō*; this word is a cognate of *geras*) Odysseus, who was still in disguise, by offering him the long chine (νώτοισιν...διηνεκέεσσι, lit. the unbroken back-piece).⁷² With our shared knowledge of Homeric political gastronomy, we all recognize the “long chine” taken from the back of the animal as the best cut: wordlessly, our host bestows honor on the guest of his choosing with this special *geras*.

⁷¹ See *Il.* 1.468, 1.602, 2.431, 4.48, 7.320, 9.225, 15.95, 23.56, *Od.* 8.98, 11.185, and 19.425. Rundin 1996, 195.

⁷² νώτοισιν δ’ Ὀδυσῆα διηνεκέεσσι γέραιρεν / ἀργιόδοντος υἱός, κύδαινε δὲ θυμὸν ἄνακτος: *Od.* 14.437-38. See also ὥς φάτο, καί σφιν νῶτα βοὸς παρὰ πίονα θῆκεν / ὅππ’ ἐν χερσὶν ἐλὼν, τὰ ῥά οἱ γέρεα πάρεθσαν αὐτῷ. *Od.* 4.65-66.

In one instance in the *Iliad*, these last two circumstances are combined. When the Achaeans celebrate Ajax after his victory (a stalemate, to be precise, but both sides celebrated their warriors as victors) in single combat against Hector, Agamemnon slays a bull and his men enjoy an equal feast (δαιτὸς εἴσης, *dais eîsē*).⁷³ In the next line, Homer tells us that Agamemnon honored (γέραιρεν, *gerairō*) Ajax with the long chine.⁷⁴ We, as modern readers, might find this glaring inequality in an “equal feast” difficult to reconcile. Why did this not bother our Homeric counterparts? The Greeks were exquisitely sensitive to displays of honor, power, and privilege—and yet there is no suggestion that any of them were upset by this distribution.

We can find a clue for this puzzle in the word *isos*, from which the word *eîsē* in *dais eîsē*, or “equal feast,” derives. This word does not represent a generalized notion of equality: in Homer, *isos* relates to the specific kind of equality that comes with membership in a high status group of elite mortals or gods. The word *isos* is used when someone of a lower rank tries to attain a status equal to someone higher: Agamemnon takes Briseis from Achilles so that, in his words, “another may shrink from declaring himself my equal (ἴσον, *isos*) and likening himself to me to my face;”⁷⁵ Zeus is angry that Poseidon’s “heart does not hesitate at all to declare himself

⁷³ δαίνυντ’, οὐδέ τι θυμὸς ἐδεύετο δαιτὸς εἴσης: *Il.* 7.320. Rundin 1996, 195-6. In our minds the preceding fight may not be so much a victory as a stalemate, but when night falls and both men are still standing, the Achaeans and Trojans encourage the two to exchange gifts and both are treated as victors.

⁷⁴ νότοισιν δ’ Αἴαντα διηνεκέεσσι γέραιρεν / ἥρως Ἀτρεΐδης εὐρὺ κρείων Ἀγαμέμνων. *Il.* 7.321-22.

⁷⁵ στυγὴ δὲ καὶ ἄλλος / ἴσον ἐμοὶ φάσθαι καὶ ὁμοιωθῆμεναι ἄντην. *Il.* 1.186-87. Trans. A. T. Murray. Rundin 1996, 195.

the equal (ἴσον, *isos*) of me;”⁷⁶ and Apollo warns the mortal Diomedes “not to think on a par (ἴσ’ [i.e. ἴσα], *isos*) with the gods.”⁷⁷ Men of low standing were not “equal” to other men of low standing; instead, the equality of *isos* was that enjoyed by the particularly worthy, those who enjoyed and expressed (and insisted upon) this worth through, for example, the beauty and order of their feasts.

This negotiated and value-laden quality of *isos* is evinced through its meaning as both “fair” and “equal.”⁷⁸ Everyone agreed that even among peers, or equals, there might be some unequal distribution of honors, rights, or political powers: this was fair and *isos*. When Achilles first objects, he is objecting to Agamemnon’s abuse of his position in taking back what has already been allotted; he is not disputing Agamemnon’s right, in the first place, to perform his role as distributor of spoils and to retain the best *geras* for himself. Similarly, democrats in classical Athens—a *polis* which selected the 500 members of its *boulē* or council by random lottery—never applied this “equal” selection to certain specialized jobs: generals of the army were elected from among experienced soldiers, and treasurers had to have a certain amount of property. But the question of what kind of equality is fair was a central question in Athenian political life. Thucydides could therefore have Athenagoras say that democracy, which was generally assumed to represent “equality” or *isotēs*,⁷⁹ “is not intelligent or *isos* (ἴσον), but that those who have money are also those who are best at ruling.”⁸⁰ *Isotēs* is not always *isos*; equal is not necessarily fair.

⁷⁶ τοῦ δ’ οὐκ ὅθεται φίλον ἦτορ / ἴσον ἐμοὶ φάσθαι, *Il.* 15.166-67. Trans. A. T. Murray. See the similar words duly repeated by Iris: σὸν δ’ οὐκ ὅθεται φίλον ἦτορ / ἴσόν οἱ φάσθαι, *Il.* 15.182-83.

⁷⁷ μηδὲ θεοῖσιν / ἴσ’ ἔθελε φρονέειν, *Il.* 5.440-41. Trans. A. T. Murray. See also ἄλλ’ ὅτε δὴ τὸ τέταρτον ἐπέσσυτο δαίμονι ἴσος, *Il.* 5.438. Rundin 1996, 195.

⁷⁸ Harvey 1965, 118.

⁷⁹ See Harvey 1965, 102.

⁸⁰ Thucydides 6.39.1. Trans. F. D. Harvey. Harvey 1965, 102.

The Athenian system of democracy, founded on *isonomia* (equality in front of the law, equal or fair distribution) and *isotēs* for every citizen, had its share of opponents.⁸¹ Thucydides, Pericles, Plato, Aristotle, and Plutarch all criticize democratic equality, and they do so in surprising ways. For example, in the *Republic*, Socrates criticizes democracy for “assigning (διανέμουσα, *dia-nemō*, lit. to divide, apportion, distribute) a kind of *isotēs* (ἰσότητά) indiscriminately to equals (ἴσοις, *isos*) and unequals (ἀνίσοις, *anisos*) alike (ὁμοίως, *homoios*).”⁸² This is no simple statement, as it draws on proportional theories that we find originally in Archytas. Archytas—a Pythagorean, a friend of Plato, the undefeated general of Tarentum, and a mathematician who wrote about mechanics and music—described three kinds of proportion: arithmetic (ἀριθμητικά, *arithmētikos*), geometric (γεωμετρικά, *geōmetrikos*), and subcontrary or harmonic (ἁρμονικάν, *harmonikos*).⁸³ He defined the arithmetic mean as “when there are three terms which stand in the following relation to one another in proportion (ἀνὰ λόγον, *ana logon*): the first exceeds the second by the same amount as the second exceeds the third,”⁸⁴ such as 6, 4, 2, since $6 - 4 = 4 - 2 = 2$.⁸⁵ And, he says, “in this proportion (ἀναλογία, *analogia*) it is the case that the ratio (διάστημα, *diastēma*) between the larger terms is smaller, and that

⁸¹ For more on *isonomia*, see Vlastos 1953. Ehrenberg 1950.

⁸² ἰσότητά τινα ὁμοίως ἴσοις τε καὶ ἀνίσοις διανέμουσα. Plato *Republic* 558c. Trans. Paul Shorey Harvey 1965, 102-3.

⁸³ μέσαι δὲ ἐντι τρεῖς τῶι μουσικῶι, μία μὲν ἀριθμητικά, δευτέρα δὲ ἁ γεωμετρικά, τρίτα δ' ὑπεναντία, ἃν καλέοντι ἁρμονικάν. DK47b2.5-7.

⁸⁴ ἀριθμητικὰ μὲν, ὅκκα ἔωντι τρεῖς ὅροι κατὰ τὰν τοίαν ὑπεροχὴν ἀνὰ λόγον· ὧι πρῶτος δευτέρου ὑπερέχει, τούτῳι δεύτερος τρίτου ὑπερέχει. DK47b2.7-9. Trans. F. D. Harvey.

⁸⁵ Harvey 1965, 102.

between the smaller greater.”⁸⁶ In geometric proportion, “the first stands in the same relation to the second as the second to the third,”⁸⁷ such as 8, 4, 2, since $8 : 4 :: 4 : 2$.⁸⁸ Here, “the greater are in the same (*ison*) ratio (διάστημα, *diastēma*) as the smaller.”⁸⁹ Archytas also described the harmonic proportion, but it is more complicated and does not enter into classical discussions of politics.⁹⁰

It is worthwhile to take a glimpse at how proportions were represented in Euclid’s *Elements* (στοιχεῖα, *stoicheion*), which, although slightly later than Plato, provides our best approximation of the mathematics that would have existed during the latter part of his life, when he discusses proportion most avidly.⁹¹ Euclid’s arithmetic is

⁸⁶ καὶ ἐν ταύταις <ταῖς> ἀναλογίαις συμπίπτει ἡμεν τὸ τῶν μείζονων ὅρων διάστημα μείον, τὸ δὲ τῶν μειόνων μείζον. DK47b2.9-11. Trans. F. D. Harvey.

⁸⁷ ἂ γεωμετρικὰ δέ, ὅκκα ἔωντι οἶος ὁ πρῶτος ποτὶ τὸν δεύτερον, καὶ ὁ δεύτερος ποτὶ τὸν τρίτον. DK47b2.11-13. Trans. F. D. Harvey.

⁸⁸ Harvey 1965, 104.

⁸⁹ τούτων δ’ οἱ μείζονες ἴσον ποιοῦνται τὸ διάστημα καὶ οἱ μείους. DK47b2.13-14. Trans. F. D. Harvey.

⁹⁰ In the subcontrary or harmonic proportion, “the first term exceeds the second by the same fraction of itself as the fraction of the third by which the second term exceeds the third [e.g. 6, 4, and 3, where $6 - 4 = 1$, i.e. $1/3$ of 6; and $4 - 3 = 1$, i.e. $1/3$ of 3]. And in this proportion the ratio between the greater terms is greater, and that between the lesser less [i.e. 6 is $1 \frac{1}{2}$ times 4; but 4 is $1 \frac{1}{3}$ times 3, a lesser ratio].” ἂ δ’ ὑπεναντία, ἂν καλοῦμεν ἁρμονικὰν, ὅκκα ἔωντι <τοῖοι· ὥι> ὁ πρῶτος ὅρος ὑπερέχει τοῦ δευτέρου αὐταύτου μέρει, τούτῳ ὁ μέσος τοῦ τρίτου ὑπερέχει τοῦ τρίτου μέρει. γίνεται δ’ ἐν ταύταις ταῖς ἀναλογίαις τὸ τῶν μείζονων ὅρων διάστημα μείζον, τὸ δὲ τῶν μειόνων μείον. DK47b2.14-19. Trans. F. D. Harvey. The passages in brackets are added by Harvey. Harvey 1965, 103-4.

⁹¹ Reviel Netz estimates that Euclidean-style mathematics was in development roughly between 440 BCE, when mathematics as a scientific activity seems to have

based on the addition (*sunthesis*, lit. “putting together”) of monads or units. The seventh book of the *Elements* begins with the definition: “The number 1 (μονάς, *monas*) is that by virtue of which each of the things that exist is called one (ὓν, *hen*).”⁹² It continues with: “an added multitude of ones (μονάδων, *monas*) is an *arithmos* (ἀριθμός),”⁹³ and: “an *arithmos* (ἀριθμός) is a part (μέρος, *meros*) of an *arithmos* (ἀριθμοῦ), the less of the greater, when it measures (καταμετρή, *katametreō*) the greater.”⁹⁴ Euclid’s *meros* is our “factor”; to us, the number of times that a number is measured by a factor gives us another factor (for example, $35 / 7 = 5$), with these two factors (5 and 7) being equal in status to each other. This is not how it was in Greek mathematics. Euclid more often asks *whether* a number measures another number; he is not always interested in *how many times* that number is measured.⁹⁵ When he needs this information, according to Christian Taisbak, he conceives of it according to the logic that “*a* measures *b* means that there exists a number *c* such that there are in *c* as many *monads* as there are *a*’s in *b*”;⁹⁶ that is, he is not describing what we would transcribe as $b/a = c$, or $b = a \times c$, but rather, $a : b :: 1 : c$. Similarly, division is only possible for Euclid when “it comes right,” that is, when

emerged, and 360 BCE when Aristotle employs Euclidean forms of mathematical proofs for his own purposes—that is, squarely within Plato’s lifetime. Most basic mathematical concepts (as opposed to Euclid’s specific verbal representation of concepts and the structure of his proofs) would, of course, have been developed earlier. Netz 1999, 274-75.

⁹² Μονάς ἐστίν, καθ’ ἣν ἕκαστον τῶν ὄντων ἔν λέγεται. Euclid *Elements* 7.1. Trans. C. M. Taisbak. Taisbak 1971, 14.

⁹³ Ἀριθμός δὲ τὸ ἐκ μονάδων συγκείμενον πλῆθος. Euclid *Elements* 7.2. Trans. C. M. Taisbak. Taisbak 1971, 14.

⁹⁴ Μέρος ἐστὶν ἀριθμός ἀριθμοῦ ὁ ἐλάσσων τοῦ μείζονος, ὅταν καταμετρή τὸν μείζονα. Euclid, *Elements* 7.3. Trans. C. M. Taisbak. Taisbak 1971, 17.

⁹⁵ Taisbak 1971, 18.

⁹⁶ Taisbak 1971, 18.

the part “measures” the larger number without a remainder: when a measurement does not come right, he presents the numbers not as a fraction, but as a couple with an interrelation, or *logos*, between them.⁹⁷ In other words, it is written as a proportion in the form of $a : b :: c : d$.

Euclid, therefore, thought not in terms of multiplication, division, and fractions, but—for the same calculations—in terms of whole numbers and proportions. The use of proportions, in this sense, is tied to the additive or aggregative approach of Greek mathematics—an approach that, in turn, was encouraged by the use of pebbles and abaci for basic calculations. It was also, no doubt, encouraged by real-world practices of measurement in a context in which there were no fixed units of measure.⁹⁸ But does this suffice to explain why proportion became so important in political discussions or the Greek imagination more generally? Of course, I am arguing that it is not: the use of proportions to describe relationships between numbers was not a necessity but a choice. Tasibak argues that the Greeks used fractions “as well as we do,” most famously in Archimedes’ calculation of the circumference of a circle. Euclid’s insistence on *arithmoi* being limited to “counting” numbers (positive integers, not including zero or one), and on representing relationships between amounts as likenesses or measurements of one *arithmos* by another, were decisions that made sense within his intellectual and cultural context. This particular form of mathematical expression was also a result of and not only a

⁹⁷ Taisbak 1971, 23, 84.

⁹⁸ See Robert Hahn’s discussion of the πῆχυς (*pēchus*), or ell, and πούς (*pous*), or foot: “Although the exact lengths of the ell and foot have been the subject of great debate among architect-excavators, and although exact values of these measures seem different at different locations and at different times, the ratio of ell to foot is consistently 2:3.” Hahn 2003, 92. To this end, Burkert discusses the roots of Greek mathematics in the real-world domain of measurement, rather than in more esoteric contexts. Burkert 1972, 426.

contributing factor in the use of a more generalized (often non-numeric) concept of proportion as a descriptive and rhetorical device.

Let's return to politics. The argument made in classical times was that democratic equality could be described by arithmetic proportion. Each number—or man—stands at an equal distance from its neighbors (12, 10, 8, 6, 4, 2), thereby receiving an equal share of privileges and rights. The term *isonomia* enjoys a double etymology, since *-nomia* could be derived from *nemō*, “to distribute,” or from the related *nomos*, “law, custom.” The slippage between these two reinforces the notion, also present in the dual meaning of *timaō* as “to honor” and “to pay,” that the distribution of goods is tantamount to the portioning out of rights, privileges, and power.⁹⁹ This recalls the archaic and classical ideal of the *isonomia* of men in the *agora*, or around another communal center described as *to koinon* (the commons) or *to meson* (the middle), which allows each man or *oikos* (household) to be equidistant from the center of distribution and source of power. According to Herodotus, Maiandrios said in the late 6th century BCE, “I set down my power *es meson* (ἐς μέσον) and proclaim *isonomia* (ἰσονομίην).”¹⁰⁰

However, as anti-democratic philosophers argued, this system ignored the value of each number—that is, of each man. The number two stands at the same distance from four as four from six. As one ascends the scale, the ratio between numbers decreases: the more worthy the man, the less his worth is rewarded. In contrast,

⁹⁹ While Vlastos argues against this view, he admits that the frequent use of *isa nemein*, *isōn tugchanein*, and *isa echein* in the vicinity of *isonomia* suggests that the sense of *isonomia* as equality in distribution may have been the word's dominant usage in the 5th and 4th centuries BCE. Vlastos 1953, 348.

¹⁰⁰ ἐγὼ δὲ ἐς μέσον τὴν ἀρχὴν τιθεὶς ἰσονομίην ὑμῖν προαγορεύω. Herodotus, *The Histories* 3.142. Translation based on that of Marcel Detienne and Jean-Pierre Vernant. Detienne 1996, 98-100. Vernant 1982, 47, 126-27.

geometric proportion is fair, but not equal: the ratio between numbers remains perfectly constant, each man being rewarded in exact proportion to his worth. Harvey argues that Archytas self-consciously applied proportion to politics when he said that

logismos (λογισμὸς, “calculation, reasoning”) when discovered stops *stasis* (στάσιν, “strife, discord”) and increases *homonoia* (ὁμόνοιαν, “concord”). When it occurs, there is no *pleonexia* (πλεονεξία, “greediness, grasping for more than one’s share”), but there is *isotēs* (ισότης), for by this we settle our disputes. By this, then, the poor take from the powerful, and the rich give to the needy, both sides trusting that through this they will get *to ison* (ἴσον).¹⁰¹

¹⁰¹ στάσιν μὲν ἔπαυσεν, ὁμόνοιαν δὲ αὐξήσεν λογισμὸς εὐρεθείς· πλεονεξία τε γὰρ οὐκ ἔστι τούτου γενομένου καὶ ισότης ἔστιν· τούτῳ γὰρ περὶ τῶν συναλλαγμάτων διαλλασσόμεθα. διὰ τοῦτον οὖν οἱ πένητες λαμβάνοντι παρὰ τῶν δυναμένων, οἳ τε πλούσιοι διδόντι τοῖς δεομένοις, πιστεύοντες ἀμφοτέρω διὰ τούτῳ τὸ ἴσον ἔξειν. DK47b3.1-7. Trans. F. D. Harvey. Harvey 1965, 105-6. Socrates identifies greed as the cause of war in Plato *Republic* 372e-373e. Cf. Glaucon’s view, which Socrates later deconstructs, that *pleonexia* (πλεονεξίαν) is that “which every creature by its nature pursues as a good (ἀγαθόν, *agathos*),” τὴν πλεονεξίαν, ὃ πᾶσα φύσις διώκειν πέφυκεν ὡς ἀγαθόν, Plato *Republic* 359c. Similarly, as part of his recommendation for moderation in a number of areas, Hesiod advises that one “observe due measure (μέτρον, *metron*): and proportion (καιρὸς, *kairos*) is best in all things” μέτρον φυλάσσεσθαι· καιρὸς δ’ ἐπὶ πᾶσιν ἄριστος Hesiod *Works and Days* 694. Trans. Hugh G. Evelyn-White. To achieve, this Hesiod recommends “Do not put all your goods in hollow ships; leave the greater part (πλέω, *pleiōn*) behind, and put the lesser part (μείονα, *meiōn*) on board; for it is a bad business to meet with disaster among the waves of the sea, as it is bad if you put too great (ὑπέρβιον, *hyperbios*, “of overwhelming strength, violent, lawless”) a load on your wagon and break the axle, and your goods are spoiled. μηδ’ ἐν νηυσὶν ἅπαντα βίον κοίλῃσι τίθεσθαι· / ἀλλὰ πλέω λείπειν, τὰ δὲ μείονα φορτίζεσθαι. /

According to Harvey, *logismos* (λογισμὸς) here suggests “proportion,” and this passage states that when each man knows his worth and recognizes that his lot in life stands in a direct ratio to this worth, internal strife is replaced by harmony.¹⁰² This is the argument that Plato and Aristotle later make more explicitly.¹⁰³ If this is indeed what Archytas had in mind—and I think it is likely—then our earliest source on mathematical proportion thought about its significance in political terms. However, whether or not Archytas meant what Harvey suggests, the role of relative proportion in the apportioning of shares and privileges in political life has its origins in Homer and is therefore, as I argue in this chapter, already very old.

The first definite use of Archytas’ mathematical proportions in the political realm is in Plato. In *Gorgias*, Socrates says to Callicles, “Now you, as it seems to me...have failed to observe the great power of geometric (γεωμετρικὴ, *geōmetrikos*) equality (ἰσότης, *isotēs*) amongst both gods and men: you hold that *pleonexia* (πλεονεξίαν) is what one ought to practice, because you neglect geometry (γεωμετρίας, *geōmetria*).”¹⁰⁴ For Plato, geometric proportion allows for order and justice.

δεινὸν γὰρ πόντου μετὰ κύμασι πῆματι κύρσαι. / δεινὸν δ', εἴ κ' ἐπ' ἄμαξαν
 ὑπέρβιον ἄχθος αἰείρας / ἄξονα. καυάξαις καὶ φορτία μαυρωθείη. Hesiod
Works and Days 689-93. Trans. Hugh G. Evelyn-White. For more on *pleonexia*, see
 Balot 2001, 29.

¹⁰² Harvey 1965, 106-7.

¹⁰³ See Aristotle *Nicomachean Ethics* 1131a14-32; Aristotle *Politics*, 1280a7-25, 1282b21-1283a23, and 1301b35-36; and see below, Plato *Laws* 757a-c.

¹⁰⁴ σὺ δέ μοι δοκεῖς οὐ προσέχειν τὸν νοῦν τούτοις, καὶ ταῦτα σοφὸς ὢν, ἀλλὰ
 λέληθέν σε ὅτι ἡ ἰσότης ἢ γεωμετρικὴ καὶ ἐν θεοῖς καὶ ἐν ἀνθρώποις μέγα
 δύναται, σὺ δὲ πλεονεξίαν οἶει δεῖν ἀσκεῖν: γεωμετρίας γὰρ ἀμελεῖς. Plato
Gorgias 508a. Trans. W. R. M. Lamb. Harvey 1965, 107.

In the *Laws*, which he wrote after the *Timaeus* at the end of his life, Plato describes in full his theory of the application of geometric proportion in politics. He starts by asserting the real differences in worth between slaves and masters: if people are unequal, he says, we cannot make them equal just by declaring them so. Nor can people who are unequal become friends: “The old saying, that ‘equality (ἰσότης, *isotēs*) makes friendship (φιλότητα, *philotēs*)’ is happy and also true, but there is obscurity and confusion as to what sort of equality (ἰσότης, *isotēs*) is meant.”¹⁰⁵ For, Plato says, “there are two equalities (ἰσοτήτων, *isotēs*), which are called by the same name, but [which] are in reality in many ways almost the opposite of one another.”¹⁰⁶ The first kind “can be introduced without difficulty by any state or legislator in the distribution of *timai* (τιμᾶς); namely, that of measure (μέτρον, *metron*), weight (σταθμῶ, *stathmon*), and number (ἀριθμῶ, *arithmos*), which he ensures by the lot (κλήρω, *klēros*).”¹⁰⁷ In contrast, the second kind of equality (ἰσότης, *isotēs*) is the truest and the best, [but] which is not so easily recognized. This is the judgment of Zeus; among men it avails but little; that little, however, is the source of the greatest good to individuals and states. For it gives to the greater more and to the inferior less, and in proportion (μέτρια, *metrios*) to the nature of each; and above all, greater honor always to the greater virtue, and to the less less; and to either in proportion (κατὰ λόγον, *logos*) to their

¹⁰⁵ παλαιὸς γὰρ λόγος ἀληθὴς ὢν, ὡς ἰσότης φιλότητα ἀπεργάζεται, μάλα μὲν ὀρθῶς εἴρηται καὶ ἐμμελῶς: ἥτις δ' ἐστὶ ποτε ἰσότης ἢ τοῦτο αὐτὸ δυναμένη, διὰ τὸ μὴ σφόδρα σαφὴς εἶναι σφόδρα ἡμᾶς διαταράττει. Plato *Laws* 757a-b. Trans. F. D. Harvey. Harvey 1965, 108.

¹⁰⁶ δυοῖν γὰρ ἰσοτήτων οὔσαι, ὁμωνύμοι μὲν, ἔργῳ δὲ εἰς πολλὰ σχεδὸν ἐναντίαιν, Plato *Laws* 757b. Trans. F. D. Harvey. Harvey 1965, 108.

¹⁰⁷ τὴν μὲν ἑτέραν εἰς τὰς τιμὰς πᾶσα πόλις ἱκανὴ παραγαγεῖν καὶ πᾶς νομοθέτης, τὴν μέτρῳ ἴσην καὶ σταθμῶ καὶ ἀριθμῶ, κλήρῳ ἀπευθύνων εἰς τὰς διανομὰς αὐτήν: Plato *Laws* 757b. Trans. F. D. Harvey. Harvey 1965, 108.

respective measure of virtue and education. And statesmanship is this: justice (δίκαιον, *dikaion*)...¹⁰⁸

The first kind of equality is, of course, arithmetic; and the second, geometric. Plato here evokes Zeus' traditional role as a distributor: in the *Iliad*, two urns sit on his floor, one of blessings and one of ills, and he gives to each man either a mixed (ἀμμίξας, *anamignumi*) lot, or one just of ills.¹⁰⁹ Homer's Zeus may even have, at times, followed something like measure: in the *Iliad* we see him using the scales of fate to determine the relative destinies of Hector and Achilles.¹¹⁰ But the justice of

¹⁰⁸ τὴν δὲ ἀληθεστάτην καὶ ἀρίστην ἰσότητα οὐκέτι ῥᾶδιον παντὶ ἰδεῖν. Διὸς γὰρ δὴ κρίσις ἐστὶ, καὶ τοῖς ἀνθρώποις ἀεὶ συμκρᾶ μὲν ἐπαρκεῖ, πᾶν δὲ ὅσον ἂν ἐπαρκέσῃ πόλεσιν ἢ καὶ ἰδιώταις, πάντ' ἀγαθὰ ἀπεργάζεται: τῷ μὲν γὰρ μείζονι πλείω, τῷ δ' ἐλάττονι συμκρότερα νέμει, μέτρια διδοῦσα πρὸς τὴν αὐτῶν φύσιν ἐκατέρω, καὶ δὴ καὶ τιμὰς μείζοσι μὲν πρὸς ἀρετὴν ἀεὶ μείζους, τοῖς δὲ τοῦναντίον ἔχουσιν ἀρετῆς τε καὶ παιδείας τὸ πρέπον ἐκατέροις ἀπονέμει κατὰ λόγον. ἔστιν γὰρ δήπου καὶ τὸ πολιτικὸν ἡμῖν ἀεὶ τοῦτ' αὐτὸ τὸ δίκαιον: Plato *Laws* 757b-c. Trans. F. D. Harvey, modified at ἀληθεστάτην καὶ ἀρίστην, from "of a better and higher kind," and at πολιτικὸν, to include "statesmanship is this." Harvey 1965, 108.

¹⁰⁹ δοιοὶ γὰρ τε πίθοι κατακείαται ἐν Διὸς οὔδει / δῶρων οἶα δίδωσι κακῶν, ἕτερος δὲ ἑάων: / ᾧ μὲν κ' ἀμμίξας δῶη Ζεὺς τερπικέραυνος, / ἄλλοτε μὲν τε κακῷ ὅ γε κύρεται, ἄλλοτε δ' ἐσθλῷ: / ᾧ δέ κε τῶν λυγρῶν δῶη, λωβητὸν ἔθηκε, / καὶ ἐ κακῇ βούβρωστις ἐπὶ χθόνα διὰν ἐλαύνει, *Il.* 24.527-32.

¹¹⁰ καὶ τότε δὴ χρύσεια πατὴρ ἐτίθαινε τάλαντα, / ἐν δ' ἐτίθει δύο κῆρε τανηλεγέος θανάτοιο, / τὴν μὲν Ἀχιλλῆος, τὴν δ' Ἑκτορος ἵπποδάμοιο, / ἔλκε δὲ μέσσα λαβῶν: ῥέπε δ' Ἑκτορος αἰσιμον ἥμαρ, / ὥχετο δ' εἰς Αἴδαο, λίπεν δὲ ἐ Φοῖβος Ἀπόλλων. *Il.* 22.209-13. Whether this constitutes a kind of measure depends, of course, on whether Homeric Greeks would have assumed that the scale's action followed some kind of regular principles in Zeus' hands. See also: Zeus

Plato's Zeus is perfectly measured: he knows the worth of each man and can allot honor in direct proportion to his value. Plato describes this as "the natural (κατὰ φύσιν, *kata phusin*) equality (ἴσον, *isos*) given on each occasion to things unequal (ἀνίστοις, *anisos*)," ¹¹¹ and says that even in small doses it "is the source of the greatest good to individuals and states." ¹¹² But we can only withstand this justice in "a modified (παρωνυμίοισι) degree" ¹¹³—because, we might say, like the light of truth in Plato's allegory of the cave, the perfection of geometric proportion is overwhelming for our imperfect souls. If each of us got what we truly deserved, nearly all of us would be appalled and *stasis* (στάσεων) ¹¹⁴ would take over as we fought amongst ourselves. Therefore, it is necessary, at times, to use "the equality of the lot, on account of the discontent of the masses." ¹¹⁵ "Thus," he says, "necessity (ἀναγκαίως, *anankē*) compels us to employ both forms of equality, but that form, which needs good luck [ie. the lot, or lottery], we should employ as seldom as

divided (διεδάσσατο, *diadateomai*) *timē* (τιμᾶς) among the gods, ὃ δὲ τοῖσιν ἐὰς διεδάσσατο τιμᾶς. Hesiod *Theogony* 885. He does this on their bidding, to create political order. Rundin 1996, 184.

¹¹¹ τὸ κατὰ φύσιν ἴσον ἀνίστοις ἐκάστοτε δοθέν: Plato *Laws* 757d. Trans. R. G. Bury.

¹¹² As above: Plato *Laws* 757b-c, Trans. F. D. Harvey. Plato *Gorg.* 508a. Harvey 1965, 108.

¹¹³ ἀναγκαῖόν γε μὴν καὶ τούτοις παρωνυμίοισι ποτε προσχρήσασθαι πόλιν ἅπασαν, εἰ μέλλει στάσεων ἑαυτῇ μὴ προσκοινωνήσῃν κατὰ τι μέρος Plato *Laws* 757d-e. Trans. R. G. Bury.

¹¹⁴ As above, Plato *Laws* 757d-e.

¹¹⁵ διὸ τῷ τοῦ κλήρου ἴσῳ ἀνάγκη προσχρήσασθαι δυσκολίας τῶν πολλῶν ἔνεκα, Plato *Laws* 757e. Trans. R. G. Bury.

possible.”¹¹⁶ Proportion itself is perfect and absolute, but since we are far from either, our use of it is a matter of constant adjustment and negotiation.

Despite its position in the esoteric practice of Greek mathematics, the wider role of proportion in social and political affairs meant that it was a consuming interest for all Greeks, and for classical Athenians in particular.¹¹⁷ For Plato, proportion is the greatest good and source of happiness, and was connected to Reason (*logos*). When he says that necessity (*anankē*) is what compels the use of the lottery to temper the use of geometric proportion, he is drawing on his distinction between Reason and Necessity, a division akin to that of Being and Becoming, or the ideal realm of Forms and the earthy material world. Justice and geometric proportion is for Plato associated with the former—the ideal—while the more democratic forms of division are understood as concessions to the material world—or here, the masses. Plato’s contempt of the latter is palpable. And for Plato, the justice that takes root in a citizen’s soul—as expressed in his actions—is inseparable from the justice in his *polis*: this is one of Plato’s central arguments and the basis of the *Republic*.

But, for all of Plato’s originality, he did not invent these notions about the importance of proportion. Let’s turn, now, to the kind of proportion that was most immediate and tangible in the lives of Greeks throughout antiquity: the portioning of shares in animal blood sacrifice.

¹¹⁶ οὕτω δὲ χρηστέον ἀναγκαίως μὲν τοῖν ἰσοτήτοι ἀμφοῖν, ὥς δ’ ὅτι μάλιστα ἐπ’ ὀλιγίστοις τῇ ἐτέρῳ, τῇ τῆς τύχης δεομένη. Plato *Laws* 757e – 758a. Trans. R. G. Bury.

¹¹⁷ For the role of distributive justice in civic life, see Balot 2001, 44-46.. And for Aristotle’s ideas on the matter, see Young 1988. Keyt 1988. Keyt 1991, Mulgan 1977, 80-81. And for both Plato and Aristotle, see Barker 1959, 345-47.

Portioning Meat

Sacrifice defined the civilized use of *technē* in the consumption of food, not only in terms of the use of fire and the knife, but also in the knowledge of how to honor the gods and respect other men. Throughout Homer, for example, knowledge of appropriate behavior in sacrificial banquets divides the just from the unjust. Odysseus' swineherd, despite his humble circumstances, treats a poor old man (the disguised Odysseus) with the due respect of a guest, carrying out the ritual with precision and care. On the other hand, the most appalling gastronomic offense in Homer is committed by the Cyclops, Polyphemos, who drinks "unmixed milk" and eats Odysseus' comrades raw;¹¹⁸ and this inversion of Greek culinary practice is not unrelated to the fact that the Cyclopes possess minimal *technai* and live in solitude, without laws or assemblies. The Cyclopes are many, but they have no society, and they therefore stand for all that is not Greek. But Polyphemos receives a fitting punishment: when Odysseus puts out Polyphemos' eye with a heated olive stake—in a triumph of *technē* over barbarism—the eyeball makes a hissing sound as it is cooked.¹¹⁹

¹¹⁸ See, for example, *Od.* 9.288-97.

¹¹⁹ "His eyelids above and below and his brows were all singed (εὔσεν, *heuō*) by the flame from the burning (καιομένης, *kaiō*) eyeball, and its roots crackled (σφαραγεῦντο, *spharageomai*, "hiss, burst with a noise") in the fire. And as when a smith dips a great axe or an adze in cold water to temper it and it makes a great hissing (ιάχοντα, *iachō*, "cry, shout, twang")—for from this comes the strength of iron—so did his eye hiss (σίζ', *sizō*, "hiss, sizzle") round the stake of olivewood." πάντα δέ οἱ βλέφαρ' ἀμφὶ καὶ ὀφρύας εὔσεν αὐτμῇ / γλήνης καιομένης, σφαραγεῦντο δέ οἱ πυρὶ ῥίζαι. / ὥς δ' ὅτ' ἀνὴρ χαλκεὺς πέλεκυν μέγαν ἦε σκέπαρον / εἰν ὕδατι ψυχρῷ βάπτῃ μεγάλα ἰάχοντα / φαρμάσσων· τὸ γὰρ αὔτε σιδήρου γε κράτος ἐστίν / ὥς τοῦ σίζ' ὀφθαλμὸς ἐλαϊνέῳ περὶ μοχλῷ. *Od.* 9.389-94. Trans. A. T. Murray. Note that the verb *heuō* is used in Homer to describe

In physical terms, animal blood sacrifice required the act of killing an animal and transforming its corpse through butchery and the use of fire into pieces of edible meat that were distributed among participants and consumed, after a special share was set aside and offered to the gods. In an institutional setting all of this was carried out by a man known as a *magieros*, who was both a priest and butcher; and in a domestic setting, such as a wedding feast, the sacrificer would be the head of the household.¹²⁰ In classical times, the largest sacrifices, in which a hecatomb (one hundred cattle) or more animals were slaughtered, were sponsored by the *polis* as the culmination of a religious festival, such as the Panathenaia in Athens or the Hyakinthia at Sparta. Public sacrifices happened frequently—in Athens, no less than once a month, once the various festivals are counted—making this the most important civic institution, and one that bonded citizens to each other within the *polis*.¹²¹ When a colony was founded, according to Detienne, a spit from the home city and a pot with a fire in it were brought to the new location, to ensure the bond between the new community and its mother.¹²² For all the variations in the ritual of sacrifice, there was a remarkable stability throughout Greek antiquity in terms of its basic procedures. This section will therefore take a generalized view of sacrifice, of the procedures that dominate most accounts from Homer through classical times and beyond.

In “Greek Animals,” Jean-Louis Durand demonstrates how the sacrificial ritual was organized by the disarticulation of the animal body, followed by the re-articulation of its parts on the altar. He argues that the disarticulation was, in turn, organized in two

the singeing of sacrificial swine: πολλοὶ δὲ σύες θαλέθοντες ἀλοιφῇ / εὐόμενοι τανύοντο διὰ φλογὸς Ἡφαίστοιο, *Il.* 9.467-68; and αἶγας ἀνιεμένους σιάλους θ' εὔοντας ἐν αὐλῇ. *Od.* 2.300.

¹²⁰ Zaidman and Schmitt Pantel 1989, 30.

¹²¹ Zaidman and Schmitt Pantel 1989, 107.

¹²² Detienne 1989, 3.

phases: the first treated the animal body as a complex entity with a logic of skin, interior, and an organization of heterogeneous parts—that is, as a body—whereas the second dealt with the division of the carcass along its skeletal joints to produce homogeneous strips of meat. These two phases were separated by the key step of removing what are known as the innards or *splanchna* (pl. of *splanchnon*)—what we would call the heart, lungs, liver, and kidneys.¹²³ The *splanchna*, and particularly the liver, were central in animal sacrifice because they acted as the medium of communication from gods to humans: it was by reading the liver, in particular, that one might determine the will of the gods. In Aristotelian physiology, the purpose of the *splanchna* was to attach the blood vessels to the rest of the body: they acted as a bond (συνδέσμων, *sundesmos*), anchors (ἄγκυραι, *ankura*) or rivets (ἦλοι, *helos*).¹²⁴

¹²³ Durand 1989, 100.

¹²⁴ “The *splanchna* (σπλάγχνα) which are below the diaphragm are all of them present for the sake of the blood-vessels, in order that the latter may have freedom of carriage and at the same time be attached to the body (σῶμα, *sōma*) by means of the *splanchna* (indicated by τούτων), which act as a bond (συνδέσμων, *sundesmos*). Indeed, there are, as it were, anchor-lines (ἄγκυραι, *ankura*) thrown out to the *sōma* (σῶμα) through the extended parts: e.g. from the Great Blood-Vessel to the liver and to the spleen, for these *splanchna* (σπλάγχνων) act, as it were, like rivets (ἦλοι, *helos*) and fasten it to the *sōma* (σῶμα); that is to say, the liver and the spleen fasten the Great Blood-vessel to the sides of the *sōma* (σώματος) (since blood-vessels pass to them from it alone), while the kidneys fasten it to the rear parts.” Ἔστι δὲ σπλάγχνα τὰ κάτω τοῦ ὑποζώματος κοινῇ μὲν πάντα τῶν φλεβῶν χάριν, ὅπως οὔσαι μετέωροι μένωσι τῷ τούτων συνδέσμῳ πρὸς τὸ σῶμα. Καθάπερ ἄγκυραι γὰρ βέβληνται πρὸς τὸ σῶμα διὰ τῶν ἀποτεταμένων μορίων· ἀπὸ μὲν τῆς μεγάλης φλεβός, πρὸς τὸ ἥπαρ καὶ τὸν σπλῆνα (τούτων γὰρ τῶν σπλάγχνων ἢ φύσις οἷον ἦλοι πρὸς τὸ σῶμα προσλαμβάνουσιν αὐτήν, εἰς μὲν τὰ πλάγια τοῦ σώματος τό θ’ ἥπαρ καὶ ὁ σπλήν τὴν φλέβα τὴν μεγάλην—ἀπὸ

The *splanchna*, then, were a bond in terms of that which maintained integrity in the animal body; as the medium of communication from gods to humans; and as the turning point in the first phase of sacrificial butchery, which focused on the disarticulation of the animal body. The will of the gods was made present in the same moment in which the coherent and organized animal body gave way to pieces of meat.

After its disarticulation, the animal body was rearticulated on the altar. The thighbones were removed, wrapped in meat and fat, and sprinkled with wine, barley, and often herbs, before being set on the altar and burned, in order for the rising smoke to convey the offering to the gods.¹²⁵ The sacrificial offering was therefore a reconstituted animal body, symbolically standing for the whole animal. The rest of the *splanchna* were then roasted and tasted by an inner circle of participants closest to the altar, and the meat was most often boiled before being shared out among all the participants. Whereas the *splanchna* and the wrapped thighbones mediated the relationship between men and gods, the distribution of meat had to do with relationships among men. Each participant in the sacrifice—which, in the classical *polis*, was often in theory each male citizen—received his share (*moira*), with this act of distribution forging bonds of communality among the participants.

There was a kind of proportioning in the shares of men. In the case of the Homeric “equal feast (*dais eĩsē*),” we saw that the distributor could allot regular portions

ταύτης γὰρ εἰς αὐτὰ μόνα διατείνουσι φλέβες—εἰς δὲ τὰ ὀπισθεν οἱ νεφροί·
Aristotle *Parts of Animals* 670a. Trans. A. L. Peck.

¹²⁵ The gods “participated” in the sacrifice by receiving their portion through smoke and aroma, although one never knew whether the gods would truly accept the sacrifice and heed one’s prayers. While crucial to the ritual, the “participation” of the gods was therefore “participation” in a distant sense, highlighting the fundamental asymmetry in the relationship between mortal and god.

(*moirai*, pl. of *moira*) as well as special prizes (*gera*, pl. of *geras*). Another proportioning mechanism in institutional sacrifices of the classical *polis* was that, while pieces of meat were often made equal by weight, differences in cut and quality could also be recognized—and portions could be distributed by lot, but also by the relative merit or status of participants. As Detienne observes, the *geras* or “meat privilege” referred to “the choice pieces—the thigh, hindquarter, shoulder, and tongue—[that] are given to the priest, king, or high magistrates of the city.”¹²⁶ Whatever the details governing the portions, the two systems, of *moirai* and *gera*, were not mutually exclusive, but rather, were combined: “once the choice piece or pieces have been taken, the most meat being awarded to those having a special honor or dignity, the rest of the victim can be distributed in an egalitarian fashion in accordance with a certain isonomic ideology of the city.”¹²⁷ There were also special non-meat pieces to be distributed separately: the hides, for example, went to the priests when a private sacrifice was held in a sanctuary; and in a civic sacrifice the hides could be sold with the funds going to the treasury of the *polis*.¹²⁸ There were also means for lower levels of participation: the distribution of portions to be carried away by each male citizen to his *oikos* also indirectly extended a kind of participation to a much larger group, including female citizens, children, metics (resident foreigners), and slaves.¹²⁹

These layers of participation and privilege, no less than the equality instituted by the distribution of equal portions, were what allowed sacrifice to function as the central political act in the *polis*: it was, in fact, the slippage between these two modes which allowed the ritual to be both equal *and* fair, to forge civic bonds recognizing both the special position of a few and the inclusion of the many. The word *daiō*, which in

¹²⁶ Detienne 1989, 13. See also Zaidman and Schmitt Pantel 1989, 36.

¹²⁷ Detienne 1989, 13.

¹²⁸ Vernant 1989, 166.

¹²⁹ Zaidman and Schmitt Pantel 1989, 36.

Homer meant “to divide, distribute,” was also used, from Herodotus onwards, to mean “to feast.” In turn, *daiō* gives us *dais* or “feast,” *dainumi* or “to give in a feast,” and *daitros*, or “carver of meat.” These words are also etymologically related to *daimōn*, which could refer to a god, goddess, or other power controlling the destiny of individuals.¹³⁰ Similarly, a *moira* is a “share,” but also one’s “lot” or “fate” (and similarly, *meros* means “part, turn, or fate”): for a man, to receive a portion in sacrifice was to participate in and accept his lot in life. As Detienne writes, “sacrifice derives its importance from...a necessary relationship between the exercise of social relatedness on all *political* levels within the system the Greeks call the city. Political power cannot be exercised without sacrificial practice.”¹³¹ In classical politics, whether in the words of philosophers, litigants in private court-cases, or the bawdiest of comedies, one’s share of meat stood for one’s social and political position.

When Phoenix tries to convince Achilles to return to war, to accept his position and to again take part in the shared society of the Achaeans, he speaks of sacrificial feasts in order to remind him of the special bond, like that between father and son, that existed between them:

And I reared you to be such as you are, godlike Achilles, loving you from my *thumos* (θυμοῦ); for with no other would you go to the feast (δαῖτ’, *dais*) or take meat in the hall, till I had set you on my knees (γούνεσσι, *gonu*) and given you your fill of the savoury morsel (ὄψου, *opson*) cut first for you, and had put the wine cup to your lips.”¹³²

¹³⁰ Rundin 1996, 184, 86.

¹³¹ Detienne 1989, 3.

¹³² *Il.* 9.485-89. It is, perhaps, also worth observing that in order to evoke the fatherly role he has played in Achilles’ life, Phoenix mentions the act of setting the boy on his knees (γούνεσσι, *gonu*). ἐκ θυμοῦ φιλέων *Il.* 9.486. Trans. A. T. Murray.

And in the *Odyssey*, moments before the slaying of the suitors, the association between sacrifice, justice, social order—and, perhaps, of the bloody work of butchering—is what gives Odysseus' coded statement its meaning:

Telemachus, the stranger that sits in your halls brings no shame upon you, nor did I at all miss the mark, or labour long in stringing the bow; still is my *menos* (μένος) unbroken—not as the suitors taunt me to my dishonor. But now it is time that supper (δόρπον, *dorpon*, “evening meal”) too be made ready for the Achaeans, while yet there is light, and after that must other entertainment be made with song and with the lyre; for these things are the accompaniments of a feast (δαιτός, *dais*).¹³³

* * *

In this chapter we have seen that the earliest notions of proportion were inextricable from those of articulation. In particular, I have argued that—whether negotiated between individuals in the intricate but loose networks of Homeric society, or formalized and institutionalized in the political body of the classical *polis*—the forging of political bonds was for the Greeks a question of proportioning.¹³⁴ That the crisis of the *Iliad*, the earliest work of literature in the west, is phrased in terms of proportion should also serve as a reminder that this idea took its significance, in the first place, not from rarefied realms of beauty or art but from vital questions that, as social and political beings, we need to continuously address as we negotiate our lives.

In Chapter Five, we will consider the classical *polis* in the context of ideas about the body, and the classical body in terms of the *polis*. The emergence of the *polis* in archaic and classical times was a complex process whose origins and mechanisms

¹³³ *Od.* 21.424-30. Trans. A. T. Murray.

¹³⁴ Cf. Donna Wilson's discussion of *aisimos*. Wilson 2002, 167.

have long been debated:¹³⁵ the organization required to erect monumental buildings, a desire to stake territorial claims, the democratization of burial practices, the influence of geography in Greek regions, the spread of Greek colonies, the influence of the Phoenicians, the development of literacy, and changes in military and agricultural techniques have all been named as contributing factors. In order to draw certain conclusions about “the *polis*,” it will be necessary to oversimplify the situation. Not only was the process of *polis* formation likely already underway while the Homeric poems were being assembled, but more generally, the classical *poleis* were a set of variations and experiments in society and government, rather than a singular construction. My aim will neither be to trace the causes or history of *polis* formation (or *sunoikismos*), nor to give an account of the diversity of *polis* types—whether within the changing schemes of a single city, such as Athens or Sparta, or across a sampling of the Greek world.¹³⁶ Instead, my aim will simply be to observe that just as Homeric ideas about political and social life expanded upon and engaged ideas about the physical self, the classical *polis* cannot be understood without the classical body—a body which is not only articulated, but also bounded and proportioned, and subject to *kosmos* or order.

¹³⁵ This discussion goes back, at least, to Aristotle, who wrote that humans are by nature political, and that “the *polis* (πόλις) is prior in nature (φύσει, *phusis*) to the household (*oikian*, οἰκία) and to each of us individually.” καὶ πρότερον δὲ τῇ φύσει πόλις ἢ οἰκία καὶ ἕκαστος ἡμῶν ἐστίν. Aristotle *Politics* 1253a. Trans. H. Rackham.

¹³⁶ For such a survey, see Rhodes 2007.

Chapter Five: Bodies

And wise men tell us, Callicles, that heaven and earth and gods and men are held together by communion and friendship (φιλίαν, *philia*), by orderliness (κοσμότητα, *kosmiotēs*), temperance (σωφροσύνην, *sōphrosunē*), and justice (δικαιοσύνην, *dikaiotēs*); and that is the reason, my friend, why they call the whole (ὅλον, *holos*) by the name of order (κόσμον, *kosmos*), not of disorder (ἀκοσμίαν, *akosmia*) or dissoluteness (ἀκολασίαν, *akolasia*, “licentiousness, intemperance”).¹

In the *kosmos* that Plato describes here, the same forces sustain the physical and the political worlds. The order of these worlds relies on articulation—they are “held

¹ φασὶ δ' οἱ σοφοί, ὦ Καλλίκλεις, καὶ οὐρανὸν καὶ γῆν καὶ θεοὺς καὶ ἀνθρώπους τὴν κοινωνίαν συνέχειν καὶ φιλίαν καὶ κοσμότητα καὶ σωφροσύνην καὶ δικαιοσύνην, καὶ τὸ ὅλον τοῦτο διὰ ταῦτα κόσμον καλοῦσιν, ὦ ἑταῖρε, οὐκ ἀκοσμίαν οὐδὲ ἀκολασίαν. Plato *Gorgias* 507e-508a. Trans. W. R. M. Lamb, modified at ὅλον from “this whole of this world.” See also “So Zeus, fearing that our race was in danger of utter destruction, sent Hermes to bring respect (αἰδῶ, *aidōs*) and right (δίκη, *dikē*) among men, to the end that there should be regulation (that is, “order,” κόσμος, *kosmos*) of cities and friendly (φιλίας, *philia*) ties (δεσμοί, *desmos*, lit. “bonds of friendship”) to draw them together.” Ζεὺς οὖν δείσας περὶ τῷ γένει ἡμῶν μὴ ἀπόλοιτο πᾶν, Ἑρμῆν πέμπει ἄγοντα εἰς ἀνθρώπους αἰδῶ τε καὶ δίκην, ἵν' εἶεν πόλεων κόσμοι τε καὶ δεσμοὶ φιλίας συναγωγοί. Plato *Protagoras* 322c. Trans. W. R. M. Lamb.

together”—and results in social community, friendship, and orderliness. No less surprising, there is also moderation (σωφροσύνην, *sōphrosunē*), and justice (δικαιοσύνη, *dikaiotēs*): *sōphrosunē*, as a balanced mean between extremes of behavior, fits comfortably alongside *dikaiotēs*, which invokes the kind of distribution in which what each person receives is measured relative to their worth. After reminding Callicles of all this, Socrates then gently chastises him with a reminder that “geometric (γεωμετρικὴ, *geōmetrikos*) equality (ἰσότης, *isotēs*)” has “great power...amongst both gods and men,” and that one should not practice πλεονεξίαν (*pleonexia*), which Callicles has believed in out of his “neglect [of] geometry (γεωμετρίας, *geōmetria*).”²

For classical Greeks, proportion was necessary for articulation, and therefore for order—whether this order was of the human body, the *polis*, a hoplite phalanx, a musical harmony, the seasons, or the entire natural world. In this chapter, we will find that certain terms that draw on articulation and proportion, such as *kosmos*, *isonomia*, and *eukrasia*, construct an understanding of order that is not only what we would call medical, scientific, political, or military—or even ethical, aesthetic, or pragmatic—but all of these at once. A city can become diseased; the digestion of food is a war between the body and its nutriment; and a hoplite phalanx forms a body that aims to maintain its articulation. For the Greeks these were not metaphors. (The notion of a *metaphora*, introduced by Aristotle, posits a dichotomy between primary or literal uses and derived or deviant ones; before Aristotle, and throughout the development of these words, this dichotomy simply did not exist.)³ The language and discussions of articulation and proportion, far from originating from one area to be

² σὺ δέ μοι δοκεῖς οὐ προσέχειν τὸν νοῦν τούτοις, καὶ ταῦτα σοφὸς ὢν, ἀλλὰ λέληθέν σε ὅτι ἡ ἰσότης ἢ γεωμετρικὴ καὶ ἐν θεοῖς καὶ ἐν ἀνθρώποις μέγα δύναται, σὺ δὲ πλεονεξίαν οἶει δεῖν ἀσκεῖν: γεωμετρίας γὰρ ἀμελεῖς. Plato *Gorgias* 508a. Trans. W. R. M. Lamb.

³ Lloyd 2003, 8. See also Lloyd 1990, 14–38.

later applied to another, instead developed from the outset through the breadth of their applications. There was not a natural world and a political world, a medical world, and a world of craft: there was simply the world. This is *kosmos*.

Order

The notion of *kosmos* in the earliest texts had to do with “ordering, arraying, arranging, and structuring discrete units or parts” in a way that is fitting or proper — and the notion of what is fitting or proper, as we saw in Part One, is one which spans ethical, aesthetic, and pragmatic considerations.⁴ Starting from Homer, what is *kata kosmon* or in order lies in a similar denotative and connotative terrain as what is articulated, and we are not surprised to find that the phrase can refer to the arrangement of crafted things, such as armor; or of beings, such as warriors; or of things and beings together, such as men on a ship, one man per bench.

The description of a condition as orderly or disorderly often draws on an implicit comparison with its opposite. When Odysseus and Diomedes set out at night to raid the unsuspecting Trojans in the *Iliad*, they find their enemies slumbering quietly on the ground, their horses yoked next to them and their battle gear “all in good order

⁴ For example, see “well and truly (κατὰ κόσμον, *kosmos*) do you sing of the fate of the Achaeans.” λίην γὰρ κατὰ κόσμον Ἀχαιῶν οἶτον ἀείδεις, *Od.* 8.489. Trans. A. T. Murray. Commentators often add that *kosmos* implies ordering “into a whole,” although I do not see a strong justification for this notion in Homer. For an account of early uses of the word *kosmos*, see Kahn 1960, 219-30, Vlastos 1975, 3-22. See also Puhvel 1976, 154-57.

(κατὰ κόσμον, *kosmos*), in three rows.”⁵ Homer compares Odysseus and Diomedes to a lion falling upon a flock of sheep or goats, as they loosened (λύε, *luō*) the horses’ tethers⁶ and slew the men, and a “hideous groaning” arose from the Trojans as their blood stained the earth;⁷ the *kosmos* of their sleeping arrangements enhances the shock of their slaughter. To take an example from the *Odyssey*, when Telemachus sets up the axes in his father’s hall in a straight and orderly (εὐκόσμως, *eukosmos*) manner, the maturity and judgment implied by this act contrasts with the suitors’ lack of judgment.⁸ Then, following the massacre of the suitors, and in contrast with the

⁵ οἱ δ’ εὐδον καμάτῳ ἀδηκότες, ἔντεα δέ σφιν / καλὰ παρ’ αὐτοῖσι χθονὶ
κέκλιτο εὖ κατὰ κόσμον / τριστοιχί: παρὰ δέ σφιν ἐκάστῳ δίζυγες ἵπποι. *Il.*
10.471-73. Trans. A. T. Murray.

⁶ Odysseus looses the horses, and in the next line, Homer tells us that he binds them together again: “Meanwhile steadfast Odysseus loosed (λύε, *luō*) the single-hoofed horses and bound them together (σὺν δ’ ἤειρεν, *sun + aeirō*) with the reins, and drove them out from the throng,” τόφρα δ’ ἄρ’ ὃ τλήμων Ὀδυσσεὺς λύε μώνυχας ἵππους, / σὺν δ’ ἤειρεν ἱμάσι καὶ ἐξήλαυνεν ὁμίλου *Od.* 10.498-99. Trans. A. T. Murray.

⁷ τῶν δὲ στόνος ὄρνυτ’ ἀεικῆς / ἄορι θεινομένων, ἐρυθαίνετο δ’ αἵματι γαῖα. *Il.* 10.483-84. Trans. A. T. Murray. Odysseus and Diomedes, however, sow disorder in an orderly fashion: after Diomedes slays each man, Odysseus drags him to the side to clear a path for the horses. *Il.* 10.490-93.

⁸ πρῶτον μὲν πελέκεας στήσεν, διὰ τάφρον ὀρύξας / πᾶσι μίαν μακρόην, καὶ ἐπὶ στάθμην ἵθυνεν, / ἀμφὶ δὲ γαῖαν ἔναξε: τάφος δ’ ἔλε πάντας ἰδόντας, / ὥς εὐκόσμως στήσε: πάρος δ’ οὐ πώ ποτ’ ὀπώπει. *Od.* 21.120-23. Similarly (although the word *kosmos* is not used, the sense of order is meticulously established), the order with which Eumaeus arranges Odysseus’ swine in their sties is immediately contrasted with the suitors’ profligate consumption of them. *Od.* 14.5-28. See Chapter Two, “Fitting Things,” for a discussion of the order that Eumaeus establishes in the pigsties.

disorder it involved, Odysseus' servants had to put the house back in order (κατακοσμήσησθε, *katakosmeō*; and διεκοσμήσαντο, *diakosmeō*)⁹ by sponging and scraping the tables, chairs, and floors, and hauling out the corpses and the scrapings.¹⁰ And, again in the *Iliad*, when Polydamas expresses his fears that the Trojans will suffer and return from the Achaean ships "in disarray (οὐ κόσμῳ, *ou kosmōi*),"¹¹ this stands in contrast with the full complement of men they are planning to send out. The verb *kosmeō* is often used to describe the marshalling of warriors into order before battle,¹² as well as, for example, the way in which Odysseus' men set themselves up on their ship as they prepare to sail: they "sat down on the benches, each in order (κόσμῳ, *kosmos*)."¹³ Conversely, when Thersites, who is described as "of measureless speech (ἄμετροεπής, *a-metro-epēs*)," is criticized as having a mind full of "disorderly (ἄκοσμά, *akosmos*) words," and uttering things "in no due order

⁹ αὐτὰρ ἐπὶν δὴ πάντα δόμον κατακοσμήσησθε, *Od.* 22.440. αὐτὰρ ἐπειδὴ πᾶν μέγαρον διεκοσμήσαντο, *Od.* 22.457.

¹⁰ *Od.* 22.437-57. Note that the execution of the disloyal female servants, and of Melanthius, take place in the same scene, and form part of the ordering of the household.

¹¹ *Il.* 12.225. Trans. A. T. Murray.

¹² For the ordering (*kosmeō*) of warriors and larger military units, see τῷ δ' οὐ πώ τις ὁμοῖος ἐπιχθόνιος γένετ' ἀνὴρ / κοσμήσαι ἵππους τε καὶ ἀνέρας ἀσπιδιώτας: *Il.* 2.553-54; οἱ Ῥόδον ἀμφενέμοντο διὰ τρίχα κοσμηθέντες 2.655; τῶν δ' ἐξηγείσθω κοσμησάμενος πολίτης. 2.806; αὐτὰρ ἐπεὶ κόσμηθεν ἄμ' ἡγεμόνεσσιν ἕκαστοι, 3.1; οἱ δὲ διαστάντες σφέας αὐτοὺς ἀρτύναντες / πένταχα κοσμηθέντες ἄμ' ἡγεμόνεσσιν ἔποντο. 12.86-87; τοὺς δ' αὐτοὶ βασιλῆς ἐκόσμεον οὐτάμενοί περ 14.379; and διὰ δὲ τρίχα κοσμηθέντες / βάλλομεν: *Od.* 9.157-58.

¹³ τοὶ δὲ καθίζον ἐπὶ κληῖσιν ἕκαστοι / κόσμῳ, *Od.* 13.76-77. Trans. A. T. Murray.

(οὐ κατὰ κόσμον, *ou kata kosmon*),”¹⁴ he is being compared to Agamemnon, Achilles, Odysseus, and Nestor, who are often described as speaking and acting with honor and propriety. The fact that Thersites is also a coward and has a poorly articulated body is not unrelated.¹⁵

We can observe two things from these examples. First, things are only described as *ou kata kosmon* when they are, in fact, supposed to be *kata kosmon*. A group of men, their armor, a meal, and the finery of a goddess can all be orderly or disorderly—but pebbles on a beach or leaves on a tree, for example, are neither. Second, there is often a sense of a just and harmonious distribution in the arrangement of things that are *kata kosmon*, as, for example, in the descriptions of one rower per bench on a ship, or of each man’s horses yoked beside him as he sleeps.

The notion of *kosmos* therefore also describes a kind of political or economic order. Herodotus says of Lycurgus, a semi-legendary lawgiver and founder of Sparta, that according to the Lacedaemonians he established the Spartan *kosmos* (κόσμον).¹⁶ And in Plato’s *Protagoras*, Zeus sends Hermes with Aidos (Shame) and Dikē (Justice) to establish the “*kosmos* (κόσμοι, *kosmos*) of cities and friendly (φιλίας, *philia*) ties (δεσμοὶ, *desmos*, lit. “bonds of friendship”) to draw them together

¹⁴ ἄλλοι μὲν ῥ’ ἔζοντο, ἐρήτυθεν δὲ καθ’ ἔδρας: / Θερσίτης δ’ ἔτι μῦνος
ἀμετροεπὴς ἐκολῶα, / ὃς ἔπεα φρεσὶν ἦσιν ἄκοσμά τε πολλά τε ἦδη / μάψ,
ἀτὰρ οὐ κατὰ κόσμον, ἐριζέμεναι βασιλεῦσιν, / ἀλλ’ ὅ τι οἱ εἴσαιτο γελοῖον
Ἀργείοισιν / ἔμμεναι: *Il.* 2.211-16. Trans. A. T. Murray.

¹⁵ αἰσχιστος δὲ ἀνὴρ ὑπὸ Ἴλιον ἦλθε: / φολκὸς ἔην, χωλὸς δ’ ἕτερον πόδα: τὼ
δέ οἱ ὦμω / κυρτὼ ἐπὶ στήθεος συνοχωκότε: αὐτὰρ ὑπερθε / φοξὸς ἔην
κεφαλὴν, ψεδνὴ δ’ ἐπενήνοθε λάχνη. *Il.* 2.216-19. For more on Thersites, see
Chapter One, “Articulating Life.”

¹⁶ Herodotus 1.65.4.

(συναγωγοί, *sunagōgos*).¹⁷ In the work of Theognis of Megara, a poet dating from 640-479 BCE, *kosmos* is equated with just distribution:

They seize possessions by force, and *kosmos* (κόσμος) has perished
(ἀπόλωλεν, *apollumi*). There is no equitable (ἴσος, *isos*) distribution
(δασμός, *dasmos*) of possessions carried out for the good of everyone (ἐς τὸ
μέσον, *es to meson*, lit. “into the middle”). But the merchandise carriers rule
and the base are above the good. I fear that perhaps a wave may swallow the
ship.¹⁸

A just distribution can also be temporal: in Anaximander’s *kosmos*, the *taxis* (“battle array, order, political arrangement, ordinance”) of the rotating seasons, the cycle of day and night, and even the pattern of one’s breathing all give opposing powers their due turn in office.¹⁹

While Homeric gods and men could create a *kosmos* by purposefully arranging things, including themselves, there was no expectation that the world at large should be underwritten by any kind of reliable order or nature: this is a major difference between Homeric and classical notions of *kosmos*.²⁰ We saw how the Homeric self

¹⁷ Ζεὺς οὖν δείσας περὶ τῷ γένει ἡμῶν μὴ ἀπόλοιτο πᾶν, Ἑρμῆν πέμπει ἄγοντα εἰς ἀνθρώπους αἰδῶ τε καὶ δίκην, ἔν’ εἶεν πόλεων κόσμοι τε καὶ δεσμοὶ φιλίας συναγωγοί. Protagoras 322c. Trans. W. R. M. Lamb. Cartledge 1998, 4.

¹⁸ χρήματα δ’ ἀρπάζουσι βίη, κόσμος δ’ ἀπόλωλεν, / δασμός δ’ οὐκέτ’ ἴσος γίνεται ἐς τὸ μέσον· / φορτηγοὶ δ’ ἄρχουσι, κακοὶ δ’ ἀγαθῶν καθύπερθε. / δειμαίνω, μή πως ναῦν κατὰ κύμα πῆ. Theognis 677-80. Trans. Daniel B. Levine. Levine 1985, 181-82.

¹⁹ Ζεὺς οὖν δείσας περὶ τῷ γένει ἡμῶν μὴ ἀπόλοιτο πᾶν, Ἑρμῆν πέμπει ἄγοντα εἰς ἀνθρώπους αἰδῶ τε καὶ δίκην, ἔν’ εἶεν πόλεων κόσμοι τε καὶ δεσμοὶ φιλίας συναγωγοί. Protagoras 322c. Trans. W. R. M. Lamb. Cartledge 1998, 4.

²⁰ In terms of the concept of nature, or *phusis*: Homer uses *phusis* once, to describe the growth or appearance of a plant that is the antidote to Circe’s charms. ὥς ἄρα

was affected by winds and the pouring of nectar and ambrosia, its articulations mobilized, loosened, or stiffened at the whim of the gods, acting only to the extent that it partook of external forces or entities. In contrast, what marks the thought of the Pythagoreans and the Pre-Socratics is that they sought and found a *kosmos* when they looked at themselves and their world. They saw a logic underlying how things came into existence and how they passed away, how the universe and all the diverse bodies within it were held together. This order could be difficult to discern, but for that it was no less marvelous. As classical Greeks found a *kosmos* in their surroundings, the word *kosmos* came to also describe the whole of these surroundings, the universe itself.²¹ And, while they looked out to find an orderly universe, classical Greeks also found a *kosmos* within. In so doing, they made the first descriptions of the “body” as an entity whose everyday functioning depended not on the breath and whim of gods but on its own inner logic or nature (*phusis*).²²

With its own nature, a body can begin to be defined through various states of illness, injury, and degeneration, which appear and which behave according to certain reliable (and thus, through the *technē* of medicine, predictable and treatable)

φωνήσας πόρε φάρμακον ἀργεῖφόντης / ἐκ γαίης ἐρύσας, καὶ μοι φύσιν αὐτοῦ
ἔδειξε. / ῥίζῃ μὲν μέλαν ἔσκε, γάλακτι δὲ εἵκελον ἄνθος: *Od.* 10.301-4. For the Vedic concept of *ṛtá*, which referred to both moral order and the divinely produced order of the sun and seasons and which according to Kahn was related to the **ar*-root, see Kahn 1960, 192-3. See also Detienne 1996, 35.

²¹ Pythagoras, according to tradition, was the first to use *kosmos* in the sense of world-order or universe, but the notion of the universe as an order is already apparent in Anaximander DK12a10, and Anaximenes DK13b2. Empedocles definitely uses this meaning a century later. Empedocles DK31b26. Peters 1967, 108.

²² Democritus is the first known to use the term *mikros kosmos*. Guthrie 1965, 471.

principles.²³ The description of these bodily states is a central theme in the heterogeneous group of medical notes, lectures, and precepts primarily from the 5th and 4th centuries BCE that is known as the Hippocratic collection. While this marks an important shift, it is also important to note that the conceptualization of “the body” was not absolute at any time during antiquity when considered, for example, relative to that of modernity.²⁴ While the Hippocratic texts evince a sense of a body as a thing with its own logic and *kosmos*, they do not, for example, define health as a normative condition; this is a notion that first appeared in Hellenistic medicine, particularly in the mechanical analogies for the body developed by the anatomists Herophilus of Chalcedon and Erasistratus of Ceos.²⁵ In the Hippocratic texts, perfect health is not generally the goal: patients exist on gradients of disarticulation and disproportion, and a physician would do well, as *Ancient Medicine* suggests, to limit themselves to small rather than large errors.²⁶ And for Plato, the pinnacle of health is not only difficult to achieve but dangerous, perhaps because in such a state it is impossible to improve and therefore the only possible change is for the worse.²⁷

²³ The Hippocratics (and Hesiod, to an extent) theorized various diseases, but drew on the one kind of disease in Homer, *tēkedōn* or *phthisis*, which is a kind of wasting away or dissolution—which in turn resonates with the notion of fatal injury as disarticulation. Grmek 1989, 36-39.

²⁴ On this issue, see the excellent summary in Porter and Buchan 2004, 1-4.

²⁵ Vegetti 1998, 72-73.

²⁶ “Wherefore it is laborious to make knowledge so exact that only small mistakes are made here and there. And that physician who makes only small mistakes would win my hearty praise. Perfectly exact truth is but rarely to be seen.” διὸ ἔργον οὕτω καταμαθεῖν ἀκριβέως, ὥστε σμικρὰ ἀμαρτάνειν ἔνθα ἢ ἔνθα. καὶ ἐγὼ τοῦτον τὸν ἱητρὸν ἰσχυρῶς ἐπαινέοιμι τὸν σμικρὰ ἀμαρτάνοντα. τὸ δὲ ἀτρεκέες ὀλγάκις ἔστι κατιδεῖν. Hippocrates *Ancient Medicine* 9. Trans. W. H. S. Jones.

²⁷ “Don’t you observe that they [that is, athletes in peak condition] sleep away their lives, and that if they depart ever so little from their prescribed regimen these athletes

The Hippocratic texts include detailed notes or case studies; rhetorical pieces intertwining cosmological and medical theory; and various lessons on regimen, anatomy, gynecology, orthopedics and a plethora of other topics including the proper comportment and attire (or *kosmos*) of the physician, his kit of tools, and his workspace. Several texts emphasize the centrality and effectiveness of certain techniques, such as bloodletting, while others, including the so-called Hippocratic Oath, forbid it. This clamor of voices suggests the liveliness of debate and real diversity of theories and techniques that existed in a time when literacy was vastly expanding the ability of physicians and natural philosophers to sustain these discussions across time and distance. At the same time, this makes the few concepts or approaches that the Hippocratics largely held in common all the more essential.

One such commonality is a discerning attention to symptoms. The author of a text called *Regimen* echoes a statement by Anaxagoras when he points out that, unlike himself, most men “do not understand how to observe the invisible through the visible.”²⁸ Symptoms provided the language through which the body’s invisible states of order and disorder were made visible, and reading these symptoms was generally a necessary step before making a prognosis and establishing a course of treatment. Symptoms included the emission of fluids such as sweat, mucus, tears, urine, pus, blood, bile, and vomit; but also, fevers and chills; patterns of sleep and wakefulness; unusual actions; the sound of the breath; and so on. Many Hippocratic authors

are liable to great and violent diseases?” ἢ οὐχ ὁρᾷς ὅτι καθεύδουσιν τε τὸν βίον καί, ἐὰν σμικρὰ ἐκβῶσιν τῆς τεταγμένης διαίτης, μεγάλα καὶ σφόδρα νοσοῦσιν οὗτοι οἱ ἀσκηταί; Plato *Republic* 3.304a. Trans. Paul Shorey.

²⁸ Οἱ δὲ ἄνθρωποι ἐκ τῶν φανερῶν τὰ ἀφανέα σκέπτεσθαι οὐκ ἐπίστανται· Hippocrates *Regimen* 1.11. Trans. W. H. S. Jones. “Visible existences are a sight of the unseen. [i.e. the present gives a view of the future.]” τῆς μὲν τῶν ἀδύλων καταλήψεως τὰ φαινόμενα· Anaxagoras DK59b21a. Trans. Kathleen Freeman.

present themselves as connoisseurs of such symptoms, describing a host of nuances discernible through vision, touch, smell, hearing, and even taste.²⁹ That this level of scrutiny was necessary suggests that while the classical body was becoming a site of meaning and order, this body was nonetheless defined through its opacity and interiority, through the difficulty in discerning this order.³⁰

The question of what was contained in the body and in the wider *kosmos* was a central issue in early natural philosophy. Parmenides, an older contemporary of Socrates, was interested in how things are generated: can something come from nothing? For the Greeks the answer was generally no, and many thinkers both before and after Parmenides were preoccupied with the implications of this. If things cannot be generated from nothing, then how does all the change that we observe around us occur? Thales had suggested that everything is water—that water, as a “first principle,” remains essentially the same while manifesting itself in different ways. For Heraclitus, everything was fire; and for Anaximenes, it was air. Anaximander, seeing the difficulty in saying that everything is water, for example, since water is always wet and never dry, posited the existence of the *apeiron* or “boundless,” a kind of primordial and indestructible matter, out of which realized matter springs. We do not know how Anaximander envisioned the *apeiron* differentiating into various forms of matter—whether articulation and proportion played a role, for example—since, as with most other early Greek philosophers, we have only scant evidence of his thought.

²⁹ For example, ancient accounts of Hippocrates attest that the physician was able to discern whether a woman was a virgin, by observing her gait. Diogenes Laertius tells a similar story of Democritus, and also adds that Democritus was able to discern that milk presented to him was “the milk of a black she-goat which had produced her first kid.” Diogenes Laertius *Lives of Eminent Philosophers* 9.42. Jouanna 1999, 40-41.

³⁰ Holmes 2005, 95-98.

We do, however, have much better accounts from a number of later philosophers. As we will see in Chapter Six, for both Empedocles and Plato, the apparent generation of matter results from the mixing of four roots or elements—earth, water, air, and fire—and the apparent destruction of matter results from their separation. Leucippus, Democritus, and Epicurus, whose lives spanned the 5th to 3rd centuries BCE, went even further, believing that there must be a limit to the division of matter, that the most basic, indivisible particles (*atoma*, pl. of *atomon*) are themselves characterless, and that the diversity of matter is the result of different combinations of these particles. That is to say, for these philosophers, the generative powers of articulation and proportion account for the entire diversity of the *kosmos*.

Through all of this, it is assumed that the process of mixing is a kind of articulation, and that unmixing or the separation of components is disarticulation. That these processes are equivalent is not self-evident for us. The discussion of how mixing was for the Greeks a kind of articulation will take place throughout this chapter and the next, but a few observations here may be useful to start. If we consider the intangibility of Homeric *guia*, or of the Hippocratics' hot, cold, dry, and moist powers, the lines that we would draw between fluids and solids, between tangible matter and intangible forces—or between mixing and joining—begin to dissolve: if *guia* cannot be located by an arrow, then we cannot assume that their articulation must look, to our modern eyes, just like the articulation of an object in wood, cloth, or metal. Articulation for the Greeks had to do with joints, but not just with joints; there were also other ways in which things (in the widest sense) were held together in an orderly, just, and impressive manner. For example, *harmonia* is the work of a carpenter crafting joints in wood, but it also describes how a musician creates concordant relationships between successive notes, how a statesman brings citizens together in *philia*, or how a physician forges peace between powers or humors.

Good Mixture

The Hippocratic *Nature of Man* grapples with these theories. The text begins by observing that one philosopher argues that “this one and all [ie. the *kosmos*] is air, another calls it fire, another, water, and another, earth”;³¹ similarly, some physicians “say that a man is only blood, others that he is bile, a few that he is phlegm,”³² while both the metaphysicians and physicians also argue that the *kosmos* and man are “a unity.”³³ But this is impossible, *Nature of Man* argues: the body cannot be a unity, for “if man were a unity he would never feel pain, as there would be nothing from which a unity could suffer pain.”³⁴ Pain for the Hippocratics is not (or not only) a sign or symptom, but illness or injury itself, the addition or subtraction of things from our bodies; that is, pain is the experience of our inherently composite nature.³⁵ Whereas a man in Homer dies by the loosening of his *guia*, one in *Nature of Man* dies

³¹ λέγει δ’ αὐτέων ὁ μὲν τις φάσκων ἡέρα εἶναι τοῦτο τὸ ἐν τε καὶ τὸ πᾶν, ὁ δὲ πῦρ, ὁ δὲ ὕδωρ, ὁ δὲ γῆν, Hippocrates *Nature of Man* 1.15-17. Trans. W. H. S. Jones.

³² Τῶν δὲ ἰητρῶν οἱ μὲν τινες λέγουσιν, ὥς ὄνθρωπος αἷμα μόνον ἐστίν, οἱ δ’ αὐτέων χολήν φασιν εἶναι τὸν ἄνθρωπον, ἔνιοι δὲ τινες φλέγμα· Hippocrates *Nature of Man* 2.2-4. Trans. W. H. S. Jones, modified at μόνον (included in manuscript V) to include “only.”

³³ ἀλλὰ τῆς μὲν γνώμης τὸν ἐπίλογον τὸν αὐτὸν ποιεῖνται. Φασί τε γὰρ ἐν τι εἶναι, ὅ τί ἐστι, καὶ τοῦτ’ εἶναι τὸ ἐν τε καὶ τὸ πᾶν, κατὰ δὲ τὰ οὐνόματα οὐχ ὁμολογεῖουσιν· Hippocrates *Nature of Man* 1.11-15. ἐπίλογον δὲ ποιεῖνται καὶ οὗτοι πάντες τὸν αὐτόν· ἐν γάρ τι εἶναί φασιν, ὅ τι ἕκαστος αὐτέων βούλεται ὀνομάσας, καὶ τοῦτο ἐν ἐὸν μεταλλάσσειν τὴν ιδέην καὶ τὴν δύναμιν, 2.4-8. Trans. W. H. S. Jones.

³⁴ εἰ ἐν ἧν ὁ ἄνθρωπος, οὐδέποτε’ ἂν ἥλγεεν· οὐδὲ γὰρ ἂν ἧν ὑφ’ ὅτου ἀλγήσειεν ἐν ἐών· Hippocrates *Nature of Man* 2.13-14. Trans. W. H. S. Jones.

³⁵ Holmes 2005, 66, 70-71.

through the separation of components, each returning “to its own nature...moist to moist, dry to dry, hot to hot, and cold to cold.”³⁶ One “enjoys the most perfect health when these elements are duly proportioned (μετρίως, *metreō*) to one another in respect of compounding (κρήσιος, *krasis*), power (δυνάμιος, *dunamis*), and bulk (πλήθεος, *plēthos*), and when they are perfectly mingled (μεμιγμένα, *meignumi*).”³⁷ Health is a state of articulation and proportion.

Besides this perfect state of health, there are many possible states of pain, or disease. Pain occurs “when one [element] is in defect or excess, or is isolated in the body without being compounded with all the others”;³⁸ that is, when there is either disarticulation or an improper proportion. And the two conditions are related: the suppuration, or separation, of an element is generally caused by the need “to get rid

³⁶ Καὶ πάλιν γε ἀνάγκη ἀποχωρέειν ἐς τὴν ἑωυτοῦ φύσιν ἕκαστον, τελευτῶντος τοῦ σώματος τοῦ ἀνθρώπου, τό τε ὑγρὸν πρὸς τὸ ὑγρὸν καὶ τὸ ξηρὸν πρὸς τὸ ξηρὸν καὶ τὸ θερμὸν πρὸς τὸ θερμὸν καὶ τὸ ψυχρὸν πρὸς τὸ ψυχρὸν. Hippocrates *Nature of Man* 3.18-23. Trans. W. H. S. Jones. At 4.1-4, *Nature of Man* posits four humors—blood, phlegm, yellow bile, and black bile—and these are the substances which Galen would, in the second century CE, canonize as the four humors. But there was no such consensus in the classical era: some Hippocratic texts describe more, and some describe fewer humors.

³⁷ Ὑγιαίνει μὲν οὖν μάλιστα, ὁκόταν μετρίως ἔχη ταῦτα τῆς πρὸς ἄλληλα κρήσιος καὶ δυνάμιος καὶ τοῦ πλήθεος, καὶ μάλιστα μεμιγμένα ἦ. Hippocrates *Nature of Man* 4.4-7. Trans. W. H. S. Jones.

³⁸ ἀλγέει δὲ ὁκόταν τι τουτέων ἔλασσον ἢ πλεον ἢ ἢ χωρισθῇ ἐν τῷ σώματι καὶ μὴ κεκρημένον ἢ τοῖσι ξύμπασι. Hippocrates *Nature of Man* 4.7-9. Trans. W. H. S. Jones.

of superfluity.”³⁹ Suppuration causes pain in the place from which the element separates, and if this element is not discharged from the body—through vomit, mucus, feces, or other emitted substances—but instead settles in another part, then “the place where it stands in a flood must, because of the excess, [also] cause pain and distress,”⁴⁰ resulting in “a double pain.”⁴¹ *Nature of Man* therefore advocates treatments that correct disproportions or imbalances: a disease caused by repletion is cured by evacuation; if it is caused by evacuation it is cured by repletion; if it is caused by too much rest it is cured by exercise; and so on.⁴² And because nothing exists in isolation, the physician must seek balance across a plethora of axes situating the body within its context: “to know the whole matter, the physician must set himself against the established character of the diseases, of constitutions, of seasons and of ages; he must relax what is tense and make tense what is relaxed.”⁴³ That is, he must understand the entire *kosmos*.

³⁹ Καὶ γὰρ ὅταν τι τουτέων ἔξω τοῦ σώματος ἐκρυῇ πλέον τοῦ ἐπιπολάζοντος, ὀδύνην παρέχει ἢ κένωσις. Hippocrates *Nature of Man* 4.14-16. Trans. W. H. S. Jones.

⁴⁰ Ἀνάγκη γὰρ, ὁκόταν τι τουτέων χωρισθῇ καὶ ἐφ’ ἐωυτοῦ στή, οὐ μόνον τοῦτο τὸ χωρίον, ἔνθεν ἐξέστη, ἐπίνοσον γίνεσθαι, ἀλλὰ καὶ ἔνθα ἂν ἐπιχυθῇ, ὑπερπιμπλάμενον ὀδύνην τε καὶ πόνον παρέχειν. Hippocrates *Nature of Man* 4.10-14. Trans. W. H. S. Jones.

⁴¹ πολλὴ αὐτέῳ ἀνάγκη διπλὴν τὴν ὀδύνην παρέχειν κατὰ τὰ εἰρημένα, Hippocrates *Nature of Man* 4.18-20. Trans. W. H. S. Jones.

⁴² Hippocrates *Nature of Man* 9.1-6.

⁴³ Τὸ δὲ ξύμπαν γινῶναι, δεῖ τὸν ἰητρὸν ἐναντίον ἴστασθαι τοῖσι καθεστεῶσι καὶ νουσήμασι καὶ εἶδεσι καὶ ὥρησι καὶ ἡλικίῃσι, καὶ τὰ ξυντείνοντα λύειν, καὶ τὰ λελυμένα ξυντείνειν. Hippocrates *Nature of Man* 9.6-9. Trans. W. H. S. Jones. For health as a balance between food and exercise, see Hippocrates *Regimen* 69.14-20.

Nature of Man reflects a belief, commonly held in the fourth century BCE, that disease was the result of some kind of inappropriate combination.⁴⁴ It also echoes the notion set out by Alcmaeon of Croton that “health is maintained by the equality of rights (ἰσονομίαν, *isonomia*) of the functions, wet-dry, cold-hot, bitter-sweet and the rest; but single rule (μοναρχίαν, *monarchia*) among them causes disease.”⁴⁵ The corrupting power of one quality over another is, according to Alcmaeon, caused by an excess of heat or cold, or by an excess or deficiency of nourishment. And while he allows that “external causes” such as foul water, exertion, or torture can cause disease, health for Alcmaeon is primarily “the proportionate (σύμμετρον, *summetros*) mixture (κράσιν, *krasis*) of the qualities.”⁴⁶

In the Hippocratic texts, these kinds of wide-ranging theories often slip into the background as focus is sustained on the particularities of client relationships, the reading of symptoms, the preparation of medicines, and a variety of clinical principles and techniques. This kind of pragmatic knowledge, accumulated over generations and passed on through apprenticeship, often relied on rules of thumb and case-by-case judgment more than theoretical or philosophical precepts, and it should

⁴⁴ The Anonymus Londinensis papyrus lists a number of men who held this view, including the philosophers Plato and Philolaus of Croton, but also physicians such as Polybus of Cos, Philistion of Locris, Petron of Aegina, and Menecrates. Nutton 2004, 45-46.

⁴⁵ τῆς μὲν ὑγείας εἶναι συνεκτικὴν τὴν ἰσονομίαν τῶν δυνάμεων, ὑγροῦ, ξηροῦ, ψυχροῦ, θερμοῦ, πικροῦ, γλυκέος καὶ τῶν λοιπῶν, τὴν δ' ἐν αὐτοῖς μοναρχίαν νόσου ποιητικήν· DK24b4. Trans. Kathleen Freeman, modified at συνεκτικὴν to include “maintained by.”

⁴⁶ τὴν δὲ ὑγείαν τὴν σύμμετρον τῶν ποιῶν κράσιν. DK24b4. Trans. Kathleen Freeman, modified at σύμμετρον from “harmonious.” For more on *isonomia*, see Vlastos 1953, Ehrenberg 1950.

be made clear that this kind of information pervades the Hippocratic collection.⁴⁷ Even texts that stressed theories of elements or humors did not make an attempt to derive every recommendation from these theories. As in building, music, and other forms of *technē* throughout antiquity and pre-modern times more generally, there was not in the healing arts an expectation that theory be prescriptive; rather, theory served to connect the concerns of a discipline to ideas that were philosophical in the widest sense.⁴⁸ Closely tied to this, there was the rhetorical value of such theories in allowing physicians and other craftsmen to inspire confidence and win clients. Hippocratic physicians sought to characterize their work as rational and tied to the work of philosophers in an effort to distinguish their offerings from those of traditional soothsayers and healers whose techniques and medicines were, in many ways, not so different from their own.⁴⁹

One area in which this is particularly evident is in the notion of *miasma*, pollution or impurity. An impurity —“dirt,” as Anne Carson calls it—can be thought of as matter out of place. To maintain purity is to keep matter in its place, to maintain boundaries, something that is of particular concern at transgressive moments such as the consumption of food, sexual activity, and birth or death. Washing one’s hands before participating in a sacrifice, sprinkling oneself with lustral water at the boundary of the *agora*, and refraining from menstruating or giving birth in a sanctuary were all ways

⁴⁷ On the relationship between “science” and “craft” in the practice of Greek medicine, and the relationship between Greek medicine and philosophy, see Temkin 1953, 218-22. On the nature of ancient Greek medical teaching, learning, and practice, see Nutton 1992.

⁴⁸ For how architectural theory, in modernity, became prescriptive, see Pérez-Gómez 1983, 3-8.

⁴⁹ On this, see Edelstein 1967. See also, on the role of philosophical training in winning prestige, Pleket 1992, 32-33. For a discussion of a similar situation in other crafts, see Mark 1995, 28.

of maintaining purity for the individual and the civic body alike. The risks of improperly transgressing these boundaries included illnesses but also other divine retributions; and to cure these ills, help was sought only from “Hippocratic” physicians but from seer-healers whose remedies included incantations, herbs, and water from sacred springs.⁵⁰

In Hippocratic medicine, hellebore, a strong purgative or diarrhea-inducing drug (*pharmakon*), is recommended to purge the body of excess humors. But hellebore was also used in a variety of ritual purifications to treat madness; and Theophrastus also reports that people used it to “purify (καθαίρουσι, *kathairō*) houses and sheep with it, at the same time chanting an incantation; and they put it to several other uses.”⁵¹ That is to say, though its dramatic effects when ingested were certainly formative in understandings of its powers, hellebore was not always ingested, and was often used to purify things other than human bodies. In fact, *pharmakon* means a “drug or poison,” but could also refer to a “charm or spell”; and the related *pharmakos* describes a victim expelled from a city in order to rid the city of illness or

⁵⁰ See Anne Carson’s authoritative discussion of the notion of “hygiene, physical and moral” in terms of boundaries and the leakiness of women. Carson 1996, 77. Clearly, this is not hygiene in the modern sense. While post-partum rituals could include sprinkling lustral water, bathing in the sea, and burning incense and sulphur, it could also include being drenched in the blood of a piglet. Zaidman and Schmitt Pantel 1989, 65. See also Puhvel, for the use of a pig’s urine in cleansing rituals. Puhvel 1976, 166. The polluting “dirt” that these treatments got rid of was often not even necessarily tangible: while menstrual blood and bodily pathogens could cause pollution, so could madness or—in Aristotle’s theory of tragedy—disruptive emotions in the soul. Lloyd 2003, 9.

⁵¹ καθαίρουσι δὲ καὶ οἰκίας αὐτῷ καὶ πρόβατα συνεπάδοντές τινα ἐπωδὴν καὶ εἰς ἄλλα δὲ πλείω χρῶνται. Theophrastus *A History of Plants* 9.10.4. Trans. Sir Arthur Hort, modified at οἰκίας from “horses,” to correct a typo. Parker 1983, 215-6.

political disorder.⁵² As Robert Parker observes, these forms of purification “derive from an undifferentiated ideal of purity, physical and metaphysical, necessary both for health and for proper relations with the gods.”⁵³

In this context, Hippocratic theories served a number of ends. One was to reframe the use of traditional medical practices in a rational and philosophical context. Whereas favorite treatments including bathing, purgatory drugs, and bleeding were often seen as means of getting rid of pollutants, it became plausible to start talking about excess humors instead of impurities.⁵⁴ This slippage is particularly apparent when humors and other fluids are assumed, in various Hippocratic texts, to be inherently dangerous. In *Nature of Man*, “when the flux is to the chest the patients suffer suppuration, because since the purging is along an upward passage and abides a long time in the chest it rots and turns to pus.”⁵⁵ Pus is rotten but internally generated material; while it is not quite a humor to be neutralized through balanced blending with other humors in the body, neither is it simply a foreign pollutant. Bile and phlegm, often mentioned as humors, were also thought to cause disease, or to be produced during disease.⁵⁶

⁵² Jouanna 1999, 181, Lloyd 2003, 10.

⁵³ Parker 1983, 215. See also Jouanna 1999, 157.

⁵⁴ See Nutton 2004, 72-3, and 78-9.

⁵⁵ Hippocrates *Nature of Man* 12.22-6. Trans. W. H. S. Jones.

⁵⁶ See: body, one of them becomes too moist, too dry, too hot, or too cold; they become this way from foods and drinks, from exertions and wounds, from smell, sound, sight, and venery, and from heat and cold...” Hippocrates *Affections* 1. Trans. Paul Potter. Similarly: “Bile and phlegm come into being together with man’s coming into being, and are always present in the body in lesser or greater amounts. They produce diseases, however, partly because of the effects of food and drinks, and partly because of the heat that makes them too hot, or cold that makes them too cold.” Hippocrates *Diseases I* 2. Trans. Paul Potter. See also Nutton 2004, 73.

The view of health as a balance within the body may have allowed for treatments that were less invasive than purgative drugs or bleeding. Therapies based on daily regimens of food, exercise, bathing, sleep, and even sex, were less risky—and perhaps more lucrative, involving extended individualized consultations and philosophical discussions with clients who could afford to address their health before they ever became seriously ill. For example, *Regimen in Health* emphasizes the individual combination of heat, cold, dryness, and moisture in the *phusis* of each person, in their existing regimen, and in the climate and season; given these factors, food and exercise are then adjusted to strike a balance between each duality of powers. For example, in winter one should eat more hot and dry foods, and drink only small amounts of minimally diluted wine, to counteract the coldness and wetness of the season.⁵⁷ Those with fleshy, soft, and red bodies are inherently moist, and should follow “a rather dry regimen for the greater part of the year.”⁵⁸ Young people generally are drier, with firmer bodies, and should “adopt a softer and moister regimen.”⁵⁹ Fleshy people should walk rapidly and bathe less than lean people, particularly in the winter—and both the fleshy and lean should use an unoiled cloak in the winter, and oiled ones in summer.⁶⁰ And so on.

Another treatise, known simply as *Regimen*, justifies these kinds of strategies at length, describing how the body is composed of and governed by the opposing powers of fire, which is hot and dry; and water, which is cold and moist.⁶¹ *Regimen* argues that since nothing ever perishes or comes into being,⁶² change occurs by the

⁵⁷ Hippocrates *Regimen in Health* 1.1-7 and 1.31-39.

⁵⁸ Hippocrates *Regimen in Health* 2.1-4. Trans. W. H. S. Jones.

⁵⁹ Hippocrates *Regimen in Health* 2.8-11. Trans. W. H. S. Jones.

⁶⁰ Hippocrates *Regimen in Health* 3.3-9.

⁶¹ Hippocrates *Regimen* 1.3.1-4 and 1.4.1-3.

⁶² Hippocrates *Regimen* 1.4.13-15.

constant mingling (ξυμμισγόμενα, *summignumi*) and separation (διακρινόμενα, *diakrinō*) of these powers,⁶³ none of which is ever supreme.⁶⁴ Within this flux, one must strive for balance, primarily by adjusting food and exercise, which, “while possessing opposite qualities, yet work together to produce health.”⁶⁵ If one could discover “for the nature (φύσιν, *phusis*) of each individual, a measure (μέτρον) of food and a proportionate (σύμμετρος, *summetros*) number of exercises, with no inaccuracy either of excess or defect, [then] an exact discovery of health for men would have been made.”⁶⁶ To do this—which the Hippocratic author admits is, at any rate, impossible⁶⁷—it would be

necessary, as it appears, to discern the power of the various exercises, both natural and artificial, to know which of them tend to increase flesh and which to lessen it; and not only this, but also to proportion exercise to bulk of food, to the constitution of the patient, to the age of the individual, to the season of the year, to the changes of the winds, to the situation of the region in which the patient resides, and to the constitution of the year. A man must observe the risings and settings of stars, that he may know how to watch for change and excess in food, drink, wind, and the whole universe (κόσμου, *kosmos*),

⁶³ ξυμμισγόμενα δὲ καὶ διακρινόμενα ἀλλοιοῦνται· Hippocrates *Regimen* 1.4.15-16.

⁶⁴ Hippocrates *Regimen* 1.3.19-26.

⁶⁵ Hippocrates *Regimen* 1.2.21-23. Trans. W. H. S. Jones.

⁶⁶ εἰ μὲν γὰρ ἦν εὐρετὸν ἐπὶ τούτοισι πρὸς ἐκάστην φύσιν σίτου μέτρον καὶ πόνων ἀριθμὸς σύμμετρος μὴ ἔχων ὑπερβολὴν μήτε ἐπὶ τὸ πλεόν μήτε ἐπὶ τὸ ἔλασσον, εὖρητο ἂν ἡ ὑγείη τοῖσιν ἀνθρώποισιν ἀκριβῶς. Hippocrates *Regimen* 1.2.41-46. Trans. W. H. S. Jones, modified in the second phrase (σίτου μέτρον καὶ πόνων ἀριθμὸς σύμμετρος) from “a due proportion of the measure of food to exercise.”

⁶⁷ Hippocrates *Regimen* 1.2.46-47.

from which diseases exist among men. But even when all this is discerned, the discovery is not complete.⁶⁸

The view of health as a balance is a constant trope throughout the more theoretical texts of the Hippocratic corpus, despite the realities of therapeutics and the diverse ways in which this idea is expressed. The Greeks often saw things in terms of pairs of opposites: not only hot and cold, or wet and dry, but the good and the base, the few and the masses, joining and separating, love and strife. The notion of constant opposition appealed to their view of life as *agōn*, as a struggle or contest; and through agonistic images of health, the Hippocratic texts provide vivid allusions to politics and war. In *Regimen*, elements engage in a battle for rank and place:

one part pushes, the other pulls... each keeps its own place (Χώρην, *chōra*); the parts going to the less are sorted out to the smaller place (χώραν, *chōra*), those advancing to the greater mingle and pass to the greater rank (τάξιν, *taxis*, rank in battle, order, arrangement), and the strange parts, being unsuitable, are thrust from a place that is not theirs.⁶⁹

In the *Timaeus*, *chōra* describes a kind of receptacle or womb where matter is realized;⁷⁰ and more generally the word refers to the space or room that a thing occupies, or to the region of land around a city—and it is out of this land, in the

⁶⁸ Hippocrates *Regimen* 1.2.25-41. Trans. W. H. S. Jones. See Hippocrates *Airs, Waters, Places* for an extended account of the geographic and meteorological effects on health.

⁶⁹ τὸ μὲν ὠθέει, τὸ δὲ ἔλκει· ... Χώρην δὲ ἕκαστον φυλάσσει τὴν ἑωυτοῦ, καὶ τὰ μὲν ἐπὶ τὸ μείον ἰόντα διακρίνεται ἐς τὴν ἐλάσσονα χώραν· τὰ δὲ ἐπὶ τὸ μέζον πορευόμενα, ξυμμισγόμενα ἐξαλλάσσει ἐς τὴν μέζω τάξιν· τὰ δὲ ξείνα μὴ ὁμότροπα ὠθέεται ἐκ χώρας ἀλλοτρίης. Hippocrates *Regimen* 1.6.9-10 and 13-18. Trans. W. H. S. Jones.

⁷⁰ Plato *Timaeus* 52b1.

Athenians' myth of autochthony, the people of the *polis* sprang.⁷¹ In political and martial terms, *chōra* is used for the land inhabited by a people or the post that one defends. In *Regimen*, the body is pictured like the *chōra* of a city, at once womb, farmland, and battlefield, with stronger elements standing their ground and defending their articulations, and weaker elements being loosened and displaced: in fact, suitable elements not only remain articulated but even join further: “the suitable joins the suitable, while the unsuitable wars and fights and separates (διαλλάσσει, *dialassō*) itself.”⁷²

But *agōn* is not confined to the battlefield. In describing transformations between unbounded primordial matter (*apeiron*) and various kinds of realized matter, Anaximander said that “whence things have their origin (ἀρχὴν, *archē*), thence also their destruction happens as is the order of things (κατὰ τὸ χρεών, *chreōn*); for they execute the sentence (δίκην, *dikē*) upon one another—the condemnation for the crime (ἀδικίας, *adikia*)—in conformity with the ordinance (τάξιν, *taxis*) of time.”⁷³ This vindictive view of justice was not unusual in ancient Greece. In classical Athens, for example, court cases were argued directly by the involved parties (or their appointees) and voted on by a jury; compared to modern law, there was little in the way of judicial procedure or requirements for proof, so the process relied heavily on

⁷¹ On the notion of architecture as *chōra*, see Pérez-Gómez 1994.

⁷² προσίζει γὰρ τὸ σύμφορον τῷ συμφόρῳ, τὸ δὲ ἀσύμφορον πολεμει καὶ μάχεται καὶ διαλλάσσει ἀπ’ ἀλλήλων. Hippocrates *Regimen* 1.6.27-29. Trans. W. H. S. Jones. See also Detienne and Vernant, who discuss disease as a cunning and constantly shifting enemy for the physician. Detienne and Vernant 1978, 311-12.

⁷³ Ἀ[ναξίμανδρος]. ... ἀρχὴν εἶρηκε / τῶν ὄντων τὸ ἄπειρον ἐξ ὧν δὲ ἡ γένεσις ἐστὶ τοῖς / οὖσι, καὶ τὴν φθορὰν εἰς ταῦτα γίνεσθαι κατὰ τὸ / χρεών· διδόναι γὰρ αὐτὰ δίκην καὶ τίσιν ἀλλήλοις τῆς / ἀδικίας κατὰ τὴν τοῦ χρόνου τάξιν. DK12b1. Trans. Dirk L. Couprie.

the strength of one's personal influence and rhetoric.⁷⁴ The courts were another arena for *agōn*, like the *agora*, or the fields of battle and athletic contests.⁷⁵

Similarly, decisions of the assembly were decided through an open vote rather than a secret ballot, dramatizing their agonistic nature. Nicole Loraux has observed that this kind of voting made visible the divisions between citizens in the very act that allowed them to be bound together as a civic body.⁷⁶ The image of Odysseus and Ajax wrestling in the *Iliad*—straining against each other as the bond formed by their mutual grip is compared to the joint of the mighty rafters of a house—is a fitting image for this kind of strife which connects, like the cohesion maintained in the tension between opposing elements.⁷⁷ Or, in Heraclitus' fragmentary but enigmatic statements: “They do not understand how that which differs with itself is in agreement: harmony (ἁρμονία, *harmonia*) consists of opposing tension, like that of the bow and the lyre.”⁷⁸ Or, “that which is in opposition is in concert (ἁρμονίαν, *harmonia*), and from strife (ἔρις, *eris*) comes the most beautiful harmony (ἁρμονίαν, *harmonia*).”⁷⁹ Or, “joints (συνάψεις, *sunapsis*): whole and not whole,

⁷⁴ Davidson 1997, xx-xxi.

⁷⁵ See Loraux 2006, 53, 98-100, Davidson 1997, 213-18.

⁷⁶ Loraux 2006, 100-02.

⁷⁷ *Il.* 23.710-20. See Chapter Two, “Fitting Things.”

⁷⁸ καὶ ὅτι τοῦτο οὐκ ἴσασι πάντες οὐδὲ ὁμολογοῦσιν, ἐπιμέμφεται ὧδέ πως· οὐ ξυνιάσιν ὅπως διαφερόμενον ἐωυτῷ ὁμολογέει· παλίντροπος ἁρμονίη ὅκωσπερ τόξου καὶ λύρης. DK22b51. Trans. Kathleen Freeman. See also T.M. Robinson's translation of the same: “They do not understand how, while differing from [or: being at variance], <it> is in agreement with itself. <There is> a back-turning connection, like <that> of a bow or lyre.”

⁷⁹ τὸ ἀντίξουν συμφέρον καὶ ἐκ τῶν διαφερόντων καλλίστην ἁρμονίαν καὶ πάντα κατ' ἔριν γίνεσθαι DK22b8. Trans. Kathleen Freeman, modified at ἔριν from “things that differ.” See also T. M. Robinson's translation of the same:

connected-separate, consonant-dissonant.”⁸⁰ Or, most simply, “justice (δίκην *dikē*) [is] strife (ἔριν, *eris*).”⁸¹ To engage in the city, to be a citizen, to honor one’s bonds of *philia*, was to engage in *agōn*; to withdraw from this public life was to be ignorant and dishonorable, an *idiōtēs*, and was punishable with *atimia*, the loss of honor and citizen privileges.

It is no surprise, then, that the Hippocratic *Ancient Medicine* presents digestion as an *agōn* or contest between the body and its food.⁸² From its opening sentence the text draws a polemic with Empedocles’ four roots.⁸³ Its author caricaturizes humoral and elemental theories of medicine: “For if there be such a thing as heat, or cold, or dryness, or moistness which injures a man,” he argues, “it necessarily follows that the scientific healer will counteract cold with hot, hot with cold, moist with dry and dry with moist”⁸⁴—but this simplistic kind of balance between heat and cold, or moist and dry, cannot account for the wide variety of real diseases and cures.⁸⁵ Instead, one

“[Heraclitus says that] what opposes unites, [and that the finest attunement stems from things bearing in opposite directions, and that all things come about by strife].”

⁸⁰ συνάψεις ὅλα καὶ οὐχ ὅλα, συμφερόμενον διαφερόμενον, συνᾶιδον διαίδον, καὶ ἐκ πάντων ἐν καὶ ἐξ ἐνὸς πάντα. DK22b10. Trans. Kathleen Freeman. See also T. M. Robinson’s translation of the same: “things grasped together: things whole, things not whole; <something> being brought together, <something> being separated; <something> consonant, <something> dissonant. Out of all things <comes?> [sic] one thing, and out of one thing all things.”

⁸¹ καὶ δίκην ἔριν. DK22b80. Trans. T. M. Robinson. See also Kathleen Freeman’s translation of the same: “jurisdiction is strife.”

⁸² Plato also employs an agonistic view of digestion. Plato *Timaeus* 81a-3.

⁸³ Hippocrates *Ancient Medicine* 1.1-11. The author later criticizes Empedocles by name, at 20.6.

⁸⁴ Hippocrates *Ancient Medicine* 13.3-7. Trans. W. H. S. Jones.

⁸⁵ Hippocrates *Ancient Medicine* 13.8-35.

must look more closely, considering the specific characteristics of substances—such as salty, bitter, sweet, acid, astringent, or insipid—since each of these has its own powers (δυνάμιας, *dunamis*).⁸⁶

The central argument in *Ancient Medicine* is that medicine originated in the discovery of cooking. Long ago, the text argues, it was discovered that sick men benefit from different food than healthy men; and the food that benefits sick men is different again from that of animals.⁸⁷ Humans cannot eat the kind of “strong and savage diet, raw, unmixed (ἄκρητα, *a-kratos*) and possessing great powers,”⁸⁸ which suit animals; and early people realized they needed to seek “nourishment that harmonized (ἀρμόζουσαν, *harmozō*) with their constitution.”⁸⁹ In the earliest times, portion sizes were simply reduced during illness—and this helped—but people eventually realized that weaker food was necessary; and hence the invention of stews, made by mixing and boiling foods in water; and later, drinks.⁹⁰ People also began to experiment with boiling and baking after mixing (ἐμῖξαν, *mignumi*) their food, which they did in order to compound (ἐκέρασαν, *kerannumi*) things with strong and unmixed (ἄκρητα, *akratos*) powers with weaker ones.⁹¹ Cooking was thereby

⁸⁶ Hippocrates *Ancient Medicine* 14.31-35.

⁸⁷ Hippocrates *Ancient Medicine* 3.1-18.

⁸⁸ ἰσχυρῆς τε καὶ θηριώδεος διαίτης ὡμά τε καὶ ἄκρητα καὶ μεγάλας δυνάμιας ἔχοντα. Hippocrates *Ancient Medicine* 3.22-24. My translation.

⁸⁹ διὰ δὴ ταύτην τὴν αἰτίην καὶ οὗτοί μοι δοκέουσι ζητῆσαι τροφήν ἀρμόζουσαν τῇ φύσει Hippocrates *Ancient Medicine* 3.33-35. Trans. W. H. S. Jones.

⁹⁰ Hippocrates *Ancient Medicine* 5.12-29.

⁹¹ ἄλλα τε πολλὰ περὶ ταῦτα πρηγματευσάμενοι ἤψησάν τε καὶ ὥπτησαν καὶ ἐμῖξαν, καὶ ἐκέρασαν τὰ ἰσχυρά τε καὶ ἄκρητα τοῖς ἀσθενεστέροις, πλάσσοντες πάντα πρὸς τὴν τοῦ ἀνθρώπου φύσιν τε καὶ δύναμιν, Hippocrates *Ancient Medicine* 3.39-44.

invented to form a *krasis*, adjusting, or proportioning, the powers of foods according to the constitution and state of the person: in this sense, every food is what we would call a drug.⁹² But what makes medicine difficult is that although the body benefits when it wins this digestive contest, weaker food is not always better.⁹³ One needs to find the just mean: if one takes not enough food, or food that is too weak, “the mistake is as great as that of excess.”⁹⁴ And while “it is necessary to aim at some measure (μέτρον, *metron*),”⁹⁵ the author also admits that “no measure (μέτρον, *metron*), neither number (ἀριθμὸν, *arithmos*) nor weight (σταθμὸν, *stathmon*), by reference to which knowledge can be made exact, can be found except bodily feeling.”⁹⁶

Despite its agonistic characterization, digestion in *Ancient Medicine* not only involves the breaking down of food; it is rather a larger process of coction (πέσσηται, *pessō*),⁹⁷ which also involves mixture (μυθῆναι, *mignumi*) and compounding (κρηθῆναι, *kerannumi*)⁹⁸—that is, articulation. The *dunameis* “when mixed (μεμυγμένα, *mignumi*) and compounded (κεκρημένα, *kerannumi*) with one another are neither apparent nor do they hurt a man; but when one of them is separated off

⁹² See Vegetti 1998.

⁹³ Hippocrates *Ancient Medicine* 9.1-13.

⁹⁴ Hippocrates *Ancient Medicine* 9.6-9. Trans. W. H. S. Jones.

⁹⁵ δεῖ γὰρ μέτρον τινὸς στοχάσασθαι. Hippocrates *Ancient Medicine* 9.15. Trans. W. H. S. Jones.

⁹⁶ μέτρον δὲ οὔτε ἀριθμὸν οὔτε σταθμὸν ἄλλον, πρὸς ὃ ἀναφέρων εἴη τὸ ἀκριβές, οὐκ ἂν εὖροις ἄλλ’ ἢ τοῦ σώματος τὴν αἴσθησιν. Hippocrates *Ancient Medicine* 9.15-18. Trans. W. H. S. Jones.

⁹⁷ Hippocrates *Ancient Medicine* 19.55.

⁹⁸ τὸ δὲ πεφθῆναι γίνεται ἐκ τοῦ μυθῆναι καὶ 1 κρηθῆναι ἀλλήλοισι καὶ συνεψηθῆναι. Hippocrates *Ancient Medicine* 19.9-10.

(ἀποκριθῇ, *apokrinō*), and stands alone, then it is apparent and hurts a man.”⁹⁹ Although, in *Ancient Medicine*, there are “innumerable (μυρία, *muria*)” powers rather than a fixed number,¹⁰⁰ this argument nonetheless shares a great deal with the humoral and elemental theories that it criticizes. In both, moderation, measure, and mixing produce health; while that which stands alone, like a hoplite stepping out of rank, causes illness. Like *Ancient Medicine*, *Regimen* vouches for food made of the most varied ingredients—those that “disagree while agreeing.”¹⁰¹

Galen later crystallizes this notion through the term *eukrasia*, or “good mixture,” a composition of humors that is both justly proportioned and thoroughly mixed: in this

⁹⁹ ταῦτα μὲν μεμιγμένα καὶ κεκρημένα ἀλλήλοισιν οὔτε φανερά ἐστιν οὔτε λυπεῖ τὸν ἄνθρωπον. ὅταν δέ τι τούτων ἀποκριθῇ καὶ αὐτὸ ἐφ’ ἑωυτοῦ γένηται, τότε καὶ φανερόν ἐστι καὶ λυπεῖ τὸν ἄνθρωπον: Hippocrates *Ancient Medicine* 14.35-39. Trans. W. H. S. Jones. The positive associations of *krasis* cover a wide range for the Hippocratics: vomit, for example is a more positive indicator when the bile and phlegm in it is mixed. Hippocrates *Prognostic* 13.1-4. Cf. *Affections* 16. For example, “pungent and acrid acids” therefore cause one to “suffer greatly from frenzy, from gnawings of the bowels and chest, and from restlessness” until the offending power “is purged away, or calmed down and mixed with the other humors.” καὶ ὅσοισι δὲ ὀξύτητες προσίστανται δριμεῖαί τε καὶ ἰώδεις, οἶαι λύσσαι καὶ δήξιες σπλάγχνων καὶ θώρηκος καὶ ἀπορίη: οὐ παύεται τι τούτου πρότερον, πρὶν ἢ ἀποκαθαρθῇ τε καὶ καταστορεσθῇ καὶ मिχθῇ τοῖσιν ἄλλοισιν: Hippocrates *Ancient Medicine* 19.37-41. Trans. W. H. S. Jones.

¹⁰⁰ καὶ ἄλλα μυρία, παντοίας δυνάμεις ἔχοντα, πλήθος τε καὶ ἰσχύν. Hippocrates *Ancient Medicine* 14.33-35. My translation.

¹⁰¹ Μάγειροι ὄψα σκευάζουσιν ἄνθρωποισι διαφόρων, συμφόρων, παντοδαπὰ συγκρίνοντες, ἐκ τῶν αὐτῶν οὐ τὰ αὐτὰ, βρώσιν καὶ πόσιν ἄνθρώπων. Hippocrates *Regimen I* 18.10-13. Trans. W. H. S. Jones.

one term, he defines health as articulation and proportion.¹⁰² And just as *krasis* can describe one's bodily or mental mixture and therefore one's health and character,¹⁰³ it could also describe a healthy mixture of air in a region, and therefore the climate.¹⁰⁴ The notion of a *krasis*, therefore, has a prominent place in a variety of realms; and I would speculate that the Greek habit of mixing wine with water contributed to this eagerness to think of mixing or diluting as a means for rendering strong powers healthier and more agreeable. Greeks rarely drank either wine or water on its own; in fact, the consumption of neat wine was considered dangerous, and a sign of

¹⁰² See Phillip De Lacy's discussion on this matter: at times, Galen "would restrict the term *eukrasia* to the healthiest state, as he admits other states that are healthy but not well blended...But sometimes Galen simply describes health as *eukrasia* of the four qualities, disease as *dyskrasia*." De Lacy 1984, 651n300.29-30. See also, for example: "Why is it that, if both summer and autumn are dry with a northerly wind, those liable to inflammation and women benefit? Is it because the nature of both shows excess in the one direction, so that nature, pulling the opposite way, restores the balance (εὐκρασίαν, *eukrasia*)?" Διὰ τί, ἐὰν βόρειον γένηται τὸ θέρος καὶ αὐχμῶδες, καὶ τὸ μετόπωρον, συμφέρει τοῖς φλεγματώδεσι καὶ ταῖς γυναιξίν; ἢ ὅτι ἡ φύσις ἐπὶ θάτερα ἀμφοῖν ὑπερβάλλει, ὥστε εἰς τοῦναντίον ἢ ὥρα ἐλκύσασα καθίστησιν εἰς τὴν εὐκρασίαν· (pseudo-) Aristotle *Problems* 860b12. Trans. W. S. Hett.

¹⁰³ For "a good blend (εὐκρασίαν, *eukrasia*) and healthiness in the body (σώματος, *sōma*)," εὐκρασίαν τοῦ σώματος καὶ ὑγίειαν· Aristotle *Parts of Animals* 673b26-27. Trans. A. L. Peck and E. S. Forster.

¹⁰⁴ For εὐκρασίαν (*eukrasia*) describing a "well-blended climate," see Plato *Timaeus* 24c8.

immoderation (a lack of that most cherished trait of *sōphrosunē* or “moderation”).¹⁰⁵ What is unmixed is dangerous: the word *akratos*, or “unmixed,” also means “strong,” “untempered,” and even “violent.” *Ancient Medicine* warns against foods that are “either bitter, or salt, or acid, or something else unmixed (ἄκρητόν, *akratos*) and strong,”¹⁰⁶ such as the “highly seasoned delicacies” which “gratify [one’s] appetite”¹⁰⁷ while causing “disorder (τάραχος, *tarachos*)” and the “isolation (ἀπόκρισις, *apokrisis*) of powers” in the body.¹⁰⁸ Instead, recommended foods include bread and barley-cake, which are healthy and nourishing “for no other reason except that they are well compounded (εὖ τε κέκρηται, *eu kerannumi*), and have nothing undiluted (ἄκρητον, *akratos*), but form a single, simple whole.”¹⁰⁹

¹⁰⁵ Davidson 1997, 46-47. Note that Aristotle will also be keenly interested in mixtures and proportional relationships; see Fine 1996, Hussey 2002, 226-28, Sharvy 1983.

¹⁰⁶ τοῦτο δέ, τῶν βρωμάτων ὅσα ἡμῖν ἀνεπιτήδειά ἐστιν καὶ λυμαίνεται τὸν ἄνθρωπον ἐμπεσόντα, τούτων ἐν ἑκάστων ἢ πικρὸν ἐστιν ἢ ἀλμυρὸν ἢ ὀξύ ἢ ἄλλο τι ἄκρητόν τε καὶ ἰσχυρόν, καὶ διὰ τοῦτο ταρασσόμεθα ὑπ’ αὐτῶν, ὥσπερ καὶ ὑπὸ τῶν ἐν τῷ σώματι ἀποκρινομένων. Hippocrates *Ancient Medicine* 14.39-45. Trans. W. H. S. Jones, modified at ἄκρητόν.

¹⁰⁷ ἔξω τῶν πρὸς ἡδονὴν τε καὶ κόρον ἡρτυμένων τε καὶ ἐσκευασμένων. Hippocrates *Ancient Medicine* 14.50-51. Trans. W. H. S. Jones.

¹⁰⁸ The author says about bread, cake, and other such foods that “from such foods, when plentifully partaken of by a man, there arises no disorder at all or isolation of the powers resident in the body,” thus suggesting the opposite for the above-mentioned “highly-seasoned delicacies.” ἀπὸ τούτων πλείστων ἐσιόντων ἐς τὸν ἄνθρωπον τάραχος καὶ ἀπόκρισις τῶν ἀμφὶ τὸ σῶμα δυναμίων ἥκιστα γίνεται, Hippocrates *Ancient Medicine* 14.51-54. Trans. W. H. S. Jones.

¹⁰⁹ δι’ οὐδὲν ἕτερον γίνεται ἢ ὅτι εὖ τε κέκρηται καὶ οὐδὲν ἔχει οὔτε ἄκρητον οὔτε ἰσχυρόν, ἀλλ’ ὅλον ἐν τε γέγονε καὶ ἀπλοῦν. Hippocrates *Ancient Medicine* 14.55-57. Trans. W. H. S. Jones.

Unequal Feasting

Such gastronomic choices could not but have implications for the state of one's city and soul.¹¹⁰ When properly cooked and consumed in the correct portions, food acted as a drug, able to order the body; we can also understand the consumption of meat in sacrifice in this context, as part of a kind of regimen for the civic body, pro-actively maintaining *isonomia*. In the 6th century BCE, Theognis of Megara describes the *polis* in terms of a feast (*dais*) and the feast in terms of a *polis*, cautioning against excess in both.¹¹¹ He speaks at length about the need to find a moderate path between “limb-loosening (λυσιμελῆς, *lusimelēs*) thirst and harsh intoxication.”¹¹² Men, he suggests, should be like him and go home when they have reached the measure (μέτρον, *metron*) of wine drinking,¹¹³ having reached the stage that is most graceful (χαριέστατος, *charieis*)¹¹⁴ yet without strife (ἔριδος, *eris*)¹¹⁵—with strife being a result of exceeding one's measure (μέτρον, *metron*) and no longer being the master

¹¹⁰ On the role of sacrifice as division and sharing, and therefore as the *polis*, see Loraux 1981.

¹¹¹ Levine 1985, 176.

¹¹² Δισσαί τοι πόσιος κῆρες δειλοῖσι βροτοῖσιν, / δίψα τε λυσιμελῆς καὶ μέθυσις χαλεπή· / τούτων δ' ἂν τὸ μέσον στρωφήσομαι, οὐδέ με πείσεις / οὔτε τι μὴ πίνειν οὔτε λίην μεθύειν. Theognis *Elegiac Poetry* 837-840. Trans. Daniel B. Levine.

¹¹³ αὐτὰρ ἐγώ—μέτρον γὰρ ἔχω μεληδέος οἴνου / ὕπνου λυσικάκου μνήσομαι οἴκαδ' ἰών. Theognis *Elegiac Poetry* 475-76.

¹¹⁴ ἦκω δ' ὥς οἶνος χαριέστατος ἀνδρὶ πεπόσθαι· / οὔτε τι γὰρ νήφω οὔτε λίην μεθύων. Theognis *Elegiac Poetry* 477-78.

¹¹⁵ ὑμεῖς δ' εὖ μυθεῖσθε παρὰ κρητῆρι μένοντες, / ἀλλήλων ἔριδος δὴν ἀπερυκόμενοι, / εἰς τὸ μέσον φωνεῦντες ὁμῶς ἐνὶ καὶ συνάπασιν. Theognis *Elegiac Poetry* 493-95.

of one's speech or actions.¹¹⁶ Alongside encouraging moderation in one's own consumption, Theognis argues for what he calls a "middle (μέσσην, *mesos*) way" in public distribution, warning a man named Kyrnos to not give away "the possessions of others."¹¹⁷ Elsewhere, he laments the fact that the "distribution of possessions into the middle (μέσον, *meson*)" is no longer *isos* (ἴσος), which has caused *kosmos* (κόσμος) to perish, inverting the normal order and allowing the base to be above the good.¹¹⁸

The most important occasion for drinking either moderately or immoderately was the symposium (*sumposion*), an event associated with indulgence in the food, drink, conversation, music, women, and boys that were the privilege of elite men. A commonality, and perhaps a shared genealogy, between the classical civic sacrifice

¹¹⁶ ὃς δ' ἂν ὑπερβάλλῃ πόσιος μέτρον, οὐκέτι κείνος / τῆς αὐτοῦ γλώσσης
καρτερός οὐδὲ νόον· / μυθεῖται δ' ἀπάλαμνα, τὰ νήφοσι γίνεται αἰσχρά, /
αἰδεῖται δ' ἔρδων οὐδέν, ὅταν μεθύῃ, / τὸ πρὶν ἐὼν σώφρων, τότε νήπιος.
Theognis *Elegiac Poetry* 479-483. See also "Wine makes the mind (νόον, *noos*) of
the balanced and unbalanced man evaporate / whenever it is drunk beyond
moderation (ὑπὲρ μέτρον, *hyper metron*)." Ἄφρονος ἀνδρὸς ὁμῶς καὶ
σώφρονος οἶνος, ὅταν δὴ / πίνῃ ὑπὲρ μέτρον, κοῦφον ἔθηκε νόον. Theognis
Elegiac Poetry 497-98. Trans. Daniel B. Levine. And also: "But when what is above
turns into what is underneath, then it is time for us to stop drinking and go home."
ἀλλ' ὁπότεν καθύπερθεν ἐὼν ὑπένερχε γένηται, / τουτάκις οἴκαδ' ἴμεν
παυσάμενοι πόσιος. Theognis *Elegiac Poetry* 843-44. Trans. Daniel B. Levine.

¹¹⁷ Ἦσυχος ὥσπερ ἐγὼ μέσσην ὁδὸν ἔρχεο ποσσίν, μηδ' ἐτέροισι διδούς,
Κύρνε, τὰ τῶν ἐτέρων. Theognis *Elegiac Poetry* 331-32. Trans. Daniel B. Levine.

¹¹⁸ χρήματα δ' ἀρπάζουσι βίῃ, κόσμος δ' ἀπόλωλεν, / δασμὸς δ' οὐκέτ' ἴσος
γίνεται ἐς τὸ μέσον· / φορτηγοὶ δ' ἄρχουσι, κακοὶ δ' ἀγαθῶν καθύπερθεν. /
δειμαίνω, μή πως ναῦν κατὰ κύμα πίῃ. Theognis *Elegiac Poetry* 677-680. Trans.
Daniel B. Levine.

and the symposium is suggested by the nature of feasts in Homer and other pre-classical sources, with their equal emphasis on food and wine and their function both as social meals and councils of warriors or princes. But in classical Athens, the two were sharply distinguished from each other: while sacrifice was regulated as an institution of the *polis*—sometimes even with laws forcing citizens to eat the *polis*' food—the symposium, hosted by a private individual in his home, was explicitly removed from this public realm. James Davidson explains the difference with the fact that, with a few exceptions, such as fish and wild game,¹¹⁹ meat had to be consumed within the context of sacrifice, with its strict procedures of butchery and cooking and its emphasis on the homogeneity of shares. This rendered meat ineligible for culinary experimentation, whereas fish could be purchased in the market and prepared to indulge individual gastronomic tastes—literally, a consumer commodity.¹²⁰ Favorite types of fish inspired a rabid frenzy among fish-lovers and symbolized appetite;¹²¹ as Davidson suggests, this may have something to do with why a description of the desirable body of a fish could be used to speak about the seductive appearance of a woman.¹²² And they were expensive: fish, alongside vintage wine and skilled entertainers, became a sign not only of pleasure, but also of the consumption of wealth.¹²³

¹¹⁹ One possible reason why fish were not sacrificed is their relative bloodlessness; tuna, one of the bloodier of fish, was also the one of a few types of fish eligible for sacrifice. Davidson 1997, 18.

¹²⁰ Davidson 1997, 16-20.

¹²¹ Davidson 1997, 5-9.

¹²² Davidson 1997, 9, 11.

¹²³ Davidson 1997, 9-10, 15-16.

The introduction of fish into classical symposia marked a relatively new category of eating, celebrated and deplored as a modern indulgence.¹²⁴ In classical Greece these categories were marked by distinguishing between two kinds of solid, non-sacrificial foods: *sitos* referred to bread and other grain-based staples, while *opson* eventually meant “fish” but primarily referred to relishes and any other salty or highly seasoned accompaniments. One ate *sitos* with the left hand and *opson* with the right, and the main sustenance of one’s diet was supposed to come from *sitos*, with *opson*—what Jacques Derrida would call a “dangerous supplement”¹²⁵—only as a garnish. But greed and a love of fish and other delicacies could cause one to invert this order and dine disproportionately on *opson*; such individuals were called, often disapprovingly, *opsophagoi*.¹²⁶ *Ancient Medicine*’s warning about the disordering effects of rich and seasoned foods can be seen in the context of these categories.

After the consumption of food in the first part of a symposium, the tables were cleared and the floors swept in preparation for drinking. At the center of the room there would be a large mixing bowl or *kratēr*, in which the host or his appointee—called the “leader of the symposium (*sumposiarchos*),” or even the “king

¹²⁴ Fish are not found in the simple and sacrifice-centric cuisine depicted in Homer, a fact which mystified classical Greeks. Davidson 1997, 12-18. For the shift from Homeric meat-centric sacrifices to the wine-centric aristocratic banquets in late archaic times, see Schmitt Pantel 1992, 50-52.

¹²⁵ Davidson 1997, 23-24.

¹²⁶ Literally, “fish eater,” although as Davidson describes, *opson* is not only fish. In contrast with *sitos*, *opson* describes relishes and garnishes as opposed to bread and other staples; or that which is taken with the right hand as opposed to the left (and in that way, perhaps being defined by the differentiation between food and excrement, if the Greeks respected a distinction between clean and dirty hands): “*Opson* is not a material object, and not really an idea. It is, above all, a space.” Davidson 1997, 20-23.

(*basileus*)”—mixed wine and water. The resulting *krasis* was distributed in fixed rounds such that each person drank the same amount;¹²⁷ the purported aim was to enhance sociality while not allowing the party to fall into drunken disorder. The role of the *kratēr* was therefore akin to the hearth in sacrifice where meat is homogenized and equalized by being boiled in a stew; to the central distribution of goods by a Homeric chief or as laid out by the constitution of a classical *polis*; or perhaps even to the lottery for selecting members of the Athenian *boulē*, which equalized each citizen’s chance of being selected.¹²⁸ The appropriate proportion of wine to water was subject to debate, but Davidson’s survey of available sources suggests that three parts water to one part wine would be considered decorous in most places, but perhaps too weak, while a ratio of two to one was generally acceptable, if designating “a particularly excessive and greedy kind of drinking.”¹²⁹ Notwithstanding considerable variations, we can say that in general, wine was not to exceed water, maintaining a balance not unlike that between *opson* and *sitos*.

According to Davidson, the formality of portioning wine and the division between *opson* and *sitos* belie anxiety about consumption. Viewed from the inside, there was often someone at a symposium who gobbled up the fish before you could get any, who snuck extra rounds of wine, or who even drank unmixed wine straight out of the amphora.¹³⁰ Viewed from the outside, the participants of symposia, particularly the most indulgent and disorderly ones, were seen with suspicion by the masses.¹³¹ There

¹²⁷ Levine 1985, 176n1. Davidson also observes that at public events, *oinoptai* or “wine-watchers” were appointed to ensure that each person drank the same amount. Davidson 1997, 46, 291.

¹²⁸ The use of the lottery was often equated with democracy, particularly by its opponents. Hansen 1999, 235-36.

¹²⁹ Davidson 1997, 46.

¹³⁰ Davidson 1997, 5, 21-22, 48.

¹³¹ Davidson 1997, 206-10, 46-49, 78-79.

are a few reasons for this. The Athenian system of special taxes and liturgies required of the wealthy, in order to fund war efforts and public festivals, meant that the whole *polis* had a stake in the property of an individual;¹³² the dissipation of one's patrimony through extravagant spending was actually illegal.¹³³ A deeper reason, not unconnected to the first, has to do with the Greek preference for moderation (*sōphrosunē*) and the fear of greed (*pleonexia*). This, in turn, was related to the concern that immoderate desires were in fact insatiable, that a lack of proportion implied boundlessness. The expense of satisfying limitless desires would, it was thought, lead even the richest man to devour his own estate and then turn to the property of others and eventually to that of the *polis*.¹³⁴ As Davidson demonstrates, such a man would be suspected of harboring tyrannical or conspiratorial impulses, of plotting to bring *stasis* and revolution to the *polis* in order to usurp wealth and power for his own gain.¹³⁵ In the *Iliad*, Achilles calls Agamemnon a “people-devouring king (δημοβόρος βασιλεὺς, *dēmoboros basileus*)”;¹³⁶ such a man does not only eat more than his share, but he eats the *dēmos* itself.

A gluttonous appetite, whether for food, drink, or sex, was therefore a sign that one was like a leaky vessel or bottomless cistern.¹³⁷ Or a like a woman: female bodies, with their penetrability and their ability to procreate, defined for classical Greeks the unboundable and insatiable body.¹³⁸ It was the appearance of Pandora, after all, which Hesiod associated with the origins of reproduction, continual hunger, and the

¹³² Davidson 1997, 229-30, 39-42.

¹³³ Davidson 1997, 242.

¹³⁴ Davidson 1997, 246-49, 57, 92-93. For a general account of greed in classical Athens, see Balot 2001.

¹³⁵ Davidson 1997, 278-79, 307-8.

¹³⁶ *Il.* 1.231. Trans. A. T. Murray.

¹³⁷ Davidson 1997, 173-74, 254-56.

¹³⁸ Carson 1996.

other ills that escaped her opened jar.¹³⁹ But boundless appetite, and not femininity in itself, was the cause for concern: Hesiod also attributes evil to “bribe-swallowing lords.”¹⁴⁰ In a similar vein, Solon connects greed, and appetite at a banquet, to civic disorder:

But the citizens themselves, persuaded by possessions, are willing to destroy the *polis* (πόλιν) with their mindlessness, and the mind (νόος, *noos*) of the leaders of the *demos* (δήμου) is without *dikē* (ἄδικος) ... For they do not know how withstand *koros* (κόρον, “one’s fill, satiety”), nor how to put in order (κοσμεῖν, *kosmeō*) their present mirth in the quietude of a banquet (δαιτὸς, *dais*).¹⁴¹

¹³⁹ In the *Theogony*, he compares women to “drones [who] stay at home in the covered skeps and reap the toil of others into their own bellies (γαστέρ’, *gastēr*).” οἱ δ’ ἔντοσθε μένοντες ἐπηρεφέας κατὰ σίμβλους / ἀλλότριον κάματον σφετέρην ἐς γαστέρ’ ἀμῶνται Hesiod *Theogony* 594-602. Trans. Hugh G. Evelyn White. In *Works and Days*, he describes how Pandora removed the lid from the jar, releasing sorrows and ills for mankind. ἀλλὰ γυνὴ χεῖρεσσι πίθου μέγα πῶμ’ ἀφελούσα / ἐσκέδασ’· ἀνθρώποισι δ’ ἐμήσατο κήδεα λυγρά. Hesiod *Works and Days* 94-95. See also Vernant 1989, 60-68.

¹⁴⁰ βασιλῆας / δωροφάγους Hesiod, *Works and Days* 38-39. Trans. Hugh G. Evelyn White. Hesiod also recommends moderation in terms of not putting all of one’s goods on ships: μηδ’ ἐν νηυσὶν ἅπαντα βίον κοίλῃσι τίθεσθαι: / ἀλλὰ πλέω λείπειν, τὰ δὲ μείονα φορτίζεσθαι. / δεινὸν γὰρ πόντου μετὰ κύμασι πῆματι κύρσαι. / δεινὸν δ’ εἴ κ’ ἐπ’ ἅμαξαν ὑπέρβιον ἄχθος αἰείρας / ἄξονα καυάξαις καὶ φορτία μαυρωθείη. / μέτρα φυλάσσεσθαι: καιρὸς δ’ ἐπὶ πᾶσιν ἄριστος. Hesiod *Works and Days* 689-94.

¹⁴¹ αὐτοὶ δὲ φθείρειν μεγάλην πόλιν ἀφραδίῃσιν / ἀστοὶ βούλονται χρήμασι πειθόμενοι, / δήμου θ’ ἡγεμόνων ἄδικος νόος, οἷσιν ἐτοῖμον / ὕβριος ἐκ μεγάλης ἄλγεα πολλὰ παθεῖν· οὐ γὰρ ἐπίστανται κατέχειν κόρον οὐδὲ

Plato also employs the imagery of sympotic drunkenness and excess to warn against dangers—but for him, the danger is not immoderate greed but a pure and “unmixed” democracy. In the *Republic*, he describes people who were “thirsty” for freedom but received as leaders bad wine pourers (οἰνοχόων, *oinochōos*), who caused them to get drunk (μεθυσθῆναι, *methuskō*) from freedom as if they had imbibed unmixed (ἄκράτου, *a-krâtos*) wine.¹⁴² This echoes his argument, in the *Laws*, that geometric proportion must be tempered by arithmetic proportion in the distribution of wealth and offices: oligarchic and democratic impulses check each other as they are blended, producing a moderate politics out of more extreme forms.¹⁴³ Plutarch later refers to this statement from the *Republic* to explain the democratic revolution in Megara, accusing wine-pouring (οἰνοχοοῦντων, *oinochoeō*) demagogues of giving unmixed (ἄκρατον, *akrâtos*) freedom to the poor. He describes how drunken rabble entered the houses of the rich, demanding to be feasted, and turning to force and outrage when they were not given what they wanted.¹⁴⁴ Tyranny and revolution were,

παρούσας / εὐφροσύνας κοσμεῖν δαιτὸς ἐν ἡσυχίῃ Solon frag. 4.5-10 West.
Trans. Daniel B. Levine.

¹⁴² “Why, when a democratic city athirst for liberty gets bad cupbearers for its leaders and is intoxicated by drinking too deep of that unmixed wine, and then, if its so-called governors are not extremely mild and gentle with it and do not dispense the liberty unstintedly, it chastises them and accuses them of being accursed oligarchs.”
ὅταν οἶμαι δημοκρατουμένη πόλις ἐλευθερίας διψήσασα κακῶν οἰνοχόων
προστατούντων τύχῃ, καὶ πορρωτέρω τοῦ δέοντος ἀκράτου αὐτῆς μεθυσθῇ,
τοὺς ἄρχοντας δὴ, ἂν μὴ πάνυ πρᾶοι ὥσι καὶ πολλὴν παρέχωσι τὴν
ἐλευθερίαν, κολάζει αἰτιωμένη ὥς μαρούς τε καὶ ὀλιγαρχικούς. Plato *Republic*
8.562c-d. Trans. Paul Shorey.

¹⁴³ Plato *Laws* 757d-e. See Chapter Four, “Equal Feasting.”

¹⁴⁴ “When the Megarians had expelled Theagenes, their despot, for a short time they were sober and sensible in their government. But later when the popular leaders

therefore, by no means threatened only by the wealthy: the dangers of immoderation, for Athenians, could strike from any corner.

If wine was so dangerous, why risk it? Besides the pleasure of intoxication, there was an understanding that it had a therapeutic effect on the soul. As Sheramy Bundrick observes, “for Plato, wine can act as a *pharmakon*, producing drunkenness and disorder but yielding an allopathic result, the restoration of *sōphrosunē* in the soul”; in sympotic imagery, Bundrick argues, the effect of Dionysos together with his wine and music is to bring one to the edge of disorder, and through that disorder into harmony.¹⁴⁵ Avoiding the powers of wine entirely would, therefore, expose one to

pulled a full and heady draught of freedom for them, as Plato says, they were completely corrupted and, among their shocking acts of misconduct toward the wealthy, the poor would enter their homes and insist upon being entertained and banqueted sumptuously. But if they did not receive what they demanded, they would treat all the household with violence and insult.” Μεγαρεῖς Θεαγένῃ τὸν τύραννον ἐκβαλόντες ὀλίγον χρόνον ἐσωφρόνησαν κατὰ τὴν πολιτείαν· εἶτα πολλὴν κατὰ Πλάτωνα καὶ ἄκρατον αὐτοῖς ἐλευθερίαν τῶν δημαγωγῶν οἰνοχοοῦντων διαφθαρέντες παντάπασι τὰ τ’ ἄλλα τοῖς πλουσίοις ἀσελγῶς προσεφέροντο, καὶ παριόντες εἰς τὰς οἰκίας αὐτῶν οἱ πένητες ἡξίουσαν ἐστιᾶσθαι καὶ δειπνεῖν πολυτελῶς· εἰ δὲ μὴ τυγχάνοιεν, πρὸς βίαν καὶ μεθ’ ὕβρεως ἐχρῶντο πᾶσι. Plutarch *Moralia* (*The Greek Questions*) 295c11-d7. Trans. Frank Cole Babbitt. Cf. Plato *Republic* 562d.

¹⁴⁵ Bundrick argues that although there is no specific textual evidence for the notion of a musical *katharsis* in the fifth century, this is strongly suggested by the imagery of vase paintings, which depict the effects of wine and music in parallel ways, and often both at once. Bundrick 2005, 116. As she observes, “Wine and music were certainly equated in the imagery, with cups, kraters, wineskins, and musical instruments consistently juxtaposed. Similarly, just as they had numerous ways of showing the effects of wine on a drinker, vase painters also had numerous ways of showing the

other risks and disadvantages, just as the author of *Ancient Medicine* warned that one cannot simply reduce one's intake of food or consume the weakest foods possible in order to ensure that the digestive battle will be won.

While a full consideration of the ties between articulation, the self, and music is beyond the scope of this dissertation, it is worthwhile to briefly observe the relationship of music and wine in a symposium. Just as wine was mixed and distributed in fixed rounds by a leader who set the pace of drinking, to be followed by all in unison and in moderation, the shared experience of musical performances established a common rhythm, as when a group dances in step or a group marches into battle in unison.¹⁴⁶ The language of musical harmonies is also that of civic concord: Plato and Aristotle use *sōphrosunē*, *sumphonia*, and *harmonia* as closely related terms, and *nomos* can mean “song” in addition to “law” and “custom.”¹⁴⁷ The

effects of music on a listener; we see these most evidently in scenes of the symposium, komos, and the Dionysian *thiasos*.” Bundrick 2005, 106.

¹⁴⁶ While there is little evidence for the use of music in actual battle (for example, to set a marching pace for hoplite phalanxes, or other purposes beyond the single sounds for commands, used more as noise signals than as music), it seems to have been used in training. See Plato's description of the *pyrrhichai* at Plato *Laws* 815a-b. Bundrick 2005, 78.

¹⁴⁷ Bundrick 2005, 141. See, for example, Plato's recommendation for youths of “simple music, which we said engendered sobriety (σωφροσύνην, *sōphrosunos*) will, it is clear, guard themselves against falling into the need of the justice of the court-room.” οἱ δὲ δὴ νέοι, ἦν δ' ἐγώ, δηλὸν ὅτι εὐλαβήσονται σοι δικαστικῆς εἰς χρεῖαν ἰέναι, τῇ ἀπλῇ ἐκείνῃ μουσικῇ χρῶμενοι ἦν δὴ ἔφαμεν σωφροσύνην ἐντίκτειν. τί μήν; ἔφη. Plato *Republic* 410a. Trans. Paul Shorey. Similarly from Plato's description of the Spindle of Necessity in the Myth of Er: “and from all the eight there was the concord of a single harmony.” ἐκ πασῶν δὲ ὀκτὼ οὐσῶν μίαν

ethical effects of music—that is, the influence of different modes of music on one’s character and soul—were well documented, as were its dangers.¹⁴⁸ Music, like wine, had the potential to bring on madness. Here, we need only remember the Sirens in the *Odyssey*: Odysseus plugs his men’s ears and has himself tied to the mast of his ship so that he can hear their song without driving himself and his men to certain death in his ensuing ecstatic frenzy.¹⁴⁹ Before entering within earshot of the Sirens, Odysseus asks his men to “tie me fast with still more bonds (δεσμοῖσι, *desmos*)” when he asks, in his frenzy, to be set free;¹⁵⁰ that is, when he is undone by the Sirens’ music, the bonds of rope are necessary to take the place of his agency and resolve.

Marching In Step

Classical Athenians looked upon those whom they suspected of having indulgent tastes and a penchant for excess with wariness and anxiety. But it was the way in which this gaze was deployed in the legal system, and not only its intensity, that allowed it to become a political force. To maintain order, classical Athens did not employ a public police, bureaucracies, or centralized lists of income, property, or even of citizen identities; instead, they relied on the mutual surveillance of citizens and a general eagerness to take one’s neighbors to court for any perceived slight or

ἁρμονίαν συμφωνεῖν. Plato *Republic* 617b. Trans. Paul Shorey. See Chapter Six, “Means as Joints.” See also Aristotle *On the Heavens* 290b21-29.

¹⁴⁸ As Bundrick observes, in the fifth and fourth centuries the role of music on one’s character was particularly investigated. “All the elements of a musical piece – rhythm, mode, tempo, pitch, even musical instruments themselves—were increasingly thought to shape someone’s actions and mental state.” Bundrick 2005, 103.

¹⁴⁹ *Od.* 12.153-200.

¹⁵⁰ *Od.* 12.163-64. Trans. A. T. Murray.

offense.¹⁵¹ Davidson describes Athens as a “city of witnesses,”¹⁵² a term which recalls the Greek predilection for spectacle and visual participation, as exemplified, for example, in the power of *daidala*, in civic theatre and festivals, and in the institution of *theōroi* or official witnesses sent to events from other *poleis*. One is also reminded of the intensity with which Hippocratic physicians looked for symptoms as they tried to discern the invisible from the visible. Perhaps you saw a man shopping with undue frequency at a fish-stall, sneaking more than his share of wine at a symposium, or enjoying the company of a particularly expensive girlfriend: what did these visible signs suggest about the state of his soul, and the danger posed to the *polis*?¹⁵³ Was there to be harmony or *stasis*?

What were Athenians so afraid of? Two areas of anxiety, both related to the integrity and wholeness of the *polis*, stand out. The first has to do with boundaries. Most *poleis* had city walls but—in part because a *polis* included not only the intramural urban area but also its surrounding region (*chōros*), cultivated by citizen farmers—a more definitive delimitation was made by laws that defined the citizen body, separating citizen from non-citizen. After all, as Nicias famously said to his soldiers, “it is men that make a *polis*, not walls nor ships devoid of men.”¹⁵⁴ After Pericles’ law in 451-50 BCE, Athenian citizenship required that one’s mother and father both be citizens; as Robert Parker observes, this supposedly made the Athenian citizen body “sealed and impenetrable.”¹⁵⁵ Such strict citizenship laws were supported by the legend that the original Athenians literally sprung from the ground in the region of Attica and thus formed a kind of natural body. Rites at birth continued to enact this boundary: a father had to recognize his newborn baby and circle his domestic

¹⁵¹ Davidson 1997, 214-18.

¹⁵² Davidson 1997, 213.

¹⁵³ See, for example, Davidson 1997, 278.

¹⁵⁴ Thucydides 7.77.7. Trans. Charles Forster Smith. McEwan 1993, 120.

¹⁵⁵ Parker 1983, 262.

hearth with it in his arms before setting it on the ground. If the baby was not recognized, it was exposed—left to die not only outside the city walls, but also outside Attica's *chōros*.

The difference between a citizen and a metic (*metoikos*, “one who lives among” citizens as a resident alien) in classical Athens was that a metic could not bring a case to court, attend all meetings of the *ekklēsia*, become a member of the *boulē*, attend public sacrifices, or otherwise participate fully in festivals, and—until the Peloponnesian War necessitated a shift in policy—could not become a hoplite. Male citizens were defined by their participation in all of these things, which was not only a right but also a responsibility, since a failure to participate could result in *atimia* and the loss of citizen privileges.¹⁵⁶ If someone was suspected of being a metic or slave masquerading as a citizen, he could be taken to court and required to trot out his friends, family, and neighbors to testify in his favor, with harsh punishments for those found whom the jury found guilty.¹⁵⁷ Although we might ask why Athens didn't keep a list of citizens if they were so concerned about the purity of the citizen body, this system speaks not only to the Greek love of *agōn* and spectacle but to the importance of participation: you are a citizen not because your name appears on a list somewhere, but because others recognize you as such.¹⁵⁸

A second fear that preoccupied Athenians was of *stasis*, “factional rivalry” or “internal discord.” The word first appears in the sixth century BCE soon after the

¹⁵⁶ Hansen 1999, 86. The participation of female citizens in public affairs was restricted, and their citizenship is sometimes described as “passive,” being defined through their role, as daughters and mothers, in transmitting citizenship from one generation of males to the next.

¹⁵⁷ The *poleis* grew and shrank their definitions of citizenship depending on their needs. Keyt 1991, 243, Hansen 1999, 94-95.

¹⁵⁸ Davidson 1997, 214-15, 22.

formation of the classical *polis*, and remained tied to the notion of the *polis* thereafter. Thucydides describes *stasis* as a nightmarish situation in which “father slew son, men were dragged from the temples and slain near them, and some were even walled up in the temple of Dionysus and perished there.”¹⁵⁹ The notion of *stasis* applies to the *polis* to the extent that it is a body whose members ought to be harmoniously bonded; when disorder strikes this body, these members separate in their struggles against each other. So when Thucydides exceptionally applied the notion of *stasis*, as a disease, to the Peloponnesian War, depicting Athens and Sparta as members that fight against each other only in “unnatural” situations, he was subtly but powerfully arguing for the coherence of Hellas, of a natural body not only of individual *poleis* but of Greekness in general.¹⁶⁰

What can cure such an affliction? As we have seen, Archytas observed that

logismos (λογισμὸς, “calculation, reasoning”) when discovered stops *stasis* (στάσιν, “strife, discord”) and increases *homonoia* (ὁμόνοιαν, “concord”). When it occurs, there is no *pleonexia* (πλεονεξία, “greediness, grasping for more than one’s share”), but there is *isotēs* (ισότης), for by this we settle our disputes.”¹⁶¹

¹⁵⁹ Thucydides 3.81.5. Trans. Charles Forster Smith. Price 2001, 8-9. See also the role of *katharsis* in relieving *stasis*—caused by disproportion—in the soul. Plato *Sophist* 227c-228d.

¹⁶⁰ Plato draws a similar distinction between the guardians’ harsh treatment of their enemies in battle, as they are natural enemies; and their gentle treatment of their fellow citizens, as they are natural friends. Plato *Timaeus* 17d3-18a2. Johansen 2004, 10. Thucydides’ mode of description has most often been compared with the (then) new literature of Hippocratic medicine; he describes *stasis* as a disease which can afflict individuals as well as *poleis*. Price 2001, 14-15, 26.

¹⁶¹ στάσιν μὲν ἔπαυσεν, ὁμόνοιαν δὲ αὐξησεν λογισμὸς εὐρεθείς· πλεονεξία τε γὰρ οὐκ ἔστι τούτου γενομένου καὶ ισότης ἔστιν· τούτῳ γὰρ περὶ τῶν

Like illness in the human body, illness in the civic body of the *polis* is caused by disproportion and cured by proportion. Although the phrase *to tēs poleōs sōma* describing a “civic body” does not appear until the late fourth century BCE, the notion of political strife as an illness is old: the plague that opens the *Iliad* is what we would describe as a medical emergency caused by the disagreement between Calchas and Agamemnon.¹⁶² Apollo, the god of *harmonia* and therefore of health as well as the lyre and the bow, can—as he does in this opening book of the *Iliad*—both foster and destroy harmony and articulation.

The conceptualization in classical times of the *polis* and the physical self as bodies rested on their shared status as bounded, articulated, and proportioned entities. Each body struggles to maintain *isonomia*, falling into *stasis* if disrupted by *pleonexia* or *monarchia*. Just as a citizen maintains his position through participating in the agonistic institutions of the *polis*, an element or humor remains in *krasis* through its active opposition of other powers. A citizen who fails to participate, like a humor that retracts and suppurates from its mixture, can be punished with *atimia*, essentially (if temporarily) being ejected from the citizen body; foreign elements, such as *metics* or slaves, who have penetrated the civic body are also ejected. The body of the *polis* may periodically undergo more general purges: for example, when the tyrant family of Peisistratus was expelled from Athens at the end of the sixth century BCE, Aristotle tells us that those deemed “not of pure (καθαροὶ, *katharos*) descent,” who had previously “shared (κοινωνούντων, *koinōneō*) the citizenship [although they]

συναλλαγμάτων διαλλασσόμεθα. DK47b3.11-14. Trans. F. D. Harvey. Harvey 1965, 105-6.

¹⁶² According to Roger Brock, the first instances of *to tēs poleōs sōma* are Dinarchus *Against Demosthenes* 1.110 and Hypereides *Against Demosthenes* frag. 6 (5 col. 25). Brock 2000, 25.

had no right to it,” were rejected.¹⁶³ As Parker points out, this purgation was both a “purification from tyranny” (a kind of re-proportioning of power), and a “cleansing of the citizen body.”¹⁶⁴

The civic body was nowhere acted out more dramatically than in the classical hoplite phalanx, which in Athens and other *poleis* was comprised of citizens—not professional soldiers—joined and arrayed in an orderly fashion as equals. This was an emphatically non-strategic form of battle. The flattest terrain was usually sought out,¹⁶⁵ and the time and place of the battle agreed upon in advance. With each man’s shield protecting his left side and the man to his left, a phalanx would advance towards its enemy phalanx to engage it head-on. While the front rows would stab with their spears and press their wall of shields against that of the enemy phalanx in their attempt to force them to break formation, the rear rows would also press their shields on the backs of those in front to stabilize their position. Battles were often won when one side pushed hard enough to break through the ranks of the other, splitting their phalanx into disorder.¹⁶⁶ But a phalanx could also disintegrate out of

¹⁶³ προσεκεκόσμηντο δὲ τούτοις οἱ τε ἀφηρημένοι τὰ χρέα διὰ τὴν ἀπορίαν, καὶ οἱ τῷ γένει μὴ καθαροὶ διὰ τὸν φόβον: σημεῖον δ', ὅτι μετὰ τὴν τῶν τυράννων κατάλυσιν ἐποίησαν διαψηφισμόν, ὡς πολλῶν κοινωνούντων τῆς πολιτείας οὐ προσήγον. Aristotle *Athenian Constitution* 13.5. Trans. H. Rackham.

¹⁶⁴ Parker 1983, 262. Aristotle self-consciously analyzes the *polis* in terms of its parts and in terms of how these parts are put together, through social bonds and the use of geometric proportion in allotting goods. For more on this, see Keyt 1988, Keyt 1991.

¹⁶⁵ Lazenby 1991, 88.

¹⁶⁶ This intensity of conflict in a static position, when enemies join and engage each other, recalls the wrestling grip between Odysseus and Ajax. *Il.* 23.710-20. On this, see Chapter Two, “Fitting Things.” Plutarch suggests that skill in wrestling was important in the victory at Leuktra. Plutarch *Moralia* 639f-640a. Lazenby 1991, 99. Similarly, Tyrtaeus’ songs in the late 7th century BCE use an imagery of joining, man

panic: according to Victor Davis Hanson, this could happen “almost before a blow had been struck” since “panic was easily communicated.”¹⁶⁷ A surprising number of hoplite battles ended in this way, a fact which seems to have contributed to the low mortality rate of this kind of warfare: among battles for which there is sufficient evidence to make estimates, casualties are thought to have been between 2% and 14% for each side, even when the outcome was considered decisive. In comparison, casualties in Roman battles a few centuries later have been estimated at 60%.¹⁶⁸

In the ideology of hoplite warfare, and to a large extent in its practice, this was all there was to it. The use of projectiles was not much developed, nor were cavalry units generally used to pursue fleeing soldiers from the losing side. This may have been partly due to the constraints of heavy armor: it has been suggested that although cavalry units were fast, not all *poleis* had cavalry, and that at any rate, their light armor made them vulnerable if cornered by a fleeing army that regrouped.¹⁶⁹ It has also been suggested that hoplites’ heavy armor both limited the effectiveness of projectiles and prevented maneuvers more complex than a forward march. Besides,

to man, that is very similar to that of Homer, but which refers to joining with one’s enemy. “But coming to close quarters let him strike the enemy, hitting him with long spear or sword; and also, with foot placed alongside foot and shield pressed against shield, let everyone draw near, crest to crest, helmet to helmet, and breast to breast, and fight against a man, seizing the hilt of his sword or his long spear.” ἀλλά τις ἐγγὺς ἰὼν αὐτοσχεδὸν ἔγχεϊ μακρῶι / ἢ ξίφει οὐτάζων δῆϊον ἄνδρ’ ἐλέτω, / καὶ πόδα παρ ποδὶ θείσ καὶ ἐπ’ ἀσπίδος ἀσπίδ’ ἐρείσας, / ἐν δὲ λόφον τε λόφωι καὶ κυνέην κυνέηι / καὶ στέρνον στέρνωι πεπλημένος ἀνδρὶ μαχέσθω, / ἢ ξίφεος κώπην ἢ δόρυ μακρὸν ἔχων. Tyrtaeus *Elegiac Poems* frag. 11.29-34 West. Trans. Douglas E. Gerber. Wees 2004, 172.

¹⁶⁷ Hanson 1991, 104.

¹⁶⁸ Lazenby 1991, 101.

¹⁶⁹ Lazenby 1991, 101.

historians suggest, once the enemy was engaged, it would have been extremely difficult for orders from commanders, situated at the far right of their rows, to be heard over the din.¹⁷⁰ All of this may be true. But it is difficult to imagine such a fantastically ritualized, even stylized, form of battle developing for solely these reasons. What hoplite battle did, strikingly and radically, was allow for a *polis*, as a body, to engage directly in agonistic competition, to test the bonds between its citizens against those of another *polis*. It was warfare bounded by rules and literally set on a level playing field. The aim of hoplite warfare among Greek *poleis* seems to have been not to annihilate the enemy, but to openly humiliate him while gaining a political and material advantage—that is, to win *timē*. The battle itself might be accompanied by relatively mild vandalism of crops, and was often followed by tributes paid by the losing *polis*. The season for war was typically summer:¹⁷¹ rather than engaging in drawn-out sieges or wars, *poleis* often staged short raids and encounters that would begin and end on the same day. And if a *polis* lost one year, it might win the next. As Hanson observes, “For one of the few times in history, bloodletting served in the long run to spare, rather than to expend, lives. In short, Greek warfare for over two centuries was a wonderful, absurd conspiracy.”¹⁷²

There was, nonetheless, some strategy involved. Even in the absence of all-out panic, it was difficult to maintain order: phalanxes had a tendency to drift towards the right as each man sought refuge behind his neighbor’s shield. With this drift happening on both sides the two phalanxes would often not meet squarely, leaving their left flanks vulnerable while overlapping the enemy on the right. The most experienced men and commanders were placed at the right side of each row to minimize this shift. A commander (*kosmētēs*, “one who makes orderly”) also had to determine the length and number of rows: records show that phalanxes ranged between eight and fifty

¹⁷⁰ Hanson 2000, 148-9, 54, Lazenby 1991, 104.

¹⁷¹ Lazenby 1991, 88.

¹⁷² Hanson 1991, 6. See also Lazenby 1991, 101.

rows deep.¹⁷³ Longer rows facilitated attacks on the opponent's flank, while a deeper phalanx, with more rows, was considered better for pushing. Enough discussions remain on the relative merits of various phalanx arrangements for us to observe that in addition to encouraging his men to remain joined in formation, one of the commander's key jobs was to determine the proper proportion with which to order them.¹⁷⁴

The oath taken by eighteen-year old male Athenian citizens in good health included the statement that "I shall not...desert the man beside me, wherever I stand in the line."¹⁷⁵ This was a common sentiment, both before and during the reign of hoplite warfare: Homer had commended warriors who "stood by one another,"¹⁷⁶ as did the

¹⁷³ Lazenby 1991, 89, 98-99. For κοσμητήν (*kosmētēs*) see Aristotle *Athenian Constitution*, 42.2.

¹⁷⁴ Lazenby 1991, 98. Hanson observes that "'Tactics,' too, from 650 BC to the later fifth century were deliberately as banal and one-dimensional as strategy. They consisted mainly of determining the proper, albeit elusive, ratio between the breadth and depth of the phalanx, a few rudimentary flanking movements, and the placement, always somewhat political, of the particular allied troops on the proper wings." Hanson 1991, 5. I should note that I have not found textual evidence that speaks about this task literally in terms of *analogia*, *summetria*, or similar terms.

¹⁷⁵ οὐκ αἰσχυνῶ τὰ ἱερὰ ὅπλα οὐδὲ λείψω τὸν παραστάτην ὅπου ἂν στειγῆσω. R&O 88 = Tod 204. Trans. P. J. Rhodes and Robin Osborne. Rhodes and Osborne 2003, 440-41. See also Hansen 1999, 100.

¹⁷⁶ See, for example, "in such close array did they stand by one another." ὥς πυκνοὶ ἐφέστασαν ἀλλήλοισι. *Il.* 16.217. Trans. A. T. Murray. See Chapter 3, "Joined for Battle."

Spartan, Turtaios;¹⁷⁷ and Plutarch, in the *Sayings of the Spartans*, explains that disgrace was not brought on men who lost their helmets or breastplates, which they “put on for their own sake,” but only on those who lost their shields, which were “for the common good of the whole line (τάξεως, *taxis*).”¹⁷⁸ An unbroken wall of shields, as John Lazenby observes, was considered “virtually impregnable.”¹⁷⁹ The notion of a wall of shields is not merely fanciful: Sparta did not have city walls for most of its history because, as Lycurgus believed, “a city will be well fortified which is surrounded by brave men and not by bricks.”¹⁸⁰ In the most literal sense, then, the physical boundary of Sparta was maintained by the articulation of its citizens. The notion that a hoplite phalanx was a pure and distilled enactment of the *polis* was reinforced by the fact that Athens placed men from the same deme (village or district) together while also respecting differences in status—as, for example, in the seating arrangement in a theatre during a public festival.¹⁸¹ In Sparta, where the *polis* was organized rather differently, phalanxes were organized like their *polis* (or, perhaps, the *polis* like the phalanx), subdivided into units of about 35 men and divided by age with the younger men in front. The key, in either case, is that the organization

¹⁷⁷ ὦ νέοι, ἀλλὰ μάχεσθε παρ’ ἀλλήλοισι μένοντες, Tyrtaeus *Elegiac Poems* frag. 10.15 West. οἱ μὲν γὰρ τολμῶσι παρ’ ἀλλήλοισι μένοντες Tyrtaeus *Elegiac Poems* frag. 11.11 West. Lazenby 1991, 95.

¹⁷⁸ Ἐρωτήσαντος δέ τινος διὰ τί τοὺς μὲν τὰς ἀσπίδας παρ’ αὐτοῖς ἀποβαλόντας ἀτιμοῦσι, τοὺς δὲ τὰ κράνη καὶ τοὺς θώρακας οὐκέτι, ‘ὅτι’ ἔφη ‘ταῦτα μὲν ἑαυτῶν χάριν περιτίθενται· τὴν δ’ ἀσπίδα τῆς κοινῆς τάξεως ἔνεκα. Plutarch *Moralia* (*Sayings of the Spartans*) 220a2. Trans. Frank Cole Babbitt.

¹⁷⁹ Lazenby 1991, 95.

¹⁸⁰ “Οὐκ ἂν εἴη ἀτείχιστος πόλις ἅτις ἀνδρεσσι, καὶ οὐ πλίνθοις ἐστεφάνωνται.” Plutarch *Lycurgus* 19.4. Trans. Bernadotte Perrin.

¹⁸¹ Rowe and Schofield 2000, 62-63.

allowed each man to know his neighbors and to recognize his place in his phalanx, and therefore in his *polis*.¹⁸²

The ties inspiring citizens to stand by one another were most often said to be those of *philia*, or brotherly love. But there is also a tradition of bonds of a more intimate sort between warriors, going at least as far back as Achilles and Patroclus in the *Iliad*.¹⁸³

The Spartans, for example, were said to sacrifice to the god Eros before battle “because they think that their safe return and victory depend on the friendship (φιλία, *philia*) of the men drawn up.”¹⁸⁴ Plutarch tells us that the elite force of the 4th century BCE Theban army, known as the Sacred Band, may have been selected by picking pairs of lovers.¹⁸⁵ For, Plutarch tells us, “a band that is held together (συνηρμοσμένον, *sun-harmozō*) by the friendship (φιλίας, *philia*) between lovers (ἐρωτικῆς, *erōtikos*) is indissoluble (ἀδιάλυτον, *adialutos*) and not to be broken (ἄρρηκτον, *arrēktos*).”¹⁸⁶ He observes that the Thebans

did well to give the goddess who was said to have been born of Ares and Aphrodite a home in their city; for they felt that, where the force and courage of the warrior are most closely associated and united with the age which possesses grace and persuasiveness, there all the activities of civil life are

¹⁸² Lazenby 1991, 89.

¹⁸³ On the relationship between *erōs* and *philia* in relation to architectural discourse, see Pérez-Gómez 2006.

¹⁸⁴ Λακεδαιμόνιοι δὲ πρὸ τῶν παρατάξεων Ἔρωτι προθύονται, ὥς ἐν τῇ τῶν παραταττομένων φιλία κειμένης τῆς σωτηρίας τε καὶ νίκης. Athenaeus *The Learned Banqueters* 13.561e. Hanson 1991, 107.

¹⁸⁵ Plutarch *Pelopidas* 18.1. Hanson 1991, 107.

¹⁸⁶ τὸ δ’ ἐξ ἐρωτικῆς φιλίας συνηρμοσμένον στίφος ἀδιάλυτον εἶναι καὶ ἄρρηκτον, Plutarch *Pelopidas* 18.3-4. Trans. Bernadotte Perrin.

brought by Harmony (Ἀρμονίας, *Harmonia*) into the most perfect consonance (ἐμμελεστάτην, *emmelēs*) and order (κοσμιωτάτην, *kosmios*).¹⁸⁷

Plutarch's comments here seem to have been inspired by Plato's *Symposium*,¹⁸⁸ in which Phaedrus imagines that "if we could somehow contrive to have a city or an army composed of lovers and their favorites...fighting side by side," then they might

¹⁸⁷ ὀρθῶς δὲ πρὸς τοῦτο καὶ τὴν ἐξ Ἄρεως καὶ Ἀφροδίτης γεγενῆσθαι λεγομένην θεὸν τῇ πόλει συνωκείωσαν, ὥς ὅπου τὸ μαχητικὸν καὶ πολεμικὸν μάλιστα τῷ μετέχοντι πειθοῦς καὶ χαρίτων ὁμιλεῖ καὶ σύνεστιν, εἰς τὴν ἐμμελεστάτην καὶ κοσμιωτάτην πολιτείαν δι' Ἀρμονίας καθισταμένων ἀπάντων. Plutarch *Pelopidas* 19.2. Trans. Bernadotte Perrin. Similarly, "Gorgidas, then, by distributing this sacred band among the front ranks of the whole phalanx of men-at-arms, made the high excellence of the men inconspicuous, and did not direct their strength upon a common object, since it was dissipated (διαλελυμένη) and blended (μεμειγμένη) with that of a large body of inferior troops; but Pelopidas, after their valour had shone out at Tegyra, where they fought by themselves and about his own person, never afterwards divided (διείλεν, *diaireō*) or scattered (διέσπασεν, *diaspaō*) them, but, treating them as a unit (σώματι...ὅλῳ, *sōma holon*, lit. a "whole body"), put them into the forefront of the greatest conflicts." Τὸν οὖν ἱερὸν λόχον τοῦτον ὁ μὲν Γοργίδας διαιρῶν εἰς τὰ πρῶτα ζυγά, καὶ παρ' ὅλην τὴν φάλαγγα τῶν ὀπλιτῶν πρῶτα ζυγά, καὶ παρ' ὅλην τὴν φάλαγγα τῶν ὀπλιτῶν προβαλλόμενος, ἐπίδηλον οὐκ ἐποίει τὴν ἀρετὴν τῶν ἀνδρῶν οὐδ' ἐχρήτο τῇ δυνάμει πρὸς κοινὸν ἔργον, ἅτε δὴ διαλελυμένη καὶ πρὸς πολὺ μεμειγμένη τὸ φαυλότερον. ὁ δὲ Πελοπίδας, ὡς ἐξέλαμψεν αὐτῶν ἡ ἀρετὴ περὶ Τεγύρας καθαρῶς καὶ περιόπτως ἀγωνισαμένων, οὐκέτι διείλεν οὐδὲ διέσπασεν, ἀλλ' ὥσπερ σώματι χρώμενος ὅλῳ προεκινδύνευσεν <έν> τοῖς μεγίστοις ἀγῶσιν. Plutarch *Pelopidas* 19.3-4. Trans. Bernadotte Perrin.

¹⁸⁸ Compare Plutarch *Pelopidas* 18.4 and Plato *Symposium* 180b.

become “victorious over all the world.”¹⁸⁹ For, as Phaedrus argues, “a man in love would surely choose to have all the rest of the host rather than his favorite see him forsaking his station or flinging away his arms; sooner than this, he would prefer to die many deaths.”¹⁹⁰

Despite the presence of elite units, hoplite warfare was most often a deliberately “middle-class” institution. The development of the hoplite phalanx has widely been connected to *polis*-formation due to the expanded influence it gave to citizens en masse, with interchangeable positions and a common allegiance, rather than to the aristocratic elite.¹⁹¹ In the ideology of hoplite warfare it was the average citizen farmer who joined in solidarity with his fellows to fight on the very land he aimed to protect; and it was to this man that orators, comic poets, and litigants would speak when addressing the *polis*. In his speech against Meidias, when Demosthenes tries to situate himself as—in Josiah Ober’s words—“shoulder-to-shoulder with the *demos*,” he depicts himself not as a cavalryman, like Meidias, but as a “middling sort of man: a hoplite.”¹⁹²

¹⁸⁹ Plato *Symposium* 178e-179a. Trans. W. R. M. Lamb. Xenophon also reports on this opinion of Plutarch at Xenophon *Symposium* 8.32, although he critiques it at 8.32-6. Hanson 1991, 107.

¹⁹⁰ Plato *Symposium* 179a. Trans. W. R. M. Lamb. Cf. Plutarch *Pelopidas* 18.

¹⁹¹ As Kurt A. Raaflaub observes, “This theory has a venerable tradition. Aristotle anticipated it, Eduard Meyer and Max Weber elaborated and generalized it, and Martin Nilsson formulated its essence eloquently.” Raaflaub 1997, 26. Of course, no theory is without its detractors—but what is important to me is that in classical Greece there was a strong ideology linking hoplites and the *polis*.

¹⁹² See Demosthenes *Against Midias* 112 and 133. Ober 1996, 96-97. See also Aristotle *Politics* 1297b16-28. Wees 2004, 60. On this issue in relation to agrarian culture, see Hanson 1995.

Hoplites were required to march in step and remain in order: stepping forward to engage the enemy endangered the line as much as retreating or fleeing. For example, Herodotus observes that Aristodemus, who “rushed out and left the battle column behind, had achieved great deeds,”¹⁹³ but was not honored (ἐτιμήθη, *timāō*), unlike all the others killed in that battle.¹⁹⁴ This stands in stark contrast to the form of battle—and the society—that was depicted in Homer, in which fighting at the forefront and displaying one’s *aristeia* and aristocracy were the mark of a hero. In classical *poleis*, the procedure of ostracism (*ostrakismos*), by which any citizen could be selected by ballot and expelled from the *polis* for ten years, served to remove those who—through their prosperity or influence—disrupted *isonomia* and posed the threat of tyranny.¹⁹⁵ In removing those who had, in a sense, earned an excess of *timē*, ostracism is a kind of mirror image of *atimia*, a punishment for those who shamed

¹⁹³ Herodotus 9.71.3. Trans. A. D. Godley.

¹⁹⁴ ἀλλὰ ταῦτα μὲν καὶ φθόνῳ ἂν εἴποιεν: οὗτοι δὲ τοὺς κατέλεξα πάντες, πλὴν Ἀριστοδήμου, τῶν ἀποθανόντων ἐν ταύτῃ τῇ μάχῃ τίμοι ἐγένοντο: Ἀριστόδημος δὲ βουλόμενος ἀποθανεῖν διὰ τὴν προειρημένην αἰτίην οὐκ ἐτιμήθη. Herodotus 9.71.4. The backstory here is that Aristodemus “plainly wished to die because of the reproach hanging over him.” 9.71.3. Lazenby 1991, 103. See also “So is it with the Lacedaemonians; fighting singly they are as brave as any man living, and together (ἁλῆες, *halēs*) they are the best warriors on earth.” 7.104.4. Trans. A. D. Godley.

¹⁹⁵ See also Thucydides’ use of *isonomia* in describing a tyrannical state: “In those days our state was not governed by an oligarchy which granted equal justice to all, nor yet by a democracy; the power was in the hands of a small cabal, than which nothing is more opposed to law or to true political order, or more nearly resembles a tyranny.” ἡμῖν μὲν γὰρ ἢ πόλις τότε ἐτύγγανεν οὔτε κατ’ ὀλιγαρχίαν ἰσόνομον πολιτεύουσα οὔτε κατὰ δημοκρατίαν: ὅπερ δὲ ἐστὶ νόμοις μὲν καὶ τῷ σωφρονεστάτῳ ἐναντιώτατον, ἐγγυτάτῳ δὲ τυράννου, δυναστεία ὀλίγων ἀνδρῶν εἶχε τὰ πράγματα. Thucydides 3.62.3. Trans. Benjamin Jowett.

themselves by running from battle or otherwise failing to participate properly in civic life. Although those who were ostracized were able to retain their property and were not otherwise punished, the practice has also been compared with the expulsion or execution of a *pharmakos*—usually a slave, criminal, or other lowly person—in the sense that, like a purgation through the use of a *pharmakon*, it was a kind of purifying act meant to maintain or restore order.

* * *

In this chapter, we have seen how the classical notion of the “body” was at once developed in what we would distinguish as medical, political, philosophical, and military terms. My aim has been to demonstrate that this notion centered on the order established when a thing is well articulated and proportioned, most often focusing on comparisons between the human body, subject to medical and ritualistic treatment and to its own habits and desires; and the civic body, composed of its citizens and ordered through a constitution and institutions governing its politics, religion, and warfare. Both kinds of bodies are subject to interventions to restore their *isonomia* and their *kosmos*.

The next chapter, which primarily deals with Plato’s *Timaeus*, will open with Empedocles, a character who is surrounded by legends and credited with a number of magical feats of healing. One legend tells that he cured the inhabitants of a city by stringing together bulls’ hides across a valley to block a pernicious wind that was causing crops to fail.¹⁹⁶ In another legend, he mixed two rivers—“thus by mingling their waters with those of the first river he sweetened the stream”—to cure the city Selinus of a deadly plague that also caused women to miscarry.¹⁹⁷ He also dispensed drugs (*pharmaka*, pl. of *pharmakon*). In these stories, Empedocles acts upon the land

¹⁹⁶ Diogenes Laertius, *Lives of the Philosophers* 8.60.

¹⁹⁷ Diogenes Laertius, *Lives* 8.70. Trans. Brad Inwood.

of the collective body of a people in the way a Hippocratic physician acted upon an individual human body. He is most often discussed as a shaman-like figure who straddled a mythical worldview ruled by gods and a more rational outlook; and as a philosopher/poet who established the theory of four elements, which so heavily influenced the Hippocratics, Plato, Aristotle, Galen—and through these, the course of western science and medicine. But we can also see him as a forerunner of an architectural tradition, which, as Vitruvius makes clear, saw the construction of cities and buildings as a key to ensuring health. By showing how a city can be bounded, articulated and proportioned by being delimited by a wall of hides, or tempered through the mixing of two rivers, he demonstrated the construction of a *kosmos*.

Chapter Six: Proportioning Bodies

The *Timaeus* was one of Plato's last works and the first of a projected trilogy that would have included the *Critias*, which he did not finish, and the *Hermocrates*, which he never started. It unfolds in layers as Socrates and two others fall silent listening to an astronomer explain the origin of the *kosmos*. The dialogue spans an immense range of topics, including body, soul, gods, men, women, animals, matter, motion, illness, aging, ingestion, respiration, sensation, colors, music, and reproduction; and Plato himself acknowledges its strangeness and difficulty.¹ Yet this story, about the crafting of humans as imperfect images of our crafted *kosmos*, is also beautiful and even—in the way that it unfolds everything in the universe from the same few principles—simple.

This chapter will begin not with Plato but with Empedocles, who helps us to realize two things about Plato: first, the extent to which he drew on the ideas of his forerunners; but also, how very original he was.²

¹ As John Sallis has observed, Plato uses the word *chalepon*, “difficult, harsh” repeatedly in the preface. Sallis 1999, 2-3, 9.

² On this question, see Johansen 2004, 5, Hershbelle 1974. A. E. Taylor's view, which was challenged by F. M. Cornford and now by most scholars, was that the *Timaeus* was a deliberate combination of Empedoclean biology and Pythagorean mathematics. Taylor 1928, 18, Cornford 1937, viii-xii.

Articulating Mortality

Empedocles, in the 5th century BCE, was the last of the Greek philosophers to write in poetry rather than prose. He wrote in the epic meter of dactylic hexameter, like Homer, and like him he took on the description of a world grander in scope than ordinary human experience. His tone reminds us of a prophet—boastful, visionary, at times seemingly deliberately obscure—as much as of a philosopher. He was also a healer: besides ancient accounts of his healing miracles, we also have his promises to explain “all the *pharmaka* which there are as a defense against evils and old age,” and to show how to halt and revive winds and rains,³ which for ancient Greeks were inextricably linked to health. His writings comprise what has long been considered to be two poems, *Physics* and *Purifications*—one on science and the other on religion—and much scholarship has grappled with the problem of dividing existing fragments between them. But, in part due to evidence from a papyrus discovered in the early 1990s, it has become increasingly difficult to argue that the wide scope of Empedocles’ interests—from botany and the fluxes of the universe to the nature of knowledge and the transmigration of the soul—spanned two separate works.⁴ Instead, it seems that there was only one poem, the work of an exceptional mind which held a view, itself unexceptional in its time, of a radically unified *kosmos*.

Empedocles draws variously on the ideas of Parmenides, Heraclitus, the Pythagoreans, and others. He also shares with the Hippocratics an interest in understanding health through the composition and nature of the *kosmos*, and with the atomists a view of material change as a result of the articulation and disarticulation of basic entities. By Aristotle’s account, he was the first to clearly distinguish four elements (in Aristotle’s terms, στοιχεῖα, *stoicheion*) or roots (in Empedocles’ terms,

³ DK31b111. Unless otherwise noted, translations for Empedocles are from Brad Inwood.

⁴ Inwood 2001, 8-14, Trépanier 2004, 28-29, Osborne 1987, 24-25, 49.

ρίζωματα, *rhizōma*): earth, water, air, and fire.⁵ For Empedocles, these roots are immortal: neither created nor destroyed but transformed under the influence of Love and Strife, which are also immortal.⁶ He freely substitutes a variety of terms for these six immortal principles: water, for instance, is described as “tears” or “rain,” and fire as the “sun.”⁷ Similarly, while what we translate as Love and Strife are most often *philotēs* (friendship, affection; and often in Homer, sexual love) and *neikos* (quarrel, strife),⁸ they, and their effects, are also named in terms of parental love, harmony, and desire (for Love),⁹ and wrath, jealousy, and anger (for Strife).¹⁰ Each principle is also

⁵ Aristotle *Metaphysics* 1.985a. “First, hear of the four roots of all things, / gleaming Zeus and life-bringing Hera and Aidoneus / and Nestis, who moistens with tears the spring of mortals.” τέσσαρα γὰρ πάντων ρίζωματα πρότον ἄκουε· / Ζεὺς ἀργῆς Ἥρη τε φερέσβιος ἥδ’ Αἰδωνεύς / Νῆστίς θ’, ἥ δακρύοις τέγγει κρούνωμα βρότειον. DK31b6.1-3. Cf. 109.1-3.

⁶ “For it is impossible that there should be coming to be from what is not, / and that what is should be destroyed is unaccomplishable and unheard of; for it will always be there, wherever one may push it on any occasion.” ἔκ τε γὰρ οὐδὰμ’ ἐόντος ἀμήχανόν ἐστι γενέσθαι / καί τ’ ἐὼν ἐξαπολέσθαι ἀνήνυστον καὶ ἄπυστον· / αἰεὶ γὰρ τῇ γ’ ἔσται, ὅππῃ κέ τις αἰὲν ἐρείδῃ. DK31b12.1-3. “For they are, as they were before and will be, nor do I think / that endless time will ever be empty of these two.” ἔστι γὰρ καὶ πάρος ἦν τε καὶ ἔσσεται, οὐδέ ποτ’ οἶω, / τούτων ἀμφοτέρων κενεώσεται ἄσπετος αἰὼν. DK31b16.1-2. Cf. 21.3-8.

⁷ See “tears (δακρύοις, *dakruon*),” DK31b6.3; “rain (ὄμβρος, *ombros*),” 100.12, “rain (ὄμβρω, *ombros*),” 98.2; and “sun (ἥλιον, *hēlios*),” 21.3.

⁸ See “love (φιλότης, *philotēs*)” DK31b17.20; and “strife (νεϊκός, *neikos*)” 17.19.

⁹ See “affection (στοργήν, *storgē*),” which often describes affection between parents and children and is rarely sexual, DK31b109.3; “harmony (ἁρμονίης, *harmonia*)” 96.4; and “they come together in love (φιλότητι, *philotēs*) and are desired (ποθεῖται, *potheō*) by each other” 21.8.

named through one or more divine personas: the four roots variously become Zeus, Hera, Aidoneus, Nestis, and Hephaistos; Love becomes Joy, Kupris, or Aphrodite; and Strife becomes Atē.¹¹

But Empedocles saves his widest vocabulary for the transformations of the four roots. He states that there is no such thing as growth or destruction, “but only mixture (μίξις, *mixis*) and interchange (διάλλαξις, *diallaxis*) of what is mixed (μυγέντων, *meignumi*).”¹² Among his words for describing these changes are *arariskō*, “to join, fit together”; as well as *kerannumi* or “to mix, compound”; *meignumi*, “to mingle, mix in fight, converse, have sexual intercourse”; *diallassō*, “to interchange, reconcile”; *pēgnumi* (to fix, impale, construct, congeal), *sunodos* (a coming together, meeting), *arthmios* (united, allied), *sunerchomai* (to assemble, meet in battle, have

¹⁰ See “wrath (κότῳ, *kotos*; the word also means “jealousy, rancor, ill-will”)” DK31b21.7; and “anger (ὀργῇ, *orgē*)” 22.9.

¹¹ “First, hear of the four roots of all things, / gleaming Zeus and life-bringing Hera and Aidoneus / and Nestis, who moistens with tears the spring of mortals.” τέσσαρα γὰρ πάντων ῥιζώματα πρῶτον ἄκουε· / Ζεὺς ἀργῆς Ἥρη τε φερέσβιος ἡδ’ Αἰδωνεύς / Νῆστίς θ’, ἥ δακρύοις τέγγει κρούνωμα βρότειον. DK31b6.1-3. “Hephaistos (Ἥφαιστῳ),” 98.2. “calling her by the names Joy (Γηθοσύνην, *gēthosunē*) and Aphrodite (Ἀφροδίτην).” Γηθοσύνην καλέοντες ἐπώνυμον ἡδ’ Ἀφροδίτην· 17.24. “Kupris (Κύπριδος),” 98.3. “Atē (Ἄτης)” 121.4. Since antiquity there has been controversy over which god relates to which root in Empedocles. Zeus is often understood—as it was by Theophrastus—as embodying fire, with Hera as earth, and Hades as air; but this is not entirely uncontroversial. Other views attribute Hera to air and Hades to earth; while still others see Zeus as air, Hera as earth, and Hades as fire. Most modern commentators see Zeus as fire, Hera as air, and Hades as earth. In any case, the assignment of Nestis to water is uncontroversial. Kingsley 1995, 13-14, Inwood 2001, 173-74.

¹² ἀλλὰ μόνον μίξις τε διάλλαξις τε μυγέντων DK31b8.3. Cf. 9.1-5.

sexual intercourse), *kollaō* (to glue, join), *sunarmozō* (to fit together), *gomphoō* (to nail, fasten), and *deō* (to bind, tie).¹³ Conversely, the effects of Strife are described through terms such as *luō* (to loosen, unbind, dissolve), *krinō* (to separate, distinguish, judge), *diaphuomai* (to be disjoined, intervene; but also, to be inseparably connected with) and *phoreō* (to bear along, carry away).¹⁴ Collectively, these words echo and extend the range of meanings that we have seen in the vocabulary of articulation.

Sometimes these words appear in unexpected ways: the curdling of milk is described with *gomphoō*, “to nail, rivet”;¹⁵ human beings are formed by being “mixed (μισγομένων, *mignumi*)” in a swirl;¹⁶ and water is “more easily fitted (ἐνάρθμιον,

¹³ See: ἀρηρότα (*arariskō*) DK31b35.17; κρήσις (*kerannumi*) 21.14; μγέντ’ (*mignumi*) 9.1; διαλλάξαντα (*diallassō*) DK31b35.15; πάγεν (*pēgnumi*; the word also means “to make firm, impale, fasten, congeal, freeze, make an oath”) 15.4; σύνοδος (*sunodos*) 17.4; ἄρθμια (*arthmios*) 17.22; συνερχόμεν’ (*sunerchomai*) 17.7; σύνοδος (*sunodos*) 17.4; κολλήσας κόλλησιν (*kollaō*) 34.1; συναρμοσθέντ’ (*sunarmozō*) 71.4; ἐγόμφωσεν (*gomphoō*) 33.1; and ἔδησε (*deō*) 33.1.

¹⁴ λύθεν (*luō*) DK31b15.4; κρινόμενον (*krinō*) 62.2; διαφύντος (*diaphuomai*) 17.10; and φορεύμενα (*phoreō*) 17.8.

¹⁵ “as when rennet riveted (ἐγόμφωσεν, *gomphoō*) white milk and bound (ἔδησε, *deō*) it...” ὥς δ’ ὅτ’ ὁπὸς γάλα λευκὸν ἐγόμφωσεν καὶ ἔδησε... DK31b33.1. The notion that curdling milk, with rennet, is a process of articulation is also found in Aristotle, who used the example of rennet curdling milk to describe the effect of semen during conception. Aristotle, *Generation of Animals* 4, 4. 772a, 22-25.

¹⁶ “And as they were being mixed (μισγομένων, *mignumi*) ten thousand tribes of mortals poured fourth;” τῶν δέ τε μισγομένων χεῖτ’ ἔθνεα μυρία θνητῶν DK31b35.7.

enarthmios) to wine” than it is to oil.¹⁷ Empedocles evokes Homer, in this sense, with a language of articulation that is precise in its connotations but ecumenical in its tectonics. That is, he seems to be deliberately highlighting the equivalence of these transformations: we think we see mixing, gluing, nailing, loosening, and dispersion, just as we think we see the multitude of processes related to creation, growth, and destruction, but each of these is simply articulation or disarticulation. In other passages, it is clear that he is fascinated, above all, with the power of Love and Strife to mediate between one and many, regardless of the many forms this takes:

I shall tell a double tale. For at one time [they] grew to be one alone
from many, and at another, again, [they] grew apart to be many from one.
And there is a double coming to be of mortals and a double waning;
for the coming together of [them] all gives birth to and destroys the one,
while the other, as [they] again grow apart, was nurtured and flew away.
And these things never cease from constantly alternating,
at one time all coming together by love into one,
and at another time again all being borne apart separately by the hostility of
strife.¹⁸

Empedocles seems to have envisioned a phase of increasing Strife and decreasing Love, when the roots tend to separate more than they mix; and a phase of increasing

¹⁷ “[Water is] more easily fitted (*ἐνάρθμιον*, *enarthmios*) to wine, but with oil it does not want [to mix].” ...οἶνω μάλλον ἐνάρθμιον, αὐτὰρ ἐλαίῳ / οὐκ ἐθέλει.

DK31b91.1-2. Similarly, for the use of *arariskō* and *krasis* together, see 71.2-4.

¹⁸ δίπλ’ ἐρέω· τοτὲ μὲν γὰρ ἐν ἡϋξήθη μόνον εἶναι / ἐκ πλεόνων, τοτὲ δ’ αὖ
διέφθυ πλεόν’ ἐξ ἐνὸς εἶναι. / δοιὴ δὲ θνητῶν γένεσις, δοιὴ δ’ ἀπόλειψις· / τὴν
μὲν γὰρ πάντων σύνοδος τίττει τ’ ὀλέκει τε, / ἢ δὲ πάλιν διαφθομένων
θρεφθεῖσα διέπτει. / καὶ ταῦτ’ ἀλλάσσοντα διαμπερὲς οὐδαμὰ λήγει, / ἄλλοτε
μὲν Φιλότητι συνερχόμεν’ εἰς ἐν ἅπαντα, / ἄλλοτε δ’ αὖ δίχ’ ἕκαστα
φορεύμενα Νείκεος ἔχθει. DK31b17.1-8.

Love as Strife in turn wanes, when the roots join more than they are loosened. When Love is at its peak and all the roots mix and bind without resistance, the world collapses into a massive, homogeneous sphere;¹⁹ life is no more possible in this state than it is during the reign of Strife when each root separates out, like so many tribes or factions in a city, to reside only with its own kind.²⁰ Life exists, instead, in the middle periods, on either side of the cycle whenever Love and Strife exist in a moderate proportion to each other, producing a state of unity within diversity, or

¹⁹ Inwood 2001, 51-52. “There the swift limbs of the sun are not discerned, [nor] / the shaggy might of Earth, nor the sea / Thus it is fixed in the dense cover of harmony, / a rounded sphere, rejoicing in its joyous solitude.” ἔνθ’ οὕτ’ ἡελίοιο διείδεται ὠκέα γυῖα / οὐδὲ μὲν οὐδ’ αἴης λάσιον μένος οὐδὲ θάλασσα· οὕτως Ἀρμονίης πυκινῶι κρύφωι ἐστήρικται / Σφαῖρος κυκλοτερῆς μονίῃι περιηγεί γαίῳν. DK31b27.1-4. The second line (27.2) is taken from Kathleen Freeman’s translation, as Inwood does not include it. “For two branches do not dart from its back / nor feet nor swift knees nor potent genitals, / ... / but it indeed is equal <to itself> on all sides and totally unbounded, a rounded sphere rejoicing in its surrounding solitude.” οὐ γὰρ ἀπὸ νώτοιο δύο κλάδοι αἰσسونται, / οὐ πόδες, οὐ θοὰ γοῦν(α), οὐ μήδεα γεννήεντα, / ... / ἀλλ’ ὅ γε πάντοθεν ἴσος <έοι> καὶ πάμπαν ἀπείρων / Σφαῖρος κυκλοτερῆς μονίῃι περιηγεί γαίῳν. 29+28.1-5. (Brad Inwood argues for the combination of lines from fragments that were numbered 29 and 28, respectively, by Diels-Kranz.)

²⁰ Scholars have imagined that the reign of Strife produces a series of concentric spheres, with the fire on the outside, earth concentrated in the middle, and water and air in intermediate layers. Inwood 2001, 52. DK31a49a = 40 Inwood (from the Armenian). In bringing the roots into homogenous groupings, Strife does, however, allow for a kind of joining or articulation—of earth with earth, water with water, and so on—and this effect of Strife is how Empedocles explains the creation of the land and sea as relatively homogenous masses of earth and water in the middle stages of the *kosmos*. 22.1-9. Inwood 2001, 50.

diversity within unity.²¹ The scheme has an elegant symmetry: Love and Strife are equal (*isos*) and take turns in power, like the cycles of days and seasons, or the rotation of offices in a democratic state.²²

Describing the formation of human beings, Empedocles says: “As they were mixed (μισγομένων, *mignumi*) ten thousand tribes of mortals poured forth, fitted together (ἀρηρότα, *arariskō*) in all kinds of forms, a wonder to behold (θαῦμα ιδέσθαι, *thauma idesthai*).”²³ Things “which had previously learned to be immortal”—that is, the four unblended roots—become mortal by being mixed,²⁴ since that which is

²¹ Jean Bollack and other scholars have argued that life exists only during the phase of increasing Love. Jean 1968. But, as Inwood argues, the view that life exists in both the phase of increasing Love and that of increasing Strife has the particular merit of respecting the testimonies of Aristotle and Simplicius who, unlike us, had access to the whole poem. Inwood 2001, 44-45. Note that Strife is both productive and necessary. This is not a new notion: the construction of articulate objects in Homer involved both cutting and joining; Anaximander and Heraclitus saw strife as a creative cosmic force; and Hesiod named both good and bad forms of strife. See DK12b1 (Anaximander); Hesiod *Works and Days* 11-26; and DK22b80 (Heraclitus). Inwood 2001, 49.

²² “For these things are all equal (ἰσά, *isos*) and of like age in their birth, / but each rules over a different prerogative and each has its own character / and they dominate in turn as time circles around.” ταῦτα γὰρ ἰσά τε πάντα καὶ ἥλικα γένναν ἔασι, / τιμῆς δ’ ἄλλης ἄλλο μέδει, πάρα δ’ ἦθος ἐκάστωι, / ἐν δὲ μέρει κρατέουσι περιπλομένοιο χρόνοιο. DK31b17.27-29. On the views of the Pre-Socratics of the regulatory role of *isotēs* and *to ison*, see Johansen 2004, 14.

²³ τῶν δέ τε μισγομένων χεῖτ’ ἔθνεα μυρία θνητῶν, / παντοίαις ιδέησι
ἀρηρότα, θαῦμα ιδέσθαι. DK31b35.16-17.

²⁴ “And immediately things which had previously learned to be immortal grew mortal, / and things previously unblended (ἄκρητα, *akratos*) were mixed

mixed will eventually be unmixed. Life is momentary—“destroyed many times”²⁵ as the cosmic cycle is repeated—and yet miraculous: we are *thauma idesthai*. As we have seen, the lot of humankind is ambiguous and intermediate: a mortal can look like a god or even have sex (often expressed through verbs of mixing and mingling) with one, while remaining fundamentally separate from them by his or her mortality. As in Homer, the Hippocratics, and the other Pre-Socratics, in Empedocles this mortal lot finds its expression through the physical articulation of the self—so it is no surprise that verbs of articulation describe birth while those of disarticulation, such as *luō*, describe death.²⁶

But unlike Homer, for Empedocles *guia* are tangible: a man can “stain his dear *guia* with blood”²⁷ and eat the *guia* of bulls.²⁸ The *guia* and *melea* (limbs) are associated with sensation and thought: the *melea*, perhaps in moments of indecision, can be sites of *stasis*²⁹—a notion echoing Parmenides’ description of the thinking mind as a “mixture (κρᾶσιν, *krasis*) of much-wandering limbs (μελέων, *melos*)”³⁰—and *guia*

(διαλλάξαντα, *diallassō*),” αἶψα δὲ θνήτ’ ἐφύοντο, τὰ πρὶν μάθον ἀθάνατ’ εἶναι, / ζωρά τε τὰ πρὶν ἄκρητα διαλλάξαντα κελεύθους. DK31b35.14-15. See also Inwood 2001, 32.

²⁵ “if I am better than mortal men who die [lit. are destroyed] many times?” εἰ θνητῶν περίειμι πολυφθερέων ἀνθρώπων; DK31b113.2. πολυφθερέω can also mean “very much subject to destruction,” or “destructable in many ways.”

²⁶ DK31b71.1-4, and 15.4.

²⁷ DK31b115.3.

²⁸ DK31b128.10.

²⁹ “There is no dissension (στάσις, *stasis*) or unseemly battle in [his] limbs.” οὐ στάσις οὐδέ τε δῆρις ἀναίσιμος ἐν μελέεσσιν. DK31b27a1.

³⁰ ὥς γὰρ ἕκαστος ἔχει κρᾶσιν μελέων πολυπλάγκτων, / τῷ νόος ἀνθρώποισι παρίσταται· τὸ γὰρ αὐτό / ἔστιν ὅπερ φρονέει μελέων φύσις ἀνθρώποισιν / καὶ

provide “passages for understanding” through the various senses.³¹ But our capacities are limited. Our *guia* have narrow *palamai* (pl. of *palamē*, “device, cunning, handiwork, palm”) for sensation, and this limited ability to experience the world—combined with our delusion that we have seen much more than we actually have—restricts our ability to learn.³² This is not Homer’s diffuse and intangible articulation

πάσιν καὶ παντί· τὸ γὰρ πλεόν ἐστὶ νόημα. DK28b16.1-4. Trans. Kathleen Freeman.

³¹ “But come, consider, by every device (*παλάμη*, *palamē*), how each thing is clear / not holding any vision as more reliable than what you hear, / nor the echoes of hearing than the clarities of the tongue, / and do not in any way curb the reliability of the other *guia* (*γυίων*) by which there is a passage for understanding, / but understand each thing in the way that it is clear.” ἄλλ’ ἄγ’ ἄθρει πάσῃ παλάμῃ, πῆι δῆλον ἕκαστον, / μήτε τιν’ ὄψιν ἔχων πίστει πλεόν ἢ κατ’ ἀκουήν / ἢ ἀκοήν ἐρίδουπον ὑπὲρ τρανώματα γλώσσης, / μήτε τι τῶν ἄλλων, ὅπόσῃ πόρος ἐστὶ νοῆσαι, / γυίων πίστιν ἔρυκε, νόει δ’ ἦι δῆλον ἕκαστον. DK31b3.9-13. For Empedocles, the cognitive action of *guia* may be related to their status as a conduit for blood (perhaps simply as limbs) between the body’s interior and extremities, at 100.22-23, because thought is constituted by tides of blood washing around the heart. 105.1-3. See also 133.1-3. The *splanchna* are also involved in thought; see 3.3.

³² “For narrow devices (*παλάμαι*, *palamē*) are spread throughout their *guia* (*γυῖα*), / but many wretched things strike in, and they blunt their meditations. / And having seen [only] a small portion (*μέρος*, *meros*) of life in their experience / they soar and fly off like smoke, swift to their dooms, / each one convinced of only that very thing which he has chanced to meet, / as they are driven in all directions. But <each> boasts of having seen the whole. / In this way, these things are neither seen nor heard by men / nor grasped with the understanding...” στεινωποὶ μὲν γὰρ παλάμαι κατὰ γυῖα κέχυνται / πολλὰ δὲ δεῖλ’ ἔμπαια, τὰ τ’ ἀμβλύνουσι μέριμνας. / παῦρον δ’ ἐν ζωῇσι βίου μέρος ἀθρήσαντες / ὠκύμοροι καπνοῖο δίκην ἀρθέντες ἀπέπταν / αὐτὸ μόνον πεισθέντες, ὅτῳ προσέκυρσεν ἕκαστος / πάντοσ’

of the self, but rather the limbs, orifices, and protuberances that allow us to live—however imperfectly—immersed in a material *kosmos*. Empedocles describes, in contrast, the god produced during the reign of Love as “a rounded sphere”:³³

For it [it / he] is not fitted out in its *guia* (γυῖα) with a human head,
nor do two branches dart from its back
nor feet, nor swift knees (γοῦν(α), *gonu*) nor shaggy genitals;
but it is only a sacred and ineffable thought organ
darting through the entire *kosmos* (κόσμον) with swift thoughts.³⁴

ἐλαυνόμενοι, τὸ δ' ὅλον <πᾶς> εὐχεται εὐρεῖν / οὕτως οὔτ' ἐπιδερχτὰ τάδ'
ἀνδράσιν οὔτ' ἐπακουστά / οὔτε νόωι περιληπτά. DK31b2.1-8. Note the
similarities with Plato's Allegory of the Cave. Plato *Republic* 7.514a-520a.

³³ DK31b27.4, and the same line (Σφαῖρος κυκλοτερὴς μονήη περιηγεί γαίων)
appears at 28.2. The sphere is described as “equal <to itself> on all sides and totally
unbounded,” ἀλλ' ὅ γε πάντοθεν ἴσος <εἰς> καὶ πάμπαν ἀπείρων, 28.1. The
description of this sphere (the universe under the reign of Love) in proportional terms
has some precedents: Anaximander's earth was a cylindrical drum with a height one
third that of its diameter. DK12A10. Hesiod described equal distances, measured in
days-of-brazen-anvil-falling, between heaven and earth, and earth and Tartarus.
Hesiod *Theogony* 724-27. Reaching farther back, Homer described a cosmic image
filling the face of Achilles' round shield. *Il.* 18.478-89, 18.607-8. Hahn 2001, 147,
69-72, 81. But while the related idea of order being formed through proportion in the
realms of politics, medicine, and war would have been familiar from Theognis of
Megara, Solon, Alcmaeon, Anaximander, and others who preceded Empedocles, it is
Empedocles who gives us the first use of numbers to describe the proportioned
generation of matter.

³⁴ οὐδὲ γὰρ ἀνδρομέη κεφαλῇ κατὰ γυῖα κέκασται, / οὐ μὲν ἀπαὶ νώτοιο δύο
κλάδοι αἰσσονται, / οὐ πόδες, οὐ θοὰ γοῦν(α), οὐ μήδεα λαχνήεντα, / ἀλλὰ
φρὴν ἱερὴ καὶ ἀθέσφατος ἔπλετο μῦνον, / φροντίσι κόσμον ἅπαντα

The sphere lacks the parts that so clearly mark us as articulated, since with nothing outside of it, it has no need to eat, sense, walk, or have sex. But, like the other gods that Empedocles names, it still has *guia*, and it is not immortal but “long-lived”³⁵ — for once “Strife has grown great within its *melea*,” at the time “established for each in turn by a broad oath,”³⁶ its mixture will start to separate. “For one after another all the *guia* (γυῖα) of the god were being shaken.”³⁷

Limbs, in the wide sense of the term, also mark the assembly of humans. Empedocles describes “nocturnal shoots of men and women”³⁸ which “did not yet show any lovely frame (δέμας, *demas*) of *melea*, nor voice, nor again the *guion* (γυῖον, a rare use of the sg. of *guia*) specific to men.”³⁹ Formless, voiceless, and memberless, these pre-human shoots are as yet inarticulate. Empedocles also describes the formation of disembodied limbs:

As many heads without necks sprouted up
and arms wandered naked, bereft of shoulders,
and eyes roamed alone, impoverished of foreheads⁴⁰

καταΐσσουσα θεῶησιν. DK31b134.1-5. See also 27.1-4 and 29+28.1-5, as quoted above.

³⁵ “long-lived gods first in their prerogatives.” καί τε θεοὶ δολιχαῖωνες τιμήσιν φέριστοι. DK31b21.12.

³⁶ αὐτὰρ ἐπεὶ μέγα Νεῖκος ἐνὶ μελέεσσιν ἐθρέφθη / ἐς τιμὰς τ’ ἀνόρουσε
τελειομένοιο χρόνοιο, / ὅς σφιν ἀμοιβαῖος πλατέος παρ’ ἐλήλαται ὄρκου...
DK31b30.1-3.

³⁷ πάντα γὰρ ἐξείης πελεμίζετο γυῖα θεοῖο. DK31b31.1.

³⁸ DK31b62.1-2.

³⁹ οὔτε τί πω μελέων ἐρατὸν δέμας ἐμφαίνοντας / οὔτ’ ἐνοπὴν οἶόν τ’
ἐπυχώριον ἀνδράσι γυῖον. DK31b62.7-8.

⁴⁰ DK31b57.1-3.

And as these parts are joined, the results hardly suggest a *kosmos*:
 Many with two faces and two chests grew,
 oxlike with men's faces, and again there came up
 androids with ox-heads, mixed in one way from men
 and another way in female form, outfitted with shadowy *guia* (γυίαις).⁴¹

These shadowy *guia* stand in contrast with the shining *guia* (φαίδιμα γυῖα) of Homer's heroes,⁴² or the order and luminosity forged into well-crafted things. It seems that articulation alone is no longer enough to create order and beauty—so where do these qualities come from? The answer, or at least part of it, seems to lie in the fact that in a number of fragments, we see proportion at work. The pre-human shoots are composed of “a share (αἶσαν, *aisa*) of both water and heat,”⁴³ although we don't know whether these shares are equal, or—like each person's allotted destiny—unequal. We also find an analogy for the generation of diversity in the image of a painter “tak[ing] in their hands many-colored pigments, mixing them in harmony (ἁρμονίῃ, *harmonia*), some more, others less.”⁴⁴ By proportioning their pigments to make different colors, painters are able to “prepare forms (εἶδεα, *eidea*) resembling all things,” including “trees and men and women and beasts and birds and water-nourished fish, and long-lived gods, first in their prerogatives.”⁴⁵

In one fragment, numeric proportion appears:

⁴¹ DK31b61.1-4.

⁴² *Il.* 13.435, 16.805, 23.691.

⁴³ ἀμφοτέρων ὕδατός τε καὶ εἶδεος αἶσαν ἔχοντες· DK31b62.5.

⁴⁴ οἷτ' ἐπεὶ οὖν μάρψωσι πολύχροα φάρμακα χερσίν, / ἁρμονίῃ μείξαντε τὰ μὲν πλέω, ἄλλα δ' ἐλάσσω, DK31b23.3-4.

⁴⁵ ἐκ τῶν εἶδεα πᾶσιν ἀλίγια πορσύνουσι, / δένδρεά τε κτίζοντε καὶ ἀνέρας ἡδὲ γυναικας / θήρας τ' οἰωνούς τε καὶ ὕδατοθρέμμονας ἰχθύς / καὶ τε θεοὺς δολιχαίωνας τιμήισι φερίστους· DK31b23.5-8.

And pleasant earth in her well-built channels
 received two parts of gleaming Nestis out of the eight
 and four of Hephaistos; and they became the white bones
 fitted together (ἀρηρότα, *arariskō*) with the divine glues of harmony
 (Ἀρμονίης, *harmonia*).⁴⁶

There are four parts of fire, two of water, and the remaining two presumably come from earth. It seems that the qualities of bone come from these proportions—that proportion for Empedocles helps explain how the diversity of matter arises from four roots and two powers. But while this passage is significant as our earliest example of numbers in the proportioning of matter in the natural world,⁴⁷ it is also significant that at this moment the craftswoman is not herself in sight.⁴⁸

In another fragment, Kupris is present, but not particularly active:

⁴⁶ ἡ δὲ χθὼν ἐπίηρος ἐν εὐστέρονοις χοάνοισι / τὼ δύο τῶν ὀκτὼ μερέων λάχε
 Νήσιδος αἶγλης, / τέσσαρα δ' Ἑφαίστοιο· τὰ δ' ὅστέα λευκὰ γέγοντο /
 Ἀρμονίης κόλλησιν ἀρηρότα θεσπεσίηθεν. DK31b96.1-4.

⁴⁷ Other early examples of proportion in nature come from Archytas and Plato (both ca. 428–347 BCE), and possibly—although these accounts are somewhat ambiguous and controversial—Philolaus (ca. 480–ca. 385 BCE). Burkert 1972, 386-89.

⁴⁸ Empedocles gives a loose rein to powers which we would describe as both natural (following regular principles) and divine (personified as gods). Despite the regularity of the actions of Love and Strife, there are other fragments where Aphrodite/Kupris is personified, and at times even works in a way not unlike a human craftsman: see DK31b22.5, 71.4, 87.1, and 73.1-2. Other fragments remain elusive. When Empedocles mentions Kupris' *palamai* (παλάμησιν), he may literally be describing her palms or her handiwork more generally—an image not inconsistent with the regularity of natural forces. 95.1. Empedocles' language is sufficiently expansive to call both meanings into play.

And earth happened to meet (συνέκυρσε, *sunkureō*) with these most equally (ἴση, *isē*),

Hephaistos and rain and all-gleaming aither,
anchored (ὀρμυσθεῖσα, *hormizō*) in the perfect harbors of Kupris,
either a little greater or [a little] less among the more.

From these blood came to be and the forms of other kinds of flesh.⁴⁹

The verb *sunkureō* means “to come together by chance.” By chance, and not by any apparent effort on Kupris’ part, the elements are combining in more or less equal proportions, with this margin of variation seemingly differentiating the various kinds of flesh.⁵⁰

One aspect of Empedocles’ thought that we have not yet discussed is the connection between cosmic order and the order of one’s own life. Like other ancient philosophers, Empedocles did not pursue knowledge of the world with a “scientific” disinterest, but instead with an urgent need to understand humanity’s place in the order of things and to describe how people should manage their affairs. To take just one example, Empedocles—like the later Pythagoreans, who also believed in the

⁴⁹ ἡ δὲ χθὼν τούτοις ἴση συνέκυρσε μάλιστα, / Ἡφαίστῳ τ’ ὄμβρῳ τε καὶ αἰθέρι παμφανόωντι, / Κύπριδος ὀρμυσθεῖσα τελείοις ἐν λιμένεσσιν, εἴτ’ ὀλίγον μείζων εἴτε πλεόνεσσιν ἐλάσσων· / ἐκ τῶν αἰμά τε γέντο καὶ ἄλλης εἶδεα σαρκός. DK31b98.1-5.

⁵⁰ There is another kind of proportion in the four roots, and Love and Strife, which are “all equal (ἰσά, *isos*) and of like age in their birth.” ταῦτα γὰρ ἰσά τε πάντα καὶ ἥλικα γένναν ἔασι, DK31b17.27. Cf. 17.19-20. The fact that these immortal principles have the same age suggests—if we go by the rules governing relationships between the gods in myth—that they are also equal in power, a notion corroborated by the symmetry of Empedocles’ language whenever he mentions the four roots and the turns of Love and Strife in the cosmic cycle. DK31b17.28-29.

reincarnation of humans as animals—warned against eating meat.⁵¹ Plato shared this interest in the connection between one’s health, ethical life, and the wider order of the *kosmos*; and as we turn to the *Timaeus* my aim will be to show how this motivates his use of proportion as the centerpiece of his cosmogonic theory.

One, Two, Three

“One, two, three—but where, my dear Timaeus, is the fourth of our guests of yesterday, our hosts of today?”⁵² This is how the *Timaeus* begins, with Socrates counting his interlocutors. Timaeus tells Socrates that the fourth man must have gotten sick and, on behalf of the remaining three, eagerly agrees that they will fill in for the fourth, returning Socrates’ “splendid hospitality” in the previous day’s discussion.⁵³ He asks Socrates to give a recap of this discussion, and we hear about a conversation that is similar (but not identical) to that of the *Republic*.⁵⁴ Socrates then announces that he feels like a man who, “on seeing beautiful creatures, whether works of art or actually alive but in repose, [is] moved with desire to behold them in motion and vigorously engaged in some such exercise as seemed suitable to their physique.”⁵⁵ That is, he wants to hear about how the city that they have conjured into

⁵¹ DK31b128.1-6. Kahn 2001, 9. See also Burkert 1972, 182, Riedweg 2005, 36-37, 54.

⁵² Plato *Timaeus* (hereafter *Ti.*) 17a1-3. Unless otherwise noted, translations for the *Timaeus* are from R. G. Bury. Other translations consulted include those of Francis MacDonald Cornford, Donald J. Zeyl, and Benjamin Jowett.

⁵³ *Ti.* 17a-b.

⁵⁴ *Ti.* 17b-19a.

⁵⁵ προσέοικεν δὲ δὴ τινὶ μοι τοιῷδε τὸ πάθος, οἷον εἴ τις ζῶα καλὰ που θεασάμενος, εἴτε ὑπὸ γραφῆς εἰργασμένα εἴτε καὶ ζῶντα ἀληθινῶς ἡσυχίαν δὲ ἄγοντα, εἰς ἐπιθυμίαν ἀφίκοιτο θεάσασθαι κινούμενά τε αὐτὰ καὶ τι τῶν τοῖς

existence with their words would engage in the kinds of *agōn* that suit cities: “war or verbal negotiation.”⁵⁶

Critias then gives a preview of his account—now famous as the origin of the myth of Atlantis—which he presents as a report told to him by his grandfather, who heard it from his father, who in turn heard it from Solon, who heard it from an Egyptian priest.⁵⁷ He says that as he listened to Socrates’ story of the best possible city, he marveled at its similarity to this account that he knew.⁵⁸ But unlike Socrates’ city, described “as if it were in a fable,”⁵⁹ Critias’ story is a true history, passed on by reliable sources and anchored by its connection to what many in the classical period (including Empedocles, as we have seen, but also Plato and Aristotle) believed to be real periodic catastrophes caused by the cosmic bodies.⁶⁰ He proposes to assume that these are in fact the same city, thus transforming the city of Socrates’ discourse into the historical, but long forgotten Athens.⁶¹ Socrates could not be more pleased, and encourages Critias to proceed.⁶² But Critias says, “Behold (σκόπει, *skopeō*) now, Socrates, the order (διάθεσιν, *diathesis*) of the feast as we have arranged (διέθεμεν, *diatithemi*) it.”⁶³ He proposes that Timaeus—whose qualifications include the fact that he is “our best astronomer and has made it his special task to learn about the

σώμασιν δοκούντων προσήκειν κατὰ τὴν ἀγωνίαν ἀθλοῦντα: ταῦτόν καὶ ἐγὼ πέπονθα πρὸς τὴν πόλιν ἣν διήλθομεν. *Ti.* 19b5-c2.

⁵⁶ *Ti.* 19c2-9.

⁵⁷ *Ti.* 20d-e. Critias gives his preview at 21a-26e.

⁵⁸ *Ti.* 25d-e.

⁵⁹ *Ti.* 26c9.

⁶⁰ *Ti.* 25c-d.

⁶¹ *Ti.* 26d.

⁶² *Ti.* 26e-27a.

⁶³ σκόπει δὴ τὴν τῶν ξενίων σοὶ διάθεσιν, ὦ Σώκρατες, ἣ διέθεμεν. *Ti.* 27a2-3.

nature of the Universe,”⁶⁴ and that he grew up in “a most well-governed *polis*”⁶⁵ — should speak first, “beginning with the origin of the *kosmos* and ending with the generation of mankind.”⁶⁶ Critias is to follow (in a speech which comprises the incomplete *Critias*) with his history of the ancient Athens and its battle with Atlantis, “taking over from [Timaeus] mankind, already as it were created by his speech, and taking over from [Socrates] a select number of men superlatively well trained.”⁶⁷ Socrates agrees: “I think I will be requited perfectly (τελέως, *teleōs*) and brilliantly (λαμπρῶς, *lampros*) with the feast (ἐστίασιν, *hestiasis*) of speeches.”⁶⁸

Plato was not one for idle chatter. As James Davidson has remarked, he “was a famously careful writer. After his death a tablet was found among his possessions with the first eight words of the *Republic* written out in different arrangements.”⁶⁹ So it should not surprise us that before Timaeus even begins his discourse, his main themes have been prepared.

Plato begins by counting: “One, two, three.” The sum of these is six ($1 + 2 + 3 = 6$) and, when rearranged, these are also the factors (*merē*, pl. of *meros*, literally a “part”) of six ($1 \times 6 = 2 \times 3 = 6$). Six was not only the first perfect number, but it had an extra-special status as the sum of the monad, dyad, and triad (1, 2, and 3).⁷⁰ In the

⁶⁴ *Ti.* 27a4-6.

⁶⁵ That is, in Locri, according to Socrates. *Ti.* 20a2-3. On Timaeus’ origins, see Kahn 2001, 56.

⁶⁶ *Ti.* 27a6-7.

⁶⁷ *Ti.* 27a8-b1.

⁶⁸ τελέως τε καὶ λαμπρῶς ἔοικα ἀνταπολήψεσθαι τὴν τῶν λόγων ἐστίασιν. *Ti.* 27b8-9. My translation.

⁶⁹ Davidson 1997, 25.

⁷⁰ Perfect numbers are first mentioned in Euclid, *Elements*. Nicomachus reports that the next perfect numbers are 28, 496, and 8128; these were apparently the only

metaphorical, or numerological, view of number held by the Pythagoreans and the early Greeks more generally, the monad was unity; the dyad was diversity; and the triad, as the sum of unity and diversity, was harmony.⁷¹ Six, as the sum of unity, diversity, and harmony, stood for creation.

But once Socrates counts to three, he says, “where...is the fourth?”⁷² The number four also reverberated through Greek natural philosophy: one through four give the harmonic proportions of music (4:3 forms a fourth, 3:2 a fifth, and 2:1 an octave) described by Aristides Quintilianus;⁷³ in the Hippocratic *Nature of Man* there are four humors, which are canonical for Galen;⁷⁴ and for Empedocles and Plato there were the four roots or elements.⁷⁵ When added to the monad, dyad, and triad, four also

perfect numbers known to Greek mathematicians. Nicomachus i.16, 1-4. Heath 1981, 74.

⁷¹ For the notion of metaphor in numerology, see Vesely 2002, 36-37.

⁷² *Ti.* 17a1.

⁷³ As Andrew Barker observes, Aristides does not explicitly describe a fifth as 3:2. Barker 2004.

⁷⁴ Hippocrates *Nature of Man* 5.3-4. For a discussion of Galen’s ideas on humors, see Nutton 2004, 241.

⁷⁵ Following Plato’s lead, others would also divide aspects of the universe into four. According to Cornford, Theon of Smyrna, who was strongly influenced by Plato and the Pythagoreans, listed in the 1st or 2nd century CE a total of ten sets of correspondences for the tetractys, including numbers, magnitudes, simple bodies, figures of simple bodies, living things, societies, faculties, parts of the living creature, seasons of the year, and ages. Cornford 1937, 69-70.

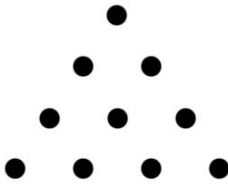


Figure 6.1: The Pythagorean tetractys. Diagram by author.

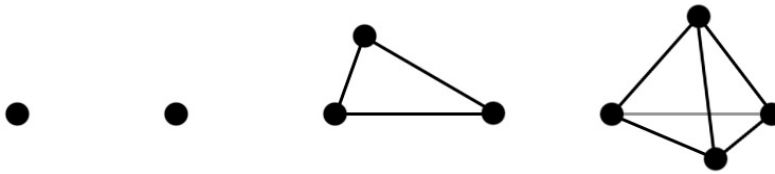


Figure 6.2: One, two, three, and four pebbles can construct, respectively, a point, line, plane, and a tetrahedron. Diagram by author.

gives us ten or the tetractys ($1 + 2 + 3 + 4 = 10$); this, for the Pythagoreans, was said to stand for the universe, since it can be formed as an equilateral triangle with one pebble at the top, underneath which are two, then three, and finally a line of four pebbles (Figure 6.1).⁷⁶ Four was also said to construct the universe because one pebble creates a point, two a line, three a triangular plane, and four the solid body of a tetrahedron (figure 6.2).⁷⁷ As all of these associations will come to the forefront during Timaeus' presentation, it is inconceivable that Plato would have opened the dialogue in this way without this in mind.

Since the Greek concept of number (*arithmos*) is different from our own, it is worthwhile to consider it for a moment. *Arithmos* meant both “number” and

⁷⁶ See Dantzig 2007, 42-43.

⁷⁷ Aristotle also describes the numeric derivation of line, plane, and solid “after the numbers,” which, according to Walter Burkert, he attributes to Plato. Aristotle *Metaphysics* 992b13, 1080b23, 1088b4. Burkert 1972, 23, Cornford 1937, 70.

“counting,” and what qualified as an *arithmos* was never fully dissociated from that which could be counted.⁷⁸ Zero, one, negative numbers, and fractions were not *arithmoi*; although mathematicians had ways of working through the calculations in which we would reach for these entities, they generally did not conceptualize them as such.⁷⁹ We also know that pebbles were used for calculations; although not used in the proofs and advanced investigations of mathematicians like Euclid, they would have been important in the foundation of many mathematical concepts.⁸⁰ Greek mathematics was therefore profoundly material. In addition to triangular numbers such as six and ten, the Greeks also identified square, solid, cubic, polygonal, oblong, pyramidal, scalene, and prime numbers—each defined in terms how they can be represented, divided, and constructed through real or imagined arrangements of pebbles.⁸¹ A solid (*stereos*) number, for example, was conceptualized by a three dimensional array of pebbles, in which each of the three parts (*merē*)—or in our

⁷⁸ Klein 1968, 46-50. The word *arithmos* first appears in the *Odyssey* to describe a multitude of men, at *Od.* 11.449; a herd of seals, at 4.451; and the many suitors that Odysseus and his comrades are to slay, at 16.246.

⁷⁹ On this, see, for example, Jacob Klein’s discussion of Diophantus’ understanding of fractions as “a number of fractional parts.” Klein 1968, 136-37.

⁸⁰ A character in Aristophanes’ *Wasps* tells his father to figure out a simple sum “not with pebbles but with fingers,” and Herodotus distinguishes the Egyptians from Greeks through the fact that they move their hand right to left, instead of left to right, when using pebbles for reckoning. Aristophanes, *Wasps*, 655-57; and Herodotus 2.36.4. Heath 1981, 48. On the use of pebbles for counting and arithmetic, see Gow 1968, 27-30, Burnet 2003, 99-107, Knorr 1975, 134-54. Reviel Netz argues that pebbles do not seem to have been used in the mathematical activity of forming proofs. Netz 1999, 64.

⁸¹ Taisbak 1971, 20, 92.

terminology, factors—measured a side.⁸² Similarly, the Greek word for “square root” reflects the fact that it was measured by the side of a square: it is a “square side (*tetragōnikē pleura*),” or simply a “side (*pleura*).”⁸³ Prime numbers are “rectilinear (*euthugrammikos*)” because they can be arranged in only one way, in a line;⁸⁴ or “first numbers (*prōtoi arithmoi*),”⁸⁵ a name which evokes both their partless or elementary nature and their position at the tops of columns in multiplication tables.

Perfect (*teleios*) numbers can also be found through pebbles. A *meros*, as we’ve seen in the context of sacrifice, is what you get when you divide something. If you have two lines of three pebbles each, the lines can be divided into two parts of three, or three of two. Like any number, six can also be constructed as a single line, one part of six; and when we add the *meroi* of six, we get six ($1 + 2 + 3 = 6$), making it a perfect number.⁸⁶ Greek mathematicians were also interested in finding pairs of similar (*homoios*) numbers, in which the *merē* of one add up to the other, as with 220 and 284.⁸⁷ What seems to have interested the Greeks in similar numbers, since they have no pragmatic use, is the generative potential in the creation of one number from

⁸² For this reason the possibility of products with more than three factors seems to not have occurred to Euclid, although elsewhere he discusses what for us is its corollary, that a number can be measured by many numbers; that it can be arranged in different ways to have many factors or parts (*merē*). Taisbak 1971, 20.

⁸³ Knorr 1975, 16.

⁸⁴ Heath 72-3.

⁸⁵ Taisbak 1971, 10.

⁸⁶ A similar process can be carried out with line segments, which seem to have been what Euclid used (that is, we have no original illustrations, but later versions use line segments). Taisbak 1971, 15.

⁸⁷ The factors of 220 are 1, 2, 4, 5, 10, 11, 20, 22, 44, 55 and 110, which add up to 284; and the factors of 284 are 1, 2, 4, 71, and 142, which add up to 220; this is the smallest pair of similar numbers (often called “amicable numbers.”)

another by recombining its parts; a parallel can be found in the constitution of the body or the *kosmos* through humors, roots—or even atoms (*atomos*, “uncuttable”), whose name evokes the partlessness of prime numbers.

Even numbers are cuttable in the most fundamental way, into two equal parts, and were thought to be soluble, earthly and feminine; this notion draws on associations between earth and womb, and on a symbolic anatomy, but also on the notion of the feminine as weak and easy to undo. Odd numbers were considered male, indissoluble, and celestial, like the fiery strength and hardness of the idealized warrior.⁸⁸ The monad or One is the ultimate in uncuttability and partlessness; for Aristotle, “One (τὸ ἓν, *to hen*)” is not an *arithmos* because an *arithmos* is “a measured (μεμετρημένον, *metreō*) plurality” or a “plurality of measures (μέτρων, *metron*),” while One is “a measure (μέτρον, *metron*) of some plurality.”⁸⁹ It is the most basic module,⁹⁰ and the notion of *arithmos* as being constructed, or aggregated, from a certain quantity of monads finds resonance in the etymological relationship between *arithmos* and *arariskō*.⁹¹ Conversely, early Greek mathematics was incompatible with the notion of irrational numbers which, being unconstructable by

⁸⁸ Dantzig 2007, 41.

⁸⁹ σημαίνει γὰρ τὸ ἐν ὅτι μέτρον πλήθους τινός, καὶ ὁ ἀριθμὸς ὅτι πλήθος μεμετρημένον καὶ πλήθος μέτρων (διὸ καὶ εὐλόγως οὐκ ἔστι τὸ ἐν ἀριθμός· οὐδὲ γὰρ τὸ μέτρον μέτρα, ἀλλ’ ἀρχὴ καὶ τὸ μέτρον καὶ τὸ ἓν). Aristotle *Metaphysics* 1088a4–8. Euclid also draws a clear distinction between *arithmos* and *monas* in 7 Definition 12 and 14. Taisbak 1971, 15 and 19. See also “*arithmos* has a more elevated meaning as a paradigm of unity in multiplicity. Each sum contains ‘many’ units and yet is always ‘one.’” Vesely 2002, 37.

⁹⁰ Taisbak 1971, 15.

⁹¹ Cf. Chapter One, “Fitting Things,” where I discuss the order of Odysseus’ wine jars at *Od.* 2.340–4.

modules, suggest a smooth rather than aggregate universe.⁹² Aristotle refers to the Pythagorean Eurytus, whom he describes as having “determined which *arithmos* (ἀριθμός) belongs to which thing—e.g. this *arithmos* to man, and this to horse—by using pebbles to copy the shape of natural objects, like those who arrange *arithmoi* (ἀριθμούς) in the form of geometrical figures, the triangle and the square.”⁹³ This effort may seem naïve to us, as it did to Aristotle, but in a context in which number was material—a triangle, square, cube, or something else to be broken down into parts and reassembled—is it really that unusual? If a number can be a triangle, why not a horse—or indeed, the universe?

It is difficult to overstate the extent to which this tangibility would have inclined the Greeks to think about their monumental buildings—also articulated from orthogonal arrays of stone—as embodying number. The formal comparison is most evident in the rows of columns—each column itself comprised of a stack of stone drums, in contrast to the monolithic columns of the Romans—that define the classical peripteral temple. These arrangements of columns are also at the heart of John Onians’ argument that the emergence of the classical temple needs to be understood in the context of its formal reference to the hoplite phalanx (Figure 6.3).⁹⁴ Peripteral temples, like hoplite phalanges, were designed to inspire awe in order protect, unify,

⁹² Irrational numbers were “unspeakable (*arrhēton*)”: their meaning could not be articulated. Dantzig 2007, 105. According to ancient legends, a Pythagorean who divulged to an outsider the secret of commensurable and incommensurable numbers was expelled from the Pythagoreans. Iamblichus *Life of Pythagoras* 34.

⁹³ καὶ ὡς Εὐρυτος ἔταπτε τίς ἀριθμὸς τίνος, οἷον ὁδὶ μὲν ἀνθρώπου ὁδὶ δὲ ἵππου, ὥσπερ οἱ τοὺς ἀριθμοὺς ἄγοντες εἰς τὰ σχήματα τρίγωνον καὶ τετράγωνον, οὕτως ἀφομοιῶν ταῖς ψήφοις τὰς μορφὰς τῶν φυτῶν, *Metaphysics* N.5 1092b10-13. Trans. Hugh Tredennick. Knorr 1975, 136.

⁹⁴ See Onians 1999, 1999, Onians 2002. On the relationship between body and column, see Rykwert 1996.

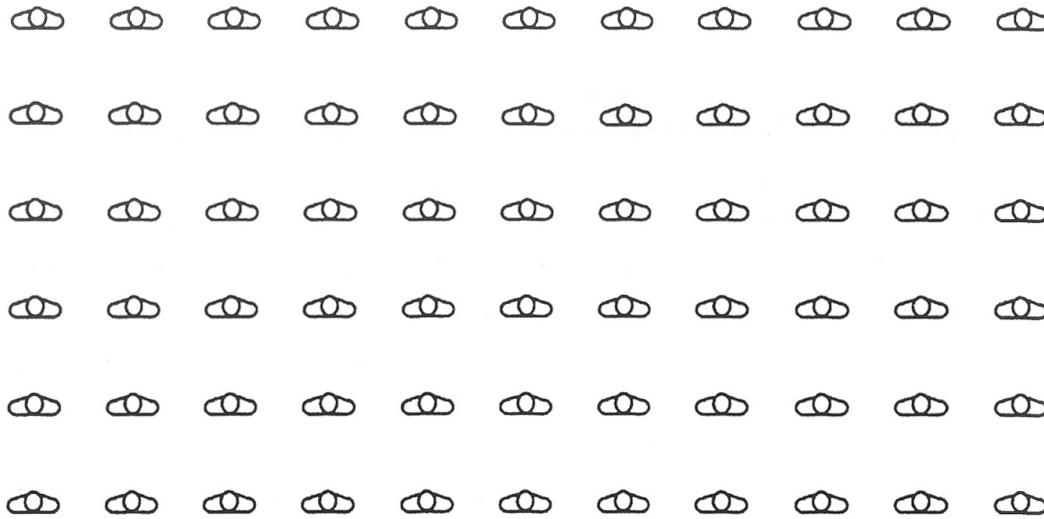


Figure 6.3: Scheme of the hoplite phalanx. Onians 2002, 50.

and visibly construct the body of the *polis*. They were the culture's most monumental and lasting displays of order, magnifying and confirming the order which would have been evident in more quotidian circumstances, such as the arrangement of warriors on a ship or in their sleeping spots,⁹⁵ of Eumaeus' pig sties (arranged, Homer tells us, with fifty female pigs in each of twelve sties),⁹⁶ or even Aristophanes' audience in the *Clouds*, whom Strepsiades address as "blocks, an *arithmos* (ἀριθμός), mere sheep, jars heaped together."⁹⁷

Pebbles or *psēphoi* (plural, or *psēphos* singular) were used for counting, but also for voting, drawing lots, divination, and playing board games. The earliest extant reckoning board is a large marble slab inscribed with lines and notations for the

⁹⁵ For the notion of *kosmos* in terms of these latter two examples, see Chapter Five, "Order."

⁹⁶ *Od.* 14.13-15.

⁹⁷ λίθοι, / ἀριθμός, πρόβατ' ἄλλως, ἀμφορῆς νενησμένοι; Aristophanes *Clouds* 1202-3. Trans. William James Hickie.

denominations of typical coins, found at a sanctuary in Salamis;⁹⁸ but we can presume that in other circumstances, counting that went beyond one's ability to use one's head (that is, one's fingers) could have taken place more simply on the ground. The use of pebbles in voting is similarly direct: one pebble stands for the choice of one man, just as one pebble can stand for one coin, sheep, or other thing. Aristotle mentions the use of a reckoning board with holes—which presumably formed a grid, or perhaps two sets of lines—for comparing the pebble-votes cast for one candidate versus the other.⁹⁹ Pebbles were clearly not the only objects used for these tasks, but the association was such that *psēphizō* (related to *psēphos*, “pebble”) meant both “to count” and “to cast one's vote.”

The game of *pestoi* (or *petteia* in Attic) seems to have used a similar physical setup—so much so that the Salamis tablet has been mistaken for a gaming board. There seems to have been two types of pebble games. The first, of which we know less, involved dice—thereby dealing symbolically with the role of chance in one's fate—and may have been a racing game.¹⁰⁰ The second was a strategy-based war game, which according to Pollux, was called “polis,” and was played on “a board that has spaces disposed between lines” using “many pieces...divided in two by color.” Pollux tells us that the “art of the game is to capture the other-colored piece by

⁹⁸ On the Salamis tablet, see Lang 1957. Menninger 1969, 299-302. The tablet is estimated to date to, very approximately, 300 BCE.

⁹⁹ “And when all have voted, the attendants take the vessel that is to count and empty it out on to a reckoning-board with as many holes in it as there are pebbles, in order that they may be set out visibly and be easy to count, and that the perforated and the whole ones may be clearly seen by the litigants. And those assigned by lot to count the voting-pebbles count them out on to the reckoning-board, in two sets, one the whole ones and the other those perforated.” Aristotle *Athenian Constitution* 69. Trans. H. Rackham.

¹⁰⁰ Kurke 1999, 256-57.

surrounding it with two of the same color.”¹⁰¹ That is to say, each pebble stood for a soldier, and was strong when acting in concert with his fellows, but a liability when alone; this underlies Aristotle’s comment that man, a “political animal,” is when *apolis* (without a city), “like an isolated piece in *petteia*.”¹⁰²

Let’s return to the *Timaeus*. When Socrates opens the dialogue by asking about the missing fourth interlocutor, what he is noticing is a lack. Timaeus responds: “Some sickness (ἀσθένεια, *astheneia*, “lack of strength, weakness”) has befallen him, Socrates; for he would never have abandoned (ἀπελείπετο, *apoleipō*, “leave behind, be parted from”) our gathering of his own free will.”¹⁰³ His intentions are good—and here we might recall Plato’s assertion that “no one is voluntarily wicked,”¹⁰⁴ that immoderate behavior is either due to ignorance or incontinence¹⁰⁵—but this fourth

¹⁰¹ ἡ δὲ διὰ πολλῶν ψήφων παιδιὰ πλινθίων ἐστί, χώρας ἐν γραμμαῖς ἔχον διακειμένους· καὶ τὸ μὲν πλινθίον καλεῖται πόλις, τῶν δὲ ψήφων ἐκάστη κύων· διηρημένων δὲ εἰς δύο τῶν ψήφων κατὰ τὰς χροάς, ἡ τέχνη τῆς παιδιᾶς ἐστὶ περιλήψει δύο ψήφων ὁμοχρῶν τὴν ἑτερόχρων ἀνελεῖν· Pollux *Onomasticon* 9.98. As trans. in Kurke 1999, 255-56.

¹⁰² ἐκ τούτων οὖν φανερόν ὅτι τῶν φύσει ἡ πόλις ἐστί, καὶ ὅτι ὁ ἄνθρωπος φύσει πολιτικὸν ζῷον, καὶ ὁ ἄπολις διὰ φύσιν καὶ οὐ διὰ τύχην ἥτοι φαῦλός ἐστιν, ἢ κρείττων ἢ ἄνθρωπος· ὥστε καὶ ὁ ὑφ’ Ὀμήρου λαιδορηθεὶς “ἀφρήτωρ ἀθέμιστος ἀνέστιος.” ἅμα γὰρ φύσει τοιοῦτος καὶ πολέμου ἐπιθυμητής, ἅτε περ ἄζυξ ὢν ὥστε ἐν πεττοῖς. Aristotle *Politics* 1253a1-7. See also Plato’s comparison of *pessoi* player to a craftsman or physician, each of whom arranges “a part for the sake of a whole, and not a whole for the sake of a part.” Plato *Laws* 903c5-e1.

¹⁰³ ἀσθένειά τις αὐτῷ συνέπεσεν, ὃ Σώκρατες· οὐ γὰρ ἂν ἐκὼν τῆσδε ἀπελείπετο τῆς συνουσίας. *Ti.* 17a4-5.

¹⁰⁴ *Ti.* 86d9.

¹⁰⁵ Plato *Laws* 734b.

man has had to leave: we might say that he has *suppurated*. Four, which completes the *tetractys* and the perfected universe, is expected but not found. Is it too much to suggest that this may be an intimation of the small but cumulative failures that beset the material world, binding it to Necessity and not only to Reason, which become a major preoccupation of the *Timaeus*?¹⁰⁶ In any case, it is no matter: Socrates can still order (κεκοσμημένος, *kosmeō*; the word also means to “prepare, adorn, dress”) himself for the “feast of words” that the remaining three will provide.¹⁰⁷ Indeed, Critias tells him to “Consider (σκόπει, *skopeō*) now, Socrates, the order (διάθεσιν, *diathesis*) of the feast as we have arranged (διέθεμεν, *diatithemi*) it.”¹⁰⁸

The verb *skopeō* here is suggestive. It means to “behold, look at or into, consider, or examine,” and it speaks about the kind of thought that is inseparable from vision.¹⁰⁹ Plato has carefully considered this kind of thought. Most famously, it is the basis for the allegory of the Cave in the *Republic*, in which humans are like people imprisoned in caves, able to see only the dim shadows of things and mistaking these shadows for reality.¹¹⁰ If a prisoner were brought to the surface, Plato speculates, he would be dazzled by brightness; but after adjusting to the light he would look upon the sun and, marveling at the sight and his new knowledge, would understand it as the

¹⁰⁶ Kenneth Dorter discusses the meaning of the missing fourth interlocutor in terms of the basic and necessary incompleteness of the cosmogonic account, and links it to a series of missing fourths, including the missing fourth dialogue. He counts the *Republic* as the first (a controversial, but by no means impossible claim), then the *Timaeus* and the unfinished *Critias*, with a dialogue from Hermocrates (who is present in the *Timaeus*) as the expected but unrealized fourth. Dorter 2001.

¹⁰⁷ τὰ τῶν λόγων ξένια, πάρεμι τε οὖν δὴ κεκοσμημένος ἐπ’ αὐτὰ *Ti.* 20c1-3.

¹⁰⁸ σκόπει δὴ τὴν τῶν ξενίων σοι διάθεσιν, ὦ Σώκρατες, ἣ διέθεμεν. *Ti.* 27a2-3.

¹⁰⁹ For a discussion of the role of sight in Homeric words for knowledge, see Snell 1960, 1-7.

¹¹⁰ Plato, *Republic* 514a-520a.

cause of “the seasons and the courses of the year and...all things in the visible region.”¹¹¹ Andrea Wilson Nightingale argues that Plato, Aristotle, and other 4th century thinkers constructed the notion of philosophical knowledge as a spectacle through an appropriation of *theōria* as a “rational ‘vision’ of metaphysical truths.”¹¹² In the pre-philosophical institution of *theōria*, which predates the first philosophers, individual ambassadors would go on behalf of their *polis* to a distant oracle, athletic games, or the theatres or festivals of another *polis*, providing an eyewitness report, or a rendering of sight into language, upon their return.¹¹³ Just as the *theōros* temporarily leaves his *polis*, Plato’s philosopher undergoes detachment from his social reality. While Plato’s truths are not literally visible, they are described in visual terms: *eidos* and *idea*, which name Plato’s “forms,” derive from the Indo-European root meaning “see” (*weid-). According to Nightingale, these parallels with the archaic and spectacular vision of *theōria* helped to conceptualize and legitimize the new project of philosophy.¹¹⁴

In aiming at rationality, Plato’s truths were different from the truths of archaic Greece, over which one man—a seer, poet, or king—had what Marcel Detienne describes as “mastery,” through his special connection to the divine.¹¹⁵ The character of an encounter with this irrefutable and unpredictable kind of religious truth can be approximated by recalling the effects of *daidala*; this is simply another way of saying

¹¹¹ ὅτι οὗτος ὁ τάς τε ὥρας παρέχων καὶ ἐνιαυτοὺς καὶ πάντα ἐπιτροπεύων τὰ ἐν τῷ ὁρωμένῳ τόπῳ, καὶ ἐκείνων ὧν σφεῖς ἐώρων τρόπον τινὰ πάντων αἴτιος. Plato, *Republic* 516b8-c1. Trans. Paul Shorey.

¹¹² Nightingale 2004, 3. The task of the *theōros* centered around vision as civic spectacles often involved an object set in the physical or symbolic center of the social space.

¹¹³ Nightingale 2004, 3-4.

¹¹⁴ Nightingale 2004, 3.

¹¹⁵ Detienne 1996.

that, as we saw in Chapter Two, these gleaming and finely crafted objects were experienced as manifestations of divine action or favor, which, in a world constantly subjected to the whims of gods and goddesses, carried the force of the absolute, which is essentially that of truth. The gods and goddesses themselves were also said to surround themselves with a blinding light when they appeared to mortals.¹¹⁶

While Plato's evocation of *theōria* may have been a deliberate rhetorical move, he also evokes *thauma* or wonder—the act of beholding a thing and marveling at it—in a way that goes beyond any kind of calculated strategy and instead seems to emerge from a shared Greek sensibility towards that which is manifestly greater than the human. When Socrates professes his wish to envision the city engaged in the agonistic activities to which its body is suited, this is not the request of a disinterested scholar. He compares himself to a man who, beholding (θεασάμενος, *theaomai*) beautiful creatures is moved with desire (ἐπιθυμίαν, *epithumia*) to behold (θεάσασθαι, *theaomai*) them in motion.¹¹⁷ *Epithumia* is “a physical appetite, a sexual lust or longing”; and *theaomai* is “to gaze with wonder.” Gazing with wonder incites a thirst for more gazing with wonder; in the *Republic* we hear that the

¹¹⁶ The descendents of Homeric *daidala* were also used in civic spectacles such as the Festival of the Great Daidala in which a wood sculpture—described by Pausanias as a *daidalon* or *xoanon*—was dressed as a bride, paraded, and ultimately burned. Pausanias 9.3.1-3. Dillon 1997, 135-38.

¹¹⁷ προσέοικεν δὲ δὴ τινὶ μοι τοιῷδε τὸ πάθος, οἷον εἴ τις ζῶα καλά που θεασάμενος, εἴτε ὑπὸ γραφῆς εἰργασμένα εἴτε καὶ ζῶντα ἀληθινῶς ἡσυχίαν δὲ ἄγοντα, εἰς ἐπιθυμίαν ἀφίκοιτο θεάσασθαι κινούμενά τε αὐτὰ καὶ τι τῶν τοῖς σώμασιν δοκούντων προσήκειν κατὰ τὴν ἀγωνίαν ἀθλοῦντα: *Ti.* 19b5-c1. Like the men gathered around Odysseus' *daidaleos* brooch, which depicted a dog strangling a fawn and gazing at it as it convulsed (as I discuss in Chapter Three, “The Look of Cunning”), Socrates is held in thrall of a thing that falls between stillness and motion, the crafted and the living.

prisoner, once his eyes adjust to the brilliance of the upper world, “would choose to endure anything” to avoid returning to the darkness from which he came.¹¹⁸ This is a moment of awe and seduction no less than of knowledge; the philosopher’s truth was, as Detienne observes, “at once the ‘homologue and the antithesis’ of religious truth.”¹¹⁹ So it is with real enthusiasm that, in response to Critias’ preview of the discourses—“the order (διάθεσιν, *diathesis*) of the feast as we have arranged (διέθεμεν, *diatithēmi*) it”¹²⁰—Socrates exclaims: “I think I will be requited perfectly (τελέως, *teleōs*) and brilliantly (λαμπρῶς, *lampros*) with the feast (ἐστίασιν, *hestiasis*) of speeches.”¹²¹ He immediately invites Timaeus to invoke the gods and deliver his speech.

Before we listen to Timaeus speak, we should reflect on the fact that here, as throughout the prologue, the dialogue is described as a feast. By emphasizing the rhythm of reciprocity, of hosting and being hosted in turn, Plato recalls the archaic customs not only of feasts, but also of funerary games, the sharing of booty, and warrior assemblies—rituals that Detienne emphasizes as significant for becoming institutionalized as the first laws.¹²² These rituals are premised on the notion that things—valuable objects, meat, wine, or words—when set in the middle or *es meson*, are held in common. Detienne observes that when speech is held in common, as in

¹¹⁸ Plato *Republic* 516e1-3.

¹¹⁹ Detienne 1996, 135. Detienne here is quoting Louis Gernet. Gernet 1951, 117. See also Nightingale 2004, 12, 98-113, 253-68.

¹²⁰ τὴν τῶν ξενίων σοι διάθεσιν, ὦ Σώκρατες, ἣ διέθεμεν. *Ti.* 27a2-3.

¹²¹ τελέως τε καὶ λαμπρῶς ἔοικα ἀνταπολήψεσθαι τὴν τῶν λόγων ἐστίασιν. *Ti.* 27b8-9. My translation.

¹²² Detienne 1996, 90, 104. See also Plato *Phaedrus* 261 b-c, where Socrates refers to Nestor and Odysseus as rhetoricians.

the give-and-take of Socrates' dialectics, it produces a secular and rational truth rather than a religious one.¹²³

But a feast, like these other gatherings, is fundamentally political. In emphasizing the problem of the *polis* in its prologue, and in setting the *Critias* as its sequel, politics becomes both the end and goal of the *Timaeus*.¹²⁴ In thinking about what politics has to do with cosmogony, we should recall that Socrates described the previous day's discussion as being about "the kind of constitution (πολιτείας, *politeia*) which seemed to me likely to prove the best, and the character of its citizens."¹²⁵ The English word "constitution," referring to both the nature of an individual and of a government, aptly translates the range of meaning of *politeia*; the Platonic body is possessed of a soul which rules over it with the aim of keeping it in order, like the constitution of a *polis*.¹²⁶ Plato is more deliberate than any other classical writer in his use of the word *kosmos* to describe at once the order in a human body, the *polis*, and the universe. In the *Republic*, Socrates asks "Do we know of any greater evil for a state than the thing that distracts it and makes it many instead of one, or a greater

¹²³ Detienne 1996, 89-99, 105-06.

¹²⁴ Although Hermocrates' dialogue, the third in the projected trilogy, remained unwritten, we know that the historic Hermocrates at one point gave an important speech and was also elected as one of the three generals (*stratēgoi*, pl. of *stratēgos*) of Syracuse—so it is likely enough that he, too, would in some way have taken politics as its subject.

¹²⁵ περὶ πολιτείας ἥν τὸ κεφάλαιον οἷα τε καὶ ἐξ οἷων ἀνδρῶν ἀρίστη κατεφαίνεται ἂν μοι γενέσθαι. *Ti.* 17c2-4.

¹²⁶ On this theme, see also: Plato *Republic* 441c-444b, 445c-d, 544d-545c, 560c-d, 591d-592a, and 605b. Loraux 2006, 82-83.

good than that which binds it together and makes it one?”¹²⁷ The answer is no, and Timaeus will explain how, ultimately, that which holds together the *polis* also orders both our selves and the universe.

And finally, Timaeus begins.

Means as Joints

Timaeus invokes the gods, then heads straight to the heart of the matter. “Now first of all we must, in my judgment, make the following distinction (διαιρετέον, *diaireō*). What is that which is Existent always [ie. Being] and has no Becoming? And what is that which is Becoming always and never is Existent?”¹²⁸ This is a division between that which is “apprehensible by thought with the aid of reasoning, since it is ever uniformly existent,” and that which is “an object of opinion with the aid of unreasoning sensation, since it becomes and perishes and is never really existent.”¹²⁹ Timaeus asserts that if any maker, in crafting any object turns for his model to the realm of Being, his work will be beautiful—while if he gazes into the realm of Becoming it will not.¹³⁰ He reasons that because our *kosmos* is beautiful, its maker must have been gazing at the realm of Being.¹³¹ Turning to Socrates, he says that “in regard to every matter it is most important to begin at the natural beginning”—but admits that because his account is based on objects of opinion

¹²⁷ ἔχομεν οὖν τι μείζον κακὸν πόλει ἢ ἐκείνο ὃ ἂν αὐτὴν διασπᾶ καὶ ποιῇ πολλὰς ἀντὶ μᾶς; ἢ μείζον ἀγαθὸν τοῦ ὃ ἂν συνδῇ τε καὶ ποιῇ μίαν; Plato *Republic* 462a9-b2. Trans. Paul Shorey.

¹²⁸ *Ti.* 27d5-28a1.

¹²⁹ *Ti.* 28a1-5.

¹³⁰ *Ti.* 28a7-b3.

¹³¹ *Ti.* 28b-29a.

(Becoming) and not only on reason (Being), his account will necessarily be imperfect, a kind of “likely story.”¹³²

So Timaeus continues. When the Maker took over the material realm, it was in a mess, moving in a disorderly (ἀτάκτως, *ataktos*, lit. “not in battle order”) and out of tune (πλημμελῶς, *plēmmelēs*) manner; and he made it his task was to bring matter “into order (τάξις, *taxis*) out of disorder (ἀταξίας, *ataxia*).”¹³³ Because the Maker is good, he aimed to make our *kosmos* as good as possible—that is, as similar as possible to Being and to himself.¹³⁴ And it must be a whole (or One) rather than a part (μέρος, *meros*); it cannot be “second,” with another creature beside it, because then there would have to be a third which embraced these both, and this third would then be the model for our *kosmos*.¹³⁵

Everything that comes into existence is bodily (*sōmatoeidēs*) and therefore, Timaeus reasons, visible and tangible.¹³⁶ To be visible there must be fire, and to be tangible, there must be earth.¹³⁷ And here it gets interesting:

¹³² *Ti.* 29b-d. Trans. R. G. Bury, modified at μῦθον from “account.” See also 48c-d.

¹³³ οὕτω δὴ πᾶν ὅσον ἦν ὁρατὸν παραλαβὼν οὐχ ἡσυχίαν ἄγον ἀλλὰ κινούμενον πλημμελῶς καὶ ἀτάκτως, εἰς τάξιν αὐτὸ ἡγάγεν ἐκ τῆς ἀταξίας, ἡγησάμενος ἐκεῖνο τούτου πάντως ἄμεινον. *Ti.* 30a3-6.

¹³⁴ *Ti.* 29e1-4, and 30a1-2. Cf. Plato *Laws* 4.716c; Plato *Gorgias* 506e1-4, Plato *Philebus* 64d-66a. Desjardins 2004, 106.

¹³⁵ ἓνα, εἴπερ κατὰ τὸ παράδειγμα δεδημιουργημένος ἔσται. τὸ γὰρ περιέχον πάντα ὅποσα νοητὰ ζῶα μεθ' ἑτέρου δεύτερον οὐκ ἂν ποτ' εἴη; πάλιν γὰρ ἂν ἕτερον εἶναι τὸ περὶ ἐκείνῳ δεοὶ ζῶον, οὐ μέρος ἂν εἴτην ἐκείνῳ, καὶ οὐκ ἂν ἔτι ἐκείνοι ἀλλ' ἐκείνῳ τῷ περιέχοντι τόδ' ἂν ἀφωμοιωμένον λέγοιτο ὀρθότερον. *Ti.* 31a3-b1.

¹³⁶ σωματοειδὲς δὲ δὴ καὶ ὁρατὸν ἀπτόν τε δεῖ τὸ γενόμενον εἶναι, *Ti.* 31b5-6.

But it is not possible that two things alone should be conjoined (συνίστασθαι, *sunistēmi*) without a third; for there must needs be some intermediary (ἐν μέσῳ, *en mesōi*) bond (δεσμόν, *desmos*) to connect the two. And the fairest of bonds (δεσμῶν, *desmos*) is that which most perfectly unites into one both itself and the things which it binds (συνδούμενα, *sundeomai*) together: and to effect this in the fairest manner is the natural property of proportion (ἀναλογία, *analogia*).¹³⁸

This statement, that proportion is what best allows for articulation, lies at the core of Plato's vision of how the *kosmos* was crafted, and at the core of this dissertation. He explains that whenever the middle term of any three numbers, solid or square, is such that as the first term is to it, so it is to the last term—and again, conversely, as the last term is to the middle, so is the middle to the first—then the middle term becomes in turn the first and the last, while the first and last become in turn middle terms, and the necessary consequence will be that all the terms are interchangeable, and being interchangeable they all form a unity.¹³⁹ In modern notation, this means that square

¹³⁷ χωρισθὲν δὲ πρὸς οὐδὲν ἂν ποτε ὁρατὸν γένοιτο, οὐδὲ ἀπτόν ἄνευ τινὸς στερεοῦ, στερεὸν δὲ οὐκ ἄνευ γῆς: *Ti.* 31b6-8.

¹³⁸ δύο δὲ μόνῳ καλῶς συνίστασθαι τρίτου χωρὶς οὐ δυνατόν: δεσμόν γὰρ ἐν μέσῳ δεῖ τινα ἀμφοῖν συναγωγὸν γίγνεσθαι. δεσμῶν δὲ κάλλιστος ὅς ἂν αὐτὸν καὶ τὰ συνδούμενα ὅτι μάλιστα ἐν ποιῇ, τοῦτο δὲ πέφυκεν ἀναλογία κάλλιστα ἀποτελεῖν. *Ti.* 31b10-c5.

¹³⁹ ὁπόταν γὰρ ἀριθμῶν τριῶν εἴτε ὀγκῶν εἴτε δυνάμεων ὄντινωνοῦν ἢ τὸ μέσον, ὅτιπερ τὸ πρῶτον πρὸς αὐτό, τοῦτο αὐτὸ πρὸς τὸ ἔσχατον, καὶ πάλιν αὖθις, ὅτι τὸ ἔσχατον πρὸς τὸ μέσον, τὸ μέσον πρὸς τὸ πρῶτον, τότε τὸ μέσον μὲν πρῶτον καὶ ἔσχατον γιγνόμενον, τὸ δ' ἔσχατον καὶ τὸ πρῶτον αὖ μέσα ἀμφοτέρω, πάνθ' οὕτως ἐξ ἀνάγκης τὰ αὐτὰ εἶναι συμβήσεται, τὰ αὐτὰ δὲ γενόμενα ἀλλήλοις ἐν πάντα ἔσται. *Ti.* 31b10-32a8. Trans. R. G. Bury, modified at ὀγκῶν from “cubic,” following Sir Thomas Heath, Francis Macdonald Cornford, and others; “solid” is less correct mathematically, since only cubic numbers, rather

numbers can be set in geometric proportion: $a^2 : ab :: ab : b^2$, which can also be written: $b^2 : ab :: ab : a^2$, or: $ab : a^2 :: b^2 : ab$, with each term able to be placed in the middle. With pebbles, the role of the middle term as a joint is more tangible: the sides of the middle term literally fit the two that flank it (Figure 6.4).

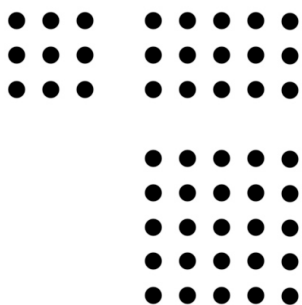


Figure 6.4 : A visualization in pebbles of $a^2 : ab :: ab : b^2$ with $a = 3$ and $b = 5$. Diagram by author.

This single middle term (ab) would have sufficed if the body ($\sigma\omega\mu\alpha$, *sōma*) of the world were a plane surface without depth, but it is solid, “and what brings solids into unison is never one middle term alone but always two.”¹⁴⁰ In modern notation, this would be: $a^3 : a^2b :: a^2b : ab^2 :: ab^2 : b^3$, and this could also be visualized in pebbles, although there is no evidence that the Greeks constructed three-dimensional arrays of pebbles in this sense. “Thus,” Timaeus says,

than all solid numbers, maintain this kind of geometric proportion, but it is what Plato wrote. Cornford 1937, 46-7. See also Zeyl 2000, xxxix. A geometric mean between two numbers is also the length of the side of a square whose area is equal to that of a rectangle whose sides are of the lengths of those two numbers.

¹⁴⁰ εἰ μὲν οὖν ἐπίπεδον μὲν, βάθος δὲ μηδὲν ἔχον ἔδει γίνεσθαι τὸ τοῦ παντὸς σῶμα, μία μεσότης ἂν ἐξήρκει τά τε μεθ’ αὐτῆς συνδεῖν καὶ ἑαυτήν, νῦν δὲ στερεοειδῆ γὰρ αὐτὸν προσήκειν εἶναι, τὰ δὲ στερεὰ μία μὲν οὐδέποτε, δύο δὲ ἀεὶ μεσότητες συναρμόττουσιν: *Ti.* 32a8-b5.

it was that in the midst between fire and earth God set water and air, and having bestowed upon them so far as possible a like ratio one towards another—air being to water as fire to air, and water being to earth as air to water—he joined together (συνέδησεν, *sundeomai*) and constructed a Heaven visible and tangible.¹⁴¹

The *kosmos* was in this way “harmonized (ὁμολογήσαν, *homologeō*) by proportion (ἀναλογία, *analogia*) and brought into existence”;¹⁴² it had *philia* (φιλίαν) and was “indissoluble by any agent other than Him who had bound it together.”¹⁴³ Whereas collisions with things such as heat and cold, which have violent external powers (δυνάμεις, *dunamis*), can dissolve (λύει, *luō*) a body, because there is nothing external to our *kosmos*,¹⁴⁴ it is “One single Whole, compounded of all wholes, perfect (τέλειον, *teleios*) and ageless and unailing.”¹⁴⁵ What is striking in all of this is both the explicitness with which Plato states that *analogia* is a bond—that proportion is

¹⁴¹ οὕτω δὴ πυρός τε καὶ γῆς ὕδωρ ἀέρα τε ὁ θεὸς ἐν μέσῳ θείς, καὶ πρὸς ἄλληλα καθ’ ὅσον ἦν δυνατὸν ἀνὰ τὸν αὐτὸν λόγον ἀπεργασάμενος, ὅτι περὶ πῦρ πρὸς ἀέρα, τοῦτο ἀέρα πρὸς ὕδωρ, καὶ ὅτι ἀὴρ πρὸς ὕδωρ, ὕδωρ πρὸς γῆν, συνέδησεν καὶ συνεστήσατο οὐρανὸν ὁρατὸν καὶ ἀπτόν. *Ti.* 32b5-10. In Plato’s other discussions about *technē*, the order of articulation also comes from measurement (*metrikē*) and measure (*metron*); see Plato *Philebus* 26d, and Plato *Statesman* 284b-285-c. Desjardins 2004, 105-6.

¹⁴² τὸ τοῦ κόσμου σῶμα ἐγεννήθη δι’ ἀναλογίας ὁμολογήσαν, *Ti.* 32c2-3.

¹⁴³ φιλίαν τε ἔσχεν ἐκ τούτων, ὥστε εἰς ταὐτὸν αὐτῷ συνελθὼν ἄλυτον ὑπὸ τοῦ ἄλλου πλὴν ὑπὸ τοῦ συνδήσαντος γενέσθαι. *Ti.* 32c3-5.

¹⁴⁴ ἅτε οὐχ ὑπολελειμμένων ἐξ ὧν ἄλλο τοιοῦτον γένοιτ’ ἂν, ἔτι δὲ ἰν’ ἀγῆρων καὶ ἄνοσον ἦ, κατανοῶν ὡς συστάτῳ σώματι θερμὰ καὶ ψυχρὰ καὶ πάνθ’ ὅσα δυνάμεις ἰσχυρὰς ἔχει περιστάμενα ἔξωθεν καὶ προσπίπτοντα ἀκαίρως λύει καὶ νόσους γῆράς τε ἐπάγοντα φθίνειν ποιεῖ. *Ti.* 33a2-6.

¹⁴⁵ διὰ δὴ τὴν αἰτίαν καὶ τὸν λογισμὸν τόνδε ἓνα ὅλον ὅλων ἐξ ἀπάντων τέλειον καὶ ἀγῆρων καὶ ἄνοσον αὐτὸν ἐτεκτέγατο. *Ti.* 33a6-b1.

articulation—and the arbitrariness with which he describes water and air as the bond between earth and fire. He does not, at this point in the dialogue, tell us how or why the elements relate to each other in terms of proportion.¹⁴⁶

The last thing that Timaeus mentions, before moving on, is the shape of our *kosmos*. It is a sphere, because it “comprises within itself all the shapes there are,” and is “equidistant (ἴσον ἀπέχον, *isos* and *apechō*) in all directions from the middle (μέσος, *mesos*) to the extremities (τελευτὰς, *teleutē*, accomplishment, end, extremity).”¹⁴⁷ Timaeus describes its exterior as “made smooth with great exactness (ἀπηκριβοῦτο, *apakriboomai*, “to be highly wrought, to be made perfect”),”¹⁴⁸ because with nothing outside of it, it has no need of parts for seeing, hearing, breathing, eating, excreting, grasping, or walking.¹⁴⁹ It rotates uniformly in one spot

¹⁴⁶ Scholars have speculated on whether this proportional relationship, if quantitative, relates to the amount of each element or to some mechanism of their powers or actions; I think it must be the latter, as Timaeus later describes how fire, air, and water constantly transform into each other, which makes a fixed proportion in their amounts difficult justify. Zeyl suggests that, when understood in terms of pairs of opposite qualities—a classification that Aristotle makes explicit—a relationship between the elements’ powers could be expressed in a proportion of “powers” as such: hot/dry (fire) :: hot/wet (air) :: cold/wet (water) :: cold/dry (earth). Zeyl 2000, xxxix-xl n71. But this seems more sensible in light of the distinctions that Aristotle draws, than in Plato’s own terms, which say nothing about this kind of scheme.

¹⁴⁷ τῷ δὲ τὰ πάντα ἐν αὐτῷ ζῶα περιέχειν μέλλοντι ζῶα πρόπον ἂν εἴη σχῆμα τὸ περιειληφὸς ἐν αὐτῷ πάντα ὅποσα σχήματα: διὸ καὶ σφαιροειδές, ἐκ μέσου πάντῃ πρὸς τὰς τελευτὰς ἴσον ἀπέχον, κυκλοτερές αὐτὸ ἐτορνεύσατο, *Ti.* 33b2-4.

¹⁴⁸ λείον δὲ δὴ κύκλῳ πᾶν ἔξωθεν αὐτὸ ἀπηκριβοῦτο, πολλῶν χάριν. *Ti.* 33b9-c1. Trans. R. G. Bury.

¹⁴⁹ *Ti.* 33c1-34a1.

instead of wandering, and is completely self-sufficing: it even consumes its own waste.¹⁵⁰ In the midst of this perfect body, Timaeus tells us, “He set Soul (ψυχὴν, *psuchē*), which He stretched throughout the whole of it, and therewith He enveloped also the exterior of its body (σῶμα, *sōma*).”¹⁵¹ The *kosmos* is complete, and yet Timaeus is just beginning his presentation: after this overview he restarts no fewer than three times, focusing each time on a different part of his argument. Because each section employs proportion in a different way to describe the crafting of the *kosmos*, it is worth considering each of them in turn.

The first time Timaeus restarts, it is to describe the crafting of the cosmic soul.¹⁵² The craftsman first made a blend of “the Being which is indivisible and remains always the same and the Being which is the transient and divisible in bodies,” therefore forming a third, intermediate, form of Being.¹⁵³ He then took the three forms of Being and blended them again “into one form, by forcing the Other into union with the Same, in spite of its being naturally difficult to mix.”¹⁵⁴ Immediately, He distributes this mixture into portions:

¹⁵⁰ *Ti.* 33c8.

¹⁵¹ ψυχὴν δὲ εἰς τὸ μέσον αὐτοῦ θεὸς διὰ παντός τε ἔτεινεν καὶ ἔτι ἔξωθεν τὸ σῶμα περιεκάλυψεν αὐτῇ, *Ti.* 34b3-5.

¹⁵² The soul was created before the cosmic body, as “He would not have permitted the elder to be ruled by the younger,” and Timaeus excuses himself for not describing it first, saying that “as for us men, even as we ourselves partake largely of the accidental and casual, so also do our words.” *Ti.* 34b12-35a1.

¹⁵³ συνεστήσατο ἐκ τῶνδὲ τε καὶ τοιῶδε τρόπῳ. τῆς ἀμερίστου καὶ ἀεὶ κατὰ ταῦτὰ ἐχούσης οὐσίας καὶ τῆς αὖ περὶ τὰ σώματα γιγνομένης μεριστῆς τρίτον ἐξ ἀμφοῖν ἐν μέσῳ συνεκεράσατο οὐσίας εἶδος, *Ti.* 35a2-5.

¹⁵⁴ καὶ τρία λαβὼν αὐτὰ ὄντα συνεκεράσατο εἰς μίαν πάντα ιδέαν, τὴν θατέρου φύσιν δύσμεικτον οὖσαν εἰς ταῦτὸν συναρμόττων βίᾳ. *Ti.* 35a8-35b1.

First He took one portion (μοῖραν, *moira*) from the whole; then He took a portion double of this; then a third portion, half as much again as the second portion, that is, three times as much as the first; the fourth portion He took was twice as much as the second; the fifth three times as much as the third; the sixth eight times as much as the first; and the seventh twenty-seven times as much as the first.¹⁵⁵

If we take the first portion as a unit of one, the portion sizes are, in order, 1, 2, 3, 4, 9, 8, and 27. Timaeus then specifies that these numbers are the series of the power of two (that is, 1, 2, 4, 8) and three (that is, 1, 3, 9, 27), and that He “went on to fill up the intervals” between these portions with more portions from his mixture.¹⁵⁶ In each interval, two means were placed: the first “exceeded its extremes and was by them exceeded by the same proportional part or fraction of each”—that is, it is a geometric mean—while the second is arithmetic, exceeding “one extreme by the same number or integer as it was exceeded by the other.”¹⁵⁷ This produced intervals of 3:2, 4:3, and 9:8, and the 4:3 intervals were then filled with 9:8 intervals, leaving over an interval in the amount of 256:243.¹⁵⁸ It so happens that in 256:243 in musical theory is one of

¹⁵⁵ μίαν ἀφείλεν τὸ πρῶτον ἀπὸ παντὸς μοῖραν, μετὰ δὲ ταύτην ἀφήρει διπλασίαν ταύτης, τὴν δ' αὖ τρίτην ἡμολίαν μὲν τῆς δευτέρας, τριπλασίαν δὲ τῆς πρώτης, τετάρτην δὲ τῆς δευτέρας διπλὴν, πέμπτην δὲ τριπλὴν τῆς τρίτης, τὴν δ' ἕκτην τῆς πρώτης ὀκταπλασίαν, ἑβδόμην δ' ἑπτακαίκοσιπλασίαν τῆς πρώτης: *Ti.* 35b5-c2.

¹⁵⁶ μετὰ δὲ ταῦτα συνεπληροῦτο τὰ τε διπλάσια καὶ τριπλάσια διαστήματα, μοίρας ἔτι ἐκείθεν ἀποτέμνων καὶ τιθεὶς εἰς τὸ μεταξὺ τούτων, *Ti.* 35c2-36a3.

¹⁵⁷ ὥστε ἐν ἐκάστῳ διαστήματι δύο εἶναι μεσότητας, τὴν μὲν ταύτῳ μέρει τῶν ἄκρων αὐτῶν ὑπερέχουσαν καὶ ὑπερεχομένην, τὴν δὲ ἴσῳ μὲν κατ' ἀριθμὸν ὑπερέχουσαν, ἴσῳ δὲ ὑπερεχομένην. *Ti.* 36a3-7.

¹⁵⁸ ἡμολίων δὲ διαστάσεων καὶ ἐπιτρίτων καὶ ἐπογδῶν γενομένων ἐκ τούτων τῶν δεσμῶν ἐν ταῖς πρόσθεν διαστάσεσιν, τῷ τοῦ ἐπογδόου διαστήματι τὰ ἐπίτριτα πάντα συνεπληροῦτο, λείπων αὐτῶν ἐκάστου μόριον, τῆς τοῦ μορίου

the proportions associated with a *puknon*, which in an enharmonic or chromatic musical scale was a “close” or “compressed” interval whose placement determined the type and character of the scale.¹⁵⁹ The adjective *puknos*, as we have already seen, is also that which is “close-packed, thick, well put together, shrewd”—that is, well articulated. Although Plato’s series of numbers does not literally match any Greek musical scale, it is clear that Plato intends to harmonize the cosmic soul along musical lines.¹⁶⁰

The demiurge then split this construction lengthwise and laid the two resulting strips across each other, bending them back into a circle.¹⁶¹ He split the inner of the two strips into seven unequal circles, again according to the double and triple intervals.¹⁶²

ταύτης διαστάσεως λειφθείσης ἀριθμοῦ πρὸς ἀριθμὸν ἐχούσης τοὺς ὅρους ἕξ καὶ πεντήκοντα καὶ διακοσίων πρὸς τρία καὶ τετταράκοντα καὶ διακόσια. *Ti.* 36a7-b6.

¹⁵⁹ As Andrew Barker observes, *puknōmata* (pl. of *puknōma* or *puknon*) entered music as a new technical notion in the 4th century BCE. According to Barker, the term literally means “‘densifications,’ complexes of items stacked tightly up against one another,” and “there is no great distance between a representation of pitches as densely or loosely packed together, and a more explicitly linear conception of the ‘dimension’ of pitch,” which hitherto had not been described as such. Barker 2007, 24-25. For the placement of the *puknon* determining the *ēthos* of a scale, see Barker 2007, 178-80.

¹⁶⁰ See also the role of cosmic musical harmonies in Plato’s Myth of Er at Plato *Republic* 617b-c.

¹⁶¹ *Ti.* 36b7-c3.

¹⁶² That is, at intervals corresponding to 2, 4, 8, and 3, 9, 27. *Ti.* 36d1-5.

All eight circles revolved;¹⁶³ and this unusual contraption constituted the cosmic soul, “proportionally (ἀνὰ λόγον, *ana + logos*) divided (μερισθείσα, *merizō*, “to divide, distribute, apportion”) and bound together (συνδεθείσα, *sundeō*),”¹⁶⁴ and participating in reasoning (λογισμοῦ, *logismos*, “reason, counting, calculation”) and harmony (ἁρμονίας, *harmonia*, “joint, agreement, musical harmony, concord”).¹⁶⁵ (The meaning of *harmonia* as both a musical harmony and a joint is evoked later in the *Timaeus*, where Plato defines musical harmonies as the overtaking of quicker—what we call higher—sounds by slower ones, when the former slowed and began to stop. Plato attributes the sensual and intellectual pleasure of these harmonies to the physical meeting or blending of these sounds, and in this way a musical *harmonia* is also a physical blending or connection.¹⁶⁶) Pleased with his creation, the demiurge created the sun, moon, and five other stars, placing each on one of the orbits of the inner circles of the Other; and kindled a light for the sun, thereby creating time and allowing living creatures to “participate in number” by observing its regularity.¹⁶⁷

Then, the demiurge made four kinds of living creatures: the first, made mostly of fire, are the heavenly gods, including the stars and earth; the second are winged creatures that inhabit the air; the third inhabit water; and the fourth walk on land.¹⁶⁸ Addressing the gods, he said “seeing that you were generated, [you] are not wholly immortal or

¹⁶³ *Timaeus* tells us that the outer circle was made into the Motion of the Same and revolved towards the right, and the inner seven circles into the Motion of the Other, revolving at differing speeds towards the left. *Ti.* 36c3-d1, and 26d5-8.

¹⁶⁴ καὶ ἀνὰ λόγον μερισθείσα καὶ συνδεθείσα, *Ti.* 37a5.

¹⁶⁵ λογισμοῦ δὲ μετέχουσα καὶ ἁρμονίας ψυχῇ, *Ti.* 36e8-37a1.

¹⁶⁶ *Ti.* 80a-b.

¹⁶⁷ *Ti.* 37c-39e. The phrase “participate in number” μετέσχοι τε ἀριθμοῦ is at 39b8.

¹⁶⁸ *Ti.* 39e8-40a2.

indissoluble (ἄλυτοι, *a-lutos*, “not to be loosened”).¹⁶⁹ Nonetheless, he also says that the gods are “indissoluble (ἄλυτα, *a-lutos*) save by my will.”¹⁷⁰ He then announced that he did not want to personally craft mortal beings since they would then be equal to the gods—and so he asks the gods to craft the bodies of mortals, sowing in each an immortal soul that he will supply.¹⁷¹ He mixed these souls from the less pure residue left over from crafting the cosmic soul, and then divided this mixture, handing over one soul to each star-god to implant in a body;¹⁷² these bodies were to be “subject to influx and efflux,” as well as to sensations, desire, pleasure, pain, fear, anger, and other emotions.¹⁷³

Doing as they were told,¹⁷⁴ the gods “borrowed from the *kosmos* portions (μόρια, *morion*) of fire and earth and water and air, as if meaning to pay them back,” and “cemented together (συνεκόλλων, *sunkollaō*)” these portions¹⁷⁵—but “it was not with those indissoluble (ἄλύτοις, *a-lutos*) bonds (δεσμοῖς, *desmos*) wherewith [the gods] themselves were joined...but with close-packed (πυκνοῖς, *puknos*) pegs (γόμφοις, *gomphos*), invisible for smallness.”¹⁷⁶ These imperfect bodies moved in a

¹⁶⁹ δι’ ἃ καὶ ἐπέιπερ γεγέννησθε, ἀθάνατοι μὲν οὐκ ἐστὲ οὐδ’ ἄλυτοι τὸ πάμπαν, *Ti.* 41b2-3.

¹⁷⁰ δι’ ἐμοῦ γενόμενα ἄλυτα ἐμοῦ γε μὴ ἐθέλοντος. *Ti.* 41a7-9.

¹⁷¹ *Ti.* 41c1-41d4.

¹⁷² *Ti.* 41d5-41e2.

¹⁷³ *Ti.* 42a4-b2.

¹⁷⁴ *Ti.* 42e5.

¹⁷⁵ μιμούμενοι τὸν σφέτερον δημιουργόν, πυρὸς καὶ γῆς ὕδατός τε καὶ ἀέρος ἀπὸ τοῦ κόσμου δανειζόμενοι μόρια ὡς ἀποδοθησόμενα πάλιν, εἰς ταῦτὸν τὰ λαμβανόμενα συνεκόλλων, *Ti.* 42e7-43a2.

¹⁷⁶ οὐ τοῖς ἀλύτοις οἷς αὐτοὶ συνείχοντο δεσμοῖς, ἀλλὰ διὰ σμικρότητα ἀοράτοις πυκνοῖς γόμφοις συντήκοντες, *Ti.* 43a2-4. Trans. R. G. Bury, modified at πυκνοῖς from “numerous.”

“disorderly (ἀτάκτως, *ataktos*) and irrational (ἀλόγως, *alogos*)”¹⁷⁷ manner which caused the human soul to literally be overturned by sensations from the material world:

in the three several intervals of the double and the triple, and in the mean (μεσότητος, *mesotēs*) terms and binding links (συνδέσεις, *sundesis*) of 3/2, 4/3, and 9/8...all manner of twistings, and...fractures and disruptions of every possible kind, with the result that, as they barely held together (συνεχομένας, *sunechō*) one with another, they moved indeed but moved irrationally, being at one time reversed, at another oblique, and again upside down.¹⁷⁸

This fallible soul was set in a near-spherical head, to which the gods added limbs so that it would “not go rolling upon the earth.”¹⁷⁹ The gods also gave us vision, produced by fire streaming from our eyes,¹⁸⁰ and which is the “greatest good” because it allows us to see the sun and stars and therefore to understand not only time, but the “art of number” and philosophy.¹⁸¹ Hearing, likewise, allows for music, given to us “for the sake of harmony,” which helps us restore the revolutions of our souls “to order and concord.”¹⁸²

¹⁷⁷ ὥστε τὸ μὲν ὅλον κινεῖσθαι ζῶον, ἀτάκτως μὴν ὅπη τύχοι προΐέναι καὶ ἀλόγως *Ti.* 42a7-43b3.

¹⁷⁸ ὥστε τὰς τοῦ διπλασίου καὶ τριπλασίου τρεῖς ἑκατέρας ἀποστάσεις καὶ τὰς τῶν ἡμολίων καὶ ἐπιτρίτων καὶ ἐπογδῶν μεσότητος καὶ συνδέσεις, ἐπειδὴ παντελῶς λυταὶ οὐκ ἦσαν πλὴν ὑπὸ τοῦ συνδήσαντος, πάσας μὲν στρέψαι στροφάς, πάσας δὲ κλάσεις καὶ διαφθοράς τῶν κύκλων ἐμποιεῖν, ὅσα χῆπερ ἦν δυνατόν, ὥστε μετ’ ἀλλήλων μόγῃς συνεχομένας φέρεσθαι μὲν, ἀλόγως δὲ φέρεσθαι, τοτὲ μὲν ἀντίας, ἄλλοτε δὲ πλαγίας, τοτὲ δὲ ὑπτίας: *Ti.* 43d5-e4.

¹⁷⁹ *Ti.* 44d3-e4.

¹⁸⁰ *Ti.* 45b-d.

¹⁸¹ *Ti.* 47a2-b3.

¹⁸² *Ti.* 47c6-e3.

The strength of Plato's vision speaks for itself, but I want to underline the fact that Plato explains our mortality through the use of tiny and ultimately fallible pegs in the articulation of our bodies. In contrast, the immortal human soul cannot be disarticulated except by the demiurge himself, but its weakness lies in the fact that its proportioned articulations, its means-as-joints, are twisted every which way unless we are able set them in order. There is also the lesser purity of our souls, the imperfect sphere of our head, and our limbs and orifices: all of this marks us as dirty, unstable, and penetrable beings. Our boundaries are never absolute: there is the matter that passes through us, briefly constituting our bodies as they continually grow and decay; our souls' reliance on the revolutions of the heavenly bodies to establish their own order; and the temporal extension of our souls through reincarnation. Imperfectly articulated and proportioned within ourselves, we participate in the *kosmos* through our embeddedness in these wider circumstances.

At this point, Timaeus stops to point out that although he has been primarily discussing the work of Reason, the *kosmos* was in fact generated from both Reason and Necessity—and that he must therefore “once again...make a fresh start.”¹⁸³ While reiterating that he can only give a “likely” rather than absolute account,¹⁸⁴ he derides the fact that we describe fire, air, water, and earth as elements (στοιχεῖα, *stoicheion*), because “in truth they do not so much as deserve to be likened...to the class of syllables (συλλαβῆς, *sullabē*).”¹⁸⁵ What we see, he says, is never a set of

¹⁸³ *Ti.* 47e4-48b3.

¹⁸⁴ *Ti.* 48c9-d4.

¹⁸⁵ τὴν δὴ πρὸ τῆς οὐρανοῦ γενέσεως πυρὸς ὕδατος τε καὶ ἀέρος καὶ γῆς φύσιν θεατέον αὐτὴν καὶ τὰ πρὸ τούτου πάθη: νῦν γὰρ οὐδεὶς πῶ γενέσιν αὐτῶν μεμήνυκεν, ἀλλ' ὥς εἰδόσιν πῦρ ὅτι ποτέ ἐστιν καὶ ἕκαστον αὐτῶν λέγομεν ἀρχὰς αὐτὰ τιθέμενοι στοιχεῖα τοῦ παντός, προσήκον αὐτοῖς οὐδ' ἂν ὥς ἐν

stable entities but instead, constant transformation:¹⁸⁶ “we see that which we now call ‘water’ becoming by condensation, as we believe, stones and earth; and again, this same substance, by dissolving and dilating, becoming breath and air; and air through combustion becoming fire,” and so on, “passing along generation to one another in a circle.”¹⁸⁷ He compares this to the work of a goldsmith: continually remodeling his gold into different figures, one cannot say that what a goldsmith is making “is” a triangle or any other figure, but simply that it is gold—the material that receives all forms without changing its essential nature.¹⁸⁸ Therefore, in addition to the invisible and ungenerated Form, which comes from Being; and the sensible, generated, and constantly perishing object of Becoming; Timaeus proposes that there is also a third kind, *chōra*, satisfying the need for everything which exists to exist “in some spot.”¹⁸⁹ The argument follows a peculiarly Platonic kind of logic, which also underpinned his suggestion that the *kosmos* must be One; that if it were two there would have to be a third that embraced them both. *Chōra* is a joint between Being and Becoming, providing for the possibility of generation while guaranteeing continuity.

In the beginning, Being, Becoming, and *chōra* existed, but *chōra* was “neither similar nor balanced,” and “sway[ed] unevenly in every part.”¹⁹⁰ Similarly, although the four kinds existed in some capacity, “possessing some traces of their own nature,”¹⁹¹ they shook *chōra* and were in turn shaken by it, moving like corn in a sieve: like particles that “fall in one place if they are solid and heavy, but fly off and settle elsewhere if

συλλαβῆς εἶδεν μόνον εἰκότως ὑπὸ τοῦ καὶ βραχὺ φρονούντος
ἀπεικασθῆναι. *Ti.* 48b3-c2.

¹⁸⁶ *Ti.* 49d-e.

¹⁸⁷ *Ti.* 49b9-c7. My translation.

¹⁸⁸ *Ti.* 50a-c.

¹⁸⁹ *Ti.* 51e7-52b7.

¹⁹⁰ *Ti.* 52d2-e6.

¹⁹¹ ἴχνη μὲν ἔχοντα αὐτῶν ἅττα, *Ti.* 53b2.

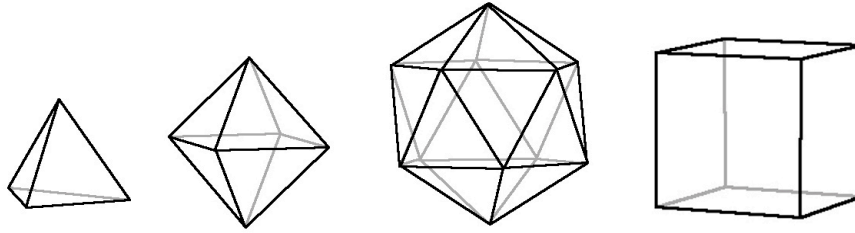


Figure 6.5: A tetrahedron (four faces), octahedron (eight faces), and icosahedron (twenty faces), and cube (or hexahedron, with six faces). While the tetrahedron, octahedron, and icosahedron (which form fire, air, and water, respectively) each have for faces equilateral triangles, the cube, which forms earth, has square faces.

Diagram by author.

they are spongy and light.”¹⁹² The similarity with Empedocles’ description of the separated roots under the reign of Strife is clear; each of the four kinds withdraws, without mixing or joining with the other four kinds. When Plato’s demiurge set out to organize the forms, therefore, he “began by first marking [the four kinds] out into shapes by means of forms (εἶδεσί, *eidos*) and numbers (ἀριθμοῖς, *arithmos*).”¹⁹³ What does this mean? Timaeus states that fire, earth, water, and air are “solid bodies (σώματα, *sōma*)”; that bodies have depth and are bound by plane surfaces; that a rectilinear plane is in turn composed of triangles; and that all triangles derive “from two triangles,” a rectangular isosceles and a rectangular scalene.¹⁹⁴ He then says that “we must now declare what will be the four fairest bodies, dissimilar to one another, but capable in part of being produced out of one another by means of dissolution (διαλυόμενα, *dialuō*).”¹⁹⁵ He ends up with solid bodies constructed of these two triangles: the rectangular isosceles (which he describes as having a “single nature,”

¹⁹² *Ti.* 52e6-53a8.

¹⁹³ οὕτω δὴ τότε πεφυκότα ταῦτα πρῶτον διεσχηματίσατο εἶδεσί τε καὶ ἀριθμοῖς. *Ti.* 53b4-5.

¹⁹⁴ *Ti.* 53c5-e1.

¹⁹⁵ δεῖ δὴ λέγειν ποῖα κάλλιστα σώματα γένοιτ’ ἂν τέτταρα, ἀνόμοια μὲν ἑαυτοῖς, δυνατὰ δὲ ἐξ ἀλλήλων αὐτῶν ἅττα διαλυόμενα γίγνεσθαι: *Ti.* 53e1-4.

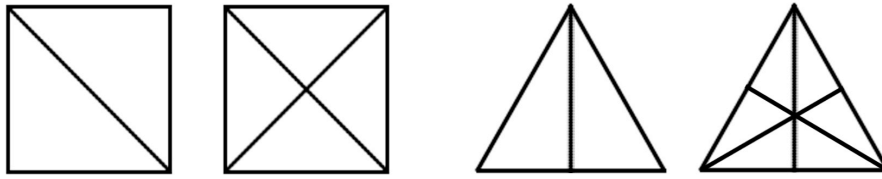


Figure 6.6: Timaeus describes each square side as being formed from four isosceles triangles, and each equilateral triangle as being formed from six scalene triangles, although two component triangles would have sufficed for each. Plato does not give an explanation for this choice, although an obvious guess would be that a preference for radial symmetry may have been a factor. Diagram by author.

since all rectangular isosceles triangles have the same proportions and are what we call “similar”), and a rectangular scalene triangle (figure 6.5).¹⁹⁶ Earth is to be formed from the isosceles and the others from the scalene; contrary to appearances, Timaeus says, only fire, air and water can transform into each other, while earth, formed from a different triangle, can only dissolve and be reconstituted into different kinds of earth.¹⁹⁷

Timaeus then describes the construction of the four solid bodies: fire, air, and water are made of four, eight and twenty equilaterals, respectively, while earth is made of six squares. Each equilateral, in turn, is composed of six scalenes, and the square out of four isosceles (figure 6.6).¹⁹⁸ He explains that the cube is earth because it is the “most immobile and the most plastic of bodies.”¹⁹⁹ The pyramid is

¹⁹⁶ *Ti.* 54a1-b7.

¹⁹⁷ *Ti.* 54b8-d5. Plato only later assigns earth to the cube, the only solid body to be formed from the isosceles triangles, at 55d9-56a2.

¹⁹⁸ *Ti.* 54d-55c. Here, Timaeus also adds that there is a fifth solid body, which God used “for the Universe in his decoration thereof.” 55c5-7. Although he does not describe this body, the remaining regular solid is a dodecahedron, made of five regular pentagons—a shape which cannot be formed out of Plato’s two elementary triangles. Scholars tend to agree that in searching for some explanation for this fifth

fire, since it has the fewest bases and is the smallest, and is therefore the most mobile, the lightest, and the sharpest (ὀξύτατον, *oxus*).²⁰⁰ (And we might observe that the association between these qualities may have been aided by the fact that the word *oxus* means “sharp, pointy” but also “dazzling, bright,” “piercing,” “high-pitched,” “pungent, acid,” or “quick.”) Between the extremes of earth and fire, Plato assigns the octahedron to air, since it is formed of fewer triangles is therefore more mobile than the icosahedron, which he assigns to water.²⁰¹ And he adds that God must have realized the “proportions (ἀναλογιών, *analogia*) which govern their masses and motions and their other qualities...with exactness,” whether Nature “submitted voluntarily or under persuasion.”²⁰²

Timaeus then explains how the four kinds act according to their forms and proportions. For example, earth can be dissolved by the “acuteness” of fire, and its component triangles continue to move until they “happen to meet together

shape, the decoration of the universe must have seemed a likely—if vague—choice because this solid is closest in shape to a sphere. See also Plato *Phaedo* 110b.

Cornford 1937, 218-19.

¹⁹⁹ *Ti.* 55d9-e3.

²⁰⁰ καὶ τὸ μὲν σμικρότατον σῶμα πυρί, τὸ δ' αὖ μέγιστον ὕδατι, τὸ δὲ μέσον ἀέρι: καὶ τὸ μὲν ὀξύτατον αὖ πυρί, τὸ δὲ δεύτερον ἀέρι, τὸ δὲ τρίτον ὕδατι. ταῦτ' οὖν δὴ πάντα, τὸ μὲν ἔχον ὀλιγίστας βάσεις εὐκίνητότατον ἀνάγκη πεφυκέναι, τμητικώτατόν τε καὶ ὀξύτατον ὃν πάντη πάντων, ἔτι τε ἐλαφρότατον, ἐξ ὀλιγίστων συνεστὸς τῶν αὐτῶν μερῶν: *Ti.* 56a4-b3.

²⁰¹ *Ti.* 56a2-b9.

²⁰² καὶ δὴ καὶ τὸ τῶν ἀναλογιών περὶ τε τὰ πλήθη καὶ τὰς κινήσεις καὶ τὰς ἄλλας δυνάμεις πανταχῇ τὸν θεόν, ὅπῃπερ ἡ τῆς ἀνάγκης ἐκοῦσα πεισθεῖσά τε φύσις ὑπείκεν, ταύτη πάντη δι' ἀκριβείας ἀποτελεσθαισὼν ὑπ' αὐτοῦ συνηρμόσθαι ταῦτα ἀνὰ λόγον. *Ti.* 56c4-9.

somewhere and reunite with another, when they become earth again,”²⁰³ and water can be “broken up by fire or even by air.”²⁰⁴ Following the geometry of their composition, one corpuscle of water can become two of air and one of fire, and likewise every corpuscle of air can become two of fire—and vice versa.²⁰⁵ And, he points out, smaller, sharper bodies do not always break up larger ones, since “when a small quantity of fire is enclosed by a large quantity” of air, water, or earth, it “is defeated (νικηθὲν, *nikaō*) in its struggle (μαχόμενον, *machomai*) and broken up (καταθραυσθῇ, *katathrauō*).”²⁰⁶

This martial imagery continues when Timaeus explains how change happens at a large scale and why bodies aggregate in quantities large enough for us to see: Whenever a few of the smaller corpuscles, being caught within a great number of larger corpuscles, are broken up and quenched, then, if they consent to be re-compounded into the shape of the victorious Kind, they cease to be quenched, and air is produced out of fire, and out of air water; but if they fight against combining with these or with any of the other Kinds, they do not cease from dissolution (λύόμενα, *luō*) until either they are driven out to their own kindred, by means of this impact (ὠθούμενα, *ōtheō*, “thrust, push”) and dissolution (διαλυθέντα, *dialuō*), or else they are defeated and, instead of many forms, assume one form similar to the victorious Kind, and continue dwelling therewith as a united family (σύνοικον, *sunoikos*).²⁰⁷

²⁰³ *Ti.* 56d1-6.

²⁰⁴ *Ti.* 56d7-8.

²⁰⁵ *Ti.* 56d-e.

²⁰⁶ καὶ πάλιν, ὅταν ἀέρι πῦρ ὕδασίν τε ἢ τινι γῇ περιλαμβανόμενον ἐν πολλοῖς ὀλίγον, κινούμενον ἐν φερομένοις, μαχόμενον καὶ νικηθὲν καταθραυσθῇ, *Ti.* 56e2-5.

²⁰⁷ τά τε αὖ σμικρότερα ὅταν ἐν τοῖς μείζουσιν πολλοῖς περιλαμβανόμενα ὀλίγα διαθραυόμενα κατασβεννύηται, συνίστασθαι μὲν ἐθέλοντα εἰς τὴν τοῦ κρατοῦντος ιδέαν πέπαιται κατασβεννύμενα γίγνεται τε ἐκ πυρὸς ἀήρ, ἐξ

Plato also explains the perpetuity of material change: the cosmic revolutions, which tend to compress matter, continually generate zones of contact—and therefore transformations—between types of bodies.²⁰⁸ And he describes how the diversity of matter comes about through different sizes of elementary triangles.²⁰⁹ For example, liquid water is made of small, unequally sized particles of water, while “fusible” water (that is, metals) is formed of large, uniformly sized particles—a fact which describes its weight and its ability to melt when dissolved by fire.²¹⁰ When air compresses earth such that it becomes indissoluble by water, it becomes “‘stone,’ of which the fairer sort is that composed of equal and uniform parts, and the coarser sort of the opposite.”²¹¹ And “glass” is formed when fire enters the interstices of a mixture comprised mostly of earth with a small amount of water.²¹² Plato also describes the sensorial qualities of matter through interactions between the particles of matter and those of our flesh and sensory organs.²¹³ In so doing, he debunks common-sense

ἀέρος ὕδωρ: ἐὰν δ' εἰς ταῦτ' ἦ καὶ τῶν ἄλλων τι συνιὼν γενῶν μάχεται, λυόμενα οὐ παύεται, πρὶν ἢ παντάπασιν ὠθεύμενα καὶ διαλυθέντα ἐκφύγῃ πρὸς τὸ συγγενές, ἢ νικηθέντα, ἐν ἐκ πολλῶν ὁμοίων τῷ κρατήσαντι γενόμενον, αὐτοῦ σύνοικον μένῃ. *Ti.* 57a9-b10.

²⁰⁸ *Ti.* 57e-58c.

²⁰⁹ Plato does not detail his reasoning for this, but in addition to the obvious fact (which he does discuss) that different sizes of elementary triangles will produce different sizes of solid bodies, we can pick up on Euclid's observation that there are many ways in which different, but precisely proportioned, sizes of these two triangles can be combined to form the equilateral triangle and square. Cornford 1937, 230-39. For how the different sizes of each type of particle affect the characteristics of each kind, see *Ti.* 58c-61c.

²¹⁰ *Ti.* 58d-e.

²¹¹ *Ti.* 60c.

²¹² *Ti.* 61b.

²¹³ *Ti.* 61c-d.

notions of heat and cold;²¹⁴ hard and soft;²¹⁵ heavy and light (and with these, up and down);²¹⁶ smoothness and roughness;²¹⁷ pain and pleasure;²¹⁸ astringent, harsh, bitter, saline, and sweet tastes;²¹⁹ smells;²²⁰ sounds;²²¹ and colors.²²²

It is a *tour de force*, an intentionally overwhelming account of how everything in our experience unfolds from the demiurge's initial, decisive act of proportioning these elementary particles. This unfolding—how the triangles form solid bodies, how the solid bodies separate and recombine, how the various compounds appear to us, and how the entire system perpetuates its constant motion and change within the revolution of the *kosmos*—is presented as a kind of logical result of these proportions, making this intervention efficient in comparison with the more laborious, craftsman-like construction of the cosmic soul. The demiurge simply introduces Reason into the original chaos; Necessity takes care of the rest in a manner that speaks of *phusis*. *Phusis* is the growth or nature of something like a plant, unfolding leaf by leaf in its own predictable pattern—which, after Plato and Aristotle, we can describe as being “by design.” And if the role of proportion often remains implicit throughout this section, Plato leaves little doubt in his summary, when he says that

all these things were in a state of disorder (ἀτάκτως, *ataktos*), when God implanted in them proportions (συμμετρίας, *summetria*) both severally in relation to themselves and in their relations to one another...For at that time

²¹⁴ *Ti.* 61d-62b.

²¹⁵ *Ti.* 62b-c.

²¹⁶ Weight and vertical directionality are explained together. *Ti.* 62c-63e.

²¹⁷ *Ti.* 63e-64a.

²¹⁸ *Ti.* 64a-65b.

²¹⁹ *Ti.* 65c-66c.

²²⁰ *Ti.* 66d-67a.

²²¹ *Ti.* 67a-c.

²²² *Ti.* 67c-68d.

nothing partook thereof, save by accident, nor was it possible to name anything worth mentioning which bore the names we now give them, such as fire and water, or any of the other elements; but He, in the first place, set all these in order (διεκόσμησεν, *diakosmeō*).²²³

Plato's debt to Empedocles is clear, in his selection of four elements; in his use of the term *philia* to describe a *kosmos* "united in identity with itself";²²⁴ in the Strife-like violence in the way that Plato will describe particles colliding, being surrounded and loosened; and—for the differences between Plato's spherical *kosmos* and Empedocles' sphere, which as a collapsed homogeneous mass is not a *kosmos* at all—in the notion that the sphere is a kind of perfect body and therefore a non-body, emphatically other to our own. Articulation, with its attendant potential for disarticulation, continues to describe life and the mortal condition. While none of these ideas—which resonate throughout Greek culture—are the sole property of Empedocles, it is clear that Plato had this poet-philosopher in mind when formulating the *Timaeus*, at times along similar (but more precisely argued) lines, and at times seemingly as a kind of refutation.

²²³ ταῦτα ἀτάκτως ἔχοντα ὁ θεὸς ἐν ἐκάστῳ τε αὐτῷ πρὸς αὐτὸ καὶ πρὸς ἄλληλα συμμετρίας ἐνεποίησεν, ὅσας τε καὶ ὅπῃ δυνατόν ἦν ἀνάλογα καὶ σύμμετρα εἶναι. τότε γὰρ οὔτε τούτων, ὅσον μὴ τύχῃ, τι μετεῖχεν, οὔτε τὸ παρὰπαν ὀνομάσαι τῶν νῦν ὀνομαζομένων ἀξιόλογον ἦν οὐδέν, οἷον πῦρ καὶ ὕδωρ καὶ εἴ τι τῶν ἄλλων: ἀλλὰ πάντα ταῦτα πρῶτον διεκόσμησεν, *Ti.* 69b4c2.

²²⁴ See, for example, DK31b22.5. This also evokes Plato's later statement in the *Laws* that "equality (ἰσότης, *isotēs*) makes friendship (φιλότης, *philotēs*)" in which he is talking about social equality between men. Plato *Laws* 757a. Trans. F. D. Harvey. See Chapter Four, "Equal Feasting."

But there is one profound difference between Empedocles and Plato: Empedocles, as Reviel Netz observes, is “keen on mixtures, not on mathematical proportions.”²²⁵

While he gives us the first example of numbers being used to describe the proportioning of matter in the natural world, he is most clearly interested in the *kosmos* as a process of articulation and disarticulation within the cycles of Love and Strife. Plato, on the other hand, tells us that proportion is, itself, a bond—that it is the most beautiful and perfect kind of articulation, responsible for harmonizing the *kosmos*—and that it is the intentional and best possible result from an intelligent craftsman.

Plato himself comments on this difference in the *Laws*, the only dialogue that we definitively know to be later than the *Timaeus* and the *Critias*. There, he mocks “some” people (whose ideas, he says, are accepted by most men)²²⁶ who hold “that the greatest and most beautiful things”²²⁷—that is, the heavenly bodies, the seasons, plants, and animals²²⁸—are, like the seasons, not due “to reason (νοῦν, *noos*), nor to any god (θεὸν, *theos*) or art (τέχνην, *technē*)...but...to nature (φύσει, *phusis*) and chance (τύχη, *tuchē*).” These people believe, at the same time, that the “lesser things”²²⁹—the human products of painting, music, and politics—are the work of art *technē* (τέχνην).²³⁰ Plato’s argument is that without an understanding of how the world has been crafted by divine intelligence, there is no absolute standard for goodness, beauty, and justice; and that by believing these things, people allow their lives and their *poleis* to be ruled by force rather than by reason and proportion. The

²²⁵ Netz 1999, 273.

²²⁶ Plato *Laws* 888e5. That “most people” believe their ideas is at 888e1-2. Trans. R. G. Bury.

²²⁷ Plato *Laws* 889a4. Trans. R. G. Bury.

²²⁸ Plato *Laws* 889c3-4.

²²⁹ Plato *Laws* 889a5. Trans. R. G. Bury.

²³⁰ Plato *Laws* 889c6-e1.

result is *stasis*.²³¹ The “men of science,” whom Plato does not deign to name, surely include Leucippus and Democritus, who emphasized the role of chance in forming matter out of featureless atoms. It is in contrast with their ideas—but also with those of Empedocles, whose *kosmos* is not a fully intentional result of craft—that Plato presents the *Timaeus*. In so doing, he gives us a model for *technē*, in a craftsman who, despite being divine, nonetheless operates with surprisingly human methods. For this reason, it is no surprise that the *Timaeus* became important for not only the Christian Neo-Platonists, but for theories of architecture including those of Vitruvius.

But Plato is still not finished. Timaeus stops himself again, and announces:

Seeing, then, that we have now lying before us and thoroughly sifted—like wood ready for the joiner (τέκτοσιν, *tektōn*)—the various kinds of causes, out of which the rest of our account must be woven together (συνυφανθῆναι, *sunuphainō*), let us once more for a moment revert to our starting-point, and thence proceed rapidly to the point from which we arrived hither. In this way we shall endeavor now to supplement our story with a conclusion and a head (κεφαλὴν, *kephalē*) in harmony (ἀρμόττουσαν, *harmozō*) with what has gone before.²³²

Whereas the first part dealt primarily with Reason and the cosmic soul, and the second part with Necessity and the cosmic body, the third part will harmonize these

²³¹ Plato *Laws* 890a.

²³² ὅτ' οὖν δὴ τὰ νῦν οἶα τέκτοσιν ἡμῖν ὕλη παρὰκειται τὰ τῶν αἰτίων γένη διυλισμένα, ἐξ ὧν τὸν ἐπίλοιπον λόγον δεῖ συνυφανθῆναι, πάλιν ἐπ' ἀρχὴν ἐπανέλθωμεν διὰ βραχέων, ταχύ τε εἰς ταῦτόν πορευθώμεν ὅθεν δεῦρο ἀφικόμεθα, καὶ τελευτὴν ἤδη κεφαλὴν τε τῷ μύθῳ πειρώμεθα ἀρμόττουσαν ἐπιθεῖναι τοῖς πρόσθεν. *Ti.* 69a5-b3. Trans. R. G. Bury, modified at κεφαλὴν from “crown.” Elsewhere, Timaeus justifies the length of various parts of his discourse by referring to the need to maintain a correct proportion (ἐμμετρότερός, *emmetros*). *Ti.* 90e. See also 38d-e. Johansen 2004, 192-93.

accounts by fitting soul to body—not the cosmic soul and body, however, but the human soul and body. Here, we find that in addition to the immortal soul provided by the demiurge, the gods contrived for us a mortal soul, one even more caught up in the irrational currents of sensation.²³³ To prevent this mortal soul from overly polluting the divine one, they set it apart, “building an isthmus (ἰσθμὸν, *isthmos*) and boundary (ὄριον, *horos*) for the head and chest by setting between them the neck,” and they “fastened (ἐνέδουν, *endeō*) the mortal kind of soul” in the chest.²³⁴ Similarly, since the mortal soul was itself divided into better and worse parts, “they built a division within the cavity of the thorax,”²³⁵ placing the more courageous part above the more savage part, which is “subject to appetites for foods and drinks, and all the other wants that are due to the nature of the body.”²³⁶

These souls were bound to the body by “bonds of life” in the marrow, a substance from which the body’s bones, flesh, “and all such substances” originated.²³⁷ The marrow was formed not from the four solid bodies, but from the “unwarped and smooth” triangles themselves, which the demiurge separated “each apart from his own kind,” then mixed “one with another in due proportion (σύμμετρα,

²³³ *Ti.* 69c-d.

²³⁴ καὶ διὰ ταῦτα δὴ σεβόμενοι μαίνειν τὸ θεῖον, ὅτι μὴ πᾶσα ἦν ἀνάγκη, χωρὶς ἐκείνου κατοικίζουσιν εἰς ἄλλην τοῦ σώματος οἴκησιν τὸ θνητόν, ἰσθμὸν καὶ ὄριον διοικοδομήσαντες τῆς τε κεφαλῆς καὶ τοῦ στήθους, ἀνχένα μεταξὺ τιθέντες, ἵν' εἴη χωρὶς. ἐν δὲ τοῖς στήθεσιν καὶ τῷ καλουμένῳ θώρακι τὸ τῆς ψυχῆς θνητόν γένος ἐνέδουν. *Ti.* 69d7-e6.

²³⁵ *Ti.* 69e6-70a1.

²³⁶ *Ti.* 70d7-e1. Timaeus also describes the heart, lungs, liver, and spleen as organs that, in different ways, support and interface with the upper and lower parts of the mortal soul, receiving impressions and communicating their passions. 70c-72d.

²³⁷ *Ti.* 73a11-b4.

summetros).²³⁸ He molded one portion, which was to receive the immortal seed, into a “perfect globe” to be encased in the head, and others into elongated shapes for anchoring the mortal soul as marrow.²³⁹ He encased this marrow with a framework of bones, then from the marrow, “as from anchors, He cast out bonds (*δεσμοὺς*, *desmos*) of the Whole Soul, and around this He finally wrought the whole of this body of ours.”²⁴⁰ The bones he created from finely sifted earth, which he kneaded, moistened, and—in an allusion to the work of a metalsmith—made insoluble by placing them alternately in fire and water.²⁴¹ He contrived sinews “to bind all the limbs together,” and to allow the body to move by “tighten[ing] and relax[ing] itself around the pivots”;²⁴² and relegated flesh (what we call muscles), to the work of padding and insulation.²⁴³ The bones that contained the most soul he encased in the least flesh, and vice versa;²⁴⁴ similarly, he made sure that there was little flesh at the

²³⁸ αὐτὸς δὲ ὁ μυελὸς γέγονεν ἐξ ἄλλων. τῶν γὰρ τριγώνων ὅσα πρῶτα ἀστραβὴ καὶ λεία ὄντα πῦρ τε καὶ ὕδωρ καὶ ἀέρα καὶ γῆν δι’ ἀκριβείας μάλιστα ἦν παρὰσχεῖν δυνατά, ταῦτα ὁ θεὸς ἀπὸ τῶν ἐαυτῶν ἕκαστα γενῶν χωρὶς ἀποκρίνων, μειγνὺς δὲ ἀλλήλοις σύμμετρα, *Ti.* 74b4-c2.

²³⁹ *Ti.* 73c8-d6.

²⁴⁰ *Ti.* 73d6-e1. Trans. R. G. Bury, modified at *δεσμοὺς* from “bands.”

²⁴¹ *Ti.* 73e-74a.

²⁴² *Ti.* 74b6-9.

²⁴³ *Ti.* 74b-c. Plato here shares with Homer and other early Greeks—for whom the practice of anatomical dissection, which begins to make more sense in light of Plato’s body/soul distinction, was not established—a relegation of “flesh” to decidedly subsidiary functions. While Plato is interested in bones, sinews, and joints, “muscles” as organs of movement are still not mentioned. According to Kuriyama, Aristotle will understand muscles “in theory,” in terms of distinguishing between voluntary and involuntary movements, while Galen in the 2nd century CE will speak of them explicitly and extensively. Kuriyama 1999, 146-48.

²⁴⁴ *Ti.* 74e1-3.

joints, “lest by hindering the flexions it should make the bodies...stiff in movement, or... [insensitive] owing to its rigidity, and thereby cause the intellectual parts to be more forgetful and more obtuse.”²⁴⁵ Although Plato is the first to crisply separate the “body” and “soul”—and therefore the first to have to explain how they are in turn articulated with each other—his observations share the very old Greek sensibility that articulation marks not only one’s physicality, but also one’s personality and actions. Plato’s marrow, likewise, is the source of a man’s fertility, traveling between the head and genitals along the spine,²⁴⁶—an idea which also draws on the Homeric notion that thinking, feeling, and fertility are rooted in humid fluids related to the bones.²⁴⁷

Timaeus proceeds to explain respiration and the construction of the lungs, and digestion and the formation of blood, always grounding his reasoning in the characteristics of the four solid bodies. He also describes digestion as a battle between the particles of the body and its food. When a creature is young, it easily “divides and overcomes” the triangles of its food, which are “older and weaker than its own.”²⁴⁸ But over time, “the root of the triangles grows slack owing to their having fought many fights,” and, instead of dividing the triangles of the food, are

²⁴⁵ *Ti.* 74e3-11. Following this reasoning, Plato tells us that the demiurge decided not to cover the head with a “burdensome mass of flesh,” which would have made us “stupid and insensitive”—and he did this despite the fact that he knew this would shorten our lives—but as a mitigating gesture he caused hair to cover our heads, “as a light roofing...for safety’s sake.” 75b-76d.

²⁴⁶ *Ti.* 77c-d. Plato describes the production of the male seed more explicitly at *Ti.* 91a-c.

²⁴⁷ Bolens also discusses the relationship between Homeric joints and Plato’s marrow; her aim, however, is primarily to draw a contrast between a logic of articulation, in Homer, and one, in Plato, of container and contained. Bolens 1999. Bolens 2000, 58.

²⁴⁸ *Ti.* 81c2-7.

“themselves easily divided,” leading the creature into decay and old age.²⁴⁹

Eventually, “when the bonds of the triangles in the marrow...fall asunder, they let slip in turn the bonds of the soul, and it, when thus naturally set loose, flies out gladly” in the peaceful death of old age.²⁵⁰ As in the Hippocratic *Ancient Medicine*, which also saw digestion as a kind of war of articulation, this process defines more than just nutrition: it epitomizes the human condition as being immersed in, and relying upon, the material flows of one’s surroundings.²⁵¹

But there are also less peaceful, and for Plato less “natural,” ways of dying.²⁵² Plato describes three classes of disease. The first is caused by any change—from cold to hot, dry to moist, light to heavy, and so on—in any of the four kinds, since “it is only the addition or subtraction of the same substance from the same substance in the same order and in the same manner and in due proportion (ἀνὰ λόγον, *ana logon*) which will allow the latter to remain safe and sound in its sameness with itself.”²⁵³ This notion of disease evokes the Hippocratic concern with the transitions between seasons, a kind of understanding in which change as a temporal articulation produces points of vulnerability, like the physical articulations of the self. The second kind of disease occurs when the body’s secondary structures—the marrow, bone, flesh, and sinews—degenerate into their components. For example, “flesh and sinews arise from blood,”²⁵⁴ but when “flesh is decomposed (τηχομένη, *tēkō*, “to melt, dissolve, fall away”) and sends its decomposed matter back again into the veins, then...the

²⁴⁹ *Ti.* 81c8-d5.

²⁵⁰ *Ti.* 81d5-e1.

²⁵¹ On “the contingent nature of the body” according to Plato, see Vesely 2002, 29-30.

²⁵² *Ti.* 81e1-7.

²⁵³ μόνως γὰρ δὴ, φαμέν, ταῦτὸν ταῦτῳ κατὰ ταῦτὸν καὶ ὡσαύτως καὶ ἀνὰ λόγον προσγιγνόμενον καὶ ἀπογιγνόμενον ἔασει ταῦτὸν ὃν αὐτῷ σὼν καὶ ὑγιὲς μένειν: *Ti.* 82b4-7.

²⁵⁴ *Ti.* 82c9-10.

blood...is diversified by colors and bitter flavors, as well as by sharp and saline properties, and contains bile and serum and phlegm of every sort.”²⁵⁵ These corrupt substances “no longer preserve the order of their natural revolutions, being at enmity with themselves...and being at war also with the established and regular constitution of the body, which they corrupt (διολλύντα, *diollumi*, “destroy utterly”) and dissolve (τήκοντα, *tēkō*).”²⁵⁶ As the disease progresses, these corruptions move from the flesh to the bonds between flesh and bones, to the bones, and eventually—and fatally—to the marrow.²⁵⁷ The third and final kind of bodily disease occurs when air, phlegm, or bile move improperly due to some blockage or other malfunction.²⁵⁸ For example, the misdirection of air can distort and distend some parts of the body while other parts rot for lack of air, ultimately resulting in swellings around the sinews.²⁵⁹

So much for diseases of the body. Turning to diseases of the soul, Plato observes that these arise from the excess of pleasure or pain—that is, from a lack of moderation—

²⁵⁵ ὅταν γὰρ τηγομένη σὰρξ ἀνάπαλιν εἰς τὰς φλέβας τὴν τηκεδόνα ἐξιῇ, τότε μετὰ πνεύματος αἷμα πολύ τε καὶ παντοδαπὸν ἐν ταῖς φλεψὶ χρώμασι καὶ πικρότησι ποικιλλόμενον, ἔτι δὲ ὀξείαις καὶ ἀλμυραῖς δυνάμεσι, χολὰς καὶ ἰχώρας καὶ φλέγματα παντοῖα ἴσχει: *Ti.* 82e4-9.

²⁵⁶ τάξιν τῶν κατὰ φύσιν οὐκέτ’ ἴσχοντα περιόδων, ἐχθρὰ μὲν αὐτὰ αὐτοῖς διὰ τὸ μηδεμίαν ἀπόλαυσιν ἑαυτῶν ἔχειν, τῷ συνεστῶτι δὲ τοῦ σώματος καὶ μένοντι κατὰ χώραν πολέμα, διολλύντα καὶ τήκοντα. *Ti.* 83a2-6.

²⁵⁷ *Ti.* 83e-84c.

²⁵⁸ *Ti.* 84c-86a.

²⁵⁹ *Ti.* 84e. Known as “tetanus (τέτανος, *tētanos*)” and “opisthotonus (ὀπισθότονος, *opisthotonos*),” these conditions evoke the Hippocratic and later *kedmata*.

Hippocrates *Airs, Waters, Places* 22.8-17. The word *kedmata* is obscure; but from accounts in Diocles and Galen it seems to have been a kind of pain or inflammation in the hips, possibly believed to be caused by a flux or flow of fluids.

and associated evils acquired through the body.²⁶⁰ A diseased soul and a diseased city cannot be separated: “with men in such an evil condition, the political administration also is evil, and the speech in the cities, both public and private, is evil”;²⁶¹ conversely, when lessons are not provided to cure these evils in childhood, souls become involuntarily diseased.²⁶² Thus deftly—and tightly—binding soul, body, and city, Plato turns to the final message of the *Timaeus*. He states that

all that is good (ἀγαθόν, *agathos*) is fair (καλόν, *kalos*), and the fair is not void of due measure (ἄμετρον, *ametros*); wherefore also the living creature that is to be fair must be proportional (σύμμετρον, *summetros*, “commensurate, in due proportion, symmetrical”).²⁶³

However—and here is the crucial part—while we “distinguish and reason about” inconsequential proportions, we fail to recognize that “with respect to health and disease, virtue and vice, there is no proportion (συμμετρία, *summetros*) or want of proportion (ἄμετρία, *ametros*) greater than that which exists between the soul itself and the body itself.”²⁶⁴ In the same way that a body that is “too long in one of its legs, or otherwise disproportioned (ἄμετρον, *ametros*)” is “not only shameful

²⁶⁰ *Ti.* 86b-c.

²⁶¹ *Ti.* 87a9-b2.

²⁶² *Ti.* 87b2-5. See, similarly, Plato’s discussion on the causes of immoderation and other diseases of the soul, with regard to sexual desire: “no one is voluntarily wicked.” 86c-e.

²⁶³ πᾶν δὴ τὸ ἀγαθὸν καλόν, τὸ δὲ καλὸν οὐκ ἄμετρον: καὶ ζῶον οὖν τὸ τοιοῦτον ἐσόμενον σύμμετρον θετέον. 87c5-7. Trans. R. G. Bury, modified at σύμμετρον from “symmetrical.”

²⁶⁴ συμμετριῶν δὲ τὰ μὲν μικρὰ διαισθανόμενοι συλλογίζομεθα, τὰ δὲ κυριώτατα καὶ μέγιστα ἀλογίστως ἔχομεν. πρὸς γὰρ ὑγείας καὶ νόσους ἀρετὰς τε καὶ κακίας οὐδεμία συμμετρία καὶ ἄμετρία μείζων ἢ ψυχῆς αὐτῆς πρὸς σῶμα αὐτό: *Ti.* 87c7-d2. Trans. R. G. Bury, modified at συμμετρία and ἄμετρία from “symmetry” and “want of symmetry.”

(αἰσχρόν, *aischros*), but...the source of much fatigue and many sprains and falls by reason of its clumsy motion,”²⁶⁵ a soul which is too strong for its body, or the body for its soul, is dangerous.²⁶⁶ If a soul overly engages “in teachings and battles of words...it makes the body inflamed and shakes it to pieces,”²⁶⁷ while “when a large and overbearing body is united to a small and weak intellect” this produces “that greatest of diseases, ignorance.”²⁶⁸

Activities which move the soul—mathematics, music and philosophy—must therefore be balanced with gymnastics, which moves the body.²⁶⁹ In the *Republic*, Plato describes how the man who practices too much gymnastics is liable to be led towards savagery and harshness,²⁷⁰ whereas the man who studies only music “melts and liquefies till he completely dissolves away his *thumos*, cuts out as it were the very sinews (νεῦρα, *neuron*) of his soul (ψυχῆς, *psuchē*) and makes of himself a ‘feeble (μαλθακόν, *malthakos* “soft, mild, cowardly”) warrior.’”²⁷¹ A “due proportion (συμμέτρος, *summetros*)” must similarly be maintained between the three kinds of

²⁶⁵ οἷον οὖν ὑπερσκελὲς ἢ καὶ τινα ἑτέραν ὑπέρεξιν ἄμετρον ἑαυτῷ τι σῶμα ὄν ἅμα μὲν αἰσχρόν, ἅμα δ’ ἐν τῇ κοινωνίᾳ τῶν πόνων πολλοὺς μὲν κόπους, πολλὰ δὲ σπάσματα καὶ διὰ τὴν παραφορότητα πώματα παρέχον μυριῶν κακῶν αἵτιον ἑαυτῷ, *Ti.* 87e1-6. Trans. R. G. Bury, modified at ὑπερσκελὲς from “too long in its legs,” and at αἰσχρόν from “ugly.”

²⁶⁶ *Ti.* 87e-88a. Cf. Plato *Republic* 3.411a-b.

²⁶⁷ *Ti.* 88a4-7.

²⁶⁸ *Ti.* 88a9-b7.

²⁶⁹ *Ti.* 88b8-c7.

²⁷⁰ ἀγριότητός τε καὶ σκληρότητος Plato *Republic* 410d. Trans. Paul Shorey.

²⁷¹ τὸ δὴ μετὰ τοῦτο ἤδη τήκει καὶ λείβει, ἕως ἂν ἐκτήξῃ τὸν θυμὸν καὶ ἐκτέμῃ ὥσπερ νεῦρα ἐκ τῆς ψυχῆς καὶ ποιήσῃ “μαλθακὸν αἰχμητήν.” Plato *Republic* 411b. Trans. Paul Shorey. Kuriyama 1999, 139.

soul;²⁷² this primarily entails nurturing the immortal soul as much as possible and calming the “lusts” and “contentions” of the mortal soul.²⁷³ Men who disregard these most important forms of proportion, “[spending] their lives in wrong-doing,” are reincarnated as women;²⁷⁴ the light-minded become birds; those who neglect philosophy and astronomy become four-legged beasts; the most foolish wriggle with “their whole body along the earth”; and “the most utterly thoughtless and stupid,” deemed by the gods “no longer worthy even of pure respiration,” are sent to dwell in the water.”²⁷⁵ Observing that all the living creatures thus continually pass into each other “as they undergo transformation by the loss or by the gain of reason and unreason,” Timaeus states that the *kosmos* has been fulfilled, and stops.²⁷⁶

* * *

The *Timaeus* presents three kinds of proportion: in the first part of his presentation he focused on the role of geometric and arithmetic proportion in the the demiurge’s crafting of the cosmic soul; in the second part, he described how the chaotic flux of matter was ordered by the proportioning of the two elementary triangles; and finally, he presents an emphatically non-numerical kind of proportion, that between body and soul, which we manage (or mismanage) through our manner of life.²⁷⁷ In tying his cosmogony to recommendations for the education and maintenance of one’s soul,

²⁷² διὸ φυλακτέον ὅπως ἂν ἔχωσιν τὰς κινήσεις πρὸς ἀλλήλα συμμέτρους. *Ti.* 90a1-2. The whole discussion is at 89e4-90d9.

²⁷³ *Ti.* 90b2.

²⁷⁴ *Ti.* 90e8-91a1.

²⁷⁵ *Ti.* 91d-92b.

²⁷⁶ *Ti.* 92b9-c9.

²⁷⁷ Wittkower points out that Plato’s *Timaeus* uses two kinds of “Pythagorean mathematics,” in the creation of the world-soul on numerical ratios, and in his use of the five solids in the ordering of matter. Wittkower 1960, 200-1.

Plato frames his natural philosophy within his political and ethical philosophy; the *Timaeus* is therefore situated not only in relation to the *Critias*, but within his project as a whole, addressing the question of which organization of the *polis* is best suited to cultivate just souls. What is interesting for our purposes is what it means in this context when Plato says that the beautiful is just, and the just beautiful. Proportion is not a game of arranging parts to come up with a visually, acoustically, or otherwise aesthetically pleasing composition; nor a stand-in for structural considerations; nor a kind of mathematical formalism. It is, ultimately, a question of how we manage our constitutions as individuals and as a collective, in all aspects of our lives.

Conclusion

The *Timaeus* is different from the other texts we've looked at because in it, Plato deliberately organizes his whole account around the notion of proportion; that is, around his argument about how proportion acts as a bond, or articulation, in the crafting of the cosmos. In this, we find our earliest extant model for the designer as someone whose intentional and intellectual work is necessary for—but potentially separate from—the manual work of craft. Although he does not talk about architecture as such, Plato is therefore describing the work that defines the profession today. (In his own time, Plato would have also been describing part of a master craftsman's work, to the extent that this person, or these people, would have been responsible for using modules and other measurement devices to lay out and determine a building's form.) In this sense, we might say that Plato presents the earliest extant theory of architecture. Given the completeness of the *Timaeus* in contrast with the immense difficulty of establishing the words and ideas of Polykleitos or of the classical builders themselves—and given the immense influence of the *Timaeus* on the later tradition from antiquity until the 18th century—Plato becomes a necessary point of reference when thinking about theories of proportion in architecture. Whereas this makes the *Timaeus* the starting point for most histories of proportion, I take it as my end point.

The text of the *Timaeus* is complex and at times messy—more so than it appears in my summary, which necessarily glosses over digressions. And yet, everything we know about Plato, as well as Timaeus' frequent remarks on the order of his presentation, suggests that the construction of the dialogue was deliberate. So we should ask: how do Plato's three kinds of proportion relate to each other? I would

like to suggest that in order to answer this question, we should turn for clues to Plato's recommendations on how to formulate a speech.

Timaeus began his speech with the words: "Now first of all we must, in my judgment, make the following division (διαίρετέον, *diaireō*). What is that which is Existent always and has no Becoming? And what is that which is Becoming always and never is Existent?"¹ In making a division, he started his discourse precisely as Plato recommends in the *Phaedrus*. There, Socrates says that one must be able to "[bring] together in one idea the scattered particulars, that one may make clear by definition the particular thing which he wishes to explain,"² but also to divide an argument "by classes, where the natural joints (ἄρθρα, *arthron*) are, and not trying to break any part (μέρος, *meros*), after the manner of a bad carver (μαγείρου, *mageiros*)."³ Socrates criticizes the rhetoricians, with their tricks and glib phrases, likening them to a man who, having written a few pitiful and threatening utterances, fancies himself a tragedian; or one who knows the effects of a few drugs, while being ignorant of how, when, or for whom they are to be used, and claims to be a physician; or again, one who says he understands musical harmony because he can play the highest and lowest notes—without, it is implied, the intermediary notes that bind these extremes together in any given scale.⁴

¹ ἔστιν οὖν δὴ κατ' ἐμὴν δόξαν πρῶτον διαίρετέον τάδε: τί τὸ ὄν ἀεί, γένεσιν δὲ οὐκ ἔχον, καὶ τί τὸ γιγνόμενον μὲν ἀεί, ὄν δὲ οὐδέποτε; *Ti.* 27d5-28a1. Trans. R. G. Bury, modified at διαίρετέον from "distinction."

² εἰς μίαν τε ιδέαν συνορῶντα ἄγειν τὰ πολλαχῇ διεσπαρμένα, ἵνα ἕκαστον ὀριζόμενος δῆλον ποιῇ περὶ οὗ ἂν ἀεὶ διδάσκειν ἐθέλῃ. Plato *Phaedrus* 265d3-5. Trans. Harold N. Fowler.

³ τὸ πάλιν κατ' εἶδη δύνασθαι διατέμνειν κατ' ἄρθρα ἣ πέφυκεν, καὶ μὴ ἐπιχειρεῖν καταγνύναι μέρος μηδέν, κακοῦ μαγείρου τρόπῳ χρώμενον: Plato *Phaedrus* 265e1-3. Trans. Harold N. Fowler.

⁴ Plato *Phaedrus* 268a-e.

What these famous rhetoricians don't do, and what Socrates recommends, is to accomplish both the cutting and the joining, as it were, in a particular way. A speaker must first "define everything separately; then when he has defined them, he must know how to divide them by classes until further division is impossible."⁵

He must then "understand the nature of the soul" in the same way, and

arrange (τιθεῖν, *tithēmi*) and adorn (διακοσμεῖν, *dia-kosmeō*) his discourse accordingly, offering to the elaborate (ποικίλῃ, *poikilos*) soul elaborate (ποικίλους, *poikilos*) and harmonious (παναρμονίους, *panarmonios*, "complex, embracing all modes, harmonious") discourses, and simple talks to the simple soul.⁶

It is a process of articulation and adjustment; Plato calls it dialectics (*dialektikē*) and elaborates on it in different ways in a number of his middle and late dialogues.⁷ The word *dialektikos* also describes the form of the Socratic dialogue, with interlocutors setting arguments and counterarguments against each other in the expectation that out of this *agōn* some truth will be produced. For Plato, this process underlies not only language and thought, but in fact, everything that can achieve beauty and virtue.⁸ In the most general sense, the process starts with the chaos of the unlimited continuum (*apeiron*); then, when a limit (*peras*) is applied, the *apeiron* is divided into diverse and delimited elements; and when these

⁵ κατ' αὐτό τε πᾶν ὀρίζεσθαι δυνατός γένηται, ὀρισάμενός τε πάλιν κατ' εἶδη μέχρι τοῦ ἀτμήτου τέμνειν ἐπιστηθῇ, Plato *Phaedrus* 277b6-8. Trans. Harold N. Fowler.

⁶ περί τε ψυχῆς φύσεως διδὼν κατὰ ταῦτά, τὸ προσαρμόττον ἐκάστη φύσει εἶδος ἀνευρίσκων, οὕτω τιθεῖ καὶ διακοσμεῖ τὸν λόγον, ποικίλῃ μὲν ποικίλους ψυχῇ καὶ παναρμονίους διδοὺς λόγους, ἀπλοῦς δὲ ἀπλῇ, Plato *Phaedrus* 277b8-c3. Trans. Harold N. Fowler, modified at ποικίλῃ from "complex."

⁷ For example, see Plato *Philebus*, *Phaedrus*, *Republic*, and *Sophist*. See Desjardins 2004, 26-51, 93-99, Desjardins 1990, 61-77, 98-99, 135-39, 63.

⁸ See Desjardins 2004. See also Desjardins 1990.

elements are joined, a compound or mixture (*mikton*) forms the third and final state.⁹

To take one example, Plato describes speech by comparing the disorderly sound that comes from animal mouths to the way in which humans limit and divide this sound through syllables, and finally, to the recombination of syllables into words. When a word is formed of syllables—or, in writing, of letters (*stoicheia*, “element, letter”)—it embodies a power not present in its components. This power is what allows a word, unlike mere sounds or letters, to have meaning, or to describe, refer, or qualify.¹⁰ This is what allows articulation to produce compounds whose powers are greater than those of their parts, and it comes from order: not every combination or order of letters will form a word, nor words a sentence, nor sentences an argument, discourse, or tragic play.¹¹

This formulation—of the unlimited, the limit, and productive opposition—is, in the most general sense, very old. We find it frequently among the Pre-Socratics and the Pythagoreans.¹² We also find it in the creation myth recounted in Hesiod’s *Theogony*, in which Ouranos (the sky) covered Gaia (the earth), endlessly copulating with her every night and trapping their resulting children deep within the earth, until one of Ouranos’ sons castrated him, causing him (the sky) to withdraw to his current lofty position and allowing his children to emerge, populating the society of the gods.¹³ Plato’s dialectics also had a particular analogue in the ideas of the Pythagoreans, whom Walter Burkert describes as

⁹ See Plato *Philebus* 24e-25b. Desjardins 2004, 31-36, 100.

¹⁰ Plato *Theatetus* 202e-203c. See also Plato *Sophist*, 247d-e.

¹¹ See also Plato *Sophist* 252e-253a. Desjardins 2004, 97-98.

¹² Guthrie and Fideler 1987, 22. See also Desjardins 2004, 29-30.

¹³ Hesiod *Theogony* 115-210.

drawing on primitive notions of number to ascribe mind to one; opinion to two; and the whole to three.¹⁴

It so happens that this corresponds to the organization of the *Timaeus*: Plato first discusses the cosmic Soul as a work of Reason; then the cosmic Body, which derives to a much greater extent from Necessity; and finally, the proportioned union of soul and body. This pattern also appears in the *Timaeus* as a frequent motif, from its opening words, “One, two, three”;¹⁵ to the assertion that “it is not possible that two things alone should be conjoined (*sunistēmi*) without a third”;¹⁶ to the curious argument that the world-creature must be One, that if there were a second, there would then need to be a third embracing them both;¹⁷ and finally, to the introduction of *chōra* as a third entity mediating Being and Becoming.¹⁸ This is not, for Plato, a superficial device. When he says that the “*kosmos* in its origin was generated as a compound, from the combination of necessity and reason,” as a result of reason “persuading” necessity to act for the most part in the best way,¹⁹ it is evident that the *kosmos* itself is a product of dialectics—that from the deepest level of its organization to the last detail it is ordered by proportioned articulation.

This dissertation therefore corroborates Dalibor Vesely’s suggestion that the “*arithmos* structure of *logos*,” as a “paradigm of unity in multiplicity...reveals the deep structure of our experience, the metaphorical articulation of analogies, and dialectical reasoning.”²⁰ In his essay, “The Architectonics of Embodiment,” Vesely argues that, reflecting the structure of metaphor or analogy—that A is to B

¹⁴ Burkert 1972, 40, 467.

¹⁵ *Ti.* 17a1.

¹⁶ *Ti.* 31b10-c1.

¹⁷ *Ti.* 31a3-b1.

¹⁸ *Ti.* 48e-52d.

¹⁹ *Ti.* 48a1-7.

²⁰ Vesely 2002, 37.

as C is to D—*analogia* or proportion is in the first place a linguistic rather than a mathematical strategy.²¹ The roots of the dialectical pattern in myth, and the fact that Plato’s “greatest” kind of proportion—that between body and soul—is strictly non-numerical, both support this argument. Vesely, in a sense, achieves in a single sentence a major goal of this dissertation when he says that:

The metaphorical nature of analogy, represented numerically as a form of proportion (similar to the nature of syntax or grammar in language), suggests that underlying proportion (and other summary notions such as universal beauty, order, and harmony) there is always present a deeper level of articulation, coextensive with the articulation of the world as a whole.²²

Proportion, from its earliest instances until the onset of modernity, drew on the relationships between things on an ontological and metaphysical level and not, primarily, on a physical one; it has in the most basic sense to do with the way the world presents itself to us as embodied beings. The arguments developed in this dissertation—that the early Greeks thought about themselves and their world in explicit and sophisticated terms as articulated, and that the concepts and language constructing this worldview contributed directly to early discussions of proportion—support this argument within this specific historical situation.

This being said, it is impossible to deny that numbers (*arithmoi*, pl. of *arithmos*) are important in Plato—although it is not necessarily obvious what number meant for him. As Reviel Netz argues, mathematics does not seem to have been part of any typical curriculum of study in Plato’s time; and Plato himself gives us no evidence that he was himself conversant in the Euclidean-style mathematics developed during his lifetime, or in anything at all beyond basic manipulations. Netz describes Plato as a popularizer of mathematics rather than a mathematician; the later importance of mathematics in the trivium and quadrivium may be in no

²¹ Vesely 2002, 37.

²² Vesely 2002, 37-38.

small part due to his enthusiasm.²³ Regardless of Plato's skill in mathematical operations, which may be more important from our perspective than they were from his, what is clear is that Plato was interested in numerology, in the ability of number to communicate a higher level of order. While we can assume that this interest pervaded Greek mathematics in a general sense, for Plato this is central and explicit.²⁴

Given the pervasive role of mathematics in our scientific descriptions of the cosmos since modernity (and in our technological interventions within this cosmos), our tendency has been to focus on the seminal importance of Greek mathematics to the extent that this practice seems to align with Enlightenment ideas about how number and geometry order the universe in a rational manner. This results in the impression that proportion is a timeless concept. Although I have no interest in denying the obvious role of mathematical concepts in early theories of proportion, this dissertation has endeavored to provide a corrective view—that is, to suggest some of the particular cultural concepts and circumstances, very different from our own, which gave rise to the earliest iterations of the seemingly timeless and familiar notion of proportion.

I would like to return for a moment to the question of the body, which permeates both Part One and Part Two. This dissertation has argued that in Homer there was no concept of “the body,” but that in classical texts, the idea of “the body” organized discussions of politics, medicine, and craft. I would like to observe that, in tracing the role of articulation in the emergence of proportion, we not only see the time and place in which this concept makes its earliest (and often tentative) appearances, but that we actually see the notions of proportion and of

²³ Netz 1999, 289-90.

²⁴ Plato clearly aligns the *Timaeus* with Pythagoreanism; to take just one example, Timaeus—who scholars agree is fictional—hails from Locri in Magna Graecia, the territory of the Pythagoreans. *Ti.* 20a3.

the body (that is, of a body-soul split) emerging together in a mutually dependent fashion. Proportion—as a mediation between soul and body, Being and Becoming, immortal and mortal, and macrocosm and microcosm—has no role before the body as a crafted and material thing can be understood as separate from the soul, since prior to this there was nothing between which to mediate. The corollary of this is that in pulling apart a lived physical experience that was so compact and coherent in early Greece, Plato had to posit a means for body and soul to remain unified, yet separate. And this is what proportion offers: not only the resolution of the one and the many, but also the ability for something invisible and intangible to rule over and order that which is visible and tangible, in a rational and predictable manner—and therefore, in a manner subject to *technē*. Proportion was not arbitrary. It could not be, since, for Plato, it was built into the structure of the cosmic soul as the mechanism of Reason.

This offers, perhaps, the beginnings of an answer to another question that arises from the conjunction of Part One and Part Two. That is, what happens to the early Greek interest in *mētis* or cunning intelligence, as a concept that mediates between the characteristics of the physical self, one's actions, and one's creations, through the process of craft? This concept does not disappear. We also see it later in antiquity—in, for example, Vitruvius (who names it through the Latin *sollertia*)—and indeed, we have a similar term in the English words “craft” and “crafty.” But later uses of this concept never seem as singularly potent and productive as in Homer. I would suggest that this may be because the dodging motion that characterizes *mētis*, and that allows for the forging of articulations and the management of bonds and passageways, gives way, in part, to the perfect revolutions of reason. Reason and cunning are set in a necessary and complementary opposition in Vitruvius, who presents various setups for the proportions of monumental buildings while also suggesting that no proposition can be carried out without the adjustment and adaptation that is the particular result of the architect's *sollertia*, or cunning.

Along these lines, we might also notice a parallel between the operations of articulation, in Homer, and of proportion, in the classical period. Proportion mediated between the divine and the human via craft, allowing for mankind to access that which is greater than himself, just as a Homeric god could intervene upon a man or woman by loosening or mobilizing their articulations, or as *daidala* afforded men and women powerful, but dangerous, access to divine grace and powers. The natures of these mediations differ to the extent that the willful actions of Homer's gods differ from what Plato describes as the regular and rational motions of the divine soul of the *kosmos*.

This Platonic conception of proportion—that it is what links the realms of Being and Becoming—does not remain unchanged over time. Vitruvius, for example, is influenced by Aristotle's belief that there is “no action without contact,” and by the Stoics' belief that “the only things that truly exist are material bodies.”²⁵ In Vitruvius' *On Architecture*, proportion tends to describe analogies between the universe and the human body (that is, the macrocosm and microcosm), and between either the universe or body and the building. In Plato's terms, Vitruvius' analogies therefore all take place at the level of the Body (or Becoming), while leaving implicit the role of the Soul (or Being) in providing the underlying order of things. This more material understanding of proportion begins a shift towards what Vesely describes as “the conventional understanding of proportion as a static harmony of different elements.”²⁶ Much later along this path, proportion in modernity becomes primarily—although, one might argue, never exclusively—an aesthetic game or a physical and biological analogy. Vesely decries Vitruvius' material approach and modernity's formalism as a result of the Stoics' “radicalized, and in a certain sense distorted, Aristotelian understanding of corporeality.”²⁷ My motivation for investigating the origins of proportion is in

²⁵ Vesely 2002, 30.

²⁶ Vesely 2002, 38.

²⁷ Vesely 2002, 30. See also 43.

this sense different than that of Vesely. Rather than advocating a return to a Platonic outlook, which Vesely at times seems close to doing, I would simply suggest that we can learn from the realization that proportion is a culturally specific concept rather than something that is simply mathematical or “natural.”

At the risk of oversimplifying a complex and difficult topic, a brief mention of Vitruvius’ uses of proportion seems to be in order. While the later tradition was most interested in Vitruvius’ role in setting out a theory of proportion as a kind of visual arrangement of material parts, this is not the only modality of proportion that Vitruvius develops. Most prominently, in Book Two, Vitruvius develops his discussion of building materials based on Greek theories of four elements. He mentions Thales, Heraclitus, Democritus, Epicurus, and the Pythagoreans as predecessors who thought about the nature and composition of matter, but both his basic proposition—that all things are composed of varying proportions of fire, air, water, and earth—and the manner in which he talks about the effects of the relative proportions of these elements in different materials (and even in animals), draw heavily on the ideas of the *Timaieus*.²⁸ Throughout his treatise, Vitruvius is concerned with longevity, and in Book Two, he deals with how to prevent the decay of buildings due to materials falling to pieces or loosening due to improper proportions of the elements.²⁹ Here, Vitruvius draws on a comparison between building materials, such as trees or stones, and the human body. This body is a bounded but more or less porous material entity that is immersed in and affected by the composition of its surroundings, thereby becoming stronger or weaker, full or empty, solid or porous, coherent or loosened—and thus, healthy or unhealthy.³⁰

²⁸ Vitruvius *On Architecture* 2.2.1.

²⁹ See Vitruvius *On Architecture* 2.3.1-2. Materials for Vitruvius seem to have an innate wish to absorb what they lack. See 2.6.1.

³⁰ For example, in explaining why timber is best if the trees are cut in autumn, after they have shed their fruit, rather than earlier in the year when they are pregnant, Vitruvius draws an explicit comparison between the deleterious effects

It is worth quoting the following example at length to get a sense of this approach:

When lime absorbs water and sand it reinforces the masonry. Evidently this is the reason: because stones, too, are composed of the four elements. Those which have more air are soft, those with more water are dense with moisture, those with more earth are hard, those with more fire are more friable. Because of this, if we take this stone before it has been cooked, pound it fine and mix it with sand in masonry, it will neither solidify nor bond. If, on the other hand, we throw it into the kiln, then, caught up in the flame's intensity, it will shed its original property of hardness, and with its strength burned away and sucked dry, it will be left with wide-open pores and voids. Therefore, with its air and water burned away and carried off, it is left with a residue of latent heat. When the stone is then plunged in water, before the water absorbs the power of its heat, whatever liquid penetrates into the pores of the stone boils up, and thus by the time it has cooled it rejects the heat given off by lime.³¹

While Vitruvius integrates ideas about proportion into a view that also draws on other medical ideas about the body, current in his time—particularly those about tension and relaxation, and porosity and boundedness—it is clear that for him, a correct relative proportion of elements allows for articulation, and therefore health and solidity, to be maintained.

of pregnancy on the health of a tree and on a woman. Vitruvius *On Architecture* 2.9.1. See also Vitruvius' description of the salubrious effects of perforating and draining the "superfluous and corrupt" liquid from pollarded trees, in an implicit (but striking) comparison to the medical use of venesection, or bleeding. 2.9.4. Trans. Ingrid D. Rowland.

³¹ Vitruvius *On Architecture* 2.5.2. Trans. Ingrid D. Rowland.

Proportion appears in other ways in Vitruvius as well. He discusses the need for moderate climates, and for moderating interventions, in the selection of sites and the laying out of both cities and buildings, to allow for the good health of the occupants (Book One). There are also various references to proportion in his discussions of stringing of war machines (Book Ten), and of the motions of the planets and the setting up of various kinds of clocks (Book Nine). These are no small matters. Vitruvius' discussion of sites and climates occupies Book One of his treatise, immediately following his introduction of the work and training of the architect. And Vitruvius divides the work of architecture into three:

aedificatio, *gnomonice*, and *machinatio*—or buildings, sundials (although he discusses water-clocks here as well), and machines (of which many, but not all, are mechanisms for war).³² As such, while Vitruvius is best known for his statements on how the parts of temples must be proportioned in relation to each other in a manner akin to the proportions of the parts of the human body, as well as for his recipes for the specific proportions of different temple types, in no way do these ideas comprise his full treatment of proportion.

Even from this cursory glance at Vitruvius' ideas, it is clear that he is preoccupied by health. This is not simply a rhetorical device, but rather, part of his view that the architect's task was to ensure both the health and longevity of his constructions, as well as the health of the people for whom he builds. Vitruvius' dedication to this theme is so persistent that a reader could be forgiven for receiving the impression that for Vitruvius, an architect is essentially a medical physician whose tools are not medicines, scalpels, and cupping-glasses, but proportioned buildings, gnomons, and machines. But if we recall Empedocles' legendary acts as a healer—medical interventions that took an “architectural” form, in the construction of a wall of bull's hides to block pernicious winds,³³ and

³² Vitruvius *On Architecture* 1.3.1.

³³ Diogenes Laertius, *Lives of the Philosophers* 8.60.

in the diversion of a river,³⁴ to cure plagues in crops and in pregnant women—then perhaps this confluence of aims is not so surprising. Proportion, in the first place, did not primarily serve the design and construction of monumental buildings; rather, what we call architecture was one of a number of related crafts (*technai*, pl. of *technē*) that operated in the service of proportion, or of the negotiation of a well-ordered life within an often difficult and messy world.

³⁴ Diogenes Laertius, *Lives* 8.70.

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