CHAPTER 3

Demystifying the Greek Miracle

One of the earliest and most influential of those who promulgated the notion of a 'Greek miracle' was Ernest Renan in his 'Prayer on the Acropolis' dating from 1865 (Renan 1935: 243ff., 1948: 393, cf. Peyre 1973). He was explicit in using that slogan to identify the origin, and to proclaim the triumph, of Western rationality. On this view what distinguished the ancient Greeks, the Athenians especially, from all other ancient civilisations was that they stood for clear-headed Reason, manifest, so it was claimed, in their literature and art, and further afield in the use of objectively valid methods of investigation that could and did secure reliable progress in any field of inquiry to which they were applied, most notably in both philosophy and what we call science.

The flaws in this triumphalism, with its racialist undertones, have often been exposed. As Dodds (1951), especially, showed, there are plenty of examples in Greek culture of what he called the irrational – including both childish beliefs, unwarranted inferences, unjustified claims, absurd practices, but also and more especially instances of genius or creativity that defied rational explanation. Conversely, while the celebration of the Greeks often went with a neglect or a denial of what other ancient and modern peoples achieved, that view too could be shown to be a travesty once serious work began to be undertaken on those achievements, in mathematics, astronomy, medicine, technology, agriculture and many other domains, the work of Sumerians, Babylonians, Assyrians, Egyptians, Indians, Chinese, not to mention that of the great civilisations and indigenous peoples of Meso- and South America.

Appeals to the ancient Greek legacy often formed part of European claims to superiority over other folk, claims that were in turn regularly used to justify colonialism, suppression, exploitation. But if by now that whole edifice of Greek and later European uniqueness can be seen as a sham, that does not mean that we are left with an unclouded vision of what to say about cultural diversity and the different fortunes of different modes of

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inquiry and methods and aims of understanding. Talk of 'miracles' in relation to the ancient Greeks has become far less common, but many still grapple with their 'genius' in the domains of political thought, aesthetics, drama and philosophy, if not also in science.[1] More generally the study of ancient peoples and of modern ones, as reported in contemporary ethnography, continues to pose fundamental problems, the most important of which is the reconciliation of some sense of what as human beings we all share with a recognition of the profound differences to be found between different groups, societies or cultures, separated in time or space or both.[2]

First as to what we share. This is a matter not just of our biology, but also of culture – that is not of some particular culture, but of participation in culture of some kind – even if those two domains are not as clearly demarcated from each other as used commonly to be assumed. We can of course study our DNA and our genes as well-defined topics, but we have to allow for their plasticity (e.g. Jablonka and Lamb 2014), and the influence of other, broadly cultural, factors on every human being from birth onwards. But it is not just that we share basic anatomical and physiological characteristics: as we noted, we are all, as Aristotle put it, essentially social creatures.

The impact of this simple fact on how we behave, indeed on the ways we deploy our human intelligence, has received increasing attention from cognitive developmentalists. Some, such as Humphrey (1976) and Mercier and Sperber (2011, 2017), would even argue that as humans we have developed the cognitive skills we have in large part as a response to the needs and opportunities presented by our being the social animals we are. While we must recognise that the character and level of the skills that are actually developed by different individuals and groups differ, the potential to develop some social skills is the norm. That remains the case even though there may be wide differences in the nature of the emotions felt or expressed between different populations.[3] We may compare what we

[1] The themes of Greek exceptionality and 'incomparability' were pursued in important studies by Detienne (2007 [2005], 2008 [2000]) with which should be compared the careful assessment in Hartog 2015. As for Greek 'miracles', when the papers of Louis Gernet dating down to 1960 were collected in 1983 their editor, Di Donato, chose to entitle the collection *Les Grecs sans miracle* as if that was the principal thesis to be defeated (Gernet 1983).

[2] This was the principal topic that I tackled in Lloyd 2020a, to which I may refer the reader for the elaboration of many of the points that follow here.

[3] Whether or to what extent there are universal human emotions, that is ones that are valid cross-culturally, continues to be a highly disputed issue. See for example Panksepp (1982), Ortony, Clore and Collins (1988: ch. 2), Wierzbicka (1999), Konstan (2006) and further extensive literature cited in Lloyd (2007: ch. 4).

now know about differences that exist in spatial apprehension, as between what Levinson (2003) labels intrinsic, relative and absolute. Thus some do, but others do not, have and use an ability to apply absolute coordinates to locate themselves and other things. Yet some skill in spatial apprehension is possessed by all human beings (as well, of course, as by many other species of animals).

The second, converse, question, of what to allow for in cultural diversity, is undoubtedly trickier. This is where stories of deep divisions, of breakthroughs, advances, revolutions proliferate, tending, some think, to undermine claims for the basic psychic unity of humankind. One of the most obvious difficulties about such stories is that they generally reflect the particular knowledge and interests of those retailing them. This is particularly clear where classicists are concerned, for whom the Glory that was Greece and the Grandeur that was Rome have often blinded them to the glories and grandeurs of other civilisations, even those on the doorstep of those ancient Greeks, the Egyptians and Babylonians for instance, whose extraordinary achievements, indeed, many ancient Greeks themselves were in awe of. To that extent those moderns who sought to glorify the Greeks could find themselves committed also to the Greeks' glorification of the Egyptians.

Even more common have been claims that not just understanding but also intelligence were transformed in the scientific revolution or in the industrial one, with the discovery not just of individual items of knowledge but of the very notions of how to discover, and then to use the knowledge obtained to manipulate and control the phenomena and nature itself. The use of the term 'revolution' already tends to suggest that these two can be treated as single determinate historical events, on the model of the storming of the Bastille or of the Winter Palace. Yet what some continue to call the scientific revolution happened over a quite extended period of time and 'it' certainly encompassed a number of distinguishable features, the rise of experimentation to be sure, but also the focus on quantification and in some hands, the insistence on empirical research, each more, or less, innovative, more or less foreshadowed in the work of earlier investigators. In his exemplary account of the development of different methods and styles of reasoning (or as he now puts it of thinking & doing, emphasising the ampersand) Hacking (1992, 2009, 2012) identifies at least six of varying degrees of importance and rightly insists on the divergences in the chronology of their emergence.[4]

[4] While adumbrations of the notion of 'styles' can be found already in Hacking 1983, he acknowledges that the inspiration for the development of that idea came from Crombie whose magnum opus was

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Forewarned, then, of the dangers of oversimplification in most attempts to construct Grand Narratives of the progress of human endeavours to understand the world, let me now turn back to the Greek data to survey where I think we have got to, today, on the questions of Greek exceptionality and its possible causes. Three fields that deserve particular attention are philosophy, mathematics and what we call science. In the first two cases, though not so directly in the third, we have to factor in that our terms derive from their indigenous actors' ones. Let me deal with them briefly in order.

What 'philosophy' should be taken to comprise has, to be sure, been interpreted in many different ways, and indeed that remains true within different European traditions today, where 'philosophy', the French 'philosophie' and German 'Philosophie' are far from synonymous. Justin Smith (2017) for example has recently identified six different overlapping stereotypes (they include the 'gadfly' and the 'Mandarin') who all, in his view, have some claim to the title 'philosopher'. Meanwhile the battle to determine what counts as 'proper' philosophy has split academic departments with that name in many distinguished universities across the globe. Some have attempted to limit the term to the range of disciplines that the original Greek term *philosophia* covered, even though there was plenty of disagreement about that between different Greek and Latin writers.[5]

On the narrowest reading what many other peoples, ancient and modern, practised does not count as 'philosophy', but (merely) as 'wisdom'. Yet such a view – whatever its covert or explicit motivations – is pretty obviously excessively restrictive. Debates on the nature of right and wrong, of justice and of well-being, are well attested in many modern indigenous societies as well as in antiquity, in India and China especially, and in the light of that fact we can hardly deny a widespread, maybe even

only published in 1994. Crombie's original six 'styles of scientific thinking' included (1) the postulational, (2) the experimental, (3) the hypothetical, (4) the taxonomic, (5) the statistical and (6) the genetic or historical. Hacking himself spoke rather of styles of scientific 'reasoning', revising the list and subsequently adding certain items including some relating to laboratory life and others to computer modelling. There is, in any event, no claim that a comprehensive and definitive classification can be arrived at.

[5] Herodotus (I 30) describes Solon as 'philosophising' when that involves travelling the world. When Pericles in Thucydides (II 40) speaks of the Athenians as a whole 'philosophising without softness' this refers to a general curiosity and does not mean that they all engage in what since Plato would have been recognised as philosophical inquiry. The Greek term *sophos* refers not just to moral or intellectual ability but to the skills of any craftsman or technician. Indeed it could carry a negative charge when it was used of those who were cunning or, as we say, too clever by half. A similar ambivalence permeates the use of the term *mētis* 'cunning intelligence' (Detienne and Vernant 1978). That could be used of the ability to succeed even if that involved cheating – provided that one was not found out.

universal, human interest in aspects of what we call 'moral philosophy' or ethics.[6]

We also find good ancient evidence outside the Greco-Roman world for discussions of the bases of knowledge claims ('epistemology') and of ideas about the realities to which those claims related ('ontology') even while the concrete suggestions entertained on such topics exhibit great variety. Again flaws in reasoning, such as inconsistency and inconsequentiality, are matters of concern in many ancient societies and in modern ones, including some that remain predominantly oral (e.g. Gluckman 1967, 1972 on the Barotse). However, the systematic analysis of the forms of argument, irrespective of content, is appreciably rarer. As I noted before, it can be, and often has been, argued that what we can call formal logic was invented by Aristotle and then developed, indeed transformed, especially by the Stoics. If here, for once, we have a token of Greek exceptionality, we must come back later to review why this might be so, that is what we can say about the factors that may have been in play.

Mathematics is perhaps the most interesting field for our investigation. It can be argued that some knowledge of, and ability to manipulate, quantities and shapes is to be found in every human society: in the latter case, that of shapes, that is not unconnected with the point I made earlier that all humans have some mode of spatial cognition, even though the modes differ. You do not need to have some explicit notion of a discipline that can be called 'geometry' to be able to explore patterns and their combinations in textiles or on pottery, for instance. Analogously the kinds of interests shown in quantities and numerosity are not uniform across the world (as Vilaça 2019 especially has shown, cf. Lave 1988, Dehaene 2011).[7] In part this variation may be put down to the different types of practical needs that a given group experiences, though it is a mistake to consider this the sole factor in play. Not all engage extensively in barter and those that do not will have less use for complex number systems in that context though that certainly does not preclude interest in quantities and shapes in other circumstances. The administration of large territories, the levying of taxes, the planning and construction of major

6 For a recent discussion arguing for parallels in the development of abstract reasoning in India and in Greece, see Seaford 2020. In both cases Seaford holds that the influence of monetisation as a model for abstraction has been underestimated in the scholarship (cf. already Seaford 2004). However, he has little to offer by way of commentary or explanation of the distinctive features of Greek axiomatic-deductive demonstration which I go on to discuss in the following pages.

7 The lack of a vocabulary for numbers has, however, sometimes led to exaggerated claims about the cognitive deficiencies that follow from that lack, as for example those by Everett in relation to the Pirahã (Everett 2005).

buildings, irrigation canals and the like demand, for sure, the development of further skills.

But as we see in most ancient civilisations already mathematics may be cultivated not just for practical application, but in part also for its own sake, as it were, that is for the abstract knowledge or understanding it may yield, for the opportunities it may offer for intellectual display indeed. An obvious example of this relates to the circle-circumference ratio, or what we call π. For ordinary practical purposes assuming a value of 3 or 3 1/7 is usually perfectly adequate. But in China, India and Greece (seemingly for the most part independently) we have detailed explorations that yielded closer and closer approximations to the correct value, indeed in the case of Zu Chongzhi in the fifth century CE to the equivalent of what we call seven decimal places, thus going far beyond what any practical need would dictate (Lloyd 1996a: ch. 7).

Those who engaged in such calculations could and sometimes did develop a reputation for a very special kind of expertise. They could get surprising results, not just paradoxical or counter-intuitive ones that served to puzzle people, but truths that had to be accepted as such. Aristotle offers us an example of this (*Metaphysics* 983a12–20). Initially people might be taken aback at the claim that, no matter how tiny the unit of measurement taken, the side and the diagonal of a square are incommensurable. But to the person in the know, the geometer, the surprise would be if, *per impossibile*, they did indeed have a common measure. The mathematician would know that their incommensurability could be proved.

Now the methods of proving favoured in different contexts in our ancient sources (not just Greek but Egyptian, Babylonian, Indian and Chinese) differ.[8] Confirming that a result is valid, 'proving' in that sense, might be merely a matter of going over the steps by which it was obtained to make sure that no mistakes had been made. Checking that the algorithms used to get a result are correct – a recurrent concern in Chinese mathematics in particular – involved testing not just specific conclusions but the methods used to obtain them, showing them to be sound.[9]

[8] Chemla 2012 collects a number of detailed studies that illustrate not just different methods of proof, but different conceptions of what proving consists in, across different cultures and periods. Cf. Robson and Stedall 2009.

[9] There is a simple example of this in Liu Hui's third-century commentary on the first-century CE Chinese mathematical classic, the *Jiuzhang suanshu* (*Nine Chapters of Mathematical Procedures*) (Qian 1963). Discussing the addition of fractures, Liu Hui identified two procedures which he calls 'homogenising' (*qi* 齊) and 'equalising' (*tong* 同). The first involves cross-multiplying denominators and numerators, the second multiplying denominators. Once these have been carried out, the

However, laying out the steps that justified the claim that a conclusion was not just true, but necessarily true, depended on a further feature, namely having an explicit theory of deduction (Netz 1999 and forthcoming). It was this extra step that allowed mathematics in particular to serve as a model for how indisputable results were to be obtained. For this the ultimate starting points had to be self-evident indemonstrable truths, for if they were demonstrable, then they should be demonstrated and they would not be *primary* starting points. But then one must proceed by valid deduction and when that second requirement was met, the conclusions had to be accepted as necessarily true. If someone did not accept them, that did not show that they were not true: rather that the person in question had not understood. Aristotle was the first to set out such a schema in his *Posterior Analytics*, applicable, in his view, not just in mathematics, but more widely in philosophy including in natural philosophy. But it was indeed the Greek mathematicians themselves who best exhibited how to bring the schema to bear to show how an entire field of knowledge could be demonstrated in the sense required. Our first extant example is Euclid's *Elements*, even though that clearly owed much to earlier work.

Now this type of claim for incontrovertible demonstration is not found in our extant sources for the mathematical or philosophical practices in the ancient Near East, in India or even in China, and it has accordingly often been hailed as a prime example of a triumph of specifically Greek rationality. So it is particularly important to get this issue into perspective, to unmask unhelpful and misleading invocations, in this context, of some Greek miracle or other.

The first step is to recognise that this aim to give incontestable proofs was quite often anything but a reasonable ambition. Of the two components of such proofs, one, the need for axiomatic starting points that could be accepted as self-evidently true, was generally far more difficult to satisfy than many Greek writers supposed. Mathematics itself, to be sure, presented one or two good positive examples, such as, for instance, the equality axiom that states that if equals are subtracted from equals, equals remain (attested in Aristotle as well as in Euclid).[10] That cannot be proved without circularity, but then it does not need to be. But in such fields as theology or physiology the starting points were often anything but self-evident. Yet that did not

addition can be effected and, as he puts it, 'the procedures cannot have lost the original quantities' (I 9, Qian 1963: 96).

10 e.g. Aristotle *Posterior Analytics* 76a41, Euclid *Elements* I Common Notion 3.

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deter the likes of Proclus and Galen from claiming that they could give strict demonstrations in the geometrical manner, *more geometrico*, in such areas, as if their axioms were as indisputable as those of the mathematicians (cf. Lloyd 2018: 71f.).

But then we also have to remark that in mathematics itself some of the axioms invoked were also open to question. Euclid made it a postulate that non-parallel straight lines meet at a point, but some later Greek commentators (Ptolemy and Proclus for instance)[11] thought that this should not be a postulate, but rather a theorem to be proved within the system. Although their attempts at proof turned out to be circular, it is well known that later attacks on the problem, undertaken in the hope of demonstrating the parallel postulate, led eventually in the nineteenth century to the recognition that other, non-Euclidean, geometries are possible. Meanwhile the demand for a mode of proof that would deliver certainty and defeat scepticism was to prove to be a guiding motif in much European thought, and not just in mathematics and science themselves, as is shown not just by Descartes but even more dramatically perhaps in Spinoza's attempt to apply proof *more geometrico* to the fields of theology and ethics (see e.g. Curley 1988).

The weaknesses or the potential flaws in what purported to be the strongest and strictness mode of demonstration make it all the more urgent for us to probe the question of the sources of the original fascination that it held for the Greeks. Why, we must ask, were the Greeks, some Greeks, that is, not satisfied with true results established beyond reasonable doubt, but strove for incontrovertibility, indeed sometimes in contexts where they can hardly have been unaware that no sooner had a claim for indisputability been lodged than it was promptly disputed? Some of the distinctive characteristics we noticed in Greek philosophy may throw light on this equally distinctive feature of parts of Greek mathematics. Formal logic, the systematic analysis of argument schemata irrespective of content, was, we said, a peculiarly Greek preoccupation, so far as the ancient world was concerned. Over and above any purely intellectual delight in such abstract analysis we may identify one specific advantage that accrued to such a study. It left the philosophers in a position to claim not just that their results were true, but that they had to be accepted as necessarily true.

In the highly competitive environment in which not just Greek philosophers but also mathematicians worked, what you needed in order to see

[11] In his *Commentary on Euclid Elements I*, Proclus first reports Ptolemy's attempt to prove the parallel postulate (362.14ff.) and then records his own effort to do so (368.26ff.) (Heath 1926: I 204ff.).

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off your opponents was – some thought – not just first-order claims for the truth of your own opinions, but second-order demonstrations to show precisely their incontrovertibility. To win the argument it was not enough to state that your theory was true: what was needed was a technique for convincing an audience that there was no way in which it could not be true. We have direct evidence for such a concern in both Plato and Aristotle, in their attempts to drive a wedge between arguments that are (merely) persuasive on the one hand, and those that are certain on the other, where that feature of certainty depended not just on having a theory of demonstration but also on actually applying it to the case in hand. In this context first Plato and then Aristotle repeatedly contrasted what they label sophistic or eristic (contentious) argumentation with proper demonstrations, the kind that they were themselves in a position to deliver – so they claimed – even in Plato's case in such contexts as the proof of the immortality of the soul.

While the individuals who got to be called 'sophists' were often highly respected persons, sometimes considerable statesmen (as Gorgias and Protagoras certainly were) and usually highly successful and sought-after teachers, that label came to be used to contrast false pretenders with the authentic representatives of true wisdom, the philosophers themselves. The sophists who generally accepted payment for instruction could not, in Plato's view, be trusted. They were accused of teaching their pupils to be successful orators without regard for whether what they advocated was true or not, in the interests of the people or not. Their *mere* persuasiveness was not good enough, indeed dangerously subversive.

To make crystal clear that their own types of argument were not open to such criticism, some of the philosophers and mathematicians developed a mode of demonstration that was to be immune to error, even though Aristotle was to put it that strict demonstration is the most persuasive kind of *persuasion* there is. However, he also noticed that such strict demonstration was out of place in rhetorical contexts, where arguments had to proceed not on the basis of primary self-evident axioms, but on premisses that were reasonable, ones that your opponents were in no position to deny.[12] Following these hints in Aristotle himself, we may suggest that what is distinctive about the Greek situation is not just the competitiveness between rival Masters of Truth, but the claim that some of them made to

12 At *Rhetoric* 1417b32–4 Aristotle remarks that in rhetoric when a point is clear there is seldom need to demonstrate it. In the *Nicomachean Ethics* (1094b25–7) he comments that it is as out of place to accept a mathematician arguing merely persuasively as it is to demand (strict) demonstration from an orator.

have access to a method of objective impersonal demonstration that trumps all others.

We shall have more to say in a minute about the background to such a move, but we have yet to consider our third field of investigation where such an ideal is still enormously influential. 'Science', we noted, is not an ancient actors' category but our observers' one, even though ours derives ultimately from the Latin *scientia* used quite generally for knowledge. Did any ancient civilisation, some have asked, have 'science' at all, even if they did not recognise it as such (like Monsieur Jourdain speaking prose)? To begin to tackle that question requires unpacking what makes an inquiry, a method or a result 'scientific' in the first place. As we said in the Introduction, we cannot be satisfied with labelling as 'science' such truths as are accepted by scientists today, since results are always revisable, even if some are, to be sure, more robust and less likely to be revised than others. It is not results that count so much as aims and the procedures used to achieve those aims. Those procedures, we said, include observation, classification, measurement, prediction, verification, demonstration and experimentation. But each of those comes in more, and less, systematic versions, as I have just been discussing for demonstration. Thus observers may or may not follow explicit protocols governing their activities, especially when they are using instruments in making their observations. While experimentation has often been held up as the key to what is (simplistically) labelled 'the' scientific method, it can be represented as continuous with, if more systematic than, trial and error procedures that are widespread, maybe universal, in all human groups.

Once those points are accepted, as I have argued they should be, there is no good reason to deny the attribution of some scientific ambitions and endeavours to most ancient and modern, indigenous, societies (Lloyd and Vilaça 2019). On that view, the so-called 'scientific revolution' of the sixteenth and seventeenth centuries should not be taken to mark the origin of science, but was rather characterised by an increase in self-consciousness and systematicity in procedures whose beginnings can be traced long before, and certainly not just in Greco-Roman antiquity. When we take the global dimension of the issue seriously we are faced with a plethora of achievements, interspersed of course with recognised failures, by individuals or groups, in such fields as the description and prediction of astronomical phenomena, in what we may, with due reservations, label statics, hydrostatics, mechanics and technology, in harmonics and optics, in the classification of animals, plants and minerals, in understanding the effective therapeutic properties of a wide variety of substances, in the exploration of human and animal anatomy and physiology, in the study of disease and health. And that is far from an exhaustive list.

In every case the applicability of our concepts and categories of the departments of knowledge has to be called into question. We have to concede further that it is only in a very few instances that we are in a position to account for the specificities of the information available to us, that is, for instance, why certain developments occurred that appear to be peculiar to particular investigators in particular societies at particular historical junctures. But even the most rapid survey of the sources that will need to be considered is enough to explode any myth that what we may call systematic investigations of the physical environment are the unique achievement of one particular ancient society, let alone at one particular time.

Where those of classical Greek antiquity are concerned, we can at least suggest the contribution made by the modes of competitiveness that existed between rival groups. As we noted, we find plenty of evidence for debate and dispute in other societies in other areas of inquiry and at other times. But those controversies tended to be adjudicated either by the participants themselves, the wise men or gurus locked in dispute with one another (as, for example, in the Indian debates represented in the *Upaniṣads*), or by those in authority, kings or emperors or their representatives (Lloyd 2014: ch. 2).

The situation in classical Greece was very different, insofar as the audience to be persuaded was often the general public, indeed on political issues the citizen body in assembly, where the outcome was often to be decided by majority vote. Now they were often as difficult to convince, and as arbitrary in their judgement, as the figures of authority with which Chinese persuaders (for instance) had to contend. But as we have seen, some Greeks reacted to what they saw as the fallibility of persuasion by developing second-order arguments designed to guarantee certainty – or so they asserted. It was not by voting that the issues were to be resolved, but by incontrovertible demonstrations. The many may all be wrong, though the stakes for anyone who claimed to be in sole possession of the truth could be high, as Socrates certainly discovered, even though his superiority amounted to no more than the knowledge that he knew nothing, and it was left to his pupil Plato and to Aristotle to work out a mode of argument that could claim to deliver necessary truths.

The suggestion would be that Greek political and rhetorical argumentation acted as a negative model, in contrast to which a new ideal for demonstration, for use in philosophy, mathematics and elsewhere, came to be developed.[13] Its Achilles heel was the requirement for self-evident primary premisses. But its undeniable strength, and the source of the very considerable influence it exerted over the subsequent history of Western science, lay in the rigour with which, given the starting points, robust conclusions could be reached by strict deduction. The point has recently been argued with particular force by Netz (forthcoming). Focussing especially on geometrical procedures in general and the potentiality of the investigations of conic sections in particular, he shows how the work of Archimedes came to serve as a crucial model that was followed and developed, and not just in astronomy, by many of the key figures in the development of later Arabic and European science.

If that argument is accepted, then one tiny or perhaps not so tiny aspect of what has sometimes been blown up into a Greek 'miracle' may be seen in a new light and so to that extent demystified. The Greeks certainly developed powerful tools to substantiate scientific theories and to demonstrate conclusions, thereby to win arguments in the highly contested debates that characterise so much of their culture. However in certain contexts they underestimated the difficulty of achieving the incontrovertibility they craved and so the limitations of the usefulness of the model they developed. We have seen already and shall remark again that a concern for validity is often subordinate to one for truth, and strict demonstration certainly requires the latter as well as the former. Moreover in the task of persuading others a consideration for truth may often be trumped by a sense of the importance of felicity, appropriateness or what conforms to some socially accepted norm or personal values. We shall need to keep these tensions in mind in our subsequent investigations into the virtues and vices, the ideals and the practices, of argumentation for which we have evidence in the historical record. For now we may reach the provisional conclusion first that the explicit analysis of argument forms was indeed carried further in classical Greece than in other ancient cultures – and thus far Greek exceptionality may be acknowledged – but secondly that this was certainly no unalloyed triumph of rationality, nor some totally inexplicable mystery. That last point is the subject I shall endeavour to clarify further in the next chapter.

[13] I shall return in the next chapter to investigate further what the development of Greek argumentation owed to their political institutions in general and what to democratic ones and democratic ideology in particular.