Posidonius

Volume III: The Translation of the Fragments

Posidonius was a major intellectual figure of the Hellenistic world whose interests and contribution spread over the whole intellectual field: philosophy, history, the sciences. His writings are of interest not only to philosophers and classicists, but also to historians and historians of science. His work survives only in fragments. The text of these fragments, collected and edited by L. Edelstein and I. G. Kidd, was published in 1972 (Vol. I *The Fragments*), with a second edition in 1989. This collection, along with Vol. II *The Commentary* by I. G. Kidd (1988), has become established as the definitive modern edition. However, many of the fragments are extremely difficult to translate, and this volume of translations has been compiled to make this interesting material more easily accessible to scholars and students. The translations, which follow the order and layout of the fragments as presented in Volume I, are accompanied by contextual introductions and explanatory notes where necessary. An Introduction summarises the importance of Posidonius and his work.

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POSIDONIUS

VOLUME III

THE TRANSLATION OF THE FRAGMENTS

POSIDONIUS

III. THE TRANSLATION OF THE FRAGMENTS

I. G. KIDD

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For Anthony, Robin and Simon

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INTRODUCTION

This book comes in response to frequent requests from scholars who wish to consult and use the fragments of Posidonius, but are without knowledge of Greek and Latin and so unable to read my collection of fragments printed in their original languages in Volume I of this series, *The Fragments*. But in addition, even competent classical scholars, faced with a range of some sixty different reporters varying wildly in discipline, style, period and the intelligibility of their manuscript tradition, have asked for the convenience of an accompanying translation. The present volume attempts to assuage the needs of both categories.

But all volumes of translations, and perhaps especially translations of fragments, should come with a severe health warning. All the translations in this book are my own, but every translation is itself an interpretation, the culmination of all previous research in the attempt to understand the evidence. A translation inevitably is forced to a final decision without making clear the degree of vulnerability of that decision. The classically-equipped reader is therefore urged to use this volume of translations with the support of Vols. I and II, where *The Fragments* gives a full account of the details of the report, and *The Commentary* discusses the standing and interpretation of this evidence. For the category of reader who must rely principally on the translations, I have tried to give brief warning where translations are problematic, or an alternative important, and occasionally where further discussion is available.

But there is one further element, in my opinion crucial for the understanding of fragments, and that is context.[1]

[1] See e.g. Vol. II (i) *The Commentary*, p. ix; I. G. Kidd, 'What is a Posidonian Fragment?' in *Collecting Fragments/Fragmente sammeln*, ed. G. Most (Vandenhoeck and Ruprecht, Göttingen, 1997) pp. 225–36.

I paid particular attention to clarifying this in each case in *The Commentary*. For what seems to me a necessary convenience for the reader using this volume on its own, I have again prefaced fragments with a brief account of their context. This means some repetition for users of *The Commentary*, which I hope will be understood and forgiven. There are also some translations of mine printed on occasion in *The Commentary*, which, when I still approved of them, I have reproduced in this volume. I have also added notes explaining names or references which would be unfamiliar to this category of reader.

The translations, however, are complementary to the previous volumes, and thus as translations of *The Fragments*, follow exactly the principles, content, order, numbering, organisation and structure of Volume I. Accordingly, they are the translation of the named fragments of Posidonius. The reasons for confining the collection at this stage to the attested fragments were argued fully in the introduction to Vol. I, xvii–xxiii.[2] The earlier methodology of 'discovering' Posidonius throughout later literature in supposed parallels and inferred echoes derived from a conjectured common source of an ubiquitous Posidonius, was dangerously subjective, and indeed led to contradictory theories. A scientific study of the now lost works of Posidonius through the vagaries of the fickle fortunes of the transmission of texts, must start from and be solidly based on the evidence of passages declared as such by the authors who report them. And there is much here yet to be done, for example in the study of each reporter and his context, to assess the value of the report.[3] It is from that foundation that the possible reverberation of further unacknowledged echoes may be judged or identified.

[2] And in 'What is a Posidonian Fragment', see above.
[3] So again 'What is a Posidonian Fragment'; and 'Plutarch and his Stoic Contradictions' in *Fragmentsammlungen philosophischer Texte der Antike*, ed. W. Burkert (Vandenhoeck and Ruprecht, Göttingen, 1998) pp. 288–302.

But the attested fragments in themselves present enough evidence to attempt a new assessment of Posidonius. There are, after all, 293 fragments and 115 testimonia from a wide range of reporters, and they include extended passages of quotation and argumentation that reveal a larger picture of content, style and method of argument. It is true that the evidence of such disparate reporters as (to example a small but important clutch) Cicero, Strabo, Seneca, Cleomedes, Plutarch, Diogenes Laertius, Athenaeus or Galen requires the most stringent analysis, but even on the most conservative view a canvas emerges from which the force and character of Posidonius' contribution to intellectual history glimmers. It may be appropriate to offer such an outline at this point.[4]

LIFE AND WORKS

In the first place, we know enough about Posidonius' life to realise that its international range and experience set a stamp on his thought, writing and society. He was born at Apamea on the river Orontes in Syria around 135 B.C. But Apamea had a strong Hellenic element of population, and there is no doubt that Posidonius was a Greek. As a young man he went to Athens for his higher education where, under the tutelage of Panaetius, the Head of the Stoic School of philosophy, he became himself a convinced adherent of that system. This was before 110 B.C., when Panaetius died. Posidonius never returned to Syria, although he retained a sharp interest in Middle Eastern affairs. He settled in Rhodes, where he was granted citizenship and taught philosophy. The choice of Rhodes was

[4] The following account is an English version of the article 'Poseidonios' which I wrote for the German collection *Philosophen der Antike II*, ed. F. Ricken (W. Kohlhammer GmbH, Stuttgart, 1996) pp. 61–82. I am grateful to the publishers for permission to use my English version here.

interesting. Although Athens was still the major university centre, the Headship of the Stoic School there had passed to Mnesarchus, and Posidonius looked elsewhere. Rhodes was attractive, not only as an independent city, commercially prosperous, go-ahead and with easy links of movement in all directions, but because it was welcoming to intellectuals, for it already had a strong reputation particularly for scientific research from men like Hipparchus; and Posidonius from an early period had displayed strong interest in the sciences.

For once settled in Rhodes, he embarked, probably in the nineties, on a prolonged grand tour or tours of the Mediterranean world, in which through observation of people, customs, environment and phenomena he collected by autopsy and first-hand enquiry much material for his later works. He was certainly in southern Spain, where he probed tidal phenomena, natural resources and environmental ethnology. In southern Gaul he found out what he could of the Celts and northern peoples. Italy and Rome, of course, Sicily, Dalmatia and Greece, North Africa and the East all came under his searching eye in their physical, human and historical backgrounds.

After this he appears to have settled down in Rhodes to writing and teaching. But in accord with Stoic principles, he was no recluse or armchair philosopher. In spite of being a newcomer, he was even elected to high magisterial office, the Prytany, which combined presidential and executive functions; and he was chosen for at least one Rhodian embassy to Rome, in the dangerous year (87/86 B.C.) of Marius' last consulship and terminal illness.

In addition, he had become by his writing an international figure, visited not only by pupils and intellectuals, but by the powerful bully-boys of Rome, such as members of great families like the Metelli. General Pompey found time in 66 B.C., in his command against the pirates, to sit in on a lecture, and did so again in 62 B.C., when return-

ing from his campaign in the East, dipping in respect his symbol of power before Posidonius' door, but in return severely treated to a lecture on the subject 'There is no good but moral good', which itself gave rise to a famous anecdote in Roman circles. For the old man was suffering severely from gout, and illustrated his theme by apostrophising his offending leg: 'It's no good, pain; bothersome you may be, but you will never persuade me that you are an evil.' Cicero in his late twenties attended a course of lectures, and later when embarking on his own philosophical works, sent for books of 'the Maestro', his Professor. He even paid him the supreme compliment of inviting him to write a monograph on his own much-cherished consulate, which Posidonius diplomatically refused. But this is sure evidence for the literary impact of Posidonius' style, which was vivid, forceful and ornate, and still shines fitfully but pungently through our surviving fragments. He died in his eighties, somewhere around 51 B.C., when Rhodes was reaffirming her treaty with Rome.

This sketched outline of his life shows not only his great reputation and influence during his life, but also that he was concerned with and very much a part of all aspects of his contemporary world. A main characteristic of that world was the attempted reduction of scattered turbulent elements to a whole, integrated Mediterranean world society through the domination of Rome. It may be fortuitous, but it is not unremarkable that the outstanding feature of Posidonius' philosophy is the attempt to integrate the complete field of the human intellect and the universe in which it finds itself into a rational system for the explanation of and canon for human behaviour.

RANGE OF INTEREST

Indeed, what strikes us immediately from the evidence that survives and is attested for us is the extraordinary range

covered by his work. For not only did he write on all aspects of philosophy, but also on astronomy, meteorology, mathematics, mathematical geography, hydrology, seismology, zoology, botany, anthropology and history. These were not incidental observations, but major investigations in their subject. To take two examples from the thirty or so titles of his books to survive (presumably the most popular): *On Ocean* and the *History* were major works in geography and historiography. It is crucial for our understanding of Posidonius to decide whether these were simply part of an all-embracing curiosity and gargantuan encyclopedic interest, or in some way an integral part of his philosophical enquiry.

RELATIONSHIP BETWEEN PHILOSOPHY, SCIENCE AND THE ARTS

The first thing that is clear from Posidonius' classification of the arts and sciences preserved in Seneca (F90EK)[5] is that philosophy was without question for him the dominant controlling master art. In philosophy itself he followed the tripartition which had been generally adopted from the fourth century B.C. throughout the Hellenistic period into natural philosophy (including metaphysics and theology), logic and moral philosophy. But Posidonius wished to stress that although the parts were distinguishable enquiries, they were inseparable and organically interdependent. To this end he went out of his way to abandon the common Stoic simile for philosophy, where logic was said to be the wall around the orchard protecting the trees of natural philosophy which produced the fruit of ethics. He substituted

[5] See I. G. Kidd, 'Philosophy and Science in Posidonius', *Antike und Abendland* 24 (1978), pp. 7–15.

the image of philosophy as a living creature where natural philosophy was the blood and flesh, logic the bones and sinews, and ethics the soul (F88EK).

Now this view was particularly relevant to Stoic philosophy, for the Stoic cosmos which it studies was itself regarded as an organic unified being, a material continuum of which human beings are one of the organic parts. Therefore, the human philosophical end of moral behaviour is itself dependent on the enquiry into the whole, and so moral philosophy is organically related to natural philosophy. Furthermore, since this cosmic whole was nothing more than the material universe to whose operation we have access, the physical and behavioural sciences and arts would seem to be in some way relevant.

This relationship of what we would call the arts and sciences to philosophy was in fact debated ground in earlier philosophy. Plato had regarded the sciences, or rather theoretical ones like pure mathematics, merely as a propaedeutic to philosophy. Epicurus, the Cynics and the Sceptics had dismissed them as useless. Aristotle, it is true, had engaged seriously in scientific research, and indeed some subsequent Peripatetics became more involved in separate scientifically-based pursuits than philosophical. And there was a continuing exchange of interest between philosophy and medicine, but often displayed more in paradigm, analogy and simile. The earlier Stoics were curiously ambivalent. Zeno had first rejected the sciences in his early Cynic days when writing his *Republic*, but later admitted some light to be gained from them. One of his pupils, Ariston of Chios, sneered at those studying them, while Chrysippus, the most famous and influential Stoic, granted that they rendered a service, but seems to have spent no time on them in his voluminous writing, and it is not clear what service he thought they rendered.

To Posidonius the relationship between science and philosophy was a major issue. He was quite clear that the sciences and arts were not a *part* of philosophy (F90EK), even although their investigations might cover the same or similar ground. Thus both astronomy and natural philosophy studied celestial phenomena (F18EK), historiography and moral philosophy studied human behaviour. The crucial difference, as he saw it, lay in that only philosophy could give first and final causes and explanation, which he considered its key function. Indeed Posidonius pursued aetiology so relentlessly that he became known in antiquity as the Aetiologue. Not, of course, that science did not illustrate causes and offer explanations from observed factual evidence – indeed they could sometimes offer alternative possible explanations – but it was beyond their technological capacity to find ultimate causes or explanation. This was because their prime function was descriptive rather than explanatory, although such description and analysis could clarify immediate cause and effect. As such they are, in fact, for Posidonius the *tools* of philosophy (thus supplanting the earlier-held function of logic), and indeed necessary tools in working out the natural behaviour of phenomena (F90EK). So the relationship between philosophy and science is complementary, and the attempt to work this out on such a cosmic scale is the most remarkable contribution of Posidonius. It is infuriating that because of our fractured evidence, and more particularly because of the limited interest and understanding of men like Strabo, who used his more scientific works, but disapproved of his deeper aetiological interests, that we are now lacking demonstration of how Posidonius actually operated on the borderline where for him philosophy and science met, in the limbo-land of hypotheses and the differentiation between different kinds of causes and explanations.

NATURAL PHILOSOPHY; THE SCIENCES

Although Posidonius regarded the parts of philosophy as interlocked and interdependent, he recommended for teaching or exposition purposes to begin with natural philosophy. Stoics had different preferences here, Zeno and Chrysippus beginning with logic. But Posidonius' decision was particularly reasonable for Stoic materialism.

THE BASIC AXIOMS OF NATURAL PHILOSOPHY

The Stoic philosophical system was one of great economy, since everything flows from the initial assumption of the operation of two principles, one active and one passive, throughout a material, defined, cosmic continuum. The active principle is the rational, divine, providential, enforming, individualising, governing cause; the passive is unqualified substance. They are diffused inseparably throughout the whole universe, but at different tensions or levels of power. There is no part without them. Some positions immediately follow:

(a) The world is rationally organised, and so explicable and understandable. The pattern is complete throughout.
(b) Within the organisation different elements and parts are dynamic and governing, others are passive in function.
(c) The world is purposefully providential; so there is also a design as well as a pattern, and the good end is discoverable by the rational understanding of this.
(d) The divine element is completely and only immanent.
(e) As the system is an organic whole, the understanding of any part contributes to the understanding of the

whole, and vice versa. Even the operation of any part is relevant to the operation of the whole.

(f) The operational law of cause and effect runs right through the behaviour of phenomena and of living creatures.

(g) The understanding and explanation of its operation lies within, and only within, itself.

Posidonius was completely orthodox in accepting the above fundamental scheme for Stoicism. It did, however, raise problems and criticism with which he became engaged. For example:

THE PRINCIPLES

What was their status in a wholly material world? Since they were defining and enforming forces and the causal operation of the world, in Stoic theory they had to be material, since only matter could act or be acted upon. On the other hand, they were distinguished from elements – fire, air, etc. – which were themselves formed and subject to change, destruction and regeneration. Therefore, the principles were said to be material but themselves without form or quality. But what could unformed matter be, a question already critically raised by Plato, *Tim.* 50–52, and by Aristotle in *Met.* Z 3, 1029a20ff? Hitherto, Stoic answers confined their search within a physical category, defined by limit, or affectability, or as a space filler characterised by resistance. Posidonius abandoned such physical explanations and defended on logical grounds: that the principles never 'exist' separately, but always co-exist in a particular form and matter. So they can only be distinguished as principles *conceptually*, although their function is material (F5EK). So again, substance (matter without quality or shape) differs from matter in thought only, being the same in reality (F29EK). In these new approaches Posidonius

was not a heretical Stoic (as he is often taken to be), but a reinterpreter of the fundamental doctrines with new arguments caused by subsequent criticism. Also in this area, he showed an interest in the problem of change within and change to identity, through substantial and qualitative change (F96EK).

PROBLEMS OF FINITE/INFINITE IN A CONTINUUM

Other problems which exercised Posidonius related to finite/infinite, for example the Stoic view of a finite continuum of a universe surrounded by an infinite void, which was much attacked (F97EK). Or again, the problem of 'now' and 'time', much debated by the ancients; that is, the problem of the imposition of a finite limit ('now') on an infinite continuum of time. Since limit is a timeless concept and the continuum is continuous and infinitely divisible, he appreciated that there can be no atomic instant or unit of time. So, in the analysis of 'now' he distinguished a conceptual limit of before and after which is itself timeless, from 'now' in a temporal sense as 'the least perceptible time' (F98EK). This is a remarkable anticipation of William James's 'specious present' (*Principles of Psychology* 1.631).

GOD

Another aspect of the active principle important for Posidonius was the rational, governing, providential characteristic nominated divine or god; so theology was truly a form of natural philosophy. Thus, god is not only immanent, but the prime *constituent* of the material universe. There is nothing without the divine, although it varies in tension from the lowest function of cohesion to the highest of pure rationality. Posidonius defined this all-pervading

divine active principle as a triad: god, nature, fate. But this was obviously to clarify the three major aspects of the same thing. 'God' described the nature of the governing principle; 'nature' defined its field, i.e. the physical continuum of which it is the dominant constituent; and 'fate' referred to its law of operation (see F103EK).

DIVINATION

Since there was complete interrelation of all parts in the purposeful operation of the universe through the orderly unfolding of everything that happens, and since the pattern of this was rational, as the active principle is reason, and so in theory comprehensible, Posidonius believed in forms of divination as a species of scientific prediction even, he thought, verifiable by results. As it was possible to predict the future behaviour of phenomena such as tides, or the position of the heavenly bodies from the observation and analysis of the pattern of celestial terrestrial influences, so it should be possible to predict future human events from similar patterns and signs. Later writers such as Augustine even attributed a hard form of divination to Posidonius, namely that the stars influence as well as are signs of human events; the evidence for that is negligible.

DETERMINISM AND CAUSATION

As the rational law permeated the whole universe, Posidonius, as other Stoics, was a determinist in the sense of thinking that all events followed an unbroken chain of cause and effect. But since the law was rationally determined, it was (at least theoretically) rationally comprehensible. In other words, we can understand the function of our world and our own part in it by observing the pattern of interrelation through cause and effect.

THE SCIENCES

But since this pattern follows through to immediate phenomena, at this lower end it can be revealed by scientific observation, techniques and analysis. So the pattern of the movement of the heavens could be probed by astronomy, that of the lower atmosphere by meteorology; the pattern of terrestrial phenomena by earth and sea sciences, biology, geography, etc. Hence these subjects engaged Posidonius' serious attention with some remarkable results.

For example, he successfully illuminated the natural pattern of celestial influence on terrestrial phenomena by an astonishingly complete theory of lunar periodicity of tides, which rightly held sway until Newton. The diurnal and monthly cycles were confirmed through his own observations at Gades; his initial mistake of putting annual maxima at the solstices instead of equinoxes was through being misled by Seleucus' observations in the Indian Ocean (Frs. 217–19EK).

Or again, his remarkable work *On Ocean* began with the tracing of our terrestrial geographical zones from the celestial zones fashioned from the apparent movements of the heavenly bodies, and from the diurnal and annual paths of the sun. His famous attempt at measuring the circumference of the earth (F202EK) was based on the difference of elevation of the star Canopus (α Carinae) at two separate places on a north/south meridian of the earth (Rhodes and Alexandria). The proportion of the difference of elevation to the full celestial circle of the ecliptic (1/48 according to the Posidonian figures) is then the same as the measurable distance between the two locations to the complete terrestrial circle of the earth's meridian. But these calculations (admittedly inaccurate, or at least approximate) offered a method of deriving a scheme of bands of latitude. For from one approximation, 1° of latitude equals

500 stades, an equation in fact later adopted by Ptolemy (*Geogr.* I.11.2; VII.5.12). These bands of latitude, *klimata* in Greek, in turn accounted for climatic patterns affecting physical and geographical topography and biological phenomena. And from this, the pattern finally proceeded naturally to human geography and explanatory ethnography (F49EK). That this book has not survived in its entirety is a major loss. For although it was famous and geographers like Strabo quoted extensively from it, Strabo, for one, did not understand either the full scope or the design of the work.

This may illustrate the importance and seriousness of Posidonius' numerous scientific works for his philosophical investigations. But in their revelatory descriptions and analyses in plotting the factual map of phenomena, and even in their alternative hypothetical explanations, the sciences were no more than necessary tools. One aspect of this is shown by their method, an inductive inference working back from particular observation. Posidonius certainly did not devalue that, but in his view, cosmic design was imposed rationally from the top down, and so final explanation must follow similar procedure, to give meaning to the pattern partially unveiled or checked from 'the facts', from the bottom up. This is illustrated from another part of his philosophy, logic.

LOGIC; MATHEMATICS

The most interesting thing that we know of Posidonius' logic is that he appears deliberately to have rejected the most commonly held view, at any rate since Aristotle, who was followed by the Epicureans, of its philosophical function as the *Organon* or tool of philosophy, its defence through the examination of the cogency of arguments. For

as we have seen, he abandoned the usual Stoic simile where logic was the defensive wall protecting the orchard of philosophy, and substituted the image of an organic living creature, where logic was the bones and sinews of its movement (F88EK).

This central and dynamic role shows its importance for Posidonius,[6] but unfortunately the ancients regarded Chrysippus as the Stoic logician, and so few details of Posidonius' logic have come down to us. But there is enough to show that he placed major emphasis on apodeictic logic, that is, deductive procedure from assured premisses or axioms to valid and true conclusions. So, in his analysis of the logical base of relational syllogisms (F191EK), which as far as we know he may have been the first to undertake, he argued that their validity depends on the implied force of an axiom, much in the same way as mathematical proof depends on a prior set of self-evident axioms. Thus, syllogisms on equality or mathematical equations depend for their validity on the implied force of 'things equal to the same thing are equal to each other' accepted as a self-evident axiom.

This comparison of logic and mathematics gives force and meaning to Posidonius' great interest in and engagement with mathematics; it was recognised by Galen (T83, 84EK), who called Posidonius the most scientific of the Stoics because he was trained in mathematics, and because of his stress on apodeictic proof. The methodological link betrays that Posidonius was thinking of mathematics as the sub-science for logic, and the closeness of the link is revealed by the passion of his attack on Zeno of Sidon's Epicurean mathematics (Frs. 46, 47EK). For what he was attacking there was an empirical methodology of

[6] See I. G. Kidd, 'Posidonius and Logic', in *Les Stoïciens et leur logique*, ed. J. Brunschwig (Vrin, Paris, 1978) pp. 273–83.

mathematics, whereas he not only supported Euclidean axiomatic geometry, but regarded that as the key pattern for the methodology of his whole philosophy.

This is so because the axiomatic methodology of top-down apodeictic proof is precisely the method of Posidonius' aetiology or philosophy of explanation, whereby he established conclusions from first causes (F18EK). In terms of natural philosophy, it is thus the pattern whereby it is possible to unravel the deterministic relationship of cause and effect operative throughout the world. The first premisses or first causes are supplied by natural philosophy, and deductively from these 'axioms' are derived the explanation of necessarily true conclusions.

The entanglement of mathematics and natural philosophy went still further with traces of mathematical realism. For he regarded some mathematical limits, such as plane surface, not merely as conceptual but as existing in reality (F16EK), probably since he saw shape or form as a corporeal containing limit which is the cause of definiteness, limitation and inclusion of that which is contained or limited.

Such apodeictic proof also governed the movement of his ethical argument, so it was no exaggeration for Posidonius, the Aetiologue, to claim that logic was indeed the bones and sinews of his whole philosophy. It does turn out that it was for him not only the dynamics of philosophy, but the reflection, embodiment and thus explanation of the top-down operation of the whole material Stoic universe.

MORAL PHILOSOPHY; HISTORIOGRAPHY

PSYCHOLOGY

Moral philosophy too is grounded for Posidonius in natural philosophy. This is because it depends on his psychol-

ogy, and as with other Stoics, philosophy of mind was even classified as a section of natural philosophy. As indeed today in universities, psychology as a discipline is based in Science Faculties, but also of course with important consequent involvement in Faculties of Arts. Also, Stoics stressed that *psyche*, mind or soul, was itself material. But, in addition, Posidonius stressed that in the Stoic cosmic view the rational mind of human beings was akin to the active principle of the cosmos; not, obviously, at its most pure or strongest tension, but still strong enough to govern the human being on the analogy that his rational mind is the counterpart of, indeed part of the same stuff as the divine active designer of the cosmos. This is what Marcus Aurelius meant by saying (5.27) that it was a fragment of god. Two major consequences follow from this axiomatic premiss:

(a) Determinism and Free Will

The Stoics believed in a rigidly determinist scheme of physical events as cause and effect imposed throughout the cosmos by the design of the active principle. So it follows that human freedom of will depended on the actual conscious participation and share in the determining factor by individuals through their own rationality, and displayed through understanding and self-control.

(b) Moral End and Happiness

Since the cosmic rational principle by Stoic definition is by its very nature providential towards good, human rationality, its counterpart naturally sets the goal and is the criterion for right conduct and moral good. Thus, the end and happiness for humans lie in moral goodness and in that alone, thus fulfilling their part in the cosmic scheme. This is the purest form of the very Greek equation – so marked through the whole history of Greek philosophy – of rationality and goodness.

But all men are not good, despite the possibility offered by the rational principle. Some are actually vicious, but practically everyone is neither good nor bad, but in-between or a mixture, sometimes good and sometimes bad. How can that be? Clearly because of distorting factors and influences, whether internal, such as emotional disturbance, or external. For internal, Posidonius naturally returned to psychology, and here he differed fundamentally from Chrysippus in what had become orthodox Stoicism. Posidonius, however, claimed that he was returning to explain the earlier crucial doctrines of the founders which Chrysippus had distorted. Chrysippus had argued for a monolithic structure of mind, as a single substance (i.e. not divisible into parts) with a single capacity or faculty, the rational. Therefore, emotions for Chrysippus were a kind of rational judgement, or misjudgement. Posidonius believed that in that case Chrysippus could not explain the occurrence of emotion or passion, how it arose, or how it affected judgement; nor how there could be mental conflict, nor indeed what could be meant by a governing factor or control in mind. And so, while he agreed that the human mind was a single substance, not a combination of parts (as Plato had it), he argued that it had a distinguishable plurality of capacities or faculties depending on how it was qualified or disposed (F146EK), namely the rational capacity and two irrational capacities of emotion and desire. He even made use of the famous Platonic metaphor for the soul, of the charioteer of reason driving two horses (Plato, *Phaedrus* 246aff.), but strictly within his own Stoic psychology (F31EK). This was harking back against Chrysippus to a more Platonic/Aristotelian psychology; and for all we know, and Posidonius certainly implied this, the founders of Stoicism may not have disagreed. But our reporters make clear that Posidonius' psychology was distinctively Stoic in his view of the interplay and inter-

relationship of status and function of these rational and irrational affinities (*oikeiosis*, a Stoic technical term).

From this psychology, Posidonius recognised in human beings three natural affinities related to each of the aspects of mind: pleasure through the desiring factor, power from the passionate factor, and the morally good as the natural goal of the rational factor. And he criticised Epicurus for recognising only the first, and Chrysippus for recognising only the last (F160EK). To do so, he said, was to be blind to facts from the observation of human behaviour from children onwards. But the three affinities, although all natural, were by no means in the same ethical value category. Indeed, only one, the end of the rational value, had absolute value; as he put it: 'Some people are deceived into thinking that what belong to the irrational powers of the soul as natural goals, are natural goals without qualification; what they don't know is that pleasure and power over one's neighbour are goals of the animal aspect of our soul, while wisdom and all that is good and moral together are the goals of the rational and divine aspect' (F161EK). It has been widely believed that Posidonius, unorthodoxly for a Stoic, elevated so-called external and physical goods, such as wealth and health, to a status of moral value. But this is disproved both by Seneca (F170EK) and by his own psychology. He denied them the category of 'good', although natural, and they remained firmly in the Stoic class of intermediate relative preference in choice, but of moral indifference.[7] So Posidonius' psychology is distinguished by the combination of and yet complete distinction between absolute and relative in value, that is, reserving 'good' only for what was choiceworthy without qualification, and yet not rejecting relative 'natural' worth;

[7] See I. G. Kidd, 'Posidonian Methodology and the Self-Sufficiency of Virtue' in *Aspects de la philosophie hellénistique*, Entretiens 32 (Fondation Hardt, Geneva, 1986) pp. 1–28.

and also by control through the function of governing and governed in moral behaviour. So the end for human behaviour is not to achieve or amass physical or external advantages, but the mental control of moral action as defined by the rational understanding of the human constitution and of the cosmic design as related to humans. Only moral good – the object of rationality – was good (i.e. without qualification); the goals of the irrational factors, although natural, were only to be 'preferred' in a qualified way and when directed by the rational moral judgement. Also, since 'good' was absolute, the criterion of goodness did not lie in results which could be deflected beyond the agent's control, but only in the correct moral choice of action, or intention, which was in the control and power of his governing moral faculty – reason – and that alone.

By this new psychology Posidonius could both distinguish and yet integrate the Stoic rational moral philosophy of absolute value and their 'intermediate' or preparatory philosophy of 'appropriate acts' based on 'what is according to nature'. Earlier critics of the Stoics had objected that there was a misfit between the two, and that the intermediate criteria of these initial natural affinities of childhood and immaturity seemed to be abandoned across the chasm of rational absolutism; some Stoics like Antipater were starting to introduce them into definitions of the end. Posidonius cut through that dilemma by confining the end uncompromisingly to the understanding and aetiology of the rational. But through his enlarged scheme of natural affinities he claimed that he could now explain moral mistakes and deviations.

PHILOSOPHY OF EMOTION

The key to this, he claimed, lay in the philosophy of emotions, which was at the centre of his moral philosophy and

which he expounded in an important work, *On Emotions*, of which a good deal has come down to us through Galen. At the beginning of Bk 1 he wrote, 'I believe that the examination of things good and evil, and that of ends, and that of virtues, all depends on the correct examination of emotions' (F30EK). Elsewhere he elaborated: 'All the doctrines of ethical philosophy are bound as if by a single cord to the knowledge of the powers of the soul ... Once the cause of the emotions was seen, it broke the absurdity (of the Chrysippean explanation of the End), showed the sources of distortion in choice and avoidance (of good and evil), distinguished the methods of training, and made clear the problems concerning the impulse that rises from emotions' (F150EK). Basically, he explained a moral 'mistake' thus: in cases where a person was inadequately educated either in rational understanding or in his life habits, giving more rein to his irrational natural aspects of mind to overrate the objects of emotions and desires, then such false beliefs that these objects are proper without qualification trigger an impulse to become overbearing (the Stoic definition of passion), which in turn through its 'emotional pull' (a phrase coined by Posidonius) could demand assent to it and so distort his rational decision to a particular act by overriding his moral reason.

This led to a fundamental difference from Chrysippean Stoicism in the cause of evil or immorality. For as Chrysippus' psychology was solely rational, regarding passion and desire as mistaken judgement, it was difficult to see where the corruption of reason could come from, since reason in itself could not corrupt itself, nor, as Posidonius put it (F34EK), overstep its own limits to create an 'overbearing' or 'excessive impulse' or emotion. So Chrysippus had argued that sources of corruption could only be external through the magnitude of external impressions or forces. On the contrary, Posidonius insisted that the 'root' of evil or vicious action is internal, the 'seed' lying in the

natural pathology of our own minds (F35EK). He does not, of course, deny that the seed can be activated by external forces, but these are subordinate causes; the principal cause of right and wrong lies within our own minds and is our own responsibility. Each person alone is responsible for his or her own moral judgements and decisions.

PRACTICAL ETHICS, MORAL EDUCATION AND THERAPEUTICS

Posidonius' views on these now follow from this psychology. Traditionally, Stoicism seemed to offer two philosophies: (a) the ideal, purely rational *logos* training of metaphysical and natural philosophy analysing the necessary conditions and functions of the perfect wise man, infallible in judgement and of unassailable happiness; (b) an intermediate preparatory training by moral rules prescribing 'appropriate acts' (*kathekonta*) based on 'what is natural' (*kata physin*), directed to the ordinary man (*phaulos*) or 'progressor' (*prokopton*) in philosophy. As has been said, critics tended to stress the gap between them and to question their relationship. Posidonius did not, of course, relinquish the ideal goal or portrait of the wise man, which after all was the explanation of all else, but he certainly concentrated for practical purposes on the ordinary man, for whom he insisted *both* philosophies had to be practised.[8] For he objected to Chrysippus' medical analogy of health for the wise man, and sickness for the ordinary man.[9] He pointed out that there could be no physical con-

[8] See I. G. Kidd, 'Moral Actions and Rules in Stoic Ethics' in *The Stoics*, ed. J. M. Rist (University of California Press, Berkeley and Los Angeles, 1978) pp. 247–58.

[9] See I. G. Kidd, 'Euemptosia – proneness to disease' in *On Stoic and Peripatetic Ethics; The Work of Arius Didymus*, Rutgers University Studies in Classical Humanities, vol. 1, ed. W. W. Fortenbaugh (New Brunswick, 1983) pp. 107–13.

dition of unassailable and timeless health for any human, wise or not; so that part of the analogy confused the facts. Rather, the ordinary man was both healthy and sick; healthy, although certainly 'prone to sickness' (another *mot* coined by Posidonius), when making right decisions, sick when making wrong ones. So, *both* philosophies and trainings were necessary for him (F163EK), the one directed to his rational mind, the other to his mental pathology of irrational emotive aspects.

(a) The rational aspect could be trained when he was sane, to understand that he should 'follow in everything the daimon in oneself (i.e. reason) which is akin and has a similar nature to the one which governs the whole universe, and not deviate and be swept along with what is worse and beast-like' (i.e. our irrational aspects) (F187EK). This is the task of natural philosophy and logic, because the end is 'to live contemplating the truth and order of all things together and helping in promoting it as far as possible, in no way being led by the irrational part of the soul' (F186EK). The aim is the understanding of the structure and operation of the cosmos and our positive function in it, and from this to recognise our rationality, not our 'emotional pulls', as our *directing* force. The understanding, with the help of logic's bones and sinews, leads to explanation, or aetiology in action, through the pattern of cause and effect from the design in moral action. So Posidonius on the moral 'indifference' of health and wealth, did not rely solely on orthodox arguments on 'natural' values or 'preferences'; he concentrated on their effect and function in moral psychology, and argued that such physical and external advantages were revealed as merely antecedent causes in the moral pattern, never as principal cause, which was our moral rationality only (F170EK).[10]

[10] Kidd, 'Posidonian methodology and the self-sufficiency of virtue', as above.

(b) However, when the ordinary man is morally sick through overbearing 'emotional pulls', different methods must be adopted, because Posidonius argued pertinently that irrational states did not respond easily to rational argument; non-rational methods must be used. Typically, he argued this from observation of factual behaviour in children and adults. He noted, for example, the irrational power of vivid mental pictures or imagination (F162EK). Thus, a person under the drug of nicotine will not be persuaded to stop smoking by rational arguments that he is likely to incur cancer, but will be emotionally motivated to stop by a vivid mental picture of someone, or himself, dying of cancer. Also he observed that emotions, unlike logical and mathematical axioms, rise and abate *in time*; therefore, the irrational training of habituation is most appropriate, so that once the excessive passion is tired out or sated, one can gain control of the runaway horse (F166EK). So too he thought that there were observed links of emotional movements following physical states of physiognomy (F169EK), or environment, which merit their own treatment. What is in question here is the therapeutics of mental pathology, and it is notable that the Greek for disease and excessive emotion or passion is the same (*pathos*): *excessive* emotion, because it deserves noting against the modern vulgate, that no Stoic, and certainly not Posidonius, sought to eradicate emotions entirely, which the ideal man experienced, and were indeed stressed by Posidonius as an observable and necessary part of our natural mental constitution. Of course, in addition to such training, external moral rules must be imposed, since the patient is unable to apply his own rules of principle or categorical imperatives. Seneca made clear (F176EK) that Posidonius elaborated a whole category of admonitory ethics including different methods of persuasion, exhortation and descriptive *exempla*.

THE HISTORY

In a sense, Posidonius' great *History* may have been intended partly to supply such an exemplary function, as Plutarch's *Lives* more obviously and directly were intended as moral patterns. But the *History* is much more complex, and serves as the sub-science or tool for Posidonius' moral philosophy. In *On Emotions*, Posidonius criticised Chrysippus on three grounds: respect for the facts, understanding sprung from explanation of the causes of phenomena, and consistency derived from deductive proof. All three were prime rules for Posidonius' own philosophy, and the *History* helped to supply evidence for the first two as a descriptive collection of the actual behaviour of persons, societies and nations to each other and in reaction to their environment, with an attempt at an analysis of historical cause in the resulting pattern.

The *History* itself was a major work in its own field, much used and quoted by subsequent writers, consisting of 52 books covering the period from 146 B.C. (and so deliberately following Polybius' *History*) to probably the mid-eighties, and was possibly unfinished. Its range and scope was formidable, covering the whole of the Mediterranean-centred world from Asia Minor to Spain, Egypt and Africa to Gaul and the northern peoples to Jutland, and of course, at the centre, the Roman and Greek worlds. The first obvious characteristic from the fragments is the richness of detail covering the whole canvas of historical description, of facts and events, major and minor, local and global, and of social and environmental phenomena. It can range from wild turnips and carrots in Dalmatia (F70EK) to the martial disarray of Apameans (F54EK), or details of luxurious formal banquets (Frs. 65, 53, 283EK), and to the characteristics and habits of individuals and nations in the account of their social and political behaviour.

Deliberately collected from his extensive travels and subsequent enquiries, this is the vast factual description which forms the canvas for his analysis of human behaviour.

But the most interesting thing about the *History* is its aetiology or historical explanation. It is that of a moral philosopher.[11] Indeed Athenaeus, the indefatigable magpie of the end of the second century A.D., in his *Learned Table Talk*, characterised Posidonius' *History* as being in tune with his philosophy (T80EK); this may well have come from Posidonius himself. The work itself bears this out in its descriptive aetiology:

(a) Its account consistently displays that although external circumstances, both human and environmental, may be contributory factors to action, real motive is not imposed from without, but from internal character, an analysis in direct, and surely deliberate, opposition to other historians like Polybius. This view is illustrated not only in individuals of power, but in national character. The migratory invasions of the Cimbri, a major and disruptive historical event of the period, was not to be explained merely by the natural phenomena of floods pushing them back from their native Jutland, but by their own inherent piratical and nomadic character (F272EK). This explains Posidonius' preoccupation with ethnology (Italian, Roman, Celtic (Gallic), German) as historical explanation; it is used as historical ethology.

(b) To drive this point home, Posidonius was willing to expand an incident beyond its mere historical importance. His brilliant, vividly detailed and lengthy account of the brief career of Athenion, the Athenian tyrant of 88 B.C., far outruns what was a comparatively insignificant event in the Mithridatic Wars. But Posidonius was intent on unmasking in detail the disastrous effect, and how it came

[11] I. G. Kidd, 'Posidonius as Philosopher-Historian' in *Philosophia Togata*, vol. I, eds. J. Barnes and M. T. Griffin (Clarendon Press, Oxford, 1998) pp. 38–50.

about, of an immoral so-called philosopher tyrant on the silly Athenian mob, however briefly (F253EK).

(c) This indicates another notable moral preoccupation of the *History*: its reiterated interest in the relationship between ruler and ruled, in all permutations, whether in a voluntary subordination, or as ruler and slaves; it involves the character of both ruler and ruled, and their relationship (e.g. Frs. 57, 58, 60, 66, 67, 252, 263, 284). And of course, this reflects in the historical medium the working out of the moral axiom of the element of rational rule controlling the subordinate, or its failure to do so.

There is much else, of course, including a sustained attack on popular legend and superstition in favour of rational explanation through cause and effect (e.g. Frs. 246, 257, 273, 276, 279). So the *History*, like the sciences and mathematics, is a necessary investigation for his philosophy. But again, it can offer no more than historical explanation; final explanation must come from the axioms established by moral philosophy.

INFLUENCE AND IMPORTANCE

Posidonius continued to be read and regarded as an important authority at least until the sixth century A.D. His influence has in the past been overestimated, but he was certainly widely consulted for three centuries after his death; our surviving evidence suggests that his later influence was greater outside his own School. For the later history of Stoicism shows that Chrysippus was still regarded as the principal authority. Thus, our main evidence for Posidonius' important philosophy of emotion comes from Galen, the great doctor of the second century A.D., who was an adherent of the Academy, and who used Posidonius to attack Chrysippus. It was Posidonius' scientific works, and *On Ocean*, and the *History* which continued to be

plundered for information and detail, with the result that the grand design of his encyclopedic research was forgotten. And this is a pity, for Posidonius' place in intellectual history does not derive from the scattered riches of a polymath, but from an audacious panoptic attempt to understand, and hence explain in its complete context, our material world by the rationality of its operation, checked where we can by observation of the facts, and so define our own behaviour in it.

Posidonius was not an eclectic thinker, as has been claimed, but he strongly believed in the continued development of philosophy from positions of the old and, to him, established authorities. In fact, his synoptic determination to see things as part of wholes, where the perfection of the whole gives meaning to the parts, his willingness to explore to the limits the thesis that the common rationality of the cosmic order and the function of our own comprehension is the only possible means of explanation and understanding, and hence that our behaviour, morality and happiness in the end should depend on that alone, is the drawing together under the formal cloak of Stoicism, some of the most important and stimulating threads running through the whole of Greek philosophy. But his most important contribution was to enlist and integrate with philosophy the whole range of intellectual disciplines open to human investigation.

PART I

TESTIMONIA

LIFE AND INFLUENCE

IDENTIFICATION, CITIZENSHIP, DATING, EDUCATION

Identification

T1a (T1 Jac.) Suda, *s.v.* **Posidonius**, 2107–10

Context: The Suda appears to have taken material from Hesychius of Miletus (6th c. A.D.), some of which derived from Demetrius of Magnesia, the friend of Atticus (1st c. B.C.); but the article is garbled and confused, attributing two of Posidonius of Apamea's most important books, the *History* and *On Ocean*, to other Posidonii. It thus reveals some early confusion over the name.

[2107] Posidonius, Apamean from Syria, or Rhodian; Stoic philosopher; his nickname was 'The Champion';[1] he had a School in Rhodes, succeeded[2] and was a pupil of Panaetius. He also went to Rome in the consulship of Marcus Marcellus.[3] He wrote much.

[2108] Posidonius, of Alexandria, Stoic philosopher, pupil of Zeno of Citium. He wrote a *History*, the continuation of Polybius, consisting of 52 books and continued to the Cyrenaic war and Ptolemy, and rhetorical exercises, Introductory Notes [*hypotheses*] on Demosthenes; I think these works belong rather to Posidonius the sophist of Olbia.

[2109] Posidonius of Olbia,[4] sophist and historian: *On Ocean and what appertains to it, On the so-called country of Tyrika, History of Attica* in 4 books, a work on Libya of 11 books, and some other things.

[1] Literally, 'The Athlete'.
[2] But he was not Panaetius' successor as head of the School at Athens.
[3] The most likely reference is to the consulship of M. Claudius Marcellus in 51 B.C. when Rhodes reaffirmed her treaty with Rome. It must also have been at about the time of Posidonius' death, so a word for dying may be missing here.
[4] *FgrH* 279 puts him in the 2nd c. A.D.

[2110] Posidonius: proper name. The one who wrote the book on augury based on involuntary twitching: if the right eye twitches, *X* is signified.

T1b (T12b Jac.) Suda, *s.v.* **Polybius**, Codex A, *in marg.*
You should know that Posidonius of Olbia, the sophist, followed Polybius' *History*.

Apamea and Rhodes

T2a (T2 Jac.) Strabo, XIV.2.13
Although Posidonius was a citizen of Rhodes and taught there, he came from Apamea in Syria. [See also T48.]

T2b Athenaeus, VI.252E
Posidonius of Apamea, but later made his living in Rhodes ... [*v.* F56]

T3 Cicero, *Tusculanae Disputationes*, V.107
But see here, if we are looking for the real nature of exile, not pejorative vocabulary, how much difference is there, I ask you, between exile and continuing residence abroad? The noblest philosophers spent their lives in that – Xenocrates, Crantor, Arcesilas, Lacydes, Aristotle, Theophrastus, Zeno, Cleanthes, Chrysippus, Antipater, Carneades, Clitomachus, Philo, Antiochus, Panaetius, Posidonius, countless others, who once they left their country never returned home.

Age

T4 (T4 Jac.) Ps.-Lucianus, *Longaevi*, cp. 20, 223

Context: It has to be said that this compilation, whose Greek certainly suggests a date later than Lucian, is of uncertain reliability. Posidonius' dates are conjectural, but what evidence there is points to an approximate bracket between c. 135–c. 51 B.C. Kidd, *Comm.* p. 8 gives the arguments.

Posidonius of Apamea in Syria and a naturalised Rhodian, both philosopher and historian, lived for 84 years.

Early recollections

T5 (self-testimony) Strabo, VI.2.11

Context: There are two possible dates for the event recorded: 126 B.C. and 90/89 B.C. The former is much more likely from the name given for the praetor of Sicily.

Posidonius from his own recollection says that at dawn about the time of the summer solstice between Hiera and Euonymus the sea was seen raised to an extraordinary height, and remained so for some time ... then subsided ... and many days later mud was visible surfacing on the sea ... and later solidified ... He said that the governor of Sicily, Titus Flamini<n>us,[5] reported to the Senate, and it sent a delegation to offer sacrifice on the islet and on Lipara town to the gods of the underworld and to those of the sea. [*v.* F227]

T6 Athenaeus, VI.275A

Context: See Frs. 265–7

But in earlier times 'so sparing in their needs were the inhabitants of Italy that even in our own time still,' says Posidonius, 'those who were very well off in their livelihood trained their sons to drink water for the most part, and to eat whatever there was.'

Scipio

T7 (T10a Jac.) Athenaeus, XII.549D–E

Context: Athenaeus confuses Posidonius with Panaetius, to whom Posidonius may have alluded for the famous diplomatic visitation to Egypt in 140/139 B.C.

At any rate Posidonius the Stoic, when he accompanied Scipio Africanus abroad on the invitation to Alexandria, and observed him [i.e. Ptolemy VIII], writes ... as follows ... [*v.* F58]

[5] Flamininus (consul 123 B.C.) is an emendation for Flaminius in the codices.

T8 (T10b Jac.) Athenaeus, XIV.657E

Context: For the textual problems and general confusion of this passage, *v.* Kidd, *Comm.* p. 11.

Strabo mentions them [i.e. hams] in Bk III of his *Geography* [III.4.11], a man not much younger; for he says in Bk VII of the same work [F58b Meineke, 60 Jones] that he knew Posidonius the Stoic philosopher, whom I have often mentioned as an associate of Scipio the conqueror of Carthage.

Panaetius

T9 Cicero, *De Officiis*, III.8

Context: Panaetius succeeded Antipater as Head of the Stoic School at Athens in 129 B.C. and taught there until his death c. 110 B.C.

I am all the more surprised at this because Posidonius, a pupil of his, recorded that Panaetius lived for thirty years after the publication of those books (i.e. Panaetius' *De Officiis*). [*v.* F41c]

T10 Cicero, *De Divinatione*, I.6

... but Panaetius [71 St.], a leader, one might go so far as to say, of the Stoic School, the teacher of Posidonius and the pupil of Antipater, backslid from their precepts in that although he didn't actually dare to deny outright divination as a force, yet he did confess that he had doubts.

Antipater

T11 Ps.-Galen, *Historia Philosopha*, 3 (*Dox. Gr.* p. 600.10–11)

Context: The reference to Posidonius is impossible. There is either a straight confusion with Panaetius who was a pupil of Antipater, or a lacuna of missing information.

Diogenes of Babylon attended Chrysippus' lectures, and was the instructor of Antipater. And it was Antipater's lectures that Posidonius attended.

Tubero

T12 (F86a) Ps.-Plutarch, *Pro Nobilitate*, 18 (Bernardakis, *Mor.* VII, pp. 260.20ff.)

Context: This compilation displays a weak hold on Greek, the date is unknown and the history of the text mysterious, certainly incorporating passages lifted from Stobaeus. The information that follows is referred to Aristotle in Stobaeus, IV.29A25 (Rose[3], *Aristotelis Fragmenta* F92; F69 Gigon). For possibilities, *v.* Kidd, *Comm.* pp. 14–15.

Posidonius, I think, a much looked-up to philosopher, discussing these matters with Tubero ...

P. Rutilius Rufus

T13 Cicero, *De Officiis*, III.10

Context: Rutilius (c. 155–75 B.C.; consul 105 B.C.) is a good example of the type of eminent Roman in public affairs (also known as a strict Stoic in outlook and practice) whom Posidonius must have met as a young man in the society of Panaetius. The association clearly persisted throughout Rutilius' lifetime.

... Posidonius, who also writes in a letter that P. Rutilius Rufus, who had heard Panaetius, was accustomed to say ... [*v.* F41c; F83]

TRAVELS

Context: Posidonius' famous investigative Grand Tour to the West is most likely to have taken place in the nineties.

Gadeira

T14 (self-testimony) Strabo, III.5.9

But Posidonius says that he himself at full moon at the summer solstice was in the Herakleion at Gadeira for a good many days without being able to mark the annual differences [sc. of tides]. However, at the conjunction [i.e. new moon] of that month he said that he observed a great change ... but at that time the water level flooded over ... [*v.* F218]

T15 (self-testimony) (T5a Jac.) Strabo, III.1.5

Posidonius says that he exposed the falsity [sc. of local tales of sunset phenomena] when he spent thirty days at Gadeira and observed the sunsets. [*v.* F119]

T16 (self-testimony) Strabo, II.5.14
Posidonius says that he saw from a high house in a city some 400 stades from that area [i.e. the Gadeira coastline] a star which he conjectured was Canopus itself... [*v.* F204]

T17 (self-testimony) Strabo, III.5.8
But the annual highs [sc. of tides] he [i.e. Posidonius] says he learned from the inhabitants of Gadeira, who said ... [*v.* F217]

Spain

T18 (self-testimony) Strabo, XIII.1.67
... Posidonius says he saw in Spain ... [*v.* F237]

Transalpine Gaul

T19 (self-testimony) Strabo, IV.4.5
At all events, Posidonius says that he saw this sight [i.e. Gallic head trophies] himself often, and at first was nauseated, but afterwards took it lightly through familiarity. [*v.* F274]

Turdetania

T20 (self-testimony) Strabo, III.2.9
And in general, he [i.e. Posidonius] says, anyone who saw the area [the mining district of Turdetania] would have said that it was a treasure house of nature ... [*v.* F239]

Voyage from Spain to Italy

T21 (self-testimony) Strabo, XVII.3.4
... apes ... Posidonius too has spoken about them, that when he was sailing from Gadeira to Italy he was carried near the Libyan shoreline and saw a thicket which projected into the sea full of these beasts ... he said the sight made him laugh ... [*v.* F245]

T22 (self-testimony) (T5b Jac.) Strabo, III.2.5
Posidonius says he observed an odd thing on his return journey from Spain: that the etesian winds that blew over

that sea as far as the Gulf of Sardinia were easterlies; that was the reason he was actually hard put to it to reach Italy in three months, blown off course towards the Balearic Islands and Sardinia, and towards parts of the African coast opposite them.

Liguria

T23 (self-testimony) Strabo, III.4.17
Posidonius says that in Liguria his host Charmoleon, a native of Massilia, told him a story that ... [*v.* F269]

Voyage from Puteoli to Naples

T24 (self-testimony) Athenaeus, IX.401A
The philosopher Posidonius mentions rabbits in the *History*: 'We too saw a lot of them in our sail from Dicaearcheia (Puteoli) to Neapolis ...' [*v.* F52]

Further evidence on travel

T25 (T17b Jac.) Strabo, II.4.2
I have already mentioned Eratosthenes' ignorance of the West and North of Europe. But while there may be some excuse for him and Dicaearchus, as men who had never set eyes on these regions, what excuse could there be for Polybius and Posidonius?

T26 Priscianus Lydus, *Solutiones ad Chosroem*, p. 72.2–12 Bywater

Context: The Latin translator's knowledge of Greek was clearly limited, and his translation of such barbarous crudity as to be at times virtually unintelligible. The first sentence depends largely on divination. I have followed Bywater's suggestion that the translator's *terminos* may have derived from thinking ὁ ῥοῦς (the flow) was ὅρους (boundaries). The remark concerning Posidonius' personal investigation of tidal phenomena, should be confined to his established observations at Cadiz. It is virtually certain that he had not visited the Rhine estuary, nor the river Thames.

† And in this way tidal flows progress in order, in such a way that the ebb and flow mounts as it begins to flow back on itself and return in due order on the land. † Indeed, the

tide mounts to such an extent that even great rivers turn in the opposite direction And they say that the river Rhine that flows from the country of the Celts, and other rivers in Spain and Britain undergo this. In Britain, the river called the Thames is said to be swelled up from the sea for four days [?] and turned round by the tide, so that it actually seems to turn back in the opposite direction and flow from the sea. So Posidonius, the Stoic, seeking out the causes of these things, inasmuch as he became a personal investigator of this kind of reflux, noticed that the moon was the cause rather, not the sun. [*v.* F219]

OFFICES

Prytany

T27 (self-testimony) (T6 Jac.) Strabo, VII.5.8

Context: The prytany, the most important office in Rhodes, combining presidential and executive functions, was a remarkable honour for an incomer like Posidonius.

He [i.e. Posidonius] also speaks of 'vine-earth', bituminous earth that is mined in Seleucia in Pieria, as a cure for vermin-infected vines; ... he adds that similar earth was also found in Rhodes, when he was occupying the office of the prytany ... [*v.* F235]

Embassy (87/86 B.C.); Marius

T28 (self-testimony) (T7 Jac.) Plutarch, *Marius*, 45.7

... as Posidonius the philosopher recounts, saying that he went in personally and conversed with him on the topics of his embassy, with Marius already ill. [*v.* F255]

FRIENDS, PUPILS, SCHOOL

Cicero (77 B.C.)

T29 Plutarch, *Cicero*, 4.5

So he [i.e. Cicero] sailed to Asia Minor and to Rhodes, and in Asia attended the lectures of the rhetoricians Xenocles

of Adramyttium, Dionysius of Magnesia and Menippus the Carian; in Rhodes he studied rhetoric with Apollonius the son of Molon, and philosophy with Posidonius.

T30 Cicero, *De Fato*, 5–7
Some things even Posidonius (with all due respect to my Professor) seems to think up out of the blue; they are at all events surely ridiculous ... but let us thank Posidonius as is only right, and leave him ... [*v.* F104]

T31 Cicero, *De Natura Deorum*, I.6
But really I haven't all of a sudden begun now to study philosophy. From my earliest years I have spent significant time and energy in its pursuit, and was most engaged in philosophy precisely when I least appeared to be so. That is demonstrated by the way my speeches are crammed with the pronouncements of philosophers, by my intimacy with the most learned men who continued to adorn my house, and by those famous leaders in philosophy, Diodotus, Philo, Antiochus, Posidonius by whom I was trained.

T32a Cicero, *De Finibus*, I.6
... For what in Stoicism has Chrysippus left out? And yet we read Diogenes, Antipater, Mnesarchus, Panaetius among many others, and above all, my intimate friend Posidonius.

T32b Cicero, *De Natura Deorum*, II.88
... my intimate friend ... [*v.* T86]

T32c Cicero, *Tusculanae Disputationes*, II.61
... my friend Posidonius ... [*v.* T38]

T32d Cicero, *De Natura Deorum*, I.123
... Posidonius, the intimate friend of us all ... [*v.* F22a]

T33 Cicero, *Hortensius*, Fr. 50 Grilli, 44 Mü. (Nonius Marcellus, *De Doctorum Indagine*, p. 527 M)
The same writer (i.e. Cicero) says in *Hortensius*: 'I saw the famous Posidonius, the greatest of all the Stoics, in pain

with gout and no whit braver than my host, Nicomachus of Tyre.'

T34 (T9 Jac.) Cicero, *Ad Atticum*, II.1.2 (60 B.C.)
Posidonius wrote back to me now from Rhodes to say that when he read that memoir of mine [i.e. on Cicero's consulship] which I had sent him to write up more elaborately on the same topic, he was not roused to do so, no, he was plain frightened off it. [*v.* F82]

Pompeius (66 B.C.)

T35 (T8a Jac.) Strabo, XI.1.6
Anyway, the story goes that Pompey was in Rhodes, when he came out for the war against the pirates (and he was on the point of setting off against Mithridates and the nations up to the Caspian). He had the opportunity to attend a lecture by Posidonius. When he was leaving, he asked Posidonius whether he had any instructions for him. Posidonius replied, 'Be ever the best, and preeminent o'er all others.' [*Iliad*, VI.208]. [*v.* F206]

Pompeius (62 B.C.)

T36 (T8b Jac.) Pliny, *Naturalis Historia*, VII.112
After the end of the Mithridatic War, Cn. Pompey was going to enter the house of Posidonius, the famous professor of philosophy; Pompey forbad his official attendant to strike on the door in the customary manner, and the man to whom the East had bowed in submission bowed his standard before the door of learning.

T37 Solinus, *Collectanea Rerum Memorabilium*, I.121
Cn. Pompey, The Great, to be ranked in honour after the gods, when about to enter the house of Posidonius, the most famous professor of philosophy at that time, forbad his official attendant to strike on the door in the customary fashion, and with lowered standards, although the war

with Mithridates was over and he the conqueror of the East, yielded of his own initiative to the door of learning.

T38 (T8b Jac.) Cicero, *Tusculanae Disputationes*, II.61
But not my friend Posidonius (i.e. did not fall away from the strict principles of Zeno). I often saw him with my own eyes, and I'll report the story that Pompey often used to tell about how, when on the way back from Syria he had come to Rhodes and wanted to hear Posidonius lecture. But he heard that Posidonius was seriously ill with severe pain in his joints, and yet Pompey still wished to set eyes on the most revered philosopher. So he paid him a visit, greeted him, and addressed him with honour and respect, and said that he was grieved that he couldn't hear him lecture. But 'You can indeed,' says Posidonius; 'I shall not permit physical pain to bring it about that a great man like you visited me in vain.' And so Pompey told how he lectured from his bed seriously and at length on the very topic that nothing was good that was not morally good; and when flashes of pain struck him, he said again and again, 'It's no good, pain! Grievous you may be, but I shall never confess that you are an evil.'

T39 (T8b Jac.) (F43) Plutarch, *Pompeius*, 42.5
When Pompey was in Rhodes, he attended the lectures of all the sophists, and rewarded each with a talent; Posidonius also published the lecture which he delivered before him against the rhetor Hermagoras, in opposition to him on General Enquiry.

Jason

T40 Suda, *s. v.* Jason, 52
Jason, son of Menecrates, from Nysa on his father's side and Rhodes on his mother's; philosopher; pupil and grandson of the philosopher Posidonius and successor in his School in Rhodes. He wrote *Lives of Famous Men* and

Successions of Philosophers and a *Life of Hellas* in four books. He also wrote a book on Rhodes.

Asclepiodotus

T41a Seneca, *Naturales Quaestiones*, II.26.6
Asclepiodotus, the pupil of Posidonius ... [*v.* F228]

T41b Seneca, *Naturales Quaestiones*, VI.17.3
That you will find in Asclepiodotus, Posidonius' pupil, † in his *Natural Causes* ... †[6]

Geminus

T42 Simplicius, *In Aristotelis Physica*, II.2 (193b23)
Alexander [i.e. of Aphrodisias] took pains to set out a quotation from Geminus from his epitome of Posidonius' *Meteorology*, a quotation which takes its starting points of exposition from Aristotle. This is how it goes ... [*v.* T73, F18]
See T72 Priscianus Lydus, *Solutiones ad Chosroem, Prooemium*.
... of the commentary of Geminus on Posidonius' *Meteorology*.

Phanias

T43 Diogenes Laertius, VII.41
... but Panaetius and Posidonius begin with Physics [natural philosophy], according to the testimony of Phanias, an acquaintance of Posidonius, in Bk I of his *Lectures of Posidonius*. [*v.* F91]

Athenodorus

T44 Cicero, *Ad Atticum*, XVI.11.4
That topic was followed up by Posidonius. Well, I've sent for his book and written Athenodorus Calvus as well to send me the headings of his treatment. [*v.* F41a. See also F41b, Cicero, *Ad Atticum*, XVI.14.4]

[6] The reference to Asclepiodotus' book is uncertain, as the Latin has become jumbled here. See Kidd, *Comm.* p. 32.

Followers?

T45 Plutarch, *De Animae Procreatione in Timaeo*, 22.1023B
And a similar answer to that can be given as well to Posidonius and his followers.[7] [*v.* F141a. See also Frs. 89; 117; 126; 141b; 180; 195; 288]

INFLUENCE AND REPUTATION

1st c. B.C.: Cicero

v. T38 Cicero, *Tusculanae Disputationes*, II.61
... the most noble of philosophers ...

v. T33 Cicero, *Hortensius*, Fr. 18
... the greatest of all the Stoics ...

v. T32a Cicero, *De Finibus*, I.6
But we read ... among those in the first rank ... Posidonius.

Strabo (reputation)

T46 Strabo, II.3.5
Well, that is not much short of the fabrications of Pytheas, Euhemerus and Antiphanes. But there is some excuse for them, as there is for jugglers and wonder workers – just that is their business; but what excuse could there be for Posidonius, philosopher and master of logical demonstration, and pretty well in contention for the highest honours? No, that is not good. [*v.* F49]

(reputation)

T47 (T17a Jac.) Strabo, I.2.1
But if I am compelled in places to oppose the very men whom elsewhere I follow above all, I should be forgiven. For it is not my purpose to oppose all writers, no, most can be ignored whom it is not even worth while following; but it

[7] But the Greek phrase οἱ ἐν τοῖς Π. is ambiguous. See Kidd, *Comm.* p. 37.

is my plan to investigate those whom we know to have been mostly right. For there is not even any point in arguing with everyone, but it is rewarding to do so with Eratosthenes and Posidonius and Hipparchus and Polybius and men like that.

(reputation)

T48 (T3 Jac.) Strabo, XVI.2.10

From here [i.e. Apameia] comes the Stoic Posidonius, the most learned philosopher in my time.

Strabo (use of Posidonius)

T49 Strabo, II.2.1

Context: These words introduce the section on Posidonius in Strabo's general introduction reviewing the most important writers on geography before himself. It is evidence that Strabo used Posidonius as a major source.

Let us have a look at what Posidonius too has to say in his book *On Ocean* ... (*v.* T76a) ... So it is not out of place to investigate some of his statements as well, some topics straight away, followed by scattered details when the occasion arises, always observing a kind of standard. [*v.* F49]

Vitruvius (influence)

T50 (T13 Jac.) Vitruvius, *De Architectura*, VIII.3.26–7

Context: Posidonius is only one 'authority' in an extremely heterogeneous list, and is notably absent from the Preface or body of Bk IX, concerned with astronomy and gnomonology, subjects where one would have expected the use of Posidonius.

Since nature has scattered such a variety of elements as this throughout unlike things – take the human body: it is partly earthy, but in it are many kinds of fluids, like blood, milk, sweat, urine, tears. So, if in a little bit of earthy stuff such variety of flavours is found, it is hardly to be wondered at if in the huge area of the earth is to be discovered a countless variety of juices, and the pressure of water coursing through their channels arrives impregnated by

them at the outlets of the springs; and it is for this reason that springs are rendered different in character and of a variety of individual types because of the difference of place, the characteristics of the region, and the varying peculiarities of the ground. Well, some of these matters I have observed for myself, the rest I found written in Greek works, the authors of which are the following: Theophrastus, Timaeus, Posidonius, Hegesias, Herodotus, Aristides and Metrodorus. They, with great concentration and infinite pains, clarified in their books how the individuality of the locality, the characteristics of the region, the quality of the water was so arranged by latitude. In their footsteps I have followed through in this book what I thought to be a sufficient account of the different kinds of water; my intention is to facilitate by my recommendations the choice of springs from which conduits could be led to discharge their waters for the use of cities and communities.

Athenaeus the Attalean, founder of the Animist medical school

T51 Galen, *De Causis Contentivis*, 2.1

Context: There has been controversy over the date of Athenaeus and the founding of the Pneumatist School of medicine, but Kudlien (*Hermes* 90 (1962), pp. 419ff.; *RE* Suppl. XI pp. 1097ff.) has argued that Galen's dating here may be right.

Athenaeus of Attaleia, the founder of the Pneumatist medical School, naturally spoke of a cohesive cause in illness, as he based himself on the Stoic School, for he was a disciple of Posidonius ... [*v.* F190]

1st c. A.D.: Seneca (reputation)

T52 Seneca, *Naturales Quaestiones*, IV.3.2

Context: The following testimony is somewhat ambivalent, which is not untypical of Seneca's use of Posidonius in *Naturales Quaestiones*.

Or I may follow the historians' practice when, after a string of lies to their own satisfaction, they are unwilling to guarantee some single point and add, 'the authority will be

found in my sources'.[8] So, if you have little trust in me, your guarantee is Posidonius, both for the past statement and for what follows. [*v.* F136]

T53 Seneca, *Epistulae*, 90, 20

There's Posidonius who, in my opinion, is among those who contributed most to philosophy ... [*v.* F284]

T54 Seneca, *Epistulae*, 33.3–4

Context: Seneca is discouraging the brandishing of purple patches or isolated maxims as typical of Epicureans who attribute them all to Epicurus. Stoics don't go in for such *sententiae*; anyway, to whom should they be attributed? Here Posidonius is on a par with Zeno, Cleanthes, Chrysippus and Panaetius.

So you needn't call on me for quotable extracts. Anything plucked from others runs right through my whole writing. Accordingly, we Stoics don't go in for eye-catchers. We don't hoodwink the customer into entering the shop and then finding nothing apart from what is displayed in the front window; we allow our readers to pick an illustration from wherever they please. Suppose we wanted to pick out from the crowd a particular mot: to whom should we credit it? To Zeno or Cleanthes? Or to Chrysippus or Panaetius or Posidonius? We Stoics are not ruled by a king; each is his own man.

T55 Seneca, *Epistulae*, 108.36–8

Context: The extract implies that not only for Seneca, but in general for the professional teaching of philosophy in his time, Posidonius was a major name in the lecture rooms.

In my judgement no-one deserves worse of all mankind than the man who teaches philosophy as some kind of commercial trade, and whose own life is conducted under different rules than the one he propounds ... Everything they say, everything that they toss before the listening mob belongs to someone else: Plato said that, Zeno said this; Chrysippus and Posidonius and a huge column of illus-

[8] Seneca here is quoting Sallust, *B. Jug.* 17.7.

trious names said it. How can they demonstrate that it is *theirs*? I'll show you: let them do what they say.

Pliny (reputation)

v. T36, Pliny, *Naturalis Historia*, VII.112
... Posidonius, the famous professor of philosophy ...

(use)

T56 (T19 Jac.) Pliny, *Naturalis Historia* (in Pliny's index of authors) I.2; 4; 6 (Foreign authors)
... Posidonius ...

I.11 (Foreign authors)
... Posidonius the Stoic ...

I.5 (Foreign authors)
Posidonius' *Circumnavigation* or *Geographical Tours*. [*v.* F50]

2nd/4th c. A.D.?: Cleomedes (influence)

T57 Cleomedes, *Meteora*, II.7.126

Context: These sentences conclude an elementary work on astronomy based on lectures originally given by a Cleomedes. Unfortunately, nothing is known of Cleomedes apart from this monograph, and he has been variously dated from the 2nd to 4th c. A.D.; Neugebauer (*HAMA* II.960), from astronomical evidence in the text, put him at 370 ± 50 A.D., but the dating remains speculative. In spite of the statement in the last sentence, Posidonius, although the chief, was only one of the sources used; others included his opponents. *v.* Frs. 19, 114, 115, 123, 202, 210.

Enough has been said about these matters for the present. These lectures do not comprise the opinions of the author himself, but have been gathered from works both ancient and more modern. The greater part of what has been said has been taken from the works of Posidonius.

Galen (influence)

T58 Galen, *De Sequela, Scripta Minora*, vol. II, pp. 77.17–78.2

Context: See F35.

It was precisely these points of Stoic philosophy that were criticised by Posidonius too, the most scientific of all the Stoics. He deserves greatest praise precisely where he is taken to task by all the other Stoics: they would have persuaded themselves to betray their country rather than the Stoic line; Posidonius preferred the truth to a Stoic dogma.

T59 Galen, *De Placitis Hippocratis et Platonis*, IV.390, p. 362.11–13 M, p. 258.23–5 De Lacy

Context: The context is psychology, and is probably restricted to that.

Well, Posidonius ... [*v.* T83, T99]... But all the other Stoics somehow or another put up with following the errors of Chrysippus, rather than choosing the truth.

Galen (reputation)

T60 Galen, *De Placitis Hippocratis et Platonis*, IV.402–3, p. 376.7–13 M, p. 270.3–8 De Lacy

Context: See F164.

Well, I can't give Posidonius any answer to his question, and I don't think anyone else will be able to either, if I may judge from the actual nature of the facts, and from contemporary Stoics. And yet contemporary Stoics of my time are not few, nor insignificant either, but I haven't heard a single one of them say anything convincing against the problems put forward by Posidonius.

Galen (use)

T61 Galen, *De Placitis Hippocratis et Platonis*, IV.427, p. 403.2–12 M, p. 290.20–7 De Lacy

Context T61–63: T61 comes at the summing-up passage at the end of Bk IV, and T62 occurs in the introduction to Bk V. T63 comes later in Bk V, where Galen decides to end the polemic against Chrysippus, and return to his main subject, Hippocrates and Plato. This bracketing reveals that Galen used Posidonius principally and extensively in Bks IV–V in relation to the criticism

of Chrysippus' *On Emotions*, and that it is likely that he had the complete work of Posidonius' *On Emotions* before him.

That is no doubt sufficient to indicate Chrysippus' mistaken statements about emotion in the mind and still more fundamentally the faculties which produce them; but nevertheless, I have decided to continue the discussion of them in Bk v, leaving aside most of his misstatements and concentrating only on those passages where he contradicts himself and has the nerve to make statements inconsistent with clearly observed fact; in this I shall mention still in addition Posidonius' criticisms of Chrysippus.

(use)

T62 Galen, *De Placitis Hippocratis et Platonis*, v.430, pp. 405.14–406.5 M, pp. 292.25–294.3 De Lacy

The most important of Posidonius' many statements in relation to proof of the old doctrine [i.e. Plato's], I tried to relate briefly at the end of the preceding book [Bk iv of the whole work]. In the earlier books [i.e. Bks i–iii], I gave my own account, without waiting for an external accuser, of the passages where Chrysippus is in conflict with clearly observed fact and of his self-contradictions.

(use)

T63 Galen, *De Placitis Hippocratis et Platonis*, v.479, pp. 459.15–460.3 M, p. 336.7–11 De Lacy

Chrysippus wrote four tomes [sc. *On Emotions*] of such a length that each of them is double one of mine; and yet it has taken me less even than two full books to examine directly his view on emotions, even with the inclusion of comments written by Posidonius on that same treatise.

(use)

T64 Galen, *De Placitis Hippocratis et Platonis*, vii.589, pp. 583.15–584.10 M, p. 430.7–16 De Lacy

Context: This passage, at the beginning of Bk VII, recalls the earlier attack on Chrysippus' *On Emotions* in Bks IV–V. Galen now turns through his psychology to the virtues in which he was probably following another book of Posidonius, possibly *On the Virtues*; *v.* Frs. 38, 182, 31.

I have prolonged my work not only with a critical attack on the arguments they have raised on a governing element of the mind but also on what Chrysippus wrote on the emotions of the mind [*SVF*, III.259], partly in his three volumes of *Notes on Logic* and partly in his book on *Moral Therapeutics*, together with showing too that he contradicts himself. I also mentioned Posidonius' works in which he praises the old account while criticising Chrysippus' errors on mental emotions and the difference between the virtues. For just as mental emotions are destroyed if the mind itself were only to consist of the rational element, without any desiring element or passionate element, so too all the rest of the virtues, apart from intellect, would be destroyed.

3rd c. A.D.*: Athenaeus*

Context: Posidonius is assumed as familiar reading in Athenaeus' salon. The only book quoted is the *History*, which can be cited by book number. But Athenaeus always refers to Posidonius as 'the Stoic' or 'the philosopher', never as 'the historian'.

T65a *v.* T80, Athenaeus, IV.151E

T65b Athenaeus, VI.233D
... says my Posidonius ... *v.* F240

T65c Athenaeus, VI.272F
The philosopher Posidonius, at any rate, whom you are continually bringing up ... [*v.* F262]

Diogenes Laertius

T66 Diogenes Laertius, *Index Parisinus gr.* 1759 *et Laurentianus* 69.13

Context: This is apparently a register of Stoic Lives for Bk VII of Diogenes.

In Bk VII, Zeno, Cleanthes, Chrysippus, Zeno of Tarsus, Diogenes, Apollodorus, Boethus, Mnesarchides, Mnasagoras, Nestor, Basilides, Dardanus, Antipater, Heraclides, Sosigenes, Panaetius, ⟨He⟩caton, Posidonius, Athenodorus, another Athenodorus, Antipater, Arius, Cornutus.

Porphyry and Eusebius Hieronymus

T67 Eusebius Hieronymus, *Commentarii in Danielem, Praefatio*, 622A–B (25, col. 516 Migne); *Corpus Christianorum* LXXVA.775

Context: It is virtually certain that Jerome had not himself read Posidonius (see F37), and it is likely that Posidonian information here derived from Porphyry, who probably did use Posidonius' *History*.

To understand the final parts of *Daniel*, a great variety of the works of Greek historians is necessary: Callinicus Sutorius, Diodorus, Hieronymus, Polybius, Posidonius, Claudius Theon, and Andronicus named Alipius. Those are the authors that Porphyry too says he followed.

4/5th c. A.D.: Macrobius

T68 Macrobius, *Commentarii in Ciceronis Somnium Scipionis*, I.15.7

Context: Macrobius' citations (Frs. 24, 116, 118, 130, 140) reveal that he did not know Posidonius first hand. Some information seems to have come from Porphyry's *Commentary on Timaeus*, but there were no doubt other sources. It is clear, however, that Posidonius' name and reputation were still very much alive in the early 5th c. A.D.

But Posidonius, whose definition [sc. of the Milky Way] most people agree with, says ... [*v.* F130]

5th c. A.D.: Augustine

T69 Augustine, *De Civitate Dei*, V.5

Context: Although Posidonius was still a great authority to Augustine, there is no evidence that he had read him. F111 appears to have culled his evidence from Cicero, probably the *De fato*. Astrology is Augustine's own context here.

... Posidonius a great astrologer and philosopher as well ... [*v.* F111]

5/6th c. A.D.: Boethius

T70 Boethius, *De Diis et Praesensionibus*, 20.77, p. 395

Context: The evidence is insufficient to show whether Boethius had read Posidonius or had simply gathered what information he needed from Cicero or elsewhere.

In a discussion of this kind of thing, the word of Posidonius and Julius Firmicus rules, or it may be one of the rest of the astrologers. [*v.* F112]

6th c. A.D.: Priscianus (through Arrian)

Context: Priscianus was a pupil of Damascius who, on Justinian's ban on pagan teaching, quit Athens and accepted an invitation c. 531 A.D. from King Chosroes I of Persia, but returned after peace between Rome and Persia. His 'Explanation of Problems for King Chosroes' survives only in a Latin translation of extreme barbarism. Posidonius was clearly recognised at this time as the main authority for the causal explanation of tidal behaviour; but Priscianus' knowledge seems to derive from Strabo's *Geography*, Geminus' *Commentary on Posidonius' Meteorology*, and Arrian's *Meteorology*.

T71 Priscianus Lydus, *Solutiones ad Chosroem*, VI, p. 69 Bywater

... But those who appear of all to have collected the causes of a natural effect like that are the Stoic philosopher Posidonius, the Assyrian,[9] and those who agree with him, whose opinion has the approval of Arrian. [*v.* F219]

Priscianus (through Geminus)

T72 Priscianus Lydus, *Solutiones ad Chosroem, Prooemium*, p. 42.8–11 Bywater

I also used what is useful to me from Strabo's *Geography*; also Albinus'[10] copies from the notes of Gaius on Platonic doctrines; and again from Geminus' *Commentary on Posidonius' Meteorology*.

[9] This is a mistake, not uncommon, for Syrian.

[10] Albinus is an emendation by Theiler for *Lavini* in the codd.

CHARACTERISTICS OF POSIDONIUS' PHILOSOPHY

SCIENCE AND ASTRONOMY

T73 Simplicius, *In Aristotelis Physica*, II.2 (193b23), p. 292.29–31 Diel

Context: Simplicius has just quoted a passage from Geminus' *Epitome of Posidonius' Meteorology*, correctly summarised as Posidonius' teaching on the distinction and relationship between natural philosophy and the science of astronomy. For content, see F18.

Well, that is actually the way that Geminus, or rather Posidonius through Geminus, presents the distinction between natural philosophy and astronomy, taking the starting points from Aristotle.

T74 Augustine, *De Civitate Dei*, v.2

Context: Augustine (F111) and Boethius (F112) show that Posidonius was regarded in their time as being devoted to astrology. But evidence is lacking that he believed in the strong sense where a life of a human being is determined by the influence of the position of the stars at birth. He probably believed the weaker position that the stars offer signs for the prediction of the future, and are part of the science of divination (*v.* Frs. 109, 110).

... Posidonius the Stoic, who was much interested in astrology ... Posidonius, or any other advocate of the influence of the stars on our fate ... [*v.* F111]

GEOGRAPHY

Geography and Philosophy

T75 Strabo, I.I.I

Context: At the very beginning of his *Geography*, Strabo defends the academic respectability of his subject.

The science of geography, which I now propose to investigate, is, I believe, no less than any other science, part of the business of the philosopher. There are many reasons that make clear that this is not a silly opinion. The first men who ventured to touch on it were, in fact, philosophers of a

kind: Homer, Anaximander of Miletus, and his fellow citizen Hecataeus – as indeed Eratosthenes says; then Democritus and Eudoxus and Dicaearchus, Ephorus and a large number of others; and again, their successors, Eratosthenes, Polybius and Posidonius, were philosophers. And breadth of learning, which is the only means possible for successfully approaching this work, is the property only of the man who surveys the fields of human and divine, and that, they say, is the science of philosophy. And in the same way too the utility of geography, and it is manifold in that it is not only related to matters of statesmanship and leadership, but also to knowledge of the heavens and, on land and sea, of the animals, plants, fruits and everything else it is possible to observe in each region, all this provides the tracery for the man who cares for the art of life, and so happiness, that is the philosopher.

Geography

T76a (T15a Jac.) Strabo, II.2.1

Context: These two fragments bracket the beginning and end of Strabo's general review of Posidonius' *On Ocean*, and warn the reader that Posidonian geography also contained material more properly regarded as mathematics and natural philosophy.

In his book [i.e. Posidonius' *On Ocean*] it seems that much of what he writes is geography, partly geography in the proper sense, partly more in the territory of mathematics.

T76b (T15b Jac.) Strabo, II.3.8

So much for Posidonius too; much of it will meet with suitable treatment under particular sections, that is, all that relates to geography; but anything that falls more under natural philosophy I must examine elsewhere, or not even bother to mention it. [T85 follows.]

Geography (characteristics)

T77 (T14 Jac.) Strabo, VIII.1.1

Context: Strabo classifies Posidonius' geographical work in the same category as Hipparchus, as being scientific rather than descriptive.

Since I set out from the western parts of Europe, all that is covered between the Inner and Outer Sea,[11] and made my tour of all the barbarian nations in it as far as the Tanais[12] and a minor bit of Greece, Macedonia, I shall now give my account of the geography of the rest of Greece. Homer was the first to treat of this, followed by a rather large number of others. Some wrote separate monographs titled *Harbours*, or *Coastal Voyages*, or *Tours*, or the like, in which Greece is included among the rest; others have written general histories, containing separate sections on the topography of the continents, as Ephorus did and Polybius; others attached some of these geographical topics as well to the field of natural philosophy and mathematics, like Posidonius and Hipparchus; the rest are easy to comment on, but Homer needs critical investigation ...

T78 (T16 Jac.) Strabo. x.3.5

Context: The progressive accuracy of geographical evidence.

If Ephorus is fallible like that, still he is better than others; and Polybius himself, who was so earnest in his praise of him and said that in Greek history Eudoxus was good but Ephorus was the best in his account of foundings of cities, kinships, migrations, founding fathers, says, 'But I shall make clear the up-to-date state of the facts both in topography and distances; for that is most germane for chorography.' That is all very well, but you yourself, Polybius, who coined the phrase 'popular statements' for their distances, not only with places outside Greece but in Greek topography as well, you yourself submit to correction from Posidonius, from Artemidorus and from a large number of others; ...

Geography (content)

T79a Strabo, I.1.9

Context: The acknowledged authority of Posidonius on tidal phenomena.

[11] That is, the Mediterranean and the Atlantic. [12] The Don.

For more extended arguments on the ocean and its tides, I refer the reader to Posidonius and to Athenodorus; they have sufficiently established the theory of that subject. [*v.* F214]

T79b Strabo, 1.3.12
On tidal ebb and flow, enough has been said by Posidonius and Athenodorus; however, on refluent currents of straits, which also involve theory relating more to natural philosophy than suits my present thesis, it is enough to say this much, that ... [*v.* F215; see F219]

HISTORY

History and philosophy

T80 (T12a Jac.) Athenaeus, IV.151E

Context: What follows in Athenaeus, an account of eating and drinking habits from Posidonius' Celtic ethnography, shows no connection or relation to any philosophy. Athenaeus' statement is nevertheless correct, although he clearly did not understand why. Posidonius thought that ethnography reveals the character and psychology of a people, and is a descriptive and aetiological key to their actions, and thus historical explanation; *v.* Kidd, 'Posidonius as Philosopher-Historian', *Philosophia Togata*, pp. 39–41.

Posidonius, the Stoic, in the *History* which he composed in a manner consonant to the philosophy he had adopted, in recording many habits and customs from many people, says ... [*v.* F67]

ETHICS

Ethics: scope

T81 Seneca, *Epistulae*, 104.21–4

Context: The Letter is prompted by Seneca, sick with fever, withdrawing into the country. He takes the opportunity to point out that a change of air will not make him better. Our maladies and passions are within us, and one cannot run away from them. Rather seek the better company of philosophers and philosophy, which is a practical guide.

If you want to strip yourself of vice, you must stand well back from patterns of vice. The miser, the swindler, the bully, the cheat who would have done you great harm if they had been by your side, are *inside* you. Move over to better company: live with the Catos, with Laelius, with Tubero; or if you hanker to live with the Greeks too, spend your time with Socrates, with Zeno; the former will teach you how to die if you have to, the latter [*SVF*, 1.258] before you have to. Live with Chrysippus, with Posidonius. They will impart to you the knowledge of things human and divine; they will instruct you to go into action, not merely to talk smart and toss off words for the delectation of an audience, but to steel your spirit and raise it up against what threatens. You see, the only port of salvation in the turmoil and storms of this life is not to fear what will happen, but to stand with fortitude, four-square and prepared to meet the arrows of fate, not skulking or back-turned. Nature has given us a mind for great things, and where for some animals her gift was ferocity, for others cunning, and for others timidity, we have been given a proud and lofty spirit which seeks not where we may most safely live, but where we may live most morally. This spirit is most like the universe, which it strives to follow, as far as human steps may take it; it displays itself, confident of commendation and esteem. It is master of all, above all; and so it bends the knee to nothing, nothing seems oppressive to it, nothing to bow down a man. [See T54]

T82 Seneca, *Epistulae*, 121.1

Context: The problem which has just been raised before this fragment opens is whether all animals are conscious of their own natural constitution, which Lucilius might think has nothing to do with morality. But ethics is wider than he thinks: you only understand what to do and avoid, when you have learnt what you owe to your own nature. For the relevance of animals, see F159.

You will have the law on me, I can see, when I expound for you today's little problem which has been causing per-

plexity for long enough; again you'll shout, 'What has that got to do with morality?' But shout away while I first produce against you others you can take to law – Posidonius and Archedemus; they will take up your challenge.

GENERAL CHARACTERISTICS AND METHODS

T83 Galen, *De Placitis Hippocratis et Platonis*, IV.390, p. 362.5–9 M, p. 258.19–22 De Lacy

Context: Galen is clearly referring to axiomatic deduction as typical of mathematical methodology. For the importance of this for Posidonian methodology, *v.* Kidd, 'Posidonius and Logic', pp. 277–82.

Posidonius, because in my opinion he had been trained in geometry and was accustomed to follow demonstrative proof more than any other Stoic, was ashamed of the conflict with evident facts and the self-contradiction to be found in Chrysippus ... [T99 and T59 follow]

Mathematics

T84 Galen, *De Placitis Hippocratis et Platonis*, VIII.652, pp. 653.14f. M, pp. 482.33ff. De Lacy

... Posidonius, the most scientific of the Stoics because he had been trained in geometry, abandoned Chrysippus and shows ... [*v.* F32]

Demonstrative proof

v. T46, Strabo II.3.5

... philosopher and master of demonstrative proof ...

Enquiry into causes

T85 (T15b Jac.) Strabo, II.3.8

Context: This comes at the end of Strabo's general survey of Posidonius as a geographer (II.2–3). Strabo says that geographical details from Posidonius' *On Ocean* will receive his attention throughout his later account, but that what relates more to natural philosophy will be dealt with elsewhere; then comes the sentence

below. So 'enquiry into causes' is specifically connected with natural philosophy, and criticised in Posidonius as intruding into other disciplines like geography.

For there is much enquiry into causes in him, that is, 'Aristotelising', a thing which our School[13] sheers off from because of the concealment of causes. [See F18]

Facts

v. T26, Priscianus Lydus, *Solutiones ad Chosroem*, p. 72.10–12 Bywater

So Posidonius, the Stoic, seeking out the causes of these things, inasmuch as he became a personal investigator of this kind of reflux, noticed that the moon was the cause rather, not the sun.

Orrery

T86 Cicero, *De Natura Deorum*, II.88

Context: Cicero, arguing for the providential government of the world, uses the old art/nature analogy. More famous planetaria were those of Archimedes (Cic. *Rep.* I.21f.), but that of Posidonius was a more recent example.

Suppose some traveller took to Scythia or to Britain[14] the orrery recently constructed by my friend Posidonius, that displays in each revolution the positions in the heavens of sun, moon and five planets for each separate day and night; who even in that uncivilised corner would doubt that that orrery was the product of a rational being?

Quotation; 'indication'

T87 Galen, *De Placitis Hippocratis et Platonis*, V.502, p. 487.3–10 M, pp. 356.28–358.3 De Lacy

Context: See F156. The comment arose from criticism of the use of quotation by Chrysippus, who was notorious for the quantity of his quotations (Diogenes Laertius VII.180–1). This leads to the examination of the proper function of quotation in argument.

[13] The Stoics. [14] I.e. the barbaric limits of the civilised world.

Quotation should not be used at the beginning of an argument, but only when you have adequately proved what you set out to prove, *then* it is unobjectionable to call in an older generation as witness; and not on subjects utterly obscure but for evident facts, or for things the indication of which lies close to sense perception; an example is mental emotions: they don't need long arguments nor more rigorous demonstrative proofs either; all they need is a reminder of what we experience on each occasion, as Posidonius too said.

Conjecture

T88 Strabo, VII.3.2

Context: Here and elsewhere, Strabo appears to stress deliberately guarded statements on the part of Posidonius on the strength of certain hypotheses from evidence. For example, in F217 Posidonius is reported by means of this term 'conjectures', as distinguishing scrupulously between autopsy, reported information and consequent hypothesis with regard to the analysis and theory of tidal cycles.

In my opinion, Posidonius was right to conjecture that Homer referred to the European Mysians (the ones in Thrace, I mean) when he says, 'Zeus turned back his shining eyes, looking away over the land of the horse-riding Thracians and the close-fighting Mysians' [*Iliad* XIII.3–5]. [*v.* F277; For 'conjecture', see also Frs. 49.303; 216.11; 217.51, 64; 272.32; 280.19. See also F204 and F49.20]

Etymology

T89 Strabo, I.2.34

Context: Posidonius merely follows the Stoic belief (see F102) that the linguistic form of a word gave some natural indication of its true meaning, explanation or reference.

I would think that Posidonius' view is best, here as elsewhere etymologising from the kinship and common element of the peoples. [*v.* F280; For etymology see also Frs. 24; 102; 192; 193; 233; 272; 277a]

RELATION TO OTHER PHILOSOPHERS

Stoic

Context: In spite of repeated modern attempts to impute heterodoxy to Posidonius, he was invariably reported in the ancient world as a Stoic without qualification.

T90 'The Stoic' e.g.: Frs. 51; 55; 58; 60; 67; 70; 80; 93; 111

Plato, Zeno, Cleanthes, Pythagoras

T91 Galen, *De Placitis Hippocratis et Platonis*, v.478, pp. 458.9–459.5 M, p. 334.23–33 De Lacy

Context: The explanation of emotions; *v.* F151.

My opposition to Chrysippus was demanded by my plan; and if Zeno favoured the same positions as Chrysippus, he will stand subject to the same criticisms, whereas if he followed Plato's principles and starting points, roughly the same as Cleanthes and Posidonius, he would in that case be a partner in our philosophy; but if, and I believe this to be the case, he thought that emotions supervene on judgements, then he would be in the middle between the worst view on them, that of Chrysippus, and the best, which Hippocrates and Plato were the first of all to pursue. Posidonius adds Pythagoras, but since no work of Pythagoras has survived to our time, he infers this from the written work of some of his pupils. [*v.* F151]

Cleanthes

T92 Galen, *De Placitis Hippocratis et Platonis*, VIII.653, p. 654.2 M, p. 484.3–4 De Lacy

Context: In criticism against Chrysippus' psychology, Galen offers Posidonius' view that we are governed by three distinct powers or faculties, the desiring, spirited and rational: F32.

Posidonius pointed out that Cleanthes too held the same opinion [sc. as himself, on faculties of mind].

Chrysippus

T93 Galen, *De Placitis Hippocratis et Platonis*, v.475, pp. 455.16–456.4 M, p. 332.18–22 De Lacy

Context: The reasons why emotions abate in time: F166.

On such matters Chrysippus was stuck, because he was unable to refer their causes to an emotional faculty of mind; and on top of that – and Posidonius shows this too in what comes next – he is in disagreement not only with observed fact, but with Zeno and Cleanthes too.

T94 Galen, *De Placitis Hippocratis et Platonis*, v.434, p. 410.14 M, pp. 296.27f. De Lacy

Context: F163.

Still, my opinion is that Posidonius was careful not to be caught out disagreeing with Chrysippus in everything.

Pythagoras, Plato, Aristotle

T95 Galen, *De Placitis Hippocratis et Platonis*, IV.425, p. 401.11–15 M, p. 290.1–5 De Lacy

Context: Criticism of Chrysippus on causes of emotions rising and abating, faculties of soul, the conflict of reason and emotions, and the treatment of emotions by habituation: F165

Not only Aristotle and Plato held such views, but still earlier there were others, and in particular Pythagoras; Posidonius too says that he, Pythagoras, was the first to hold the view, while it was Plato who worked it out and made it more complete.

Plato and Aristotle

T96 Galen, *De Placitis Hippocratis et Platonis*, v.481, pp. 462.12–463.6 M, p. 338.11–18 De Lacy

Context: Galen is discussing Plato, *Rep.* IV, and is concerned to show the basic similarity in psychology of Posidonius, Plato and Aristotle against Chrysippus, while still recognising differences of detail: Frs. 144, 183. See also Frs. 142, 143, 145, 146.

For Plato's set purpose in *Republic* concerning justice and the other virtues, all of which he discusses in what follows, it was sufficient to have shown that there were three faculties of mind distinct in kind. To that extent at least, Posidonius took him up and departed from Chrysippus, and preferred to follow Aristotle and Plato more. I added that 'more' because on individual points the three men are found to disagree to some extent on the difference of the virtues, but on the whole they agree with each other.

Plato

T97 Galen, *De Placitis Hippocratis et Platonis*, IV.421, pp. 396.15–397.5 M, pp. 284.33–286.4 De Lacy

Context: The subject is the treatment of emotions, to prevent them rising, and healing them once they occur: F165.

And yet Plato too has written wonderfully well on that, as Posidonius points out as well; he admires Plato, calls him divine, and respects his philosophy on the emotions and mental faculties, and all he has written on preventing emotions rising in the first place, and once they had occurred, their quickest means of stopping.

T98 Galen, *De Placitis Hippocratis et Platonis*, V.429, p. 405.9–11 M, p. 292.20–2 De Lacy

Context: The explanation of the nature and origin of emotions: F152, F151.

... Posidonius disagreed with both [Chrysippus and Zeno], and both praises and attaches himself to the doctrine of Plato ...

T99 Galen, *De Placitis Hippocratis et Platonis*, IV.390, p. 362.9–11 M, p. 258.19–23 De Lacy

Context: T83.

Well, Posidonius ... T83 ... tries to move not only himself towards the Platonists, but Zeno of Citium as well.

Aristotle and Theophrastus

T100 Simplicius, *In Aristotelis De Caelo*, IV.3, 310b1

Context: Division and classification of the elements: F93. There is a similar statement by Simplicius (T43, T73, F18) concerning the distinction and relationship between natural philosophy and science. The information comes through Alexander of Aprodisias. Contrast, however, F49.17ff; F220.

This [division of the elements, *v.* F93] Posidonius took over from them [Aristotle and Theophrastus], and applies everywhere.

v. T85, Strabo II.3.8 ... 'Aristotelising' ...

The 'Old Authorities'

Context: Galen frequently refers to Posidonius' enthusiasm for 'the old authorities'. It marks a strong historical sense in Posidonius of the development of philosophical ideas and theories, in which the understanding of earlier theories could contribute to one's own development of problems.

T101 Galen, *De Placitis Hippocratis et Platonis*, IV.420, pp. 395.11–396.3 M, p. 284.18–24 De Lacy

Well, Chrysippus himself admits that emotions cease in time even though the opinion persists, but the explanation of the cause of this happening, he says, is hard to reason out. He then goes on to write about other occurrences of a like nature, and again, to no one's surprise, he confesses that he does not know their cause either. But not so Posidonius, Chrysippus; he doesn't say that he is ignorant of the causes or explanations of such things, but praises and accepts the account of the old authorities, which I shall give in due order. [*v.* F165; see also Frs. 222; 158; 182.]

T102 Galen, *De Placitis Hippocratis et Platonis*, IV.377, p. 348.16 M, p. 248.6 De Lacy

... following the old account in every respect ... [See also Frs. 34; 157]

v. T62, Galen, *De Placitis Hippocratis et Platonis*, v.430, pp. 405.14f. M, pp. 292.25f. De Lacy
Of Posidonius' many statements in relation to proof of the old doctrine ...

STYLE

T103 (T18 Jac.) Strabo, III.2.9

Context: Posidonius, in his account of the richness of Spain's mineral wealth, matches the subject with his highly coloured style. But Strabo suggests that he is noted in general for such rhetorical flamboyance: F239. See T34; T106.

Posidonius, in his praise of the quantity and quality of the mines, doesn't hold back from his customary rhetorical style, no, he really lets himself go in extravagant language ... Such were the remarks he has made about them in ripe figurative style, as if it were from a mine that he too was excavating his speech in abundance ... So that's the gist of what Posidonius had to say on the mines.

T104 Galen, *De Placitis Hippocratis et Platonis*, IV.399, p. 372.12–13 M, p. 266.22–3 De Lacy

Context: Galen breaks off in the middle of an account of Posidonian criticism of Chrysippus on emotions, with the following remark on supporting quotations, which Galen does not bother to quote: F164. Although Posidonius was clearly fond of using quotations to enliven and give point to his arguments (e.g. 'sleepless Agamemnon' later in F164), he was strict in defining their function: *v.* T87 (F156).

Posidonius went on at this point to offer quotations from the poets and historical accounts of ancient exploits as witnesses in support of his arguments.

T105 Strabo III.4.13

Context: Posidonius made fun of Polybius with a witty simile: F271. For his wit and sardonic humour, see the tale of Nicias of Engyium (F257), and for his addiction to similes, see Frs. 34.19; 88; 108.8; 114; 149.10; 166.11ff; 200–1; 230; 253.168.

Posidonius made fun of Polybius for saying that Tiberius Gracchus destroyed three hundred of their cities.[15] That, says Posidonius, is flattery of Gracchus; he is calling fortified towers cities – it's just like a triumphal procession!

v. T38, Cicero, *Tusculanae Disputationes*, II.61

And so Pompey used to tell how Posidonius had lectured with weight and fluency.

T106 Seneca, *Epistulae*, 90.20–3

Context: Seneca is being sarcastic in his criticism of Posidonius' Golden Age theories: F284. Seneca himself, of course, is using this criticism rhetorically.

It's beyond belief, my dear Lucilius, how easily the charm of eloquence seduces even great men from the truth. Look at Posidonius ... when he wants to describe first of all how ... Then he moves to farming and with no less eloquence describes how ... He wasn't far away from declaring that even the cobbler's trade was an invention of philosophy.

v. T34, Cicero, *Ad Atticum*, II.1.2

Context: A clear tribute from Cicero on the ornate character of Posidonius' style.

T107 Cicero, *De Officiis*, I.159

Context: Cicero is arguing that in choice of appropriate acts (*officia*), primacy should be given to duties of society. But there are some acts so vile that the wise man would not do them even to save his country. Cicero claims to be shocked that Posidonius even wrote down a collection of such foul acts: F177. It is highly doubtful that Cicero had ever set eyes on such a collection. Nevertheless, Posidonius was perfectly capable of deliberately vulgar language in indignant invective, as in his scathing picture of Athenion 'farting' around Attica (F253).

Posidonius made a very large collection of such acts, but some are so foul, so indecent, that it seems disgusting even to say them.

[15] In Spain.

TESTIMONIA DOUBTFULLY OR MISTAKENLY ASCRIBED TO POSIDONIUS

T108 *IG*, XII.1. no. 127

Context: Unfortunately, there is no other evidence to support the possibility that the inscription refers to Posidonius himself (H.v. Gaertringen, *RE* Suppl. v, Rhodos, col. 801; Laffranque, *Poseidonios d'Apamée* 71), or to a son of his (Theiler, *Poseidonios* II.3; see T40); and Posidonius was a common name.

Under the presidency of Satyrus of Ephesus, who had been given right of residence, the tribe Nikasioneis won; chief officer: Zenodotus, son of Satyrus of Ephesus; superintendent of training: Demetrius, son of Demetrius of Rhodes.

Under the presidency of Metrodorus of Tenos, the tribe Nikasioneis won; chief officer: Dorion of Antioch; superintendent of training: Posidonius, son of Posidonius of Rhodes.

Posidonius, Aristarchus' reciter

Context: This is certainly not our Posidonius. The term 'reciter' (ἀναγνώστης) refers to a specific office, that of a slave in wealthy intellectual households, whose duty was to read aloud for his master. T109, T110 sound like learned anecdotes.

T109 Eustathius, *Commentarii ad Homeri Iliadem*, VI.511
Some people say that Aristarchus' reciter Posidonius said 'rimphaë' [ῥίμφαε] in one trisyllabic word,[16] the 'e' being redundant says he, as in the line: ἠὲ [ee] σὺ τόνδε δέδεξο.

T110 Eustathius, *Commentarii ad Homeri Iliadem*, XVII.75
Posidonius, they say, Aristarchus' reciter, spoke the line like this: σὺ μὲν ὧδε θέεις ἀκίχητα· ειτα διώκων ἵππους

[16] This was a plain mistake. In *Iliad* VI. 511 it is two separate words: rimpha he (ῥίμφα ἑ).

Αἰακίδαο [su men hode theeis akicheta; eta diokon hippous Aiakidao];[17] and Aristarchus accepted it.

T111 Scholia Graeca in *Homeri Iliadem*, XXII.325

Context: The note refers to Homer's line: 'the throat, where destruction of the soul (i.e. life) comes most swiftly', describing Hector's throat exposed to Achilles' attack. Praxagoras is the famous anatomist of the second half of the 4th c. B.C. and the reference is to his *Anatomy*; so it is possible that the Posidonius coupled with him may be another physician [see T114]. But Cicero, describing in *ND* II.136 the providential structure of the human body, has a similar remark to that given for Posidonius here; so Posidonius of Apamea could be the author.

And yet Homer knows that the soul is immortal. So now he is talking of its disappearance and its parting from the body. And Praxagoras ... says ... and Posidonius says that in the passage of food the windpipe is protected by the epiglottis.

Medical references

(On the relevance of T112–14 to Posidonius of Apamea, see F. Kudlien, Hermes 90 (1962), 419ff.)

T112, Apollonius Citiensis, *De Articulis* I *CMG* XI.I.I, p. 12.1–5

Context: Apollonius of Citium was an Alexandrian physician of the middle of the 1st c. B.C. He gives his credentials in the introduction of his commentary on Hippocrates' *On Joints* addressed to Ptolemy. Zopyrus was a physician at Alexandria of the Empirical School, c. 100 B.C. famed for pharmacology and surgery. Apollonius could well have known Posidonius; but the implied close association of Posidonius of Apamea with Zopyrus in technical surgery is unlikely.

... on reduction of limbs, some I set myself, others I observed when I attended Zopyrus in Alexandria. And that he in the case of fractures and the surgery of dislocations for the most part followed the treatment of Hippocrates, Posidonius, who had spent time with this same doctor, would bear witness for us.

[17] He repeated, by mistake, the two syllables 'eta'.

T113 Oribasius, *Collectiones Medicae*, XLIV.14.2 (*CMG* VI.2.1, p. 132.4–11 Raeder)

Context: This fragment on bubonic plague, in Oribasius' *Medical Compendium*, derives from Rufus of Ephesus, of the time of Trajan. The identities of both Dioscurides and Posidonius are uncertain. Kudlien (*Hermes* 90 (1962), pp. 428f.) argued for Dioscurides Phakas (*RE* v (10), pp. 1129f.), who lived at Alexandria at the time of Cleopatra and Antony, was in good standing with Ptolemy Auletes, and left twenty-four books on medicine. *If* this were correct, it would not be unreasonable to suppose that the Posidonius coupled with him for an account of a contemporary outbreak of bubonic plague in Libya was Posidonius of Apamea, for such an event would have interested him as historian and scientist. But the account seems professionally medical.

Dioscurides and Posidonius have given most details in the work on the plague that occurred in Libya in their time; they said it was attended with a sharp fever and severe pain, disturbance of the whole body, delirium, outbreaks of great hard swellings without suppuration, not only in the usual places but in the hams and at the elbows, and yet without inflammation of that kind occurring altogether here.

T114a Aetius Amidenus (Medicus) 6.2ff. (*CMG*, VIII.2, p. 125.4ff. Olivieri)

Context: Aetius' *Iatrica* is dated in the first half of the 6th c. A.D. In the first half of Bk 6, a Posidonius is frequently mentioned as an authority for mental disorders. Kudlien (*Hermes* 90 (1962), pp. 422ff.) argued for Posidonius of Apamea. But the context and medical detail of Aetius' account, where Posidonius is named as a chief medical authority for medical disorders, is against such a reconstruction. H. Flashar (*Melancholie und Melancholiker*, pp. 118–26) is more plausible in suggesting the physician Posidonius of the second half of the 4th c. A.D. mentioned by Philostorgius as his contemporary (*Hist. Eccl.* VIII.10).

On phrenitis from the works of Posidonius [6.2, pp. 125.4ff.] ... On lethargic fever from Archigenes and Posidonius [6.3, pp. 128.6ff.] ... On catalepsy and seizures from Archigenes and Posidonius [6.4, pp. 131.16ff.] ...

On torpor, Posidonius [6.5, pp. 133.10ff.] ... On coma from Posidonius [6.6, pp. 133.22ff.] ... On dizziness from Archigenes and Posidonius [6.7, pp. 134.11ff.] ... On madness from Archigenes and Posidonius [6.8, pp. 136.18ff.] ... On atrabiliousness from Galen and Rufus and Posidonius [6.9, pp. 141.11ff.] ... On nightmares, Posidonius [6.12, pp. 152.13ff.] ... On dementia and delirium, Posidonius [6.22, pp. 159.29ff.] ... On rabies and hydrophobia from Rufus and Posidonius [6.24, pp. 163.31ff.]. [See also 6.13–21, pp. 153.3ff.]

T114b Abu 'l-'Abbas, Ahmad b. al-Qasim b. Khalifah b. Yunus (ibn abi Usaibi'ah), *'Uyun al-Anba' fi Tabaqat al-Atibba'*, ed. Nizar Rida, p. 566.

Context: In this celebrated biographical dictionary (13th c. A.D.) of the lives and works of the most famous physicians, there is a reference to Abu 'l-Hasan, 'Ali b. Ridwan b. 'Ali b. Ja'far of Egypt (11th c. A.D.), court physician to the Fatimid caliph al-Hakim. We have no means of establishing which Posidonius is referred to.

Ali is stated to have composed a *ta'liq*, a supplement to a medical treatise by Posidonius entitled 'Delicious potions for healthy persons'.

T115 *Anthologia Latina*, XLIII.547 (*Poetae Latini Minores*, IV, p. 440 Baehrens)

Context: This is certainly not Posidonius of Apamea. He was not a poet, minor or otherwise, and if he had written poetry, it would not have been in Latin.

Possidonius

Hic specular renitens fert et crystallina mira (a line of Latin poetry).

PART II
FRAGMENTS AND TITLES OF NAMED BOOKS

Exhortations: Frs. 1–3

Physics

Natural Philosophy (Bks I, II, V, VI, VIII): Frs. 4–12
On the Cosmos (Bk I): F13
Meteorology (*Elementary Treatise*): Frs. 14, 15
Meteorological Phenomena (Bks V, VII): Frs. 16, 17
Meteorology: F18
On the Size of the Sun: F19
On Gods (Bks I, III(?), V): Frs. 20–23
On Heroes and Daimons: F24
On Fate (Bk II): F25
On Divination (Bk V): Frs. 26, 27
On Soul (Bk III): F28

Ethics

Ethics (Bk I): F29
On Emotions (Bk I ...): Frs. 30–35
On Anger (Bk I): F36
On Relieving Grief: F37
On the Virtues (?): F38
On Appropriate Action (Bk I ...): Frs. 39–41

Logic

On Criterion: F42
On General Enquiry against Hermagoras: F43
Introduction to Style: F44
On Conjunctions: F45

Sciences and history

Against Zeno of Sidon (?): Frs. 46, 47
On the Comparison of Aratus and Homer on Mathematics: F48
On Ocean: F49
Circumnavigation or *Geographical Tours*: F50
History (Bks II, III, IV, V, VII, VIII, XI, XIV, XVI, XXII, XXIII, XXVII, XXVIII, XXX, XXXIV, XXXVI, XLVII, XLIX): Frs. 51–78
Investigation or *Monograph on Pompey* (?): F79
Handbook on Tactics: Frs. 80, 81

Letters

Frs. 82, 83

Fragments doubtfully or mistakenly ascribed to Posidonius

On Void: F84
Commentary on Plato's Timaeus: F85
Discourse with Tubero: F86a
On Augury: F86b
Commentary on Plato's Phaedrus: F86c
Commentary on Plato's Parmenides: F86d
Historical Monograph on Marcellus: F86e

'EXHORTATIONS'

Disagreement as no reason for abandoning philosophy

1 Diogenes Laertius, VII.129

Context: In the middle of a miscellany of Stoic tenets. Diogenes records it as a general Stoic conviction, but takes his reference from Posidonius.

The Stoics think that disagreement is no reason for standing aloof from philosophy, for on that reasoning one would abandon one's whole life. Posidonius makes this point in *Exhortations*.

Virtue can be taught

2 Diogenes Laertius, VII.91

Context: Preceded by F29 and followed by F180. The view was held by all Stoics.

That it is teachable, I mean virtue, is stated by Chrysippus in Bk 1 of *On the End* [*SVF*, III.223] and by Cleanthes [*SVF*, I.567], and by Posidonius in his *Exhortations*, and by Hecaton [8 G]; that it is capable of being taught is obvious from the fact that people become good from being bad ⟨in being taught⟩.[1]

3 Theonis Epistula ad Heraclidem (Papyrus Milanensis, I.11), l.17 (Pack 2093)

Context: In an Oxyrhynchus papyrus of the time of Hadrian, a list of book titles offered by Theon to Heracleides.

Posidonius, *On Exhortation*, 3 books.

PHYSICS

'NATURAL PHILOSOPHY'

Bk I

Cosmos is one

4 Diogenes Laertius, VII.143

Context: Curiously this comes as a kind of addendum at the end of Diogenes' section on the cosmos (§§137–143), in which Posi-

[1] The addition is a suggestion by Sandbach.

donius features prominently. This fragment is preceded by F99a, and followed by Diogenes' account of the heavenly bodies, where the first reference is F17. See also Frs. 13, 14, 20, 21, 23, 99a for cosmos.

That the universe is one is stated by Zeno in his *On the Whole* [*SVF*, I.97], by Chrysippus [*SVF*, II.531], by Apollodorus in his *Physics* [*SVF*, III. Apollod. 11], and by Posidonius in Bk I of *Natural Philosophy*.

Bk II

Principles

5 Diogenes Laertius, VII.134

Context: Immediately after Diogenes' classification of the topics of Stoic physical philosophy. A passage on 'body' follows, to which is attached F16. It is noticeable that in an unusually full bibliography, Posidonius is cited as an authority for standard Stoic doctrine. But for the textual variations, see Kidd, *Comm.* 105–7. For the prominence of Posidonius in Diogenes' section on physical philosophy and the universe, see F99a Context.

It is the Stoics' opinion that there are two principles of all that there is, the active and the passive. The passive principle is unqualified substance, that is, matter; the active is the rational organisation in matter, namely god; for the latter, being eternal, fashions through the whole of matter each separate thing. This view is laid down by Zeno of Citium in *On Substance* [*SVF*, I.85], by Cleanthes in *On Indivisibles* [*SVF*, I.493], by Chrysippus near the end of Bk I of *Physics* [*SVF*, II.300], by Archedemus in *On Elements* [*SVF*, III. Arch. 12], and by Posidonius in *Natural Philosophy*, Bk II. They say[2] that principles are different from elements. Principles are not subject to generation or destruction; elements are destroyed in the conflagration. But also principles are bodies[3] and without form; elements are enformed.

[2] Or 'he says' according to cod. F before correction.

[3] So the codices; the *Suda* reads 'incorporeal'. See Kidd *Comm.* pp. 105f.

Void

6 Diogenes Laertius, VII.140

Context: In the middle of an extended report by Diogenes on the Stoic cosmos or universe. See also Frs. 97 and 98.

Chrysippus refers to void in his book *On Void* and in the first book of *Physical Sciences* [*SVF*, II.543], and Apollophanes does so in his *Physics* [*SVF*, I.404], and so does Apollodorus [*SVF*, III. Apollod. 5], and Posidonius in Bk II of *Natural Philosophy*.

Divination

7 Diogenes Laertius, VII.149

Context: Diogenes' presentation (§§148–9) deals in order with god (F20), nature, fate (F25) and divination, which follows from the establishment of the first three as different aspects of providence. So Posidonius justified the existence of divination by the triad of god, fate and nature (*v.* Frs. 107, 103).

What is more, Stoics say that divination exists in all its forms if it is true that providence exists; and they prove it to be a science as well through its results. This is stated by Zeno [*SVF*, I.174] and by Chrysippus in Bk II of *On Divination* [*SVF*, II.1191], and by Athenodorus, and Posidonius in Bk II of *Natural Philosophy* ... [F27 follows]

Bk V

Cosmos

8 Diogenes Laertius, VII.140

Context: F23 precedes and F6 follows. For the prominence of Posidonius in Diogenes' account of cosmos, see F99a Context. Other Frs. on cosmos: 4, 13, 14, 20, 21, 23, 99a.

The Stoics say that the universe is one, and this is finite, with a spherical shape; for such a shape is most suitable for its movement, as Posidonius says in *Natural Philosophy*, Bk V, and Antipater and his circle in the books *On Cosmos* [*SVF*, III. Antip. 43].

Bk VI

Sun

9 Diogenes Laertius, VII.144

Context: Preceded by F17. See also Frs. 18; 114–121.

... and that the sun is larger than the earth, as is stated by the same author [Posidonius] in Bk VI of *Natural Philosophy*; ... and that it is larger is shown by the fact that the whole of earth is illuminated by it, indeed heaven too. And the fact that the earth casts a conical shadow indicates that the sun is larger; and it is seen from everywhere because of its size.

Moon

10 Diogenes Laertius, VII.145

Context: See also Frs. 122–126.

The moon is nourished from fresh water, as it is a mixture of air and fire and near the earth, as Posidonius says in Bk VI of *Natural Philosophy*.

Bk VIII

Snow

11 Diogenes Laertius, VII.153

Context: Diogenes' account of Stoic meteorology in §§152–4 seems from mixed origins: Kidd, *Comm.* pp. 114f. See F136, which leaves in doubt whether the definition of hail here is Posidonian.

Hail is frozen cloud, broken up into bits by wind. Snow is liquid from a frozen cloud, as Posidonius maintains in Bk VIII of *Natural Philosophy*.

Earthquakes

12 Diogenes Laertius, VII.154

Context: §154 examines the meteorological phenomena of wind, or air in motion. See also Frs. 230–3; Strabo II.3.6 (F49); Seneca, *Nat. Qu.* II.1.

Hurricane is a cloud rent all round by fire and wind. ⟨Earthquakes occur through the penetration of wind⟩[4]

[4] The lacuna was filled thus by v. d. Mühll.

into the hollows of the earth, or when wind is shut up in the earth, as Posidonius says in the eighth book.[5] Of earthquakes he distinguishes quakers, gapers, horizontal tiltings, and vertical shocks.[6]

'ON THE COSMOS'

Bk I

Generation and destruction of cosmos

13 Diogenes Laertius, VII.142

Context: Since this passage is immediately preceded by arguments for the destruction of the cosmos and by an account of its generation, and immediately followed by the statement 'But Panaetius declared that the universe is indestructible', it should follow that Posidonius, with the others in the list, believed the universe to be destructible; this is supported by F97.

The generation and destruction of the cosmos are discussed by Zeno in *On the Whole* [*SVF*, I.102], by Chrysippus in Bk I of the *Physics* [*SVF*, II.581], by Posidonius in *On the Cosmos*, Bk I, by Cleanthes, and by Antipater in his *On the Cosmos* [*SVF*, III. Antip. 45].

'METEOROLOGY (ELEMENTARY TREATISE)'

Cosmos

14 Diogenes Laertius, VII.138

Context: This passage occurs near the beginning of Diogenes' report on the cosmos (for which see the Context of Frs. 4, 5, 99a for the prominence of Posidonius), after an initial tripartition of senses or usages of 'cosmos'. It is succeeded by a sentence on 'heaven', after which comes F21.

[5] The name of the book is missing, but *Natural Philosophy* is a likely possibility.
[6] For the classification, see Kidd, *Comm.* pp. 817f.

Cosmos is the individually qualified being of the substance of the whole, or, as Posidonius says in the *Meteorology* (the elementary treatise), a systematic compound composed from heaven and earth and the natural constitutions in them, or a systematic compound composed from gods and men and what has come into being for their sake.

Rainbow

15 Diogenes Laertius, VII.152

Context: This is in the middle of a succession of Stoic definitions of meteorological phenomena: winds, rainbow, comets. For Posidonius' theory of rainbow, see F134.

Rainbow, Stoics say, is the reflection of the sun's rays from watery clouds, or, as Posidonius says in *Meteorology*, an appearance in reflection of a section of sun or moon in a dewy cloud that is hollow and continuous in appearance, the impression being revealed as in a mirror in the form of an arc of a circle.

'METEOROLOGICAL PHENOMENA'

Bk V

Surface

16 Diogenes Laertius, VII.135

Context: Occurs in a section dealing with 'body', immediately after 'body' is defined as three-dimensional extension, and so solid body. So Stoics thought that mathematical limits, like surface, were not corporeal but merely conceptual. Therefore Posidonius' suggestion here is heretical. See Frs. 196; 92; 141a. This fragment recurs in the Suda s.v. ἐπιφάνεια (surface), but without reference to Posidonius.

Plane surface is the limit of body, or that which has length and breadth only, but not depth. This [i.e. surface] was admitted by Posidonius in *Meteorological Phenomena*, Bk v, to exist both in thought and reality.

Bk VII

Sun

17 Diogenes Laertius, VII.144

Context: See F9.

Sun is stated to be pure fire, as Posidonius says in the seventh book of *Meteorological Phenomena*; ... that it is fire is proved by its producing all the effects of fire.

'METEOROLOGY'

Natural philosophy and science

18 Simplicius, *In Aristotelis Physica*, II.2 (193b23); pp. 291.21–292.31 Diels

Context: Simplicius is commenting on Aristotle's distinction in *Physics* Bk 2 between physics and mathematics. He takes the trouble to record exactly his sources for Posidonius. The style and detail of argument support Simplicius' suspicion that we have a direct quotation from Posidonius. This is valuable because this fragment is of the utmost importance for Posidonius' theories of the distinction and relationship of philosophy and science, so crucial for his philosophical orientation. See Kidd, 'Philosophy and Science in Posidonius', and *Comm.*

Alexander [of Aphrodisias] takes pains to set out a quotation from Geminus, which came from his Epitome of Posidonius' *Meteorology*, who took the starting points of his exposition from Aristotle. It runs like this:

'It is the task of natural philosophy to examine in the case of heaven and stars their substance, power, quality, generation and destruction; and, by God, he can prove questions relating to their size, shape and order. On the other hand, astronomy attempts to talk about nothing of that kind; it proves the order or arrangement of the heavenly bodies, having prefaced as a premise that the heaven is really a cosmos. It talks about the shapes, sizes and distances of earth, sun and moon, about eclipses and conjunctions of the stars, and about the quality and extent of their movements. So, since it touches on the enquiry into

how big, how much, what sort in relation to figure, it naturally needs the sciences of number and measurement. For what alone it claims to give an account of, it is capable of bringing about through the mathematical sciences of number and measurement.

'Often both astronomer and natural philosopher will propose proving the same point, e.g. the sun is large, the earth is spherical; but for all that, they will not go by the same routes. The philosopher will demonstrate each fact from substance or force, or value, or generation and change; the astronomer will establish them from the properties of the figures and magnitudes, or from the amount of the movement, and the time that is appropriate to it.

'The philosopher will often fasten on to the cause, concentrating on the creative force. The astronomer, however, whenever he proves facts from external conditions, is not an adequate observer of cause, e.g. when he states that the earth or the stars are spherical; and sometimes he does not aim at grasping the cause at all, e.g. when he discusses eclipses.

'Sometimes the scientist tries to find out by hypothesis, stating some ways by which, if established, the phenomena will be saved. For example, why do sun, moon and planets seem to move irregularly? If we suppose their circuits to be eccentric, or the stars to revolve in epicycles, their apparent irregularity will be saved; and it will be necessary to pursue the argument in accordance with *how many* ways these phenomena can be produced; so that their study of the planets *is like* the enquiry into cause in respect of the *possible* method. And that is why you actually have a man like Heraclides Ponticus coming forward and saying that even if the earth is moving somehow and the sun stands still somehow, the apparent anomaly with regard to the sun is saved. For it is not the job of the astronomer at all to know what is at rest by nature or what sort of things are capable of motion; rather, introducing hypotheses, grant-

ing that some things stay still and others are in motion, he enquires which hypotheses celestial phenomena will accommodate. He must take principles from the natural philosopher, that the movements of the stars are simple, uniform and orderly, and through these principles he will demonstrate that the rhythmic motion of all the stars revolves in circular fashion, with some moving in parallel and others in ecliptic circles.'

Well, that is how Geminus, or rather Posidonius through Geminus expounds the difference between natural philosophy and astronomy, taking his starting points from Aristotle.

'ON THE SIZE OF THE SUN'

19 Cleomedes, *De Motu Circulari Corporum Caelestium*, I.11.65

Context: Comes at the end of Bk I, introducing a subject and authorities for Bk II. See T57 for the sentence which ends Bk II.

As I said earlier in Bk I of my undertaking, that the sun is much greater than the earth, for all its transmitted appearance of a foot in diameter, I should bring out precisely that topic next to an adequate extent for an elementary introduction like this, producing individual contributions from some monographs on the subject in question. Posidonius is one of these authors.

'ON GODS'

Bk I

Substance of god

20 Diogenes Laertius, VII.148

Context: Diogenes' note is confused and puzzling; see Kidd, *Comm.* pp. 139f.

Zeno says that the substance of god is the whole universe and in particular, heaven [*SVF*, I.163]; a similar version is

given by Chrysippus, *On Gods*, Bk I, and by Posidonius, *On Gods*, Bk I. And Antipater, *On the Universe*, Bk VII [*SVF*, III. Antip. 44], says that god's substance is airlike; Boethus, *On Nature* [*SVF*, III. Boeth. 3], says that the sphere of the fixed stars is god's substance.

Bk III (?)

Cosmos, reason, providence

21 Diogenes Laertius, VII.138

Context: Preceded by F14 and followed by F23 in Diogenes' report on the Stoic universe, for the prominence of Posidonius in which see F99a Context. The view that the human soul was diffused even in our bones appears to be peculiarly Posidonian; see F28 and *SVF* I.158; II.458; II.1013. For cosmos: Frs. 4, 8, 13, 14, 20, 23, 99.

Stoics say that the universe is governed according to intelligence and providence, as Chrysippus says in Bk V of *On Providence*, and Posidonius in Bk III[7] of *On Gods*, since intelligence pervades every part of it like soul in us; but actually through some parts it is more, through some less. For through some parts it has come as cohesion, as through bones and sinews; through others as intelligence, as through the governing principle.

Bk V

Criticism of Epicurus

22a Cicero, *De Natura Deorum*, I.123

Context: Cotta is attacking Epicurus for uprooting religion by removing providential care from the gods. Posidonius is nearer the mark in arguing that Epicurus did not actually believe in any gods.

So what that old friend of us all, Posidonius, argued in his fifth book of *On the Nature of Gods* is surely nearer the truth, that Epicurus thought that there were no gods, and whatever he said about the immortal gods, he said to avert popular indignation. For he could not have been so silly as to fashion god like a manikin, a shell of an outline without

[7] Some codices have Bk XIII.

solid build, endowed with all a man's limbs but without their slightest exercise, a drawn transparent sort of being, imparting nothing, favouring nothing, caring for nothing at all, doing nothing. A nature like that can be nothing. Epicurus saw that: he abolished gods, in fact, and left them as a manner of speech.

22b Lactantius, *De Ira Dei*, IV.7

Finally Marcus Tullius [Cicero] recalls that *mot* of Posidonius, that Epicurus believed that there were no gods, but he said what he did about the gods to avert popular indignation: so he left gods as a verbal expression, but abolished, in fact, beings to whom he assigned no motion and no function.

Animate cosmos

23 Diogenes Laertius, VII.139

Context: Preceded by F21, *q.v.*

The Stoics say that since in this way, then,[8] the universe also taken as a whole is a living being and ensouled and rational, it has the *aether* as its governing principle, as Antipater of Tyre says in *On Universe*, Bk 8. But Chrysippus in Bk 1 of *On Providence* [*SVF*, II.644] and Posidonius in *On Gods* say that the heaven is the governing principle of the universe, and Cleanthes [*SVF*, I.499] says it is the sun.

'ON HEROES AND DAIMONS'

Etymology of daimon

24 Macrobius, *Saturnalia*, I.23.7 (Cornificius)

Context: The general context of *Sat.* I.17–23 deals with the form of syncretism whereby all the gods are manifestations of a single divine power, the sun. At this point the line is pursued that Zeus is the sun, and the gods stars. In support, Macrobius brings in Plato, *Phdr.* 246e4–247a2, which leads to etymological speculation. For Posidonius' interest in etymology, see T89.

[8] See F21.

He [i.e. Plato, in *Phaedrus*, 246E] links the name of daimons with the naming of gods, either because gods are *daemones* [δαήμονες], that is 'knowing' the future, or as Posidonius writes in the five books entitled *On Heroes and Daimons*, because the nature of daimons is created and partitioned from the substance of *aether*, the word being derived from *daiomenon* [δαιόμενον], either in its sense of 'burning' or in its sense of 'being partitioned'.

'ON FATE'

Bk II

25 Diogenes Laertius, VII.149

Context: Preceded by F20 on the substance of god, and by two sentences on 'nature'. Frs. 7 and 27 follow on divination. The sequence is significant; see F103.

That everything happens by fate is stated by Chrysippus in *On Fate* [*SVF*, II.915], and by Posidonius in Bk II of his *On Fate*, and by Zeno [*SVF*, I.175], and by Boethus in his Bk I of *On Fate* [*SVF*, III. Boeth. 5].

'ON DIVINATION'

26 Cicero, *De Divinatione*, I.6

Context: §§5–6 offer a curt doxography of Greek philosophers on divination, with §6 devoted to the Stoa. Posidonius was without doubt used by Cicero, but certainly not exclusively.

Our friend Posidonius published five books on divination.

Bk V

Divination a science

27 Diogenes Laertius, VII.149

Context: See F7.

[Follows F7] ... and in Bk V of *On Divination*.

'ON SOUL'

Bk III

Homer, bones and soul

Context: This opinion of Posidonius was not normal Stoic doctrine; *v.* F21. Posidonius was fond of referring to Homer.

28a Scholia in Homerum (T), Ad Iliadem, XII.386 (Dindorf, V.457, Erbse, III.374)
In Homer's opinion, the soul spirit is diffused even in our bones, as is also the opinion of Posidonius in *On Soul,* Bk III. Plato [*Timaeus,* 73B] says that the soul's bonds are in the roots of the bone [i.e. the marrow].

28b Eustathius, *Commentarii ad Homeri Iliadem,* XII.386
The expression 'his spirit left his bones' reveals that a soul spirit has been diffused even in the bones of the living, as the philosopher Posidonius also says in his *On Soul.*

ETHICS

'ETHICS'

Bk I

Proof of existence of virtue

29 Diogenes Laertius, VII.91

Context: Diogenes' section on virtue and vice runs between §§89–93. This fragment is followed by F2 and F180. Curiously there is no record of any other Stoic book with this precise title (Ἠθικὸς λόγος).

Posidonius in Bk I of *Ethics* says that evidence to prove that virtue exists is the fact that Socrates, Diogenes and Antisthenes were in a state of progression. The evidence to prove that vice exists is that it is the opposite of virtue.

'ON EMOTIONS'

Bk I

Examination of goods, evils, virtues depends on examination of emotions

30 Galen, *De Placitis Hippocratis et Platonis*, v.469, p. 448.7–11 M, p. 326.12–16 De Lacy

Context: Preceded by F31, which ends with Posidonius' criticism of Chrysippus on virtues. Galen then says that he will return to the virtues later; he has brought them up at this point for logical reasons, as the doctrine of virtues necessarily follows the doctrine of the emotions. F30 comes immediately afterwards, with F187 next.

Posidonius says something like this; in the first book of *On Emotions*, not far from the beginning, he writes these very words: 'I believe that the examination of things good and evil, and that of ends, and that of virtues, all depend on the correct examination of emotions.' [*v.* F150]

Bk I

Education and virtues

31 Galen, *De Placitis Hippocratis et Platonis*, v.466–8, pp. 444.11–448.2 M, pp. 322.28–326.8 De Lacy (*v.* F148)

Context: Preceded by F169, where Galen discussed the therapy of mental emotions and different psychosomatic conditions for its application and function. F31 is followed by Frs. 30, 187.

A

Galen praises Plato against Chrysippus on how a human being should be moulded from the beginning

That is the way one ought to mould a human being from the start in relation to what is best ... all of which Plato has gone through with the utmost precision. Chrysippus [*SVF*, III.229a], on the other hand, left no adequate account of his own, and did not even leave his successors a starting point for investigation, as his argument rested on an unsound foundation.

B

Posidonius too censured Chrysippus and admired Plato on this subject

For that Posidonius too censures him, while he admires Plato for all he said about the forming of babies still unborn in the womb, and their nurture and education after birth, and in the first book of his *On Emotions* he has written a kind of epitome of what Plato said:

C

A Galenic paraphrase is followed by a quotation from Posidonius

namely that children should be reared and educated so that the emotional and irrational faculty of the soul displays a proper proportion in its movements, and obedience to the commands of reason. 'This is the best education for children, a preparation of the emotional faculty of soul so that it be most conformable to the rule of the rational faculty.' [F148]

D

Galen continues in indirect speech, quoting Posidonius

At first (he goes on), this rational faculty is small and weak, but achieves strength and fitness about the age of 14, when now it is appropriate for it to control and rule, as a kind of charioteer of a team of kindred horses, desire and anger, so long as they are not too strong nor too weak, neither too backward nor too forward, nor disobedient completely, nor unruly nor beyond themselves, but in everything ready to follow and obey the rational faculty. The training and virtue of that rational faculty is knowledge of the nature of reality, just as that of the charioteer is the knowledge of the rules of chariot-driving. For powers of knowledge do not occur in the irrational faculties of soul any more than they do in horses (F148); no, the horses'

proper virtue arises from a kind of irrational habituation, the charioteer's from rational instruction.

E

The account of the virtues follows

The account of the virtues too follows on this directly [*SVF*, III.257], with its criticism[9] of the double error, whether one posits all the virtues to be kinds of knowledge, or all to be faculties. For since the virtues of the irrational parts of the soul must be irrational, and that of the rational part only, rational, it stands to reason that the virtues of the former are faculties, and the virtue of the rational part alone, knowledge. Chrysippus' major mistake lies not in failing to make any virtue a faculty – a mistake like that is of little consequence, and we are not even attacking it – but in maintaining both a plurality of kinds of knowledge and virtues, and a single faculty of soul. For it is not possible for there to be a plurality of virtues of a single faculty, if it is true that there cannot either be a plurality of perfect states of one single thing. For there is one single perfect state for each thing that exists, and virtue is the perfect state of the nature of each thing, as Chrysippus himself admits. Ariston of Chios did better to deny that the soul had a plurality of virtues, but only one, which he says is the knowledge of things good and evil, because in his account of the emotions he did not contradict his own presuppositions; that is what Chrysippus did.

Criticism of Chrysippus on the powers of soul

32 Galen, *De Placitis Hippocratis et Platonis*, VIII.652–3, pp. 653.12–654.3 M, pp. 482.32–484.4 De Lacy (*v.* T84, T92)

Context: See F181 Context.

[9] Reading διελέγχων with Kidd. See Kidd, *Comm.* pp. 161f.

... And for that reason, I [i.e. Galen] added another three books to my first two, in which[10] I pointed out straight away that Posidonius too, the most scientific of the Stoics because of his mathematical training, departed from Chrysippus and shows in his work *On Emotions* that we are governed by three powers, the desiring, the spirited and the rational; Posidonius showed that Cleanthes, too, was of the same opinion [*SVF*, 1.571].

Animals moved by desire and anger

33 Galen, *De Placitis Hippocratis et Platonis*, v.476–7, pp. 456.14–457.11 M, pp. 332.31–334.10 De Lacy

Context: See F166, which precedes this fragment.

Chrysippus does not think that the emotional aspect of the soul is distinct from the rational, and so deprives irrational animals of emotions, although it is obvious that animals are governed by desire and anger, as Posidonius too establishes in detail and at length in his discussion of them. He says that all those that are least mobile and are naturally attached like plants to rocks and the like, are governed by desire alone; all other irrational animals use both powers, the desiring and the spirited, whereas man alone uses all three, because he has acquired the rational ruling principle. That and very much else has been stated correctly by Posidonius throughout the whole of his work *On Emotions.*

Emotions and judgement

Chrysippus is refuted by a proof

34 Galen, *De Placitis Hippocratis et Platonis*, IV.377–9, pp. 348.5–350.13 M, pp. 246.36–248.32 De Lacy (*v.* T102)

Context: At the opening of Bk IV, Galen attacks Chrysippus' psychology of faculties of soul, first turning to the view that emotions are rational judgements. This is examined through Chrysippus' defi-

[10] In fact, Galen used Posidonius extensively only in Bks IV–V; see T61, T62, T63.

nitions of emotion. First the definition of 'fresh belief' is rejected, then Galen concentrates on the more commonly accepted Stoic definition of 'impulse in excess'. Just before this fragment, Galen grants that so far in his explanation of 'excessive impulse', Chrysippus has said nothing contrary to 'the old authorities'. F34 follows.

A

A triple classification of the views of Chrysippus, Zeno and Posidonius on the relationship between emotion and rational decision

But when Chrysippus investigates next whether one should believe that emotions are some kind of judgement[11] or following on judgements, he departs from the old authorities on both accounts, but much more so in following the worse of the two. Yes, and it is precisely in this that he contradicts Zeno [*SVF*, 1.209] and himself and many other Stoics, who suppose that it is not the mental judgements themselves, but the irrational contractions, lowering abasements and pangs, the rising elations and relaxed diffusions which come after the judgements that are mental emotions. Posidonius completely departed from both the previous views; he believes that emotions were neither judgements nor what supervened on judgements, but were caused by the spirited and desiring powers or faculties, in this following completely the old account.

B

Posidonius' criticism and argument against Chrysippus

And time and again in his work *On Emotions*, he asks Chrysippus and his sympathisers what is the *cause* of the excessive impulse. For reason, whatever else, could not exceed its own business and measures. So it is obvious that there is some other distinct irrational faculty as cause of the impulse's exceeding the measures of reason, just as the cause which makes running exceed the measures of its choice is irrational, namely the weight of the body.

[11] Or 'rational decision'.

C

Criticism by Galen, bringing in Posidonius

But what is surprising is not that Chrysippus contradicts a great number of people, or even that he misses the truth – he can hardly be blamed for being a fallible human being – but that he did not even try at all to resolve the statements of the old authorities and that he is self-contradictory in thinking at one point that emotions arise without reason and judgement, and at another alleging that not only do they follow judgements, but that is just what is judgement. The statement that emotion has absolutely nothing to do with judgement is surely the direct opposite from the statement that emotion is judgement; unless (ye gods!) one were to come to his aid and say that the word 'judgement' has several meanings; and so, in Chrysippus' explanation of the definition of emotion,[12] 'judgement' was used in the sense of 'circumspection', so that the phrase 'without judgement' was the equivalent of 'without circumspection'; but where he says that 'emotions are judgements', one might say that he is using 'judgement' as a term for impulse *and assent.* But if one were to accept that, emotion will be an excessive assent, and again Posidonius will ask what is the cause of the excess. This would be in addition to a very great mistake made by Chrysippus in exposition; for if the crucial part of the doctrine lies precisely in distinguishing the ambiguity and so showing in what sense of the meaning of the word emotions arise without judgement, and in what sense they are judgements, why in not a single one of the four books he wrote *On Emotions* has he made that point? So how could one be wrong to criticise him? [*v.* F157]

Cause of Evil

35 Galen, *De Sequela*, 819–20 (*Scripta Minora*, vol. II, pp. 77.9–78.19 M) (*v.* T58)

[12] As 'excessive impulse'.

Context: In pp. 74.2–77.1, Galen attacked the Stoics for thinking that human beings are corrupted from their natural attainment of moral excellence through association with their fellows; that is followed by a second argument that we are corrupted by pleasure itself. Both of these views, stated as Chrysippean, are again attacked in F169 D, associated with Posidonius. Now comes F35, after which Galen returns to the theme that men's characters are related to physical temperaments, a theory of physiognomy similar to that of Posidonius in F169 F. It is noteworthy that the same overall sequence of argument occurs both in *De Sequela* and in *De Placitis*, where both passages are linked to Posidonius.

Structure:

A: The view that we are corrupted by pleasure is attacked.

B: This was Posidonius' criticism of the Stoics.

C: Posidonius' explanation of the origins of evil.

A

Those are also very simple-minded who say that we are corrupted by pleasure and pain, the one pulling us to it, the other turning us away and rough. For if we all had a natural affinity to pleasure, when it was not good, but as Plato said, the greatest bait of evil, then we are all by nature evil; but if not all but some have such an affinity, only they are naturally bad.[13]

Well, if we have no power at all that makes itself at home in us that is stronger than the power that leads us to pleasure,[14] in that case we would *all* be bad, since we would have the better power weaker and the rascally one stronger. The alternative would be if the better is stronger; in that case, who persuaded the first human beings to be conquered by the weaker?

B

It was on just this ground that the Stoics were censured by Posidonius too, the most scientific of them all; and it was

[13] These two sentences precede and introduce the fragment.

[14] The opening of this sentence is very corrupt, but this must be the sense; v. Kidd, *Comm.* pp. 174f.

precisely on these points where he deserves the greatest praise that he is censured by the rest of the Stoics; they would have persuaded themselves to betray their country rather than the School line; Posidonius preferred the truth to Stoic dogma. For that reason in his work *On Emotions*, his views are precisely the opposite to Chrysippus on the subject of the difference of the virtues,[15] with a great deal of criticism of what Chrysippus said in his logical investigations on mental emotions, and still more of what he said in his account of the difference of the virtues.

C

Posidonius doesn't think either that vice comes in afterwards to human beings from outside, without a root of its own in our minds, starting from which it sprouts and grows big, but the very opposite. Yes, there is a seed even of evil in our own selves; and we all need not so much to avoid the wicked as to pursue those who will prune away and prevent the growth of our evil. For it is not the case, as the Stoics say, that the whole source of evil comes into our minds from outside us; no, in wicked men the greater part of it is internal, and only a very minor influence has an external source.[16]

'ON ANGER'

Bk I

36 Pap. Memph. 155, fr. 1, *v.* 8 (Pack 2089)

Context: This papyrus from Memphis, dated to the beginning of the 3rd c. A.D. appears to be part of the catalogue of a library.

Posidonius: Bk 1 *On Anger.*

[15] Slight emendation distinguishes two books: *On Emotions* and *On the Difference of the Virtues*, but the emendations are by no means certain. See Kidd, *Comm.* p. 177.

[16] Perhaps environment; see F169F.

'ON RELIEVING GRIEF'

37 Jerome (Eusebius Hieronymus), *Epistulae*, LX.5.2–3

Context: A letter of consolation to Heliodorus, bishop of Altinum, for the death of his nephew, Nepotianus, to be dated 396 A.D. Posidonius is named in a list of famous writers of consolatory literature. It is likely that Jerome's knowledge of the writers to whom he refers derives from Cicero's *De Consolatione*. For the importance of such literature for Posidonius, see F176.

I have read Crantor, whose book Cicero followed to ease his pain; I have run through the works on relieving grief by Plato, Diogenes, Clitomachus, Carneades and Posidonius, who for a variety of ages and a variety of people sought to alleviate their sorrows through books or letters. So, even if my own wits were to run dry, they could be watered by the streams of their springs. They bring to our attention countless men, above all Pericles and Socrates' friend Xenophon: the former, in spite of the loss of his two sons, spoke, formally crowned, in assembly; the other, when he heard as he was making sacrifice that his son had been killed in the war, removed his crown, they say, and then replaced it on his head after he discovered that the boy had fallen fighting bravely in the battle line. Need I mention Roman generals whose courage sparkles like stars through Latin history?

'ON THE VIRTUES' (?)

38 Galen, *De Placitis Hippocratis et Platonis*, VIII.653, p. 654.3–6 M, p. 484.4–6 De Lacy

Context: For general context, see F181 Context. F32 immediately precedes.

And indeed he [i.e. Posidonius] says that the account of the virtues, too, is properly completed from a base of these principles [i.e. those established in his work *On Emotions*], and he proves that very point in a large work written separately by him.

'ON APPROPRIATE ACTION'

Bk I

Justice and animals

39 Diogenes Laertius, VII.129

Context: A miscellaneous collection of Stoic dogmas.

Again, they [i.e. the Stoics] hold that there is no relationship of justice between us and the other animals, because of their unlikeness, as Chrysippus says in Bk I of *On Justice* [*SVF*, III.367], and Posidonius in Bk I of *On Appropriate Action.*

The sage and prayer

40 Diogenes Laertius, VII.124

Context: This is the only reference to Posidonius in Diogenes' collection on the Stoic wise man in §§121–5.

The wise man, they [the Stoics] say, will pray, asking for goods from the gods, as Posidonius says in Bk I of *On Appropriate Action*, and Hecaton in the third book of *On Paradoxes* [20 G].

Circumstantial duties;
actions which are right v. *actions which are expedient; Cicero*

Context: The bare sequence of events is as follows: (1) F41a is from a letter to Atticus, dated 5 November 44 B.C., asking Atticus to prod Athenodorus Calvus into sending Cicero, as requested, Posidonius' book, which he wants for his own Bk III of *On Appropriate Actions,* which he is about to begin writing. The book requested is almost certainly Posidonius' *On Appropriate Action.* (2) A second letter to Atticus, F41b, of 12 (?) November 44 B.C. tells Atticus not to bother further about Athenodorus, for Cicero now has satisfactory notes from him. (3) Cicero, in Bk III of his *On Appropriate Actions* (F41c), now complains about the paucity of material on the topic he was hoping to find in Posidonius, and refers vaguely to 'certain commentaries' and to a letter mentioning Rutilius Rufus. One may doubt whether Cicero had actually seen Posidonius' *On Appropriate Action* by this time, far less used it for his own *On Appropriate Actions* (*De officiis*). For the complexities, see Kidd, *Comm.* pp. 185–9.

41a Cicero, *Ad Atticum*, XVI.11.4 (v. T44)
I have completed in two books[17] the section on Appropriate Action, covering as far as Panaetius goes (34 St); he took three books. But although at the start he made a threefold classification of the examination of appropriate action – (i) when we debate whether an action is morally right or wrong; (ii) whether the action is expedient or inexpedient; (iii) when there seems to be a conflict between these two – how should we make a judgement, as in the case of Regulus: to return was morally right, but to stay put expedient; well, Panaetius discussed the first two sections brilliantly and promised that he would write on the third later, but he never did write it up. Posidonius followed that topic up. I have both sent for[18] his book and written to Athenodorus Calvus to send me a résumé; I'm still waiting for it. I wish you would spur him on and ask him to do it as soon as possible. In Posidonius' book is the topic, circumstantial duties.

41b Cicero, *Ad Atticum*, XVI.14.4
There is no need to prod Athenodorus further. He has sent me satisfactory notes.

41c Cicero, *De Officiis*, III.7–10 (v. T9, T13)
So Panaetius ... after a triple classification of how people are accustomed to consider and debate over the problem of appropriate action: (i) when they ponder whether what they are about to do is morally right or wrong; (ii) whether it is expedient or inexpedient; (iii) how they ought to decide when what has the appearance of what is morally right is in conflict with what seems to be expedient; well, he set out his account of the first two in three books, but wrote that he would deal with the third later, but did not keep his promise. That surprises me all the more because it is

[17] I.e. of his *De Officiis*.
[18] A possible alternative translation of the Latin *arcessivi* is 'I have had fetched', but that seems unlikely from the context: Kidd, *Comm.* pp. 187f.

on record by a pupil of his, Posidonius, that Panaetius lived on for thirty years after publishing those books. And I am surprised that that topic has only briefly been touched upon by Posidonius in certain commentaries, especially when he wrote that no topic was more essential in the whole of philosophy.

But least of all do I agree with those who say that this topic had not been overlooked by Panaetius, but deliberately omitted, and that it should never have been tackled because conflict between expediency and moral right could never occur ... Posidonius comes as ample witness to that. He too writes in a letter (F83) that Publius Rutilius Rufus, who had heard Panaetius' lecture, used to say that as no painter had been found to complete the part of the Coan Venus which Apelles had left unfinished, for the beauty of the face removed all hope of similarly representing the rest of the body, so no one followed up what Panaetius had overlooked, because of the outstanding excellence of what he had completed.

LOGIC

'ON CRITERION'

Right reason

42 Diogenes Laertius, VII.54

Context: Diogenes' section on Stoic logic (§§41–83) splits into three distinct groups. (1) 41–8 has general remarks on the division of logic. (2) 49–54 begin a more detailed account, and are particularly concerned with the criterion of truth. This section opens with a quotation from the *Compendium of Philosophers* of Diocles of Magnesia, who has accordingly been regarded as the source for the whole of 49–83. I believe that the Diocles 'quotation' is confined to §49 (Kidd, 'Orthos Logos as a criterion of truth in the Stoa' pp. 137–50.). This section ends with a doxography of the criterion of truth: F42. But this in turn is described as a prelude to 'logic', and with (3) 55–83, a new start is made with dialectic as language,

and the section consists of the main account of Stoic logic. There is Posidonian trace in (2), but (3) appears to owe nothing to Posidonius. For a discussion of the standing and reference of Posidonius' reported statement, see Kidd, 'Orthos Logos' and *Comm.* pp. 190–5. It is remarkable that this book title, *On Criterion*, is not evidenced elsewhere in surviving Stoic literature.

The Stoics say that the criterion of truth is the comprehensible (cognitive) presentation, that is, one that comes from that which is, as Chrysippus says in *Physics* Bk II, and so does Antipater and Apollodorus. Boethus admits more criteria: intellect, sense perception, rational impulse, knowledge; while Chrysippus, contradicting himself, says in Bk I of *On Logos* that sense perception and preconception are criteria (preconception is a natural concept of that which is universal). And certain others of the older Stoics admit right reason as a criterion, as Posidonius says in *On Criterion.*

'ON GENERAL ENQUIRY AGAINST HERMAGORAS'

43 (T39) Plutarch, *Pompeius*, 42.5

Context: T39. Hermagoras of Temnos (mid-2nd c. B.C.) wrote a very influential work on rhetoric. Posidonius probably attacks here his technical examination of general questions (θέσεις, *quaestiones*). See F189.

Posidonius also published the lecture which he delivered before Pompey against the rhetor Hermagoras, in opposition to him on General Enquiry.

'INTRODUCTION TO STYLE'

Poetical form, poetry

44 Diogenes Laertius, VII.60

Context: For the structure of Diogenes' section on Stoic logic, see F42 Context. Posidonius is engaged in the rhetorical division of logic, but context and the last sentence show a connection with the language sub-division of dialectic.

Poetical form [ποίημα], as Posidonius says in his *Introduction to Style*, is a style of speech in metre or rhythm, done with artistry, and outstepping the form of prose; an example of rhythm is:

'Oh mighty Earth, and Heaven that comes from Zeus' [γαῖα μεγίστη καὶ Διὸς αἰθήρ, Euripides, Fr. 839 N].

But a poetical work [ποίησις] is poetical form which conveys meaning, containing an imitation of things divine and human.

'ON CONJUNCTIONS'

Conjunctions and prepositions

45 Apollonius Dyscolus, *De Coniunctione*, p. 214.4–20 (Schneider; p. 480.10–28 Bekker)

Context: Immediately after Apollonius' introduction, where he briefly comments on the deficiencies of previous treatments of conjunctions, and in particular the Stoics'. They are accused of importing dialectical terms and approaches into the technical subject of grammar. Although Apollonius will not neglect Stoic doctrine, he will proceed by his own method. Other commentators foist this fragment onto 'Aristarchus' reciter' (*v.* T109f). That this is Posidonius of Apamea, the Stoic, is argued in Kidd, *Comm.* p. 200. See also F192.

Posidonius, in his book *On Conjunctions*, criticises those who allege that conjunctions do not reveal anything,[19] but merely join or bind the expression. He says that conjunctions differ from each other as verbal prefixes do as ***epi**dounai* differs from ***apo**dounai*, as ***ap**aitein* from ***pros**aitein*, and other such compound forms. He is confident that prepositions [or prefixes] and conjunctions are a single part of speech. At least again in the same diametrically opposed reply to these people, he sets out the natural conjunctions, saying that by their meaning ⟨they differ⟩ ...[20] ... the word ἵνα

[19] I.e. have not in themselves significant meaning.
[20] There is a lacuna here in the transmission. See the implications argued in Kidd, *Comm.* p. 202.

[hina], we[21] say, is an adverb of place; for the expression forbids calling it a conjunction. But that is no longer the case in the phrase, 'ἵνα εἴδομεν ἄμφω' [*Iliad*, 1.363; 'that both of us may know': a final conjunction]. 'ὄφρα μὲν ἠὼς ἦν' [*Iliad*, VIII.66; 'when it was dawn'] is an adverb of time; 'ὄφρα πεποίθῃς' [*Iliad*, 1.524; 'that you may believe me'] is a final conjunction. So, according to this argument, there is nothing to prevent parts of speech which have taken on themselves a meaning or function equal to conjunctions, being called conjunctions homophonic with prepositions, but by no means, as Posidonius thought, can verbal prefixes of the sort given in ***epi****dounai or* ***apo****dounai* be called conjunctions.

SCIENCES AND HISTORY

'AGAINST ZENO OF SIDON' (?)

On the principles of geometry

46 Proclus, *In Euclidis Elementa*, pp. 199.3–200.6 (Friedlein)

Context: Proclus has just turned from an examination of Euclid's principles to the propositions which follow the principles. F46 is part of the introduction to the propositions. F47 follows after some intervening comment. Proclus offers a classification of those who attack Euclidean geometry. There are two main divisions, the first of which is subdivided.

Of those who attack geometry,[22] the greatest number have raised objections with regard to the principles, spending their efforts on showing that these parts[23] [i.e. the principles] are without foundation. In this class there are two groups whose arguments have been widely reported; the members of the first actually try to destroy all knowledge

[21] Apollonius is in the middle of an illustration whereby he distinguishes different usages of ἵνα and ὄφρα by grammatical function. Both words can perform as final conjunctions; but they also occur as adverbs of place or time.

[22] I.e. Euclidean geometry.

[23] Reading ⟨ταῦτα⟩ τὰ μέρη with Morrow. The manuscript tradition would mean 'the parts', i.e. the single parts or propositions which would presumably be 'without foundation' if the principles were destroyed.

like hostile troops doing away with crops from a foreign land, namely the one productive of philosophy: they are the Sceptics. The members of the second are those who propose to overturn geometric principles only: the Epicureans.

But there are others who already even concede the principles, but deny that what follows the principles[24] are demonstrated without something else being admitted for them, which is not actually contained in the principles. It was this kind of controversy that Zeno of Sidon pursued, although he was an Epicurean. Posidonius wrote an entire book against him, showing that his whole conception was unsound.

I have pretty well dealt with the disputes over the principles in the previous pages; I shall investigate Zeno's attack a little later.

47 Proclus, *In Euclidis Elementa*, pp. 214.15–218.11 (Friedlein)

Context: After F46, Proclus turns to the Propositions, and so to Prop. I.I: to describe an equilateral triangle on a straight line of given length. He first offers some introductory distinctions, e.g. on the difference between problems and theorems, their structure, and the clarification of technical terms. He then declares that he will select the most elegant comments of the old authorities, and what is most competent, reliable and fundamental. So he turns to the controversy between Zeno of Sidon and Posidonius, clearly siding with Posidonius in the process. What follows turns out to be Posidonius' refutation of Zeno's criticism of the methodology of axiomatic geometry, and therefore a clear declaration of Posidonius' support for such a methodology. For the importance of this for Posidonius' philosophy, see Kidd, 'Posidonius and Logic', pp. 273–83; 'Philosophy and Science in Posidonius', pp. 7–15.

A
Introduction

Since some have objected to the construction of the equilateral triangle[25], thinking that they were refuting the whole of geometry, a brief answer will be given to them.

[24] I.e. the propositions.

[25] The proposition under question is I.I: to describe an equilateral triangle on a straight line of given length.

B

Zeno's methodological objection to Prop. I.I

That Zeno who was mentioned before[26] says: *even* if one concedes the principles of geometry, what follows would not be established, unless it were admitted that two straight lines can not have a common segment. If that is not granted, the construction of the equilateral triangle is not demonstrated.

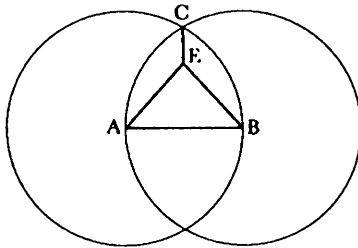


Fig. I

For, he says: let *AB* be the straight line on which we have to construct the equilateral triangle. Let the circles be drawn, and from their point of intersection draw the lines *CEA* and *CEB* having *CE* as a common segment. It follows that although the lines from the point of intersection are equal to the given line *AB*, it is no longer the case that the sides of the triangle are equal; no, the two others are shorter than *AB*. But if *that* is not granted, what follows could no longer be granted either. Therefore, says Zeno, *even* granted the principles, the consequences do not follow, unless this too is first presupposed: neither circumferences nor straight lines can have common segments.

[26] Zeno of Sidon, F46.

C

First answer: Zeno's missing proposition is already given in the principles

Against this, it must first be said that this in a way *has* been presupposed in the first principles, namely that no two straight lines have a common segment. For the definition of straight line[27] already has this, if a straight line is a line that lies evenly with all the points on itself. For it is the fact that the interval between points is equal to the straight line between them that makes the line that joins them one and the shortest; so that if any line coincides with a part, it would coincide with the remaining part[28]. For if stretched to the extremities, through being the shortest, the whole line must fall on the whole line; and furthermore this has been evidently assumed in the postulates.[29] For the postulate that a finite straight line may be extended in a straight line shows clearly that the extended line must be one single line and its extension result from a single motion.

D

Second answer: we can prove this anyway

But secondly, if one must have a proof of this as if it were a lemma[30]

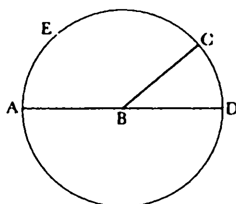


Fig. 2

[27] Definition 4.
[28] I.e. the rest would coincide.
[29] Postulate 2.
[30] I.e. a proposition invoked for the purpose of establishing another; v. Proclus, 211.1ff. Friedlein.

let *AB* be common segment, if possible, of *AC* and *AD*. With *B* as centre and *AB* as radius, describe circle *ACD*. Since *ABC* is a straight line through the centre, *AEC* is a semicircle. Since *ABD* is a straight line through the centre, *AED* is a semicircle. Therefore *AEC* = *AED*, which is impossible.

E

Zeno's riposte: this would still leave an undemonstrated assumption

To this proof Zeno could say: again that the diameter cuts the circle in half has been proved only on our presupposition that two circles have no common segment. For we supposed that one circle coincided thus with another, or, if it didn't coincide, that it fell outside or inside. But, he says, there is nothing to hinder, if one circle does not wholly coincide with the other, that they may *partly* coincide. And as long as it has not been *proved* that the diameter cuts the circle in half, the proposition will not be proved either.

F

Posidonius' answer: that can be refuted whichever assumption Zeno adopts

That objection Posidonius correctly met with a jibe at our sharp 'Epicurus' for not realising that even if the circles only in part coincide, the proof is valid. For at the part they do not coincide, one circle will be outside and the other inside, and the same absurdity results if the straight line is extended from the centre to the outside circle.

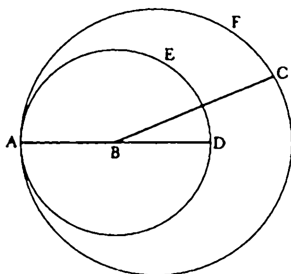


Fig. 3

For the lines from the centre will be equal, both the line to the outer circle which is greater (*BC*), and the line to the inside circle which is less (*BD*).[31] So *either* one coincides wholly with the other and they are equal, *or* one coincides partly and diverges for the rest, *or* no part coincides with any part, and if so, either falls outside or inside. And all these are refuted in the same way.

G

Zeno himself constructs a similar proof which he claims also in its turn demands an unproved assumption

So much for that argument. But Zeno constructs another proof of this kind which he tries to discredit.

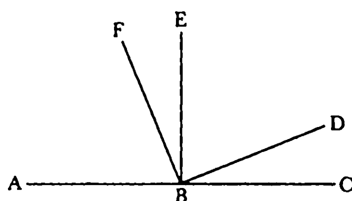


Fig. 4

Let two straight lines *AC* and *AD* have a common segment *AB*, and let *BE* be drawn at right angles to *AC*. Then the angle *EBC* will be a right angle. Now, if the angle *EBD* is also a right angle, the two angles will be equal, which is impossible. But if it is not a right angle, let *BF* be drawn at right angles to *AD*. Then the angle *FBA* will be a right angle. But the angle *EBA* is also a right angle. Therefore the two angles are equal, which is impossible. That is the proof. Zeno tries to discredit it on the grounds that it already contains an assumption which is only established

[31] *BC* = *BD* as radii, *B* being the centre point of both circles; but *BC* is greater than *BD*, since circle *AFC* lies outside circle *AED*.

later, namely that one can draw a line at right angles to a given straight line from a given point.

H

Posidonius accuses Zeno of sharp practice here, but even this bad proof can be met

But Posidonius says that a proof like that occurs nowhere in any elementary treatise on mathematics, and that Zeno is adopting sharp practice against mathematicians of his own day by implying that they use a bad proof. But there is an account to give even of this proof. For, however you look at it, there is a line at right angles to each of the two straight lines, for any two straight lines can form a right angle. And that was presupposed in the definition of right angle. For it is only from such an inclination that we establish a right angle. So let it be this one which we have erected. In addition, Posidonius adds, Epicurus himself agrees and all other philosophers agree to entertain many hypotheses that are possible and many that are materially impossible in order to contemplate their consequences.

'ON THE COMPARISON OF ARATUS AND HOMER ON MATHEMATICS'

Aratus not a mathematician

48a Anonymus II, *Isagoga in Arati Phaenomena*, 2.2 (pp. 142f. Maass)

Context: The original Greek has disappeared; the Latin is so barbarous as to be unintelligible in places.[32] The only contribution from the fragment itself is the Posidonian authorship of the book on Homer and Aratus.

[32] I am grateful to Professor Adrian Gratwick for valuable help in attempted translation.

Likewise[33] also with the Crown of Ariadne.[34] For he [i.e. Aratus] was the first to expound clearly in his poem her adornment by Dionysus, and the Crown as a mythological story. On such configurations of stars, men impart information, not as Zeus ordained. For at some point later, Berossus, in his *Genesis*, gives these names and interpretations, interpreting in his exposition that nothing with regard to the structure of the universe had been contributed by him [i.e. Aratus]. Moreover, Eudorus says something to that effect: 'We have set out the genesis of the year in more technical detail' [sc. than in Aratus]. It is likewise said that the aforesaid Antigonus [i.e. Gonatas], when Aratus' account was not yet completed, fetched him a copy of the *Astrologia* of Eudoxus, and told him to publicise it in verse, as he was a poet, but remaining unskilled in astronomy. The latter reputation belonged to Hipparchus of Bithynia in his *Commentary on Aratus and Eudoxus*, and to Dionysius, obviously the one from Thrace rather,[35] and to Posidonius in his *Publication*[36] *of Homer and Aratus on Mathematics*. They are all certainly well-disposed.[37] For it would suffice to show Aratus to be a fully developed astronomer, even if he had stated that he had in no way differed from Eudoxus, who in the judgement of one who expounds the same material in his *Commentum Dianae*, did not at all surpass Aratus.[38] For it would be impossible for anyone to do that and not be an authority.

[33] The scholiast has been arguing that God arranged and set the stars, but those most expert in astronomy subsequently gave them their names and established their individual myths.

[34] The Corona Borealis or Northern Crown.

[35] Obviously not! See n. 18, and Kidd, *Comm.* p. 215.

[36] A vague word. For the real title, see F48b below.

[37] This, and what follows, is contradicted by F48b and by our other available evidence; see Kidd, *Comm.* pp. 215f.

[38] The translation of this sentence would require divine clairvoyance. It is in fact guesswork.

48b Anonymus II, *In Arati Phaenomena, Arati Genus,* 3 (pp. 149f. Maass)

The subject of *The Phaenomena* was tossed to him [Aratus] by Antigonus [Gonatas], who gave him Eudoxus' work and told him to follow it. This has led more relaxed commentators to decide that Aratus was no mathematician. For they supposed that he put nothing different from Eudoxus' *Phaenomena* into his own work. That is the opinion held by Hipparchus of Bithynia, too, for he tries to prove that in his *Against Eudoxus and Aratus.* Dionysius[39] agrees with him.... ⟨Posidonius⟩[40] in his book *On the Comparison of Aratus and Homer on Mathematics* says, 'For we don't make him [sc. Aratus] a doctor because he wrote *Medical Powers,*[41] so we shall not make him a scientist either, when he said nothing that falls outside Eudoxus' work.'

'ON OCEAN'

General characteristics; theory of zones; voyages of Eudoxus of Cyzicus; natural disturbances; length of inhabited world; ethnology; Strabo and Posidonius

49 (F28 Jac.) Strabo, II.2.1–3.8 (v. T46; T49; T76a; T76b; T85)

Context: In his first two books, Strabo reviews the contribution of predecessors and states his own basic positions. At the opening of Bk II, he turns to mathematical geography, reviewing first Eratosthenes' parallels and distances, followed by Hipparchus' criticisms of Eratosthenes. After summing up his attitude to Eratosthenes and Hipparchus, he next considers Posidonius, and the content of his book *On Ocean.*

A
Introduction

[2.1] Let us have a look also[42] at Posidonius and what he has to say in his *On Ocean*; for in it he seems to deal for the

[39] Possibly Dionysius of Cyrene, a Stoic and pupil of Antipater of Tarsus.
[40] There is a lacuna in which the name of Posidonius occurred; compare F48a.
[41] Or possibly *Medical Prescriptions*; see Oribasius, 10.33.
[42] As well as at Eratosthenes and Hipparchus.

most part with geography, some of it strictly germane to the subject, but other sections are rather mathematical. So it is not out of place for me to discuss a selection of what he has to say too, some of it here and now, other points individually as they come up, sticking to a due standard of what is appropriate.

B
Zones
(1) Preconditions

Now one of the proper elements related to geography is the hypothesis that the whole earth, like the universe too, is spherical, and consequently so is the acceptance of all the conclusions that follow from that hypothesis; one of these is that the earth has five zones.

(2) Doxography and Posidonius' criticism of early predecessors on extent of torrid zone and the arctic circle as zonal determinant.

[2.2] Posidonius says that it was Parmenides who was the founder of the division into five zones, but that he represented the torrid zone as virtually double in width, falling beyond the two tropics outwards, and overlapping the temperate zones; Aristotle, he said, called the zone between the tropics the torrid zone, and the zones between the tropics and the arctic circles Aristotle called temperate zones.[43]

Posidonius criticises both, and rightly so. For the torrid zone is defined as the zone that is uninhabitable because of the heat; and of the zone between the tropics, more than half of the breadth is ⟨unin⟩habitable,[44] to make a conjecture from the Ethiopians beyond Egypt, if it is granted that the equator divides the zone between the tropics into

[43] For the text of this sentence, see F49.13–17EK, and Kidd, *Comm.* pp. 222ff.

[44] The manuscript reading 'habitable' is contradicted by Strabo's own calculations based on Eratosthenes and Posidonius which follow. Nevertheless, it is just possible that Strabo wrote it, since he can be woefully weak on arithmetic and scientific calculation. See Kidd, *Comm.* pp. 226ff.

two equal parts. For of this (northern) half, the distance from Syene, which is the boundary of the summer tropic, to Meroe is 5000 stades; and from there to the Cinnamon-growing parallel, which is the beginning of the torrid zone, is 3000 stades.

Now the whole of this distance can be measured, whether travelling by water or land; what follows, up to the equator, is shown by proportional calculation based on the measurement of the circumference of the earth made by Eratosthenes to be 8800 stades.[45] So the ratio of the distance between the tropics to the breadth of the torrid zone is 16,800:8800.[46] Even if, of the more recent measurements, the one that makes the earth smallest is introduced, like Posidonius' estimate of 180,000 stades, it renders the torrid zone as somewhere about half the zone between the tropics, or a little more than half, and by no means equal and the same.[47]

As for the arctic circles,[48] Posidonius asks how could anyone determine the limits of the temperate zones, which are fixed and non-variable, by arctic circles, which are not available to all observers[49] and are not the same everywhere.[50] Well, his point about the arctic circles not being available to all observers would be irrelevant to his criticism of Aristotle; for they must be visible to all who live in the temperate zone, with reference to whom alone 'tem-

[45] Eratosthenes' figure for the circumference was 252,000 stades. The equator-to-tropic distance was 4/60 of the meridian, i.e. 16,800 stades. From this is subtracted the distance from Syene to the Cinnamon parallel, i.e. 8000 stades. See Strabo 11.5.7.

[46] That is 21:11. So on this calculation, the uninhabited torrid zone is slightly larger than half the zone between the tropics.

[47] This is nonsense. Strabo had not done his arithmetic. The torrid zone shrinks with the smaller circumference. 4/60 of 180,000 gives the distance between equator and tropic as 12,000 stades. Hence a ratio of 12,000:4000 or 3:1 for the zone between the tropics to torrid zone.

[48] The circumpolar stars which never set, or Aristotle's 'ever-visible circle' (*Meteor.* 362b3).

[49] E.g. on the equator.

[50] The circumpolar circle tangential to the horizon varies with the latitude.

perate' is actually used.[51] But his other point about the arctic circles not being similar everywhere, but changing, is well taken.

(3) Posidonius' own division of zones in relation to (a) celestial phenomena, and (b) human geography.

[2.3] In his own division into zones, Posidonius says that five are useful in relation to celestial phenomena: two 'Periskian', or where the shadow falls all round, running from under the poles to those that have the tropics as arctic circles;[52] the two zones next to them and running up to those living under the tropics are 'Heteroskian', or zones where the shadow of the sun falls only to one side or the other; the zone in between the tropics is 'Amphiskian', where the sun's shadow falls on either side.[53] These zones are also related to human geography along with two other zones, narrow strips which lie under the tropics, where they have the sun directly overhead for about half a month each year since they are cut in two by each tropic. He said these two zones have peculiarities of their own; they are peculiarly parched and sandy, and produce nothing but silphium and some fiery burnt-up fruits. You see, no mountains are near for clouds to hit and produce rain, nor is there any irrigation from rivers. The result is a population with curly woolly hair (and animals with curly crumpled horns), protruding lips and flat noses (he says this is because their extremities contract or curl back on themselves); and he says that it is in these zones that the Fisheaters live.[54]

[51] Strabo himself believed that the geographer should restrict himself to the inhabited world, e.g. 11.5.34.

[52] That is, our fixed arctic circle of 66°. At this latitude ($\phi = 66°$), the arctic circle is the tropic ($\bar{\phi} = 24°$). As the sun does not set, the shadow caused by it can go right round.

[53] I.e. to the north during one part of the year, to the south during the other part.

[54] These 'Fisheaters' were located in various localities by other geographers, but for Posidonius they become a generic ethnic classification for a particular latitudinal zone.

And further evidence, he says, that all this is peculiar to these zones is that the people to the south of them have a more temperate climate, and a country that is more fertile and better watered.

(4) Criticism of Polybius' six-zone theory

(a) General criticism

[3.1] Polybius adopts a six-fold division of zones: two under the arctic circles, two between the arctic circles and tropics, and two between the tropics and equator. However, I think that the division into five zones is in harmony with natural philosophy as well as geography. With natural philosophy, because it is in relation both to celestial phenomena and to atmospheric zones of temperature; in relation to celestial phenomena, because it is by the Periskian, Heteroskian and Amphiskian zones (which would be the best way of determining the terrestrial zones) that the phenomena concerned with our observation of the stars are also determined with them, taking their variation by a sort of overall general division;[55] and in relation to atmospheric zones of temperature, because since the temperature of the atmosphere is judged in relation to the sun, there are three distinctions which are most fundamental and contribute to the constitution of animals and plants, and to the semi-organisations[56] of everything else under the air [i.e. on earth], or in the air itself, namely excess, defect and mean of heat. The temperature receives its proper determination by the division into the zones: the two frigid zones imply the defect of heat and combine into a single natural atmospheric condition, the temperate zones similarly are brought into a single characteristic, the mean, and the re-

[55] This obscure statement appears to assert a correspondence between terrestrial and celestial zones, although in fact terrestrial zones are determined by the sun, while the corresponding celestial zones refer to astral position.

[56] Reading ἡμισυστάσεις (Madvig) for the nonsensical ἡμισυσταλεῖς of the codices. But I have little confidence in the emendation.

maining zone, which is single and torrid, falls into the remaining characteristic.

It is obvious that the division into five zones is also geographical. For geography seeks to define that section which is inhabited by us by means of one of the two temperate zones. Now, to the west and to the east it is the sea which forms the boundary, but to the south and to the north it is the air or temperature: the air in the middle is temperate both for plants and animals; to the north and south, it is harsh through excess and lack of heat. The division into five zones was necessary to fit these three differentiations of temperature. For the division of the earth's sphere by the equator into the northern hemisphere in which we live, and the southern hemisphere, formed a tracery for the three differentiations of temperature; for the regions at the equator and in the torrid zone are uninhabitable because of the heat, and those at the poles uninhabitable because of the cold; what is in between them is the temperate and habitable area. Posidonius' addition of his zones under the tropics adds something that is not analogous to these five zones, nor is he using a like criterion; no, it is as if he were representing zones also by their ethnic differences, an Ethiopic zone, a Scythian and Celtic zone, and a third in between.

(b) Detailed criticism of Polybius

[3.2] Polybius went wrong in this, in having some of his zones determined by the arctic circles, the two that fall under the arctic circles themselves, and the two between them and the tropics; for, as has already been said, one must not determine the invariable by marks that are variable. And the use of the tropics as boundaries of the torrid zone has also been objected to already. But the notion which led him to divide the torrid zone into two is not a bad one in that it rests on the elegant division of the whole earth by the equator into the northern and southern

hemispheres. For it is obvious that if the torrid zone too is divided by this method of partition, so he arrives at a convenient result whereby each hemisphere is composed of three whole zones that are of similar form to those in the other hemisphere. Now, a division of the earth of that sort [i.e. by the equator] admits the partition into six zones, but if you make the division by the other meridian, it does not at all admit it. For if you were to cut the earth into two by means of the meridian through the poles, you wouldn't reasonably cut each hemisphere, west and east, into six zones; no, five would be enough. This is because both sections of the torrid zone made by the equator are similar in character and contiguous, thus making the division superfluous, while the temperate and frigid zones, although similar in form, are not contiguous; so even if the whole earth were to be conceived from the point of view of such hemispherical division, a division into five zones would be enough.

But if the zone that falls under the equator is temperate, as Eratosthenes says [II.A.5 Berger], and as Polybius agrees (Polybius adds the additional reason that the ground is very high; because of this it is also rained upon, since the clouds from the north are driven in great number by the etesian winds against the rising ground there), then it is much better to make that a third temperate zone, a narrow one, than to introduce the zones under the tropics. This [i.e. Polybius' temperate equatorial strip] is supported by the following sort of argument, mentioned too by Posidonius: the fact that there[57] the oblique changes of course of the sun are more rapid, and in the same way also its movement from rising to setting; for in motions completed in the same time, those over the greatest circle of circumference are more rapid.

[3.3] But Posidonius criticises Polybius for saying that

[57] Reading ἐκεῖ, du Theil, for καὶ of the codices.

the inhabited area under the equator is very high; for Posidonius said that there is no high point in a spherical surface because of its evenness; nor, in fact, is the land under the equator mountainous, but rather flat, on a level more or less with the surface of the sea; for he says that the rains that fill the Nile come from the Ethiopian mountains.[58]

But although Posidonius said that here, he agrees with Polybius' point elsewhere, and says that he suspects there were mountains at the equator, against which the clouds from both temperate zones on both sides strike and make rain. Here the inconsistency is obvious; but even granted that the equator is mountainous, another inconsistency, it would seem, rears its head. For these same men [Polybius and Posidonius] claim the ocean to be confluent with itself in a continual circle round the earth. So how come they place mountains in the middle of it, unless it's some islands they mean? But however that may be, it falls outside the sphere of geography; perhaps the examination of this question should be assigned to a man proposing a study of the ocean.

C

Eudoxus of Cyzicus and the Circumnavigation of Africa

(1) Posidonius' account

(a) Doxography and earlier evidence

[3.4] When recording the names of those reputed to have circumnavigated Libya, Posidonius says that Herodotus thought [IV.42–4] that some men sent by Darius completed the circumnavigation; and that Heraclides of Pontus in a dialogue [69 Wehrli] makes a certain magus arrive at Gelon's court and claim to have circumnavigated Africa. These two claims, said Posidonius, were unsupported by evidence, and he tells the story of Eudoxus of Cyzicus

[58] But see F210 and F222.

coming to Egypt in the reign of Euergetes II, as ambassador and herald for the games at the festival of Kore.

(b) First voyage to India

He says that Eudoxus joined up with the king and his court, most particularly in his voyages up the Nile, for he was a man naturally curious of strange places, and not untutored in them. The story continues that it so happened that an Indian was brought to the king by the garrison of the Arabian Gulf [the Red Sea], who reported that they had found him half-dead, shipwrecked and alone, but who he was or where he had come from they had no idea, as they couldn't understand his language; he was handed over to people to teach him Greek. Once he had learned it, his story was that he was sailing from India when he happened to lose his way and ended up safely here after his fellow sailors had died of starvation. He was taken at his word and promised to act as a guide for the route to India to a crew selected by the king. Eudoxus was one of them. So he sailed off with presents and returned with a cargo of perfumes and precious stones, some washed down by rivers with the sand, others discovered dug from the ground, compressed from liquid, like our rock crystal. But Eudoxus was deceived in his hopes; king Euergetes appropriated the whole cargo.

(c) Second voyage to India

The king died and his wife Cleopatra took over the sovereignty; and so Eudoxus was sent off by her too with greater equipment. On the way back, he was carried off course south of Ethiopia by wind; and on making landings he won over the people with gifts of bread, wine and dried fruit cakes, delicacies they had no access to, in exchange for water and guides; and he wrote down some of their words. He found a wooden prow from a shipwreck with a horse carved on it, and was told that this piece of wreck-

age came from some people sailing from the west. He took it with him when he turned back on his homeward voyage. When he returned safely to Egypt, Cleopatra was no longer in charge, but her son [Ptolemy Soter II, Lathyros] was. Again Eudoxus had all his cargo abstracted; for he was caught having appropriated a lot for himself. As for the prow, he took it to the market and showed it to the ship-masters, and they identified it as coming from Gadeira. There (they said) merchants fit out the large vessels, while poor men fit out small boats, which they call 'horses' from the device on their prow; these are used for fishing trips round the Mauretanian coast as far as the river Lixus. But some of the captains recognised the prow as belonging to one particular boat that had sailed too far beyond the river Lixus and not returned safely.

(d) Third voyage attempting to reach India round Africa

Eudoxus concluded from this that the circumnavigation of Africa was possible, went home, put all his property on a ship and put to sea. He first called at Dicaearchia [Puteoli], then at Massalia, and along the coast to Gadeira, everywhere trumpeting his purpose and doing business, fitted out a great ship and two tow-boats like pirate cutters, embarked chorus girls, doctors and other tradesmen, then set sail on the high seas for India with steady westerlies. But his companions wearied of the voyage, and forced him against his will, for he was scared of the ebb and flow of the tides, towards land with a wind behind him. And what he was afraid of actually happened; for the vessel ran aground, but gently, so that it didn't break up all at once, but they had time to salvage the cargo and most of the timber; from that he built a third cutter about the size of a penteconter and sailed on until he encountered a folk speaking the same phrases as he had written down earlier [from east Africa]; and at the same time he recognised that the people there were ethnically similar to his former

Ethiopians, while bordering on the kingdom of Bogus [i.e. Mauretania]. Abandoning the Indian voyage, Eudoxus turned back. In coasting along he saw and marked a well-watered, treed and uninhabited island. He survived as far as Mauretania, disposed of the boats, went overland to Bogus, and proposed to the king that he take on the expedition; but Bogus' friends prevailed to the contrary by suggesting apprehension that the country might be open to intrigue if an ingress were opened up for invaders. Discovering that the proposal to send him on the proclaimed expedition was an excuse for marooning him on a desert island, Eudoxus escaped to Roman-controlled territory, and crossed from there to Spain.

(e) Fourth voyage attempting the same

Again Eudoxus fitted out a round ship [i.e. merchantman] and a long penteconter [i.e. battleship], to keep to the open sea with the former and test the land with the latter. He put on board agricultural tools, seeds and builders, and set sail for the same circumnavigation, with the intention, if the voyage lengthened, of wintering on his formerly marked island, sowing and harvesting, and so completing the voyage he had decided on from the beginning.

(f) Posidonius' conclusion

[3.5] 'Well, my information,' says Posidonius, 'about Eudoxus got so far; what happened after that probably the people of Gadeira and Spain know.' And he said that it is certainly shown from all this[59] that the inhabited world is surrounded in a circle by the ocean;

> 'No continental fetter shackles it,
> But without limit on it rolls; and so nothing sullies it.'

[59] It is probable that this referred in Posidonius to a much wider examination of the question of a circumambient ocean in Posidonius' *On Ocean*, of which the Eudoxus story was only a part; see Kidd, *Comm.* p. 251.

(2) Strabo's criticism of Posidonius

Now what a marvellous man Posidonius is in all this; the circumnavigation of the magus, told by Heraclides, and that of the men sent by Darius of Herodotus' story, he thinks unsupported by evidence, and then he planks down as guaranteed this Bergaean tale,[60] whether he invented it himself or swallowed it from others who invented it. In the first place, who could believe that strange reversal of the Indian tale? The Arabian Gulf [i.e. the Red Sea] is as narrow as a river and 15,000 stades long up to its mouth, and the mouth is extremely narrow. It is hardly likely that if the Indians were sailing somewhere outside it, that they were bundled into it through wandering astray (the narrowness of the mouth was going to expose their mistaken direction); and if they sailed into the Red Sea on purpose, they could no longer offer excuse of mistaken direction or of unstable winds. And how did they manage to lose all their crew by starvation except one? And how could this survivor be capable of steering on his own the boat, which was no small one, since apparently it was capable of sailing across great seas? And what a linguistic genius, to be able to persuade the king he was capable of guiding the expedition! What an extraordinary lack of competent pilots for Euergetes, when the sea in these parts was already known to many! And as for that ambassador and herald of the people of Cyzicus, how come he abandons his country and sails for India? And how did he come to be entrusted with business of such magnitude? How was it that, robbed on his return of all his expectations and disgraced, he was then entrusted with still greater equipment of presents? And when on return from that, he was driven off course to Ethiopia, why did he write down the foreign phrases, or why did he ask where the prow from that fishing boat came from? After all, being told that the wreckage came

[60] Antiphanes of Berga in Thrace became proverbial as a fantastic romancer.

from men sailing from the west was hardly likely to be significant of anything; he himself too was going to sail from the west for the return journey home. And how, then, is it that he wasn't punished on his return to Alexandria, and caught out for misappropriation of much of the cargo? Not a bit of it, he was even perambulating, asking questions of the ship captains while showing them his prow. As for the one who recognised it, he was a marvel, and the one who believed him, even more so! I'm talking of one who, on that sort of expectation, returned to his homeland, then set off from it to settle as an alien beyond the Pillars of Hercules. He wouldn't even have been permitted to put to sea from Alexandria without official permission, especially after stealing regal property. And it certainly wasn't possible for him to sail out secretly, because the harbour and all other exits were closed under as strong a guard as still to this day persists (I know because I lived myself in Alexandria a long time); it is true that under Roman control at the moment it is greatly relaxed, but the royal guards were much stricter. And when he had gone off to Gadeira and built himself ships and sailed away in regal fashion, how did he manage, when his boat was wrecked, to build himself a third cutter in the desert? And how was it, when he had sailed off again and found those western Ethiopians, the ones, you remember, who were homoglott with the eastern Ethiopians, that he wasn't roused to continue the next stage of his voyage, a man after all besotted with foreign parts, and who expected the remainder of unknown territory to be small? But no, he abandoned that and set his heart on the expedition managed through Bogus. And how did he come to know the secret plot formed against him? And what was the gain for Bogus, this making away with the fellow, when he could have sent him packing in any case? And when Eudoxus found out about the plot, how did he manage to escape

secretly to safe territory? Although there is nothing downright impossible in such events, each is difficult and a rare occurrence needing luck; but luck was what Eudoxus always enjoyed, although running the gauntlet of continuous difficulties. And how come he was afraid, when he was on the run from Bogus, to sail back along the coast of Libya when he had an outfit capable of colonising an island?

Now this stuff falls not much short of the lies that come from Pytheas, Euhemerus and Antiphanes.[61] But we can forgive them: they do it on purpose, like conjurers; but what excuse could there be for Posidonius, philosopher and master of logical demonstration, and pretty well in contention for the highest honours? No, that is not good.

D

Changes in earth levels and natural disturbances

(1) Atlantis

[3.6] But his account is correct of the occasional rising and sinking the earth is subject to and of changes arising from earthquakes and the rest of such similar phenomena, all of which I too have enumerated; and with regard to that, he does well to bring forward Plato's point that the story of Atlantis may actually not be fictional. Plato says that Solon reported from information from the Egyptian priests that it once existed and then disappeared, no less than a continent in size. Posidonius thinks it is better to say that than that its inventor made it disappear, as the Poet [i.e. Homer] did with the wall of the Achaeans [*Iliad* XII.1–33].

(2) The cause of the Cimbrian migrations

He conjectures also that the migration of the Cimbri and their kin from their native land did ⟨*not*⟩ arise from an encroachment of the sea that flooded all at once.[62]

[61] In Strabo's eyes, pure romancers.
[62] See F272. For the emendation and interpretation, see Kidd, *Comm.* pp. 260f.

E

Length of the inhabited world

He surmises that the length of the inhabited world, being somewhere about 70,000 stades, is half of the whole circle in respect of which it has been taken, so that, says he, sailing from the west with an east wind you would come to India within the same number of stades.

F

Geographical divisions

Human geography and environmental ethnography

[3.7] He tries to find fault with those who define continents in the way they do and not by certain parallels to the equator through which they were likely to show variations in animals, plants and climate, some connected with the frigid zone, others with the torrid, with the result that the continents are a sort of zones; but he then reverses his decision and dissolves the sentence imposed, since he is back to praising the existing divisions, thus making the enquiry a matter of debate with no practical purpose. For such dispositions of animals, plants and climate do not arise from providential design, as neither do differences in respect of race or language, but by accident and chance. And technical achievement, capacities and characteristics of behaviour, once a start has been made, prevail for the most part in any band of latitude, and in some cases even in spite of the latitude, so that some are endemic by nature, others by habituation and practice. It is not by nature that the Athenians are lovers of literature and the Spartans not (or still closer in latitude, the Thebans), but rather by habituation; and in the same way, it is not by nature that the Babylonians and Egyptians are lovers of science, but by practice and habituation; and supreme excellence in horses, cattle or other animals is not created by locality only, but by training too. Posidonius confuses this. When praising the sort of division of continents as is now held,

he uses as an example the fact that Indians differ from African Ethiopians (although being on the same latitude); for, he says, Indians are more developed physically, less burnt by the dryness of the atmosphere. Therefore, says he, Homer too, although calling all of them Ethiopians, split them in two groups: 'Some where Hyperion sinks, some where he rises' [*Od.* 1.24];[63] while Crates [F34f Mette], in introducing a second inhabited world, which Homer did not know,[64] is a slave to a hypothesis; 'he ought', says Posidonius, 'to have changed the line like this: "both Hyperion departing ...", i.e. bending in his circle from the meridian.'[65]

[3.8] Now in the first place, the Egyptian Ethiopians are themselves split in two;[66] some are in Asia, some in Libya, with no distinction between the two. Homer did not split the Ethiopians because he knew that Indians were of a certain physical condition (in all probability, he did not even know of the Indians at all, since not even Euergetes, according to the Eudoxus tale,[67] knew anything about India, or even how to sail there), but rather on the basis of the division of which I have spoken above.[68] There I also argued on the Crates reading of the line, that it makes no difference whether you read the line that way or the other way. But Posidonius says it does make a difference, and that it is better to emend to 'both where Hyperion departs'. So what is the difference of that from 'both where Hyperion sets'? For the whole sector from the meridian

[63] Implying that both groups of Ethiopians were the same race because they were on the same latitude, but had differences through continental division.

[64] Crates held that ocean divided the known inhabited world from an antipodal counterpart, and so assumed a second group of Ethiopians south of the equator in a corresponding area to those in the northern hemisphere.

[65] For this obscure passage, and an interpretation of what Posidonius may have meant, see Kidd, *Comm.* pp. 268–70.

[66] By the Nile. East of the Nile was regarded as part of Asia.

[67] Strabo's sarcasm is relentless.

[68] Strabo 1.2.24–28.

[i.e. zenith] to setting [i.e. horizon] is called setting, just as the semicircle of the horizon[69] is so called. That is precisely what Aratus means to indicate with [*Phaenomena*, 61]: 'where the extremities of the west and east mingle with each other'. And if the line is better with Crates' reading, we will say it must also be so with Aristarchus' reading.

G

Strabo's summing up and general criticism

So much will do in reply to Posidonius as well; much of it will meet with suitable treatment under particular sections, that is, all that relates to geography; but anything that falls more under natural philosophy I must examine elsewhere, or not even bother to mention it. For there is much enquiry into causes in him, that is, 'Aristotelising', a thing which our School[70] sheers off from because of the concealment of causes.

'CIRCUMNAVIGATION' OR 'GEOGRAPHICAL TOURS'

50 (T19c Jac.) Pliny, *Natural History*, 1.5 (listed in an index of sources)

'HISTORY'

Chians enslaved by Mithridates (86 B.C.)

51 (F38 Jac.) Athenaeus, VI.266E–F

Context: The topic of slaves began at 262B, and at 265B the statement that the Chians were the first Greeks to buy slaves is specifically quoted from Theopompus, Bk 17. At that point, the speaker, Democritus (i.e. Athenaeus), says, 'But I think that the deity was wroth with the Chians for that, because at a later time they were embroiled in war because of slaves.' Then follows a long quotation from Nymphodorus of Syracuse's *Voyage along Asia* (second half 4th c. B.C.) on a Chian slave revolt led by Drimacus, later honoured by

[69] I.e. to the west from north to south. [70] The Stoics.

a shrine. Then a brief reference to Herodotus VIII.105 is followed by the Posidonian Mithridatic anecdote. The sequence shows that the Posidonian evidence is confined to that, and that the sentence on divine wrath comes from Athenaeus. The Chian enslavement by Mithridates is the latest dateable event (86 B.C.) which can with certainty be assigned to the *History* from the surviving fragments. On the problem of the date of the conclusion of the *History*: Kidd, *Comm.* pp. 277–80.

Both Nicolaus the Peripatetic[71] and Posidonius the Stoic say in their *Histories* that the Chians were enslaved by Mithridates of Cappadocia, and handed over in fetters to their own personal slaves to be settled in the territory of Colchis. So truly did the deity vent his wrath on them for having been the first to use purchased slaves, when most men did their own work when ministering to their own needs.

Rabbits

52 (F61 Jac.) Athenaeus, IX.401A (*v.* T24)

Context: A discussion on the hare as a delicacy had begun at 399D. Immediately before this fragment, Polybius (13.3.10) is quoted on the comparison between hares and rabbits.

The philosopher Posidonius mentions rabbits in the *History*: 'We too saw a lot of them on our sailing from Dicaearcheia [Puteoli] to Neapolis. For there is an island a short distance from the mainland by the extreme end of Dicaearcheia with few inhabitants but a large number of these rabbits.'

Bk II

Banquet customs of Romans and Etruscans

53 (F1 Jac.) Athenaeus, IV.153C–D

Context: Part of Athenaeus' list of banqueting customs. F57, F64, F75 precede, and a note from Timaeus, *Hist.* 1 follows. The two parts of the fragment were probably juxtaposed by Athenaeus; it is unlikely that they had the same context in Posidonius.

[71] Nicolaus of Damascus, court philosopher and historian of Herod the Great in the second half of the 1st c. B.C. *FGrH* 90, F95.

In Bk II of the *History* he says: 'In the city of Rome, whenever they hold a banquet in the temple of Hercules at the invitation of whoever is celebrating a triumph at the time, the provision of the banquet is also herculean. Honeyed wine flows and the food is large loaves, boiled smoked-meat and roasted portions from the freshly sacrificed victims in abundance. Among the Etruscans, twice a day costly tables are spread, with flowered spreads and silver cups of all kinds, and a mass of comely slaves attend arrayed in costly garments.'

Bk III

Apameans and Larissaeans at war

54 (F2 Jac.) Athenaeus, IV.176B–C

Context: Embedded in a section on musical instruments. *History* Bk III probably saw the opening of Posidonius' account of Syrian history, from 145 B.C. (Kidd, *Comm.* pp. 284f.). Posidonius' sarcastic invective against his degenerate countrymen, is a vivid example of his style.

Posidonius, the Stoic philosopher, recounting in Bk III of the *History* the war of the Apameans with the people of Larissa, writes this: 'Clutching belt dirklets and javelettes covered in rust and filth, with wee stetsons clapped on their heads and sun-shields that provided shade yet did not prevent their necks from being ventilated, dragging along donkeys loaded with wine and food of all kinds, festooned with flutelets and solo recorders, instruments of revelry rather than of war.'

Pistachios in Syria and Arabia

55a (F3 Jac.) Athenaeus, XIV.649D

Context: Learned challenges for literary references to the pistachio nut.

And Posidonius, the Stoic, writes in the third book of the *History* the following: 'Arabia and Syria produce the fruit of the persea tree [*Mimusops schimperi*] and the so-called

"bistakion" [pistachio]; the latter sets out its fruit in long entwined clusters, ash-coloured, like tear-drops, tight on each other like grapes in a bunch. They are greenish inside, less well-flavoured than the seeds of pine cones, but more fragrant.'

55b Eustathius, *Commentaries on Homer's Iliad*, XX.321
One ought to investigate the '*melia*' [manna-ash] in Athenaeus [XIV, 649E] in case it is the same as the '*melia*' from which the term for the ash spear is derived. Athenaeus says [649E] that the authors of *On Farming* wrote as follows: 'the "*melia*" [manna-ash] and the "terminthos", which the Syrians today call "pistakia" [pistachio].' The Syrians, Athenaeus says, pronounce it with a 'p', Nicander [*Theriaca*, 891] aspirates it to 'fittakia', but Posidonius wrote 'bistakia'. Elsewhere it is actually 'psittakia'. It seems from this that the '*melia*' does not indicate the tree but the fruit of the tree.

Bk IV

Hierax of Antioch

56 (F4 Jac.) Athenaeus, VI.252E

Context: A discussion on parasites beginning at 234C. F69 and F74 were earlier contributions. Stories from Nicolaus on the parasite of Licinius Crassus and on a parasite of Mithridates occur before and after. Ptolemy Philometor, who had been involved in Syrian inter-dynastic politics, died in 145 B.C. *History* Bks III–V appear to have dealt with early Syrian history.

Posidonius of Apamea, who later made his living in Rhodes, says in Bk IV of the *History* that Hierax of Antioch, the former recorder accompanist for burlesque shows, later on became a formidable parasite of King Ptolemy VIII Euergetes, and rose to great power under him (as he had also with Ptolemy Philometor), but Euergetes later had him killed.

Bk V

The 'King's friend' among the Parthians

57 (F5 Jac.) Athenaeus, IV.152F–153A

Context: Part of Athenaeus' discussion of banquets and eating habits. F67 precedes, and F64, F75 and F53 follow. The vividness of pictorial detail is typical.

In the fifth book [of the *History*], when discussing the Parthians, Posidonius says: 'The so-called "Friend" does not participate at table, but sitting on the ground below the king, who reclines on a lofty couch, is fed dog-like with scraps tossed by the king; and often on any chance pretext he is dragged off from his groundling meal to be whipped with canes or bone-knotted thongs, until blood-soaked he prostrates himself face down on the floor and does obeisance to his tormentor as his benefactor.'

Bk VII

Luxury of Ptolemy VIII

58 (F7 Jac.) Athenaeus, XII.549D–E

Context: The Athenaean context is of people notorious for luxury. F58 is followed by a quotation from Euergetes himself, and then by Posidonius' reference to Ptolemy Alexander I in F77. The contextual date is fixed by Scipio's famous diplomatic tour, which is however controversial, usually assigned to 140/39 B.C., but lately argued for 144/3 B.C. by Mattingly. Athenaeus makes the silly mistake of confusing Posidonius with Panaetius, who was Scipio's attendant philosopher on this occasion; see T7.

Like him too[72] was Ptolemy VII,[73] King of Egypt, who proclaimed himself Benefactor [Euergetes], but was named Malefactor [Kakergetes] by the Alexandrians. At all events, Posidonius, the Stoic, who travelled with Scipio Africanus when he had been invited to Alexandria, and observed him, writes in Bk VII of the *History* as follows: 'Because of luxurious living, his body had been destroyed by fat and a vast belly that it would have been difficult to get your arms

[72] Dionysius, son of Clearchus, of Heracleia. [73] Actually Ptolemy VIII.

round; over this belly he put on an ankle-length tunic with sleeves down to the wrists. He would never go out on foot, unless because of Scipio.'

Bk VIII

Luxury of Damophilus

59 (F7 Jac.) Athenaeus, XII.542B

Context: In Athenaeus, luxury in notable individuals; and an isolated fragment surrounded by examples from Diodorus, Duris, Silanus of Caleacte (before) and Duris (to follow). The historical context is the outbreak of the first Sicilian slave war (?136–132 B.C.), which was accordingly a subject in Bk VIII of *History*. Compare Diodorus 34.2.34, which is unquestionably a diluted version of Posidonius. It is likely that Diodorus (34.2; 34.8–11) used Posidonius for his whole account of the first Sicilian slave war. But the incisiveness of the biting invective of the original is sadly missing.

Posidonius in Bk VIII of the *History* says of the Sicilian Greek Damophilus, who caused the outbreak of the slave war, that he was addicted to luxury, and writes just as follows: 'So he was a slave of luxury and malpractice, driven through the country in four-wheeled chariots at the head of horses, luscious attendants, and a concourse of bumsuckers and soldier-slaves. But later he came to a violent end with his whole household, treated with extreme violence by the slaves.'

Bk XI

Voluntary subjection: Mariandynians and Heracleots

60 (F8 Jac.) Athenaeus, VI.263C–D

Context: Athenaeus' topic of slaves was opened at 262B. This fragment is followed shortly by F51, and F262 forms a later parenthesis. Frs. 265–7 occur at the end of this theme. There is no means of telling the Posidonian context of Bk XI, but the passage illustrates another historical angle of Posidonius' interest in kingship, master and servant, extending even to a kind of conditional serfdom for the good of both parties, and thus revealing a philosophical view of historical government.

Posidonius, the Stoic, says in Bk XI of the *History*: 'Many who are unable to champion themselves because of the

feebleness of their intellect hand themselves over to the service of more intelligent people to get from them provision for their necessary wants, and themselves in return render to them through their own persons whatever service they are capable of. It was in this way that the Mariandynians submitted themselves to the Heracleots, promising to serve them permanently as long as the latter provided their needs, but with the added stipulation that none of them be sold outside Heracleot territory, but only in their own land.'

Bk XIV

Luxurious banquets given by Antiochus VII Sidetes, King of Syria

61a (F9a Jac.) Athenaeus, XII.540B–C

Context: Athenaeus in his notebooks under lavish entertainment had two entries from Posidonius juxtaposed: one on Antiochus VII Sidetes of Syria (chronologically in the 130s B.C., from Bk XIV of Posidonius); the other on Antiochus VIII Grypus (from Bk XXVIII of Posidonius, period 121–c. 115/114 B.C.); for they are repeated one after the other in Athenaeus Bks V and XII, but in reverse order. See F72.

And in Bk XIV [of the *History*] Posidonius, with reference to the king who had the same name as him, Antiochus,[74] the one who made the campaign into Media against Arsaces,[75] says: 'He would give daily receptions for the masses. In them, apart from the heaps of food that were consumed and tossed out as scraps, each diner would carry off whole joints of meat and fowls, and of sea creatures prepared uncarved, capable of filling a wagon. And after that, honey cakes and garlands of myrrh and frankincense with ribbons of compressed gold as long as a grown man in great quantities.'

[74] This is King Antiochus VII Sidetes of Syria. The homonymous Antiochus described in the previous sentence in Athenaeus by Posidonius, was Antiochus VIII Grypus; see F72.

[75] Phraates II.

61b (F9b Jac.) Athenaeus, V.210C–D

The king with the same name as the forementioned Antiochus, I mean the son of Demetrius, is recorded by Posidonius as holding daily receptions for the masses, and apart from the heaps of food that were consumed, he would give each diner to carry off whole joints of meat and fowls, and of sea creatures prepared uncarved, capable of filling a waggon; and after that, quantities of honey cakes and garlands of myrrh and frankincense with ribbons of compressed gold as long as a grown man.

Bk XVI

Degenerate luxury in Syrian cities

62a (F10 Jac.) Athenaeus, XII.527E–F

Context: See F61 context. F62a and b are in the same group. The chronological reference should be late 130s or early 120s B.C.

Posidonius in Bk XVI of the *History*, with reference to luxurious living in the cities of Syria, writes as follows: 'Because of the abundance that came from their land, the people in the cities were free from the bother of the necessities of life, and so they were for ever meeting for a continual life of feasting; their gymnasia[76] were turned into baths, where even their unguents were expensive and perfumed; as for their "Letters",[77] (that is the name they gave to their dining Clubs), they lived in them as if they were their homes, and spent the greater part of the day there stuffing their bellies with food and wine, even carrying off a great deal back home as well, and were continually entertained by flute playing to the accompanying beat of the loud-twanging tortoise-shell[78] so that whole cities resounded with such noises.'

[76] Centres for exercise.

[77] Local clubs designated by a letter like American college clubs.

[78] A fancy word for the lyre. The language has become deliberately and climactically contrived in sarcasm.

62b (F10 Jac.) Athenaeus, v.210E–F
'And all the people of Syria,' says Posidonius, 'because of the abundance that came from their land, were free from the bother of the necessities of life, and so were for ever meeting for a continual life of feasting; ...' [The passage continues identically with F62a]

Drunken ambition of Antiochus VII Sidetes

63 (F11 Jac.) Athenaeus, x.439D–E

Context: Athenaeus' list of hard drinkers and drunkards. Antiochus Sidetes invaded Media in 130 B.C., but in 129 B.C. was defeated by the Parthians and himself killed.

Another toper was the like-named Antiochus, the one who went to war against Arsaces in Media,[79] as Posidonius of Apamea records in Bk xvi of the *History*: 'for when he had been killed, Arsaces when burying him, said: "Your boldness and drunkenness, Antiochus, caused your fall; for you expected to drink up the Arsacid kingdom in huge cups."'

Regal treatment at Parthian banquets of a royal Seleucid prisoner of war

64 (F12 Jac.) Athenaeus, iv.153A–B

Context: Athenaeus' discussion of banqueting and eating habits. F57 precedes, and F75 and F53 follow. Athenaeus' introduction from *History* Bk xvi raises questions about the king named, the date, and even the book of the *History*: Kidd, *Comm.* pp. 303f. But if there is confusion between content, name and chronology, it is almost certainly on the part of Athenaeus. It is possible that by Seleucus, the son of Antiochus VII Sidetes is meant, but that Seleucus was never king.

In Bk xvi [of the *History*] Posidonius, in the process of giving an account of Seleucus the King – how he invaded Media, made war on Arsaces, was taken prisoner by the barbarian and spent a long time with Arsaces treated royally – writes: 'At banquets among the Parthians, the

[79] This is Antiochus VII Sidetes, like-named to Antiochus VI Epiphanes dealt with immediately before in Athenaeus.

King had his couch, on which he alone would recline, on a higher level and separated from the others, and his own table set as for a sanctified hero, full of native delicacies.'

Hospitality of Lysimachus of Babylon

65 (F13 Jac.) Athenaeus, XI.466B–C

Context: A miscellaneous section on drinking cups. After Phraates II, King of Parthia, had defeated Antiochus VII Sidetes in 129 B.C. (F63), he was diverted to deal with the Scyths, and left his favourite, Himerus, as his viceroy in Babylonia. So we should still be in Bk XVI, and Müller rightly emended codex A's Book number from 26 to 16. Himerus was noted for extreme cruelty in Babylonia, so Posidonius again appears to be underlining the corruption of luxury.

Posidonius in Bk XVI[80] of the *History* says that Lysimachus the Babylonian invited to dinner Himerus, the tyrant not only of the Babylonians but of the people of Seleuceia as well, with three hundred others; after the tables had been removed, he gave each of the three hundred a four-mina silver goblet; he made libation and toasted them all together. He gave the cups to be taken away with them.

Bk XXII

Lavish funeral given by Harpalus for his mistress Pythonice

66 (F14 Jac.) Athenaeus, XIII.594D–E

Context: In Athenaeus, the topic of notorious prostitutes and mistresses. The luxurious misconduct of Harpalus, the boyhood friend of Alexander, left in charge of administration and the royal treasury at Babylon when Alexander went off on the Indian campaign, was a notorious scandal. Pythonice was a slave prostitute from Athens.

Harpalus, the Macedonian who embezzled a great deal of Alexander's treasury and fled for refuge to Athens, fell in love with Pythonice, and, as his mistress, spent a great deal of money on her. When she died, he built a memorial costing many talents; 'And in the procession to her place of burial,' as Posidonius says in Bk XXII of the *History*, 'he

[80] Codex A had 26, correctly emended by Müller; see Context.

escorted her corpse with a great band of the most distinguished artists and with instruments of all kinds and music in concert.'

Bk XXIII

Eating and drinking habits of the Celts. Wealth and prodigality of Luvernius. Posidonius' Celtic ethography

67 (F15 and F18 Jac.) Athenaeus, IV.151E–152F

Context: (a) In Athenaeus' section on banquets and eating habits, this passage is preceded by a report from Phylarchus on the Galatae or Celts, and followed by Xenophon on Thracian dinners. (b) In Posidonius, his Celtic ethnography in the *History*. See also Frs. 68, 69, 274, 276. For the difficulties of deriving Posidonius' Celtic ethnography from our four surviving ones in Strabo (IV.4.2–6), Caesar (*BG* VI.11–28), Diodorus (5.25–32) and Athenaeus: Kidd, *Comm.* pp. 308–10. The problem for Athenaeus is that the historical context in Posidonius, in which Athenaeus is not interested, is entirely lost.

Introduction

Posidonius, the Stoic, in the *History* which he composed in a manner consonant to the philosophy he had adopted, in recording many habits and customs from many people,[81] says, 'The Celts serve their food with an underlay of hay and on wooden tables raised a little from the ground.

Food

'Their food consists of a little bread and a great deal of meat boiled or roasted on charcoal or on spits. They are clean eaters, but with a lion's appetite. They select whole joints in both hands and gnaw bits off, or if a bit is hard to tear away, they slice along it with a dirk which lies to hand with its sheath in its own box. Those who live by rivers or by the inner or outer sea[82] also eat fish, baked with salt, vinegar and cummin; the last they also sprinkle into their

[81] See T80. [82] The Mediterranean and the Atlantic.

drinks. They don't use olive oil because of its scarcity, and they find its taste unpleasant because they are unused to it.

Seating

'In larger dinner parties, they sit in a ring with the mightiest in the middle, like a chorus leader, distinguished from the rest in his coolness in war, or in family or wealth. The host sits next to him, and the rest in order of honour of rank on either side. Their shield-bearers stand behind, and the men-at-arms share in the feast, sitting opposite in a ring like their masters.

Drink

'The servants carry the drink round in vessels like carafes, either of pottery or silver, and the platters on which they serve the food are of similar ware, but some also of bronze, others baskets of wood or wicker.

'The drink among the rich is wine transported from Italy or the Massaliote region. It is drunk undiluted, but sometimes with a little water added. Among the poorer classes a beer is made from wheat with honey added,[83] and the majority drink it neat. It is called "corma". They sip from the same vessel a little at a time, not more than a cyathos;[84] but they do that rather often. The slave carries it round to the right and to the left; that is the service custom. They say grace to their gods turning to the right.'

The wealth and prodigality of Luvernius

Posidonius goes on to describe the wealth of Luvernius, the father of Bituis, who was deposed by the Romans. He says that attempting to curry popularity with the mob,

[83] This seems a mistake. Beer was made from barley, and honey formed a separate drink, mead.

[84] A ladle-full, or an Attic measure of about 1/12 of a pint.

he was carried in a chariot through the countryside, and scattered gold and silver for the thousands of Celts who followed him. He fenced off an area twelve stades square in which he filled up vats with expensive wine and prepared such a quantity of food that for many days anyone who wished could enter and enjoy what had been prepared with a continuous service. After he had put a closure on the feast, a native poet arrived late, and on meeting him sang a song in honour of his eminence, but lamented his own late-coming; Luvernius was delighted, asked for a bag of gold, and threw it to him as he was running alongside. The man picked it up and started another song that the tracks of his chariot on the ground bore gold and bounty for men. Posidonius recorded all that in Bk XXIII.

Celtic Duels

68 (F16 Jac.) Athenaeus, IV.154A–C

Context: Again in the Celtic ethnography of Bk XXIII. The order in Athenaeus' discussion of banquets and eating habits is: F67, F57, F64, F75, F53, F73, a report by Nicolaus of Damascus on Roman duels during banquets, Eratosthenes on Etruscans accompanying boxing bouts with the flute, and then this, F68.

Posidonius says in Bk XXIII of the *History*: 'The Celts sometimes engage in duels during dinner. After assembling fully armed, they shadow fence and spar with each other, and sometimes even go the length of inflicting a wound, and roused by this, unless the bystanders stop it, as far as the kill. But in ancient times,' he says, 'when whole joints were served, the best man would get the thigh; but if someone else claimed it, they would join in a duel to the death. Others again would collect silver or gold from a public audience, or in some cases a quantity of jars of wine, and securing the gift by pledge and distributing it to their nearest and dearest, would lie stretched out on their backs on their shields, whereupon a man would take his place by the victim on the shield and cut off his head.'

Celtic parasites and Bards

69 (F17 Jac.) Athenaeus, VI.246C–D

Context: (a) In Athenaeus, the topic of parasites. (b) Still part of Posidonius' Celtic ethnography in Bk XXIII. See Strabo, IV.4.4; Diodorus, 5.31.2–5; Caesar, *BG* VI.13–16.

Posidonius of Apamea says in Bk XXIII of the *History*: 'The Celts take round with them, even when engaged in war, boon-companions they call "parasites". These characters spout eulogies of them both before groups gathered together and before each of the audience individually. Their musical entertainment is provided by the so-called Bards; they are in fact poets who laud them in song.'

Bk XXVII

Wild turnips and carrots in Dalmatia

70 (F19 Jac.) Athenaeus, IX.369C–D

Context: A discussion on vegetables beginning with turnips. It has been suggested that the context in Posidonius may have been the triumph of L. Caecilius Metellus Delmaticus over the Dalmatians in 117 B.C., but in truth it is quite unknown.

The Stoic Posidonius in Bk XXVII of the *History* says about Dalmatia that wild turnips and carrots grew there.

Bk XXVIII

Perfume at royal symposia in Syria

71 (F20 Jac.) Athenaeus, XV.692C–D

Context: In Athenaeus, a discussion centred on perfume from 686C.

And when, my friends, I was reading Bk XXVIII of Posidonius' *History*, I noticed a very nice observation on perfume... The philosopher says: 'In Syria at royal symposia, when wreaths are given to the diners, attendants enter with little pouches of Babylonian perfume, and keeping their distance as they go round, they bedew the wreaths of the reclining guests with the perfume from them, but sprinkling nothing else than the wreaths as they pass.'

Lavish entertainments of Antiochus Grypus at Daphne

72a (F21a Jac.) Athenaeus, XII.540A–B

Context: See F61, Context. Antiochus VIII Grypus, son of Demetrius II Nicator, after an initial turbulent period against the pretender Alexander II Zabinas and indeed his mother, Cleopatra Thea, reigned on the Seleucid throne in comparative peace between 121–c. 115/114 B.C., when the lavish receptions described are most likely to have taken place, thus also giving a chronological bracket for Bk XXVIII.

Posidonius in Bk XXVIII of the *History* says that King Antiochus, nicknamed Grypus [Hook-nose], held brilliant receptions when celebrating the games at Daphne.[85] At them, gifts were first distributed of whole joints of meat, then afterwards of live geese, hares and gazelles. 'And he would distribute,' says Posidonius, 'gold crowns and quantities of silverware, servants, horses and camels. Each guest had to mount the camel, drink a toast, then take the camel, what was on the camel, and the attendant slave.'

72b (F21b Jac.) Athenaeus, V.210E

And another King Antiochus, when celebrating the games at Daphne, he too held brilliant receptions, as the same Posidonius says: 'To begin with, he made distributions to each guest of whole joints of meat, and afterwards of live geese, hares and gazelles ...' (then follows the last two sentences of F72a word for word).

Bk XXX

German diet

73 (F22 Jac.) Athenaeus, IV.153E

Context: In Athenaeus, a review of national eating and drinking habits. The problem of who and where Posidonius may have thought the Germani were is discussed in Kidd, *Comm.* pp. 323–6.

Germans, as Posidonius reports in Bk XXX [of the *History*], eat meat roasted in joints for luncheon and drink milk, and their wine unmixed.

[85] The royal park about four miles from Antioch.

Bk XXXIV

A parasite of Antiochus Grypus

74 (F23 Jac.) Athenaeus, VI.246D

Context: Athenaeus' discussion on parasites; preceded by F69. For Antiochus Grypus see F72.

In Bk XXXIV [of the *History*] the same author [Posidonius] recorded the name of a certain Apollonius who had become a parasite of Antiochus Grypus, King of Syria.

How Heracleon of Beroea fed his army

75 (F24 Jac.) Athenaeus, IV.153B–C

Context: F57 and F64 precede, and F53 follows. Heracleon's bid for power was in 96 B.C.

In his account also about Heracleon of Beroea, the man who after advancement from King Antiochus Grypus, almost drove his benefactor from his kingdom, [Posidonius] writes in Bk XXXIV of his *History* the following: 'When feeding his army, he made the men lie on the ground in the open air in battalions of 1000. The meal consisted of a large loaf, meat, ordinary wine diluted with cold water, all served by men wearing their swords. Strict silence was observed.'

Bk XXXVI

Names of cups

76 (F25 Jac.) Athenaeus, XI.494F–495A

Context: A list of cups under their names.

Panathenaicon. The philosopher Posidonius in Bk XXXVI of the *History* mentions certain cups as being called that, writing as follows: 'There were also onyx cups and combinations of these up to a capacity of about a pint; and also very large "Panathenaica", some of about one and a half gallons, some even larger.'

Bk XLVII

Obesity of Alexander, son of Ptolemy Physcon

77 (F26 Jac.) Athenaeus, XII.550A–B

Context: Preceded by F58. Ptolemy Alexander I enjoyed the gross fruits of power in the late nineties or early eighties. For the dating of the termination point of the *History*, see F51, Context, and Kidd, *Comm.* pp. 277–80. His mother, Cleopatra III, ruled jointly with him until her death in 101 B.C.

Ptolemy Physcon's son Alexander also increased in girth, the one who killed his mother when she was joint ruler with him. At all events, Posidonius in Bk XLVII of the *History* speaks thus of him: 'The ruler of Egypt, hated by the mob, but fawned on by his entourage, lived in great luxury, not even able to relieve himself[86] unless supported on either side by a couple of men. But at drinking parties he would leap down from a lofty couch barefoot into the dances and perform them more energetically than the experts.'

Bk XLIX

Prodigality of Apicius

78 (F27 Jac.) Athenaeus, IV.168D–E

Context: In Athenaeus, prodigality. The context in Posidonius could well have been the trial of Rutilius in 92 B.C. For the date of the termination of the *History*: F51, Context. For Rutilius, see T13.

Among the Romans it is recalled, as Posidonius says in Bk XLIX of the *History*, that a certain Apicius had overshot all men in prodigality. This was the Apicius who was responsible for the exile of Rutilius, the man who had published a *History of Rome* in Greek.

'INVESTIGATION' OR 'MONOGRAPH ON POMPEY' (?)

79 (T11 Jac.) Strabo, XI.1.6

Context: F206. The existence of such a separate monograph remains doubtful: Kidd, *Comm.* pp. 331f.

[86] An emendation, ἀποπατεῖν (Capps) for πατεῖν codd.

Add to that, that he [i.e. Posidonius] actually [or, also] wrote up his investigations about him [i.e. Pompey].

'HANDBOOK ON TACTICS'

80 Aelian, *Tactica*, I.2

Context: In a list of previous writers on tactics.

The Stoic Posidonius also wrote a handbook on tactics, and very many others . . .

81 Arrian, *De Tactica*, I.1–2

Context: In a list of previous writers on the subject.

Posidonius of Rhodes also wrote and left behind a kind of handbook on tactics. All these treatises [on tactics by Posidonius and others mentioned] are particularly unhelpful, because they have been written as if for experts. So the names of equipment and formations are given as if they were familiar terms, but they remain completely obscure if not explained. I decided that my first task was to remedy this lack of clarity.

LETTERS

To Cicero

82 Cicero, *Ad Atticum*, II.1.2

Context: See T34.

Posidonius wrote back to me now from Rhodes to say that when he read that memoir of mine [i.e. on Cicero's consulship] which I had sent him to write up more elaborately on the same topic, he was not roused to do so, no, he was plain frightened off it. Can you imagine it? I've knocked the whole Greek nation off balance! *v.* T34

83 Cicero, *De Officiis*, III.10

Context: See F41c.

Posidonius comes as ample witness to that. He too writes in a letter . . .

FRAGMENTS DOUBTFULLY OR MISTAKENLY ASCRIBED TO POSIDONIUS

'ON VOID'

84 Ps.-Plutarch, *De Placitis Philosophorum*, II.9, *Moralia*, 888A (*Dox. Gr.* 338.18); see Stobaeus, *Eclogae*, I.18.4b (I.160.13 W), Eusebius, *Praep. Evang.* p. 844D (II.404.3 Dindorf)

Context: I argue in *Comm.* pp. 336f. that there are no firm grounds for rejecting the title. *v.* F97.

Posidonius said in Bk I of *On Void* that the void outside the cosmos was not infinite in so far as it is[87] sufficient for the dissolution. Aristotle denied void altogether. Plato denied void either within the cosmos or outside it.

'COMMENTARY ON PLATO'S *TIMAEUS*'

85 Sextus Empiricus, *Adv. Mathematicos*, VII.93

Context: There is no sure evidence that Posidonius wrote a separate Commentary on *Timaeus*, nor is there any evidence that he did not: Kidd, *Comm.* p. 339.

And as light, says Posidonius in expounding Plato's *Timaeus*, is grasped by sight that is luminous and sound by hearing that is airy, so too the nature of all that there is should be grasped by the *logos* that is kin to it.

'DISCOURSE WITH TUBERO'

86a See T12, Ps.-Plutarch, *Pro Nobilitate*, 18 (Bernardakis, *Moralia*, vol. VII, p. 260.20ff). The evidence for such a title is too vague and uncertain (Kidd, *Comm.* p. 344).

[87] Adopting the emendation καθ' ὅσον (Kidd) for ἀλλ' ὅσον (codices), meaning 'but is sufficient'.

'ON AUGURY'

86b See F113a, Nonnus Abbas, *Ad S. Gregorii Orat. I Contra Iulianum,* 72 *On Augury* (Migne, 36.1024). The evidence for this is flimsy (*Comm.* p. 344).

'COMMENTARY ON PLATO'S *PHAEDRUS*'

86c See F290, Hermias, *in Platonis Phaedrum,* 114 (Couvreur, pp. 102.9ff.). Although Posidonius knew and used *Phaedrus,* there is no evidence that he wrote a separate Commentary on it (*Comm.* pp. 344f.).

'COMMENTARY ON PLATO'S *PARMENIDES*'

86d Proclus, *in Plat. Parm.* VI.25 (Cousin, p. 25)

Context: The evidence is far too vague (*Comm.* p. 345), and there is no evidence that Posidonius wrote a separate Commentary of *Parm.*

This oversight the philosopher from Rhodes was the first to my knowledge to be on his guard against, and he for his part disposes the hypotheses another way ...

'HISTORICAL MONOGRAPH ON MARCELLUS'

86e See F257–F261. There is no evidence for such a separate monograph: *Comm.* pp. 345f.

PART III

FRAGMENTS NOT ASSIGNED TO BOOKS

DIVISIONS AND CONTENT OF PHILOSOPHY

Divisions of philosophy

87 Diogenes Laertius, VII.39

Context: At the beginning of Diogenes' general exposition of Stoic doctrines, and followed by the similes of philosophy and its parts. Other such classifications are given in Sextus Empiricus, *Adv. Math.* VII.2–23, and by Seneca, *Ep.* 89.9ff.

The Stoics say that rational discussion in philosophy consists of three parts, namely natural philosophy, ethics and logic. The first to make this division was Zeno of Citium in his book *On Reason* [*SVF*, I.45]; Chrysippus did so too in *On Reason*, Bk I and in the first book of his *Natural Philosophy* [*SVF*, II.37]; so too Apollodorus (the Winker)[1] in Bk I of his *Introduction to Stoic Doctrine* [*SVF*, III. Apollod. I], and Eudromus in *Elementary Ethics* [*SVF*, III. Eudr. I], and Diogenes of Babylon [*SVF*, III. Diog. 16] and Posidonius. These parts Apollodorus named departments, Chrysippus and Eudromus called them species, and others classes.

Posidonius' simile for philosophy and its divisions

88 Sextus Empiricus, *Adv. Mathematicos*, VII.16–19

Context: VII.1–26 discuss views held on the parts of philosophy, their relative importance and teaching order. Posidonius' deliberate change to an organic simile for the relationship between parts is important for his valuation of the role of logic: *Comm.* pp. 352–5; Kidd, 'Posidonius and Logic'; and 'Philosophy and science in Posidonius'. A similar simile occurs in Diogenes Laertius VII.40, but with ethics and physics changing places.

... but a more complete classification in philosophy ... was given by those who said it consisted of natural philosophy, ethics and logic; Plato was a pioneer in implying

[1] This is almost certainly Apollodorus of Seleuceia, the pupil of Diogenes of Babylon. The word that comes after his name is uncertain, but may be a nickname, ὁ ἔπιλλος.

these parts, ... but the most explicit statements come from Xenocrates and his circle and the Peripatetics, and the Stoics too [*SVF*, II.38] adhere to this division. From that, the Stoics implausibly[2] liken philosophy to a garden rich in its variety of fruit, comparing natural philosophy to the height of the plants, ethics to the abundance of the crop, and logic to the strength of the walls. Others say that philosophy is like an egg, ethics being compared to the yolk (or the chick, as some put it), while natural philosophy is the white that provides the sustenance for the yolk, and logic is the outside shell. Posidonius differed: since the parts of philosophy are inseparable from each other, yet plants are thought of as distinct from fruit and walls are separate from plants, he claimed that the simile for philosophy should rather be with a living creature, where natural philosophy is the blood and flesh, logic the bones and sinews, and ethics the soul.

Subdivisions of ethics

89 Diogenes Laertius, VII.84

Context: Immediately after Diogenes' account of Stoic logic, and followed directly by his exposition of ethics, beginning with impulse.

The Stoics divide the ethical part of philosophy into the following topics: impulse, good and evil, emotions, virtue, end, first value and actions, appropriate acts, exhortations and dissuasions. Those are the subdivisions made by Chrysippus and his circle [*SVF*, III.1], by Archedemus [*SVF*, III. Arch. 18], Zeno of Tarsus [*SVF*, III. Zen. 4], Apollodorus [*SVF*, III. Apollod. 13], Diogenes [*SVF*, III. Diog. 38], Antipater [*SVF*, III. Ant. 51], and Posidonius; while Zeno of Citium [*SVF*, I.178] and Cleanthes, as befitted an older generation, treated the matter more simply. But the others also subdivided logic and natural philosophy.

[2] So the codices; the emendation 'plausibly' has been suggested.

Liberal arts; philosophy and science

90 Seneca, *Epistulae*, 88.21–8

Context: In this *Letter*, Seneca is distinguishing philosophy and goodness from learning and erudition, and other arts and sciences. The scholar, musician, scientist, artist, or physical trainer all contribute towards the apparatus of life, but not to virtue (§20). So although Romans call these 'liberal arts', he reserves that term in his fourfold classification of arts and sciences for philosophy itself (§23). But the distinctions between the four categories also reveal relationships of great importance for Posidonius' theory of the sciences as the tools of philosophy: Kidd, 'Philosophy and Science in Posidonius'; *Comm.* pp. 359–65.

[21] Posidonius says that there are four classes of arts: those that are common and mercenary, the arts of entertainment, those of elementary education, and the liberal arts. The common arts are those of artisans, consist of manual work and are devoted to equipping us with the necessities of life; they have no pretensions to seemly or moral behaviour. [22] The entertainment arts are aimed at the pleasure of eye and ear. We may include among these the engineers who devise automatically ascending platforms, or tiers waxing silently heavenwards and other tricks that surprise one: solid floors that gap, things apart joining up of their own accord, edifices that tower above us sinking slowly into themselves. That is what dazzles the uneducated: they wonder at any sudden happening because they don't know the cause of it. [23] The elementary arts – and they have some similarity to the liberal arts – are those which the Greeks call 'encyclic', but we[3] call liberal. But the only liberal arts – hold on, I'll put that with more exact truth, *free* or liberated arts – are those which concern themselves with moral excellence.

[24] One may object: 'As natural philosophy is a part of philosophy, and ethics a part, and logic a part, so also the mob of liberal arts claims its place in philosophy. When it

[3] I.e. the Romans.

comes to an investigation in natural philosophy, a decision is taken on the evidence of the mathematician; so mathematics is a part of what it helps.' There are many things that help us but are not on that account part of us; indeed, if they were parts, they wouldn't help. Food is something that helps the body, but it is not a bodily part. Mathematics provides us with a certain service, so it is necessary to philosophy as the instrument maker is to it, but it is no more a part of philosophy than the instrument maker is a part of it.

[26] Moreover, philosophy and mathematics each has its own field; the philosopher seeks and knows the causes of natural phenomena; it is their numerical and spacial characteristics that are pursued and calculated by the mathematician.[4] The philosopher knows the reasons that govern the formation of the heavenly bodies, their force and nature. The astronomer computes their orbits and returns, and certain observations concerning their descensions and ascensions, and their apparent stationary effect on occasion (although heavenly bodies cannot be immobile). [27] The philosopher will know the reasons for reflections in a mirror. What the mathematician can tell you is how far the object ought to be from the reflection and what shape of mirror produces what kind of reflections.[5] The philosopher will prove that the sun is large, but how large will be shown by the astronomer, operating through a kind of empirical skill. But in order to operate, he must be granted certain premisses; but no art is its own master which depends on a borrowed foundation. [28] Philosophy seeks nothing from any other source, it starts its whole work from ground up. Astronomy, if I may put it so, enjoys tenure and builds on another's land; it accepts the gift of its starting points, and it is through benefit of these that it proceeds to what comes after. If it were to go unaided to the truth, if it could embrace the nature of the whole uni-

[4] cf. F18. [5] cf. F134. [13].

verse, I would say that it had much to contribute to our minds which expand with the examination of the heavens, and draw in sustenance from on high. The mind is perfected by one thing only, the unalterable knowledge of good and evil; and the exclusive search for good and evil belongs to no other art than philosophy.

Order of teaching

91 Diogenes Laertius, VII.40–1 (*v.* T43)

Context: Preceded by similes for the relationship between the three parts of philosophy, and followed by a six-fold classification by Cleanthes.

As some Stoics say, no part of philosophy is preferred to another; they are mixed up. And they would teach them mixed up. But others arrange them logic first, natural philosophy second and ethics third; these include Zeno in his *On Logic* [*SVF*, I.46] and Chrysippus [*SVF*, II.43], Archedemus [*SVF*, III. Arch. 5] and Eudromus [*SVF*, III. Eudr. 2]. Diogenes Ptolemaeus put ethics first, Apollodorus [*SVF*, III. Apollod. 2] put ethics second, but Panaetius [63 St.] and Posidonius begin with natural philosophy, according to the testimony of Phanias, an acquaintance of Posidonius, in Bk I of his *Lectures of Posidonius*.

PHYSICS

(*v.* Frs. 4–27)

Principles

v. F5, Diogenes Laertius, VII.134

Substance and matter

92 Arius Didymus, *Epitome* Fr. 20 (Stobaeus, *Eclogae*, I.II.5c = I.133.18 W; *Dox. Gr.* 458)

Context: In Stobaeus' section 'On Matter'. After running through a list of philosophers from Thales to Aristotle, Stobaeus turns to the Stoics, Zeno and Chrysippus in particular, and eventually comes to their view that 'matter' (ὕλη) is 'body' (σῶμα). The Posi-

donian reference is in no way unorthodox to this view, but may be regarded as an explanatory reaction to criticism of the implied separate existence of an unqualified body (e.g. Plutarch, *Comm. Not.* 1086A): Kidd, *Comm.* pp. 369–74.

From Posidonius: Posidonius said that the substance of the whole, and [i.e.?] matter was without quality and without shape, in so far as in no way has it a form detached of its own, nor quality by itself either, but always is in some form and quality. [For?] He said that substance differs from matter, being the same in reality,[6] in thought only.

Elements: natural places and relationship

93a Simplicius, *In Aristotelis De Caelo*, IV.3.310b1

Context: Immediately after the reference to Posidonius, Simplicius records a note of Alexander's on what he has been saying. So it is possible (although hardly more than that) that Simplicius' information came from Alexander through Geminus; see F18. The reference to Posidonius is very general and vague. There is no other evidence for example that he abandoned the orthodox Stoic equation of air and cold. The only certain evidence is the association of Posidonius with Aristotle and Theophrastus, for which see T100.

The gist of his argument[7] goes like this: what moves to its natural place moves to that which contains it; what moves to that which contains it moves to its like. He said that 'its "place" is the boundary of that which contains it' and inferred, 'what contains everything that moves (not "moves" without qualification, but "moves up and down") is the extremity and the centre';[8] the body which moves circularly, you see, since it is itself the extremity, is not contained by the extremity and the centre, only things which move up and down are. And that, he added, is not random, I believe, but indicative that of things that move upwards, that which lies above is the containing limit of that which lies below, as fire is for water, whereas for that which has a downward motion it is the element which is below it which

[6] Reading τὴν ⟨αὐτὴν⟩ οὖσαν κατὰ τὴν ὑπόστασιν with Hirzel.
[7] I.e. the argument of Aristotle in *De Caelo*, 310a31ff.
[8] Quotations from Aristotle, *De Caelo*, 310b7–9.

is the containing limit;[9] for these [i.e. fire and earth] are nearer containing limits [for air and water] than the extremity and the centre. And that which contains, he says, becomes in a sense the form of that which is contained, being contained, he said, as lying next in order; for if for some things, becoming light, it is the upper place which gives their form, while for things becoming heavy it is the lower place, so for fire the upper extremity is its form, as in that its completion lies, but for air fire is its form, as it is the limit of the upward rise of air; and again, for earth its form is the centre of the earth, but for water earth is form, because when it is in earth water remains still, since its own form has removed its property of weight. So what are analogous to form, the extreme elements [i.e fire and earth], are 'form-inducive' for those that lie next to them, while those analogous to matter, the intermediate elements, are as it were 'form-induced' by them; for it is fire that imparts lightness to air, and earth that imparts weight to water. This is one method of classification into form and matter for the four elements.

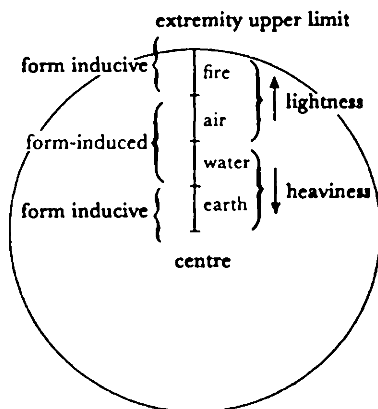


Fig. 5

[9] As earth is for water.

Another is that which defines the material elements as heavy and cold, and the formal ones as light and hot.

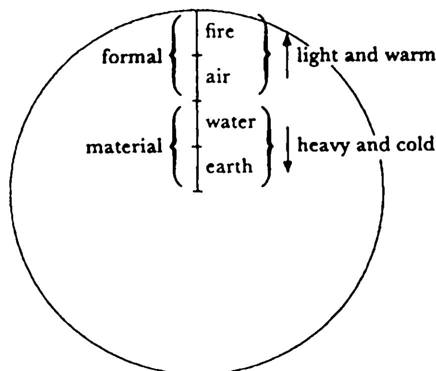


Fig. 6

Aristotle himself refers to this elsewhere, and so does Theophrastus in his book *On the Coming to be of the Elements;* and Posidonius the Stoic uses it everywhere taking it from them.

93b Scholia *in Aristotelem De Caelo*, IV.3.310b10
Repeats F93a 'And that which contains, he says ... taking it from them.'

Air and cause of cold

94 Plutarch, *De Primo Frigido*, 16.951F

Context: Plutarch had earlier (948Dff.) examined the Stoic theory that the principle of cold is air. He then turned to an Empedoclean theory that water may be the principle of cold. It is in the middle of that discussion that this fragment occurs. However, the immediate context of the Posidonian statement suggests a geographical reference, hardly decisive for the principles of elements.

Posidonius said that the cause of coldness was that the marsh air was fresh and moist; but that did not damage my argument, but only made it more plausible. For the fresh

and ever increasing coldness of the air would not have been evident had not coldness had its origin in the wet.

Cause: definition of cause

95 Arius Didymus, *Epitome*, Fr. 18 (Stobaeus, *Eclogae*, I.13.1c = I.138.14 W; *Dox. Gr.* 457)

Context: Stobaeus' section lists different philosophers' definition or description of cause. The entry on the Stoics follows Plato, Pythagoras and Aristotle. *Comm.* pp. 380–3 argues that the three terms for cause in Posidonius' first sentence are alternative aspects of cause rather than separate different causes. See also Frs. 18, 190 for cause.

From Zeno: Zeno says [*SVF*, 1.89] that cause is that because of which;[10] that of which it is the cause is a contingent attribute. Cause is a body; that of which it is the cause is a predicate. It is impossible that cause be present, while that of which it is the cause not subsist. This declared position has the following force: cause is that because of which something occurs, for example it is because of prudence that being prudent occurs, because of soul that being alive occurs, because of moral discipline that being morally disciplined occurs; for it is impossible (he said) for anyone to whom moral control belongs, not to be moral, or to whom soul belongs, not to be alive, or to whom prudence, not to be prudent.

From Chrysippus: Chrysippus says [*SVF*, II.336] that cause is that because of which. And cause is an existent and corporeal 〈while that of which it is cause neither exists nor is corporeal〉;[11] and cause is that through which, while that of which it is the cause is that which is thanks to something. Explanation[12] (he said) is the statement of cause,[13] or that statement which concerns cause *qua* cause.

From Posidonius: Posidonius put it this way: cause is defined as cause of something, because of which it is this

[10] I.e. the efficient cause. [11] Supplied by Wachsmuth. [12] αἰτία.
[13] αἴτιον.

something; or as the first activator; or as the originator of action. Cause is an existent and is corporeal; that of which it is the cause neither is, nor is a body, but is accidental and a predicate.

Generation and destruction

96 Arius Didymus, *Epitome*, Fr. 27 (Stobaeus, *Eclogae*, 1.20.7 = 1.177.20W; see 1.17.4; *Dox. Gr.* 462)

Context: In Stobaeus' section 'On Generation and Destruction', mostly concerned with whether the cosmos is destructible (as in the entries under Zeno, Cleanthes and Chrysippus). It recurs in the Stobaean section (1.17) 'On Mixture and Blending'. For different interpretations of this difficult fragment, see Kidd, *Comm.* pp. 384–90, and Long and Sedley, *The Hellenistic Philosophers*, pp. 166–76. See Frs 92; 13.

A. Description

From Posidonius: Posidonius says that there are four kinds of destruction and generation that occur from what is to what is. For they[14] rejected as unreal any destruction from or generation into what is not, as we said before. Of change into what is, he distinguishes: (a) dismemberment [διαίρεσις]; (b) transmutation [ἀλλοίωσις]; (c) fusion [σύγχυσις]; (d) breaking up of a whole, called dissolution [ἀνάλυσις]. Of these four, transmutation is related to substance; the other three have reference to qualities supervening on substance. Generation is analogous to that.

B. Explanation

Substance does not admit of increase or diminution by addition or subtraction, but only of transmutation, like number and measure. But individually qualified particulars, like Dion and Theon, also admit of increase and diminution. That is why also the predominant quality of each thing persists from generation to destruction, as in the case of animals, plants and things like that that admit

[14] I.e. the Stoics. So the codices; some editors emend to 'he'.

destruction. In individually qualified particulars, he says there are two receptive parts, in respect to the reality of substance and of quality. It is the latter, as we have often kept saying, that admits of increase and diminution. The individually qualified particular is not the same as its constituent substance, nor is it different either; but it is all but the same in that its substance is a part of it and occupies the same space. For things that are said to be different from others must both be spatially separate and not viewed as part and whole.

Space: void outside cosmos not infinite

97a and b Aetius, *Placita*, II.9.3 (*Dox. Gr.* 338.17)

Context: Preceded by a statement on the Pythagoreans on void, and that the Stoics say that void is what the cosmos dissolves into at the ekpyrosis, and that it is infinite. Followed in Ps.-Plutarch by F84, and a statement that Aristotle and Plato denied void. Stobaeus continues with Plato on place and void (which were often confused). All other evidence tells against Posidonius opposing orthodox Stoic doctrine that the void is infinite. Confusion could have arisen from Posidonius' practice of countering anti-Stoic criticism with new arguments. Hence the suggested easy emendation: *Comm.* pp. 391–4. See also Frs. 6; 8.

a Ps.-Plutarch, *De Placitis*, II.9, *Mor.* 888A

Posidonius said that the void outside the cosmos was not infinite, but sufficient for the dissolution [or, if emended:[15] the void outside the cosmos is not infinite in so far as it is sufficient for the dissolution].

b Stobaeus, *Eclogae*, I.18.4b, has identical information.

Time

98 Arius Didymus, *Epitome*, Fr. 26 (Stobaeus, *Eclogae*, I.8.42 = I.105.17W; *Dox. Gr.* 461)

Context: Stobaeus' doxography on 'time'. The Posidonian analysis distinguishing two senses of 'now', one conceptual and one

[15] καθ'ὅσον Kidd, for ἀλλ'ὅσον of the codices.

temporal, is a response to the problem of time viewed as a continuum. The conceptual view of 'now' derives from the concept of before and after from the limit of a point, itself a timeless concept. Nevertheless, there is an awareness of a 'least perceptible temporal interval' defining 'now' which seems a remarkable anticipation of William James' 'specious present' (*Principles of Psychology*, vol. I, p. 631): Kidd, *Comm.* pp. 395–403.

From Posidonius: Some things are wholly infinite, like the whole of time taken together, others in some respect, like past and future time; they are each limited only in respect of the present. He defines time like this: an interval [or extension] of movement, or a measure of quick and slow. And he said that time conceived[16] is so and so in respect of temporal position:[17] part is past, part is future and part is present; and the present is constituted from a part of the past and a part of the future about the dividing limit itself; and the dividing limit is like a point. 'Now' and similar expressions are conceived of as time in a broad, loose sense and not in a rigorous, precise sense. And he says that 'now' is used also in respect of the least perceptible time constituted about the dividing limit of future and past.

Cosmos

99a Diogenes Laertius VII.142–3

Context: Preceded by F13 and followed by F4. It is remarkable that all the evidence for Posidonius on the topic of the cosmos occurs in Diogenes Laertius (VII.137–43), in which section he is referred to by name more often than anyone else (nine times; also Frs. 4, 6, 8, 13, 14, 20, 21, 23), and so accorded in this section of Diogenes a prime authority for the standard Stoic philosophy on the universe. The situation is very different in other sections of Diogenes' account of the Stoics.

That the universe is a living creature that is rational, animate and intelligent is said by Chrysippus in *On Providence* Bk I [*SVF*, II.633], Apollodorus in *Physics* [*SVF*, III. Apollod.

[16] I.e. time that depends on mental concepts.

[17] Adopting an emendation suggested by Harold Cherniss for an ungrammatical and unintelligible report from the codices. See Kidd, *Comm.* pp. 398ff.

10] and Posidonius; 'living creature' because it is an animate substance with sensation. For living creature [animal] is superior to non-living creature [non-animal]; nothing is superior to the universe; therefore the universe is a living creature. And it is 'animate' [ensouled] as is clear from our human souls being a fragment from that source. But Boethus [*SVF*, III. Boeth. 6] denies that the universe is a living creature.

Pseudo-fragment

99b Philo, *De Aeternitate Mundi*, II.497 M (VI.96.19 Cohn)

Context: 'The Sidonian' has frequently been emended to 'and Posidonius' without good reason. Also other positive evidence under Posidonius is against the statement. see Frs. 13; 97, and Kidd, *Comm.* p. 407.

Boethus the Sidonian and Panaetius [F65 St.], men of some force in Stoic doctrine, were inspired enough to abandon the doctrines of conflagration and regenerations and deserted to a more divine opinion on the indestructibility of the whole universe.

Pneuma; God

100 Scholia in Lucani Bellum Civile, Pars I, *Commenta Bernensia*, IX.578

Context: Curiously, Posidonius is the only Stoic expressly named for this particular description of god, although it was regarded as common dogma for Stoics in general by later writers. There is certainly no innovation of doctrine here: *Comm.* p. 408f.

'And is there any seat of god except the earth and sea and air ...?' [Lucan IX.578]: For what other seat of god is there unless these elements that he says? For Posidonius, the Stoic, says, 'God is intelligent *pneuma* pervading the whole of substance', substance being earth, water, air, heaven. [*see* F21]

101 Aetius, *Placita*, I.7.19 (Stobaeus, *Eclogae*, I.1.29b = I.34.26W; *Dox. Gr.* 302.19)

Context: Repeated exactly in Ps.-Plutarch, *De Plac.* I.6 = Aetius, *Placita* I.6.1 = *Dox. Gr.* 292.22ff., where it is assigned to the Stoics in general. See F5, F20 and F92.

Posidonius said that god is intelligent and fiery *pneuma*, without form, but changing into what he wishes and assimilating to everything.

Zeus

102 Joannes Lydus, *De Mensibus*, IV.71.48

Context: See Diogenes Laertius VII.147; Stobaeus, *Ecl.* I.31.11ff. W = Ar. Did. F30, *Dox. Gr.* 465. The Posidonian etymology is also given to Chrysippus by Philodemus (*SVF* II.1076). But for Posidonius, see F21.

Crates [of Mallos, 8 Wachsmuth] wants the etymology of Zeus [τὸν Δία / Dia], he who pervades [διήκοντα / *di-ékonta*] all things, to derive from 'wetting' [διαίνειν / *di-ainein*], that is, 'fattening' [πιαίνειν / *piainein*] the earth; Posidonius derives Zeus from 'he who governs' [*di-oikounta*] all things; Chrysippus [*SVF*, II.1063] from the fact that everything is 'because of him' [δι'αὐτὸν / *di' auton*]. Others want the name Zeus [or Dia] to be derived from δεῖν [*dein*], that is, 'binding' [δεσμεύειν / *desmeuein*] and holding together the whole world of sense perception. Others derive his name [Zeus, *Zéna*] from 'living' [*zén*].

Zeus, Nature, Fate

103 Aetius, *Placita*, I.28.5 (Ps.-Plutarch, *De Placitis*, I.28, *Mor.* 885B; Stobaeus, *Eclogae*, I.5.15 (I.78.15 W); *Dox. Gr.* 324)

Context: The doxographical context is fate; the same report is given in Ps.-Galen, *Historia Philosopha*, 42 (*Dox. Gr.* p. 620.20–2), and in Lydus, *De Mensibus*, IV.81.53. But there is no context for Posidonius. However, the triad does not represent a hierarchy of separate powers, but an explanatory tool for the providential government of the universe as the working of god-in-matter permeating as providential intelligence throughout the whole universe (F21), and so also for the science of divination (F107): *Comm.* pp. 415–18.

Posidonius said that fate is third from Zeus; for first there is Zeus, second nature, and third fate.

Fate

104 Cicero, *De Fato*, 5–7 (*v.* T30)

Context: The passage occurs immediately after a large lacuna in which Hirtius had defended the Stoic doctrine of fate, and Cicero had begun to argue against it.

'... in some of these instances, as in the case of the poet Antipater, or with those born at the winter solstice, or the case of brothers falling ill at the same time, or as in the business of urine and of finger-nails[18] and all other such examples, they may occur through the operation of natural physical interaction[19] – that I don't dismiss – but not through any force of fate.

'But there are others where chance can be involved, like that notorious shipwrecked sailor,[20] like Icadius,[21] or Daphitas;[22] and some even Posidonius (with all due respect to my Professor) appears to think up out of the blue; in any event they are ridiculous. For what if it was Daphita's 'fate' to fall from a horse and so end his life, was it from this 'Horse', which since it wasn't a horse had a name that didn't belong to it? Or was Philip warned to avoid *those* wee four-in-hand chariots on the sword hilt?[23] As if it was

[18] All clearly stock instances for the operation of fate: Antipater of Sidon had only two fevers in his life, on the day he was born and the day he died; those born at the winter solstice were thought to be especially connected with astrology; for simultaneously ailing brothers, *v.* F111; the inspection of urine and the colour of nails were used both in astrology and medicine.

[19] Cicero's phrase *naturae contagio* is his translation of the technical Stoic word συμπάθεια, conveying the idea of natural reactions operating throughout the physical continuum of the world.

[20] Death by drowning was predicted for him, so he avoided going to sea. He drowned in a burn.

[21] A notorious Rhodian pirate crushed by a rock in a cave; see below.

[22] Daphitas, who did not possess a horse, for a joke asked the oracle at Delphi where he should find his horse. The reply was that he would meet his death thrown from a horse. King Attalus of Pergamum had him hurled to his death from a rock called the Horse.

[23] Philip of Macedon, warned by the oracle to look out for a chariot, was killed by a sword which had a chariot engraved on the hilt.

actually a sword hilt that killed him! And what's the great point about that notorious anonymous shipwrecked sailor falling into a burn (although in his case to be sure he writes that it was foretold that he would meet his end in water); for heaven's sake, I can't even see any 'fate' in the case of the pirate Icadius; for nothing he writes was foretold for Icadius. So what's wonderful for a rock in a cave falling on his legs? In my view, even if Icadius had not been in the cave at that point, that rock would still have fallen. For that was a matter of chance if anything is.

'So the question I want to ask is this, and it will have a wide application: if there were no such thing as fate, whether we are talking about a name, a substance or a force, and if most or all things that happened were to take place accidentally, at random, by chance, would they turn out otherwise than they turn out now? What is the point, then, of cramming in fate, when the explanation of everything can be referred to nature and chance, without fate?

'But let us thank Posidonius as is only right, and leave him; so back to the traps of Chrysippus.'

Fate

v. F25 Diogenes Laertius, VII.149: everything happens by fate.

Fortune

105 Seneca, *Epistulae*, 113.28

Context: Seneca has been lauding courage as an impregnable rampart for human weakness. He who girds himself with the virtues survives through his own weapons. Since for a Stoic everything happens by fate, and there is no such thing as chance, 'fortune' (a favourite topic for Seneca) must refer only to what is inexplicable or unexpected for a man, or an event outwith his control.

At this point I'd like to draw your notice to a *mot* coined by our friend Posidonius: 'Don't ever think yourself safe in the armour of Fortune [i.e. chance or luck]; fight with your own weapons. Fortune provides no armoury against

herself; so, equipped to fight the foe you may be, but defenceless against her.'

Divination

v. F27, Diogenes Laertius, VII.149

Divination: providence, science

v. F7, Diogenes Laertius, VII.149

... divination exists in all its forms if it is true that providence exists; and they prove it to be a science as well through its results. [see Cicero, *De Div.* I.82 (providence); Cicero, *De Div.* I.11–12; 34ff. (science); Cicero, *De Div.* I.23 (results).]

Divination: 'interaction of natural phenomena', 'sentient divine power'

106 Cicero, *De Divinatione*, II.33–5

Context: Cicero, arguing against the existence of divination or indeed the need for it, attacks in particular the method of divination by inspection of entrails (§28ff). He denies that 'signs' from entrails have anything to do with scientific observation (§33), or that there is any natural connection between them and the laws of nature. The structure of the argument which follows is similar to that of F104.

And yet there may be a kind of natural connection in the nature of things;[24] I'm willing to grant that it exists – the Stoics collect numerous instances: the liverkins of mousies[25] are said to increase in size with the moon,[26] and the dry pennyroyal to bloom exactly on the winter solstice, when its pods swell and burst, and its fruit-seeds, shut up inside, are scattered in all directions;[27] then when some strings on a lyre are struck, others twang in concinnation;[28] and it

[24] Cicero translates a Stoic technical term, συμπάθεια.

[25] Cicero waxes sarcastic in double diminutives.

[26] The codices have 'in winter' (*bruma*), but the usual story is 'with the moon' (*luna*) (e.g. Pliny *NH* 11.196; 29.59; Plutarch *QC* 670B; Aulus Gellius, 20.8.4). The deviation may be Cicero's, of course.

[27] Pliny *NH* 2.108; 18.227; Ps.-Arist. *Probl.* 20.21.

[28] Ps.-Arist. *Probl.* 19.24; Aulus Gellius, 9.7.

turns out that oysters and indeed all shellfish wax in tandem with the moon, and wane with it too;[29] and the right time for cutting down trees is thought to be winter at an old moon, since they are dried up then without sap.[30]

Why go on and speak about the flow of straits or marine tides, whose flow and ebb are governed by lunar motion?[31] You can put forward hundreds of examples like that to illustrate a natural relationship between remote separate things. Well, let's grant this natural relationship. In no way does it overturn this argument of mine: in what way can any kind of split in the liver forecast financial gain?[32] What natural coupling, what concord (to put it so) or unanimity, which the Greeks call 'sympathy' [the Stoic technical term, συμπάθεια] can be the cause of a harmonisation between a split in a liver and my petty cash, or between my little windfall and heaven, earth and the laws of nature?

I'll give way even on that if you like, although I'll be doing considerable damage to my case if I'm going to grant that any concord exists between the laws of nature and the victim's entrails. But even so, grant it; but how then does it come about that a man wanting to get an appropriate victim finds one for sacrifice with entrails concordant with his purpose? That was something I thought beyond solution. But look how cheerily it is resolved! I'm not ashamed of you,[33] I may say (although I'm lost in wonder at your memory), but I am ashamed of Chrysippus [*SVF.* II.1209], Antipater [*SVF.* III. Ant. 39] and of Posidonius, who say exactly the same as you've said: 'The guiding hand to the choice of a victim is a divine sentient force that permeates the whole universe.' But then there is that prime assertion of theirs, taken over by you, that is still

[29] Arist. *PA* 680a31–4; *HA* 544a18–21; Pliny *NH* 2.109, 221; S.E. *Adv. Math.* IX.79.
[30] Theophrastus *HP* 5.1.3; Pliny *NH* 16.193.
[31] Certainly alluding to Posidonius.
[32] As in divination from inspection of entrails.
[33] Cicero's brother Quintus, who had been putting the case for Stoic divination.

more choice: 'At the very moment of sacrifice, a change takes place in the entrails so that something is not there or something is added; for all things are obedient to the will of the gods.' Not even a granny would swallow that, believe me. [See Cicero, *De Div.* 1.118f.]

Divination: classification

107 Cicero, *De Divinatione*, 1.125

Context: Quintus has argued that divination exists both in the technical category (soothsayers, astrologers, oracles), and in the natural (dreams, frenzy). It is enough to establish one instance where prediction and event exclude chance or accident. F107 follows. The triad (see F103) is a presentational or explanatory sequence referring to those aspects of Stoic physical philosophy from which the justification of the whole of divination is derived: Dragona-Monachou, *Philosophia* 4 (1974), pp. 286–301); *Comm.* pp. 426–8.

Therefore I think we should, as Posidonius does, trace the whole influence and rationale of divination first from god, about whom enough has been said,[34] then from fate,[35] and then from nature.[36]

Divination: dreams

108 Cicero, *De Divinatione*, 1.64

Context: Dreams have been classified by Cicero as a category of the 'natural' type of divination as opposed to the 'technical' type (*v.* F107 Context). From §39 he draws on examples from a variety of collections and sources. Posidonius is cited merely for a famous instance of divinatory powers at the approach of death. But the general classification of how divinatory dreams happen does not fit the context of Cicero's argument, and is therefore an inset. See Aristotle F10 Rose; Cicero, *De Div.* 1.110; 115; 129 (F110).

That men about to die have the power of prophecy is established by Posidonius with his famous example of a certain Rhodian who on his death-bed named six of his contemporaries and said who was to die first, who second

[34] Cicero, *De Div.* 1.82ff; see Frs. 109; 106.
[35] See Cicero, *De Div.* 1.125–8.
[36] See Cicero, *De Div.* 1.129–32; F109.

and then the next in sequence. He proposes three categories whereby men dream through divine impact: (1) the mind of its own nature foresees, inasmuch as it is imbued with kinship with the gods; (2) the air is full of immortal souls,[37] in which appear, as it were, clear marks of truth; (3) the gods themselves speak with men who are asleep.[38]

Divination: weather signs

109 Cicero, *De Divinatione*, II.47

Context: Cicero is arguing against his brother Quintus on meteorological phenomena as prognostic signs or portents. Quintus had argued that they are a good example of divination in that force and effect can be observed without necessarily understanding the causes. The context indicates that Posidonius not only enquired into causes, but connected meteorological phenomena with 'signs'.

The causes of weather signs have been pursued by the Stoic Boethus [*SVF.* III. Boeth. 4], whom you mention, and also by our friend Posidonius; and if the causes of these phenomena have not yet been discovered, the phenomena themselves have been capable of observation and noting.

Divination: natural and technical connected

110 Cicero, *De Divinatione*, I.129–30

Context: F107.

From nature comes another particular rational explanation which teaches how great the power of the mind is when separated from the physical senses, which especially happens to men who are sleeping or inspired ... It is perhaps difficult to translate *that* principle of nature to the category of divination we say proceeds from techniques, but that too Posidonius grubs up as far as he can: he thinks that there are certain signs of future events in nature. For we have agreed that the people of Ceos have the an-

[37] I.e. *daimones*, divine go-betweens between gods and men, or to surviving souls of the dead, or a combination of both.

[38] Perhaps dream oracles and incubation.

nual custom of observing with particular care the rising of the Dog-star, and draw conclusions from that, so writes Heraclides Ponticus, whether the coming year will be a healthy or pest-ridden one: for if the star rises dim and murky, so to speak, that is a sign of a turbid heavy atmosphere resulting in oppressive unhealthy vapours; but if it appears bright and radiant, that signifies a fine clear atmosphere, and so, conducive to health.

Astrology

111 Augustine, *De Civitate Dei*, v.2; v.5

Context: Augustine is much exercised in attacking astrology in his defence of the will of God in Christianity. He distinguishes between stars giving 'signs' or foretelling (held by *philosophi*), and stars as an active force influencing human lives (held by *mathematici*) (see F112). He appears to put Posidonius in both categories. But Posidonius' whole enquiry into causes in physical philosophy (F18), and into the influence of factors such as environment in physiognomy (F169), make the over-emphasis on hard astrology unlikely, or at least an over-simplification. See T74, T69; F104.

Cicero says[39] that Hippocrates, a doctor of the first rank, left a written record of a certain pair of brothers who fell ill on the same day, their sickness kept time together both in the severity of development and in recovery, and from this he suspected they were twins; the Stoic Posidonius, who was strongly disposed to astrology, used to maintain that they had been born and conceived under the same constellation. So what the doctor believed related to a very similar blend of physical constitution, the philosopher-astronomer related to the influence and arrangements of the stars when they had been conceived and born. In this case, the medical hypothesis is much the more acceptable and nearer the mark for belief, since ... [Augustine goes on to say that there are good medical and environmental reasons which can explain the similarities and differences

[39] Almost certainly in a missing part of *De Fato*.

in twins]. But the desire to drag in the arrangement of the sky and stars at the time of conception or birth to explain that equality in the state of their illness, when so many creatures of the utmost diversity of race, performance and success could have been conceived and born at the same time in one and the same area of the earth under one and the same sky – that, I believe, is the mark of extraordinary presumption. But we have known twins who not only have different active lives and have migrated to different countries, but have suffered different illnesses too ... [Augustine goes on to say how Hippocrates can explain this]. But if we ask Posidonius, or any other advocate of astrology, I'd be surprised if he could find anything to say, unless he chooses to play games with ignorant minds on things they know nothing about. They try to do it by reference to the brief interval of time elapsing between the birth of twins, because of the small section of the sky where the mark of the hour is placed which they call a 'horoscope'. But either this isn't big enough to discover the difference in twins of will, performance, character or luck; or else it is too great to explain twins having the identical character of lack of ambition or superiority. For they place the greatest differences here solely in the hour each was born. And so, if the second twin is born so soon after the first that the same part of the horoscope is set for each, then I demand that everything be identical for them, and that can't be found in any set of twins. But if the birth of the second twin is so delayed as to change the horoscope, then I demand that they should have different parents – but twins can't have that!

[Augustine, after discussing Nigidius Figulus (v.3), and the very dissimilar twins Esau and Jacob (v.4), returns in v.5 to the Hippocratic passage on the identical pathological history of twins.]

Then what do they mean by saying that divinatory predictions by them are much more secure if the hour of con-

ception is found? This also explains the special mention made by some of them of the philosopher who selected the exact hour to sleep with his wife in order to beget an extraordinary son. And this too finally is the reason for the response of Posidonius, the great astrologer and philosopher too, to the case of those twins whose illnesses were parallel: he said it had happened because they had been born at the same time and conceived at the same time. Now clearly he added conception to prevent the objection that it was scarcely evident that they could have been born at the same time, but no one could disagree that they had been conceived at the same time. And this was to the purpose that their simultaneous and parallel illnesses should not be assigned most immediately to a similar physical constitution, but to link their identical propensities for health and sickness to the combinations of the stars.

112 Boethius, *De Diis et Praesensionibus* (*ex Commento in Ciceronis Topica*), 20.77 (Cicero, *Opera*, ed. Orelli-Baiter, vol. v.2, pp. 394–5) (*v.* T70)

Context: Boethius comments on Cicero, *Topica* 77, where Cicero lists different kinds of testimony of the gods (*divina testimonia*): (1) utterances of the gods, as in oracles; (2) things in which works of the gods are embodied. Boethius too (see F111) makes the distinction between stars having a positive influence over what happens, and believing that they contain 'signs' whereby one may tell the future. Like Augustine, Boethius puts Posidonius in the second class of a strong astrology.

For Cicero says: 'First the heavens themselves; then the flight of birds through the air, and portents given by many objects on earth.'[40] If ever something unusual, rare or out-of-the-ordinary is imagined as happening up in that whirling vault of the heavens, an outcome threatening men in whatever part is foretold by astrologers as if from some testimony of heaven. Unusual and rare, I say; because as Plato says,[41] stars that reappear after a long interval give

[40] Boethius telescopes Cicero's sentence. [41] Plato, *Timaeus* 40c9–d2.

signs of terror and intimations of the future, soon to be or later. From this, one may understand that stars that rise at rare intervals do not have a positive influence over what happens, but foretell the future; for Plato says, 'give signs of'. Otherwise, those who hold that these stars have this power consciously to make harmful decisions, would do great injustice to heaven, as if to believe that in the dazzling seat of heaven's illustrious senate, such crimes were decreed to be done as would have been overturned by decree of the whole human race, had any terrestrial state passed them. But it is the treatment of this sort of thing that the talk of Posidonius and Julius Firmicus, or the rest of the astrologers, holds sway. Diviners too, on the lookout for various fulfilments, have said that a prognosis of future events derives from the flight of birds through the air and from their song.

Divination: omens

113a (86b) Ps.-Nonnus Abbas, *Ad S. Gregorii Orationem I Contra Iulianum*, 72 περὶ τῆς οἰωνιστικῆς (Migne 36.1024)

Context: Scholia from an unknown author were added in the 6th c. A.D. to four homilies of Gregory of Nazianzus explaining allusions to pagan mythology. This scholium reappears in the Suda. The Suda also records a book on augury based on involuntary twitching by a Posidonius (*v.* T1a). It is a possible topic for Posidonius of Apamea, with his strong interest in divination.

Twitchery is that category of divination which is recognised through the involuntary twitching of the body. For example: the right eye twitches; it signifies this; or the shoulder twitches, or the thigh – so this. Posidonius and many others wrote on it.

113b Suda, *s.v.* Διαίρεσις οἰωνιστικῆς. Οἰωνιστική, 163

Twitchery is that category of divination recognised through the involuntary twitching of the body. For example, the right or left eye twitches, or the shoulder or the thigh; or the foot itches; or a sound echoes in the ear – then *X* occurs. Posidonius wrote about it.

Sun: composition

v. F17 Diogenes Laertius, VII.144
(It is pure fire.)

Sun: size and distance

v. Frs. 19; 9; 18

114 Cleomedes, *De Motu Circulari Corporum Caelestium*, II.1.68

Context: Cleomedes is engaged in a general attack on the Epicurean theory that the sun is as big as it looks. F19 indicates that Posidonius was only one of the authorities used by Cleomedes to oppose this; see F115. For the context of the criticism, see F119.

Viewed through a dank, thick atmosphere, the sun looks bigger and further away, but smaller and nearer through clear air. So if we could, says Posidonius, look through solid walls and other bodies, like Lynkeus in the story, the sun would appear very much bigger through them, and at a much greater distance.

Method of estimating size of sun

115 Cleomedes, *De Motu Circulari Corporum Caelstium*, II.1.79–80

Context: As for F114. Related fragments: Frs. 9, 19, 114, 116, 120.

The following method is of the kind that best reveals the rank of the sun's magnitude. Syene[42] lies on the tropic of Cancer. Now, when the sun stands on that sign of the zodiac[43] precisely at noon, the objects lit beneath it in that area cast no shadows within a band of 300 stades in diameter. So, given these phenomenal data, and a hypothesis that the circumference of the orbit of the sun is 10,000 times greater than the circumference of the earth, Posidonius from these premisses shows that the diameter of the sun must be 300 times 10,000 stades. For if the one

[42] Aswan. [43] I.e. at the summer solstice.

circumference is 10,000 times greater than the other, so the section of the sun's orbit which the size of the sun occupies must be 10,000 times greater than that section of the earth which the sun when overhead makes free of shadow. Now, since that section is a spread of 300 stades in diameter, it must follow that the sun at any point occupies 3,000,000 stades of its own orbit.

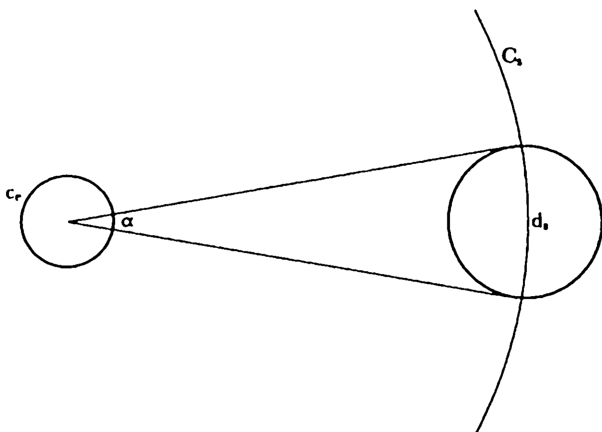


Fig. 7
ds – diameter of sun; Cs – circumference of orbit of sun; ce – circumference of earth.

$ds/\alpha = Cs/ce$, i.e. $ds/300 = 10{,}000$. Therefore $ds = 3{,}000{,}000$.

But this is the result that follows *from that sort of hypothesis.*[44] And it *is* credible that the circumference of the orbit of the sun is *not less than* 10,000 times the circumference of the earth; but it is possible that it is greater or again less: we don't know. So the following sort of method seems to adhere to greater clarity rather ... [Cleomedes now goes on to another method of estimating the size and distance of

[44] I.e. that the circumference of the orbit of the sun is *10,000 times greater* than the circumference of the earth.

the sun, this time based on lunar calculations. These arguments too have been claimed for Posidonius, but I argue in *Comm.* pp. 448–54 that this is unlikely to be the case.]

116 Macrobius, *Commentarii in Ciceronis Somnium Scipionis*, I.20.8–10

Context: Macrobius is commenting on Cicero, *Somn. Scip.* IV.2, where the sun is mentioned.

It remains still to spend a few words (but they should not be omitted) on the size of the sun, which Cicero brought out so truly. In every enquiry on the size of the sun, the main point astronomers wanted to pursue was how much bigger it could be than the earth; and Eratosthenes [XLI, p. 56 Bernhardy] in *On Dimensions* puts it, 'The size of the sun is twenty seven times the size of the earth', while Posidonius' estimate was many many times greater.[45] And each invokes lunar eclipses for his proof.[46] Thus, when they want to prove that the sun is greater than the earth they use the evidence of the eclipse of the moon, and when they try to account for the eclipse of the moon they borrow the size of the sun for proof; and so it works out that, while each argument is based on the other, neither is satisfactorily based, since the evidence belonging to each, inclining each way in turn ends up always in the middle. How can proof rest on something yet to be proven?

Sun: shape

117 Diogenes Laertius, VII.144

Context: Preceded by Frs. 17 and 9. See also Frs. 8; 18; 20; 49B(1)

The sun is also spherical in shape like the cosmos, according to this same author [Posidonius] and his group.

[45] This is a ludicrous statement in the light of the figures we have from Cleomedes (Frs. 115 and 202). See Kidd, *Comm.* p. 455, where I suggest a probable confusion between the circumference of the sun and its orbit.

[46] It remains doubtful to what extent this applies to Posidonius; see Kidd, *Comm.* on F115, and p. 455.

Sun; course and nutriment

118 Macrobius, *Saturnalia*, 1.23.2

Context: Cornificius interprets *Iliad* 1.423 (Zeus went to Ocean among the blameless Ethiopians for a feast) as the sun (Zeus) following the ocean for its nourishment. Of the two theories distinguished: (1) the sun is nourished by vapour from ocean; and (2) the sun's path on the ecliptic is to be explained by an equatorial ocean, Posidonius probably held (1), but did not hold (2): Kidd, *Comm.* pp. 458ff.

The name Jupiter, so Cornificius writes, signifies the sun, for which the water of Ocean serves as dinner, so to speak. That is why, as Posidonius and Cleanthes [*SVF*, 1.501] maintain, the path of the sun does not extend beyond the so-called 'torrid' zone; the reason is that Ocean, which circles the earth and divides it into two, runs under the torrid zone; and it is well known on the authority of all the physicists that heat draws its sustenance from moisture.

Sun; phenomena of sunset and sunrise

119 (F45 Jac.) Strabo, III.1.5

Context: Strabo, in giving Artemidorus' account of the Sacred Cape, proceeds to controvert his statement on ocean sunsets with criticism from Posidonius of popular accounts of sunset phenomena and his explanation for such phenomena which derives from personal observation (*v.* T15).

Now those statements at least we may admit, and indeed should believe them;[47] but certainly not the following, which he [Artemidorus] retailed in line with the popular versions of common tales. Posidonius says that it is actually the common story that the sun when it sets along the coast of the ocean is larger and makes a noise as if the sea was sizzling in extinguishing the sun because it was falling into its depths. That, he said, is untrue, and so too is their view that night follows instantly on sunset; it is not instant, but a short time after sunset, as is the case too with all other great seas. You see, where the sun sets behind mountains,

[47] Artemidorus' account of the Sacred Cape in Spain, in criticism of Ephorus.

a longer period of daylight after the setting occurs arising from diffused light, but after oceanic sunsets that longer period does not follow on; not, however, that darkness conjoins instantly either, just as that also doesn't happen in the great plains.

And the impression of increased size, he says, of the sun alike at sunset and sunrise at sea, derives from the increase of exhalations rising from the water; the light refracted through these as through glass vessels filled with water[48] gives a broader, flatter image, just as occurs too when a setting or rising sun or moon is seen though a dry, thin cloud; at such times the star also appears reddish. Posidonius says that he exposed the falsity of these statements by personal observation of sunsets when he stayed at Gadeira for thirty days.

But here is Artemidorus declaring that the sun sets a hundred times larger than usual, and that night falls immediately. Well, we can't assume that he saw this on the Sacred Cape himself, if we accept his own assertion that no one sets foot on the Cape by night. For that means no one could set foot on it at sunset either, if, as he maintains, night follows sunset immediately. But that goes for the rest of the oceanic coastline too; for Gadeira is on the coast, and Posidonius and a large number of others contradict his evidence there. [See F114]

Distance from earth of cloud belt, moon and sun

120 (F75 Jac.) Pliny, *Naturalis Historia*, II.21.85–7

Context: In §§83–8, Pliny gives several instances of estimations of the distances of the planets from the earth, and indignantly criticises the whole procedure, revealing in the process an abysmal ignorance of any mathematics involved.

According to Posidonius, the distance the atmospheric region, winds and clouds reach above the earth is less than

[48] Adopting the emendation of Voss, δι' ὑάλων, for the incomprehensible δι' αὐλῶν of the codices.

40 stades, and from there the air is clear, translucent and calm; but from the turbulent region to the moon, the distance is 2,000,000 stades, and from there[49] to the sun, 500,000,000 stades; and that interval of distance ensures that the sun, despite its huge size, does not burn up the earth. However, a majority of writers put the height of the cloudy region at 900 stades.

Now this stuff is both unreliable and beyond our powers of working it out, but we have to put it forward because it has already been put forward; yet in such questions there is but one method, that of mathematical argument, which cannot mislead and is impossible to reject, if one wanted to pursue them more deeply – not to achieve an exact measurement (to spend time in pursuit of that would be the mark of someone practically out of his mind), but to content oneself with a conjectural estimation only. Since it appears from the revolution of the sun that the circle through which its orb travels measures almost 366 parts, and since the diameter of a circle always measures 1/3 and almost 1/21 of the circumference, it appears that by subtracting half of the diameter because of the earth's interposition at the centre, that the height of the sun is about 1/6 of that huge space our mind grasps as the circle of the sun around the earth; and the moon's altitude 1/12 of that space, since the moon's orbit is that much shorter than the sun. So its position is mid-distance between sun and earth. I am amazed at the lengths the human mind will go when encouraged by some tiny success; for example in what has been said above reason conferred an opportunity for effrontery. Having had the nerve to guess the distance of the sun from the earth, they do the same thing for the sky, on the grounds that the sun is at the centre, so that, just like that, they have the dimensions of the cosmos itself counted on their fingers. For, so they go, the diameter is 7/22 of

[49] Surely a mistake by Pliny; this round figure presumably is meant to indicate the distance from earth to sun.

the circumference; as if the measurement of the heavens depended merely on a plumbline!

Parhelion, or mock sun

121 Scholia in Aratum 881

Context: None. But Posidonius is likely to have followed the common grouping for explanation of halo, rainbow, rods and mock sun (Aristotle, *Meteor.* III.2–6; Seneca, *NQ* I.2–13; Pliny *NQ* 2.99). So see Frs. 133, 134.

Posidonius says that mock sun [parhelion] is a spherical cloud around the shining sun, taking its light from the sun; it does not shine by its own light, but by that of the sun, as the moon does too [F123]. He said that it was in sun form through its being round and illuminated by the sun. It becomes like it through following the sun, inasmuch as it is seen at the side of the sun.

For that reason it also looks white; that effect falls to it from the light of the sun. These phenomena naturally occur sideways to the sun, for on the one hand clouds under the sun are quickly broken up, while what is far separated cannot act as a reflector for the rays; but it is from a sideways action that illumination may easily happen. That is why these phenomena occur at sunset and sunrise, through the sun's rays falling sideways, not perpendicularly. The phenomena also occur on each side of the sun often. Aristotle [*Meteor.* III.6.377b] says that mock suns are reflections having no substance or reality.

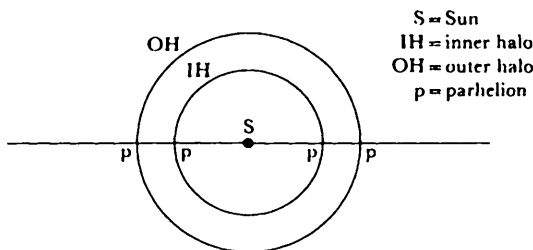


Fig. 8

Moon: composition, size, shape, and phases

122 Aetius, *Placita*, II.25.5; 26.1; 27.1 (Stobaeus, *Eclogae*, I.219.16 W; *Dox. Gr.* 356–7)

Context: In Stobaeus, this is a continuous fragment, preceded by entries assigned to Zeno and Cleanthes, and followed by Chrysippus. The lemma in codex *P* is 'From Posidonius and Stoics', which is an odd break of sequence. So Diels removed the Zeno, Cleanthes and Chrysippus entries to become Arius Didymus F34, and in *Dox. Gr.* 356–7 classified the 'Posidonius' fragment as three separate entries balanced by three comparable items (assigned simply to 'the Stoics') in Ps.-Plutarch *Placita*. See F10.

Posidonius and most of the Stoics say that the moon is a mixture of fire and air. It is greater than the earth,[50] as the sun is also. It is spherical in shape. It has a plurality of shapes, occurring as full moon, half moon, gibbous and crescent.

The moon in solar eclipses

123 Cleomedes, *De Motu Circulari Corporum Caelestium*, II.4.105

Context: Within a context concerned with solar eclipses, Cleomedes raises three theories of lunar illumination: (1) the moon is half fire and generates its own light; (2) reflection from the sun; (3) a light produced by a combustion from a mixture of lunar and solar light. Cleomedes supports the mixture theory of (3), but faces three possible objections which arise from what happens in eclipses. What follows here is the second of these objections.

At this place, the question too arises why in solar eclipses it does not happen that the sun's rays, reaching through the whole of the moon, send light, as happens through clouds which are thicker than the moon? Posidonius says that not only the surface of the moon is illuminated by the sun, as solid bodies have their surface alone illuminated, but as the moon is a rarified body, it has sun's rays penetrating to a very great extent, but not completely; this is because the

[50] This is the only evidence that Posidonius believed this.

moon is very deep and has a very large diameter, and the sun is a considerable distance from it. Cloudy air easily allows rays to penetrate, since it has no depth. Perhaps one could say not unreasonably that there is a peculiar character to the moon's density, through which the sun's rays cannot escape.

124 Plutarch, *De Facie in Orbe Lunae*, 16.929D

Context: The context in Plutarch is concerned with lunar illumination. As Cleomedes (F123 Context), believing in a rarified moon, held a theory of conlumination or combustion, Plutarch, who believed that the moon was earthy in structure, held to a reflection theory of lunar illumination. Posidonius' argument about light blockage through the depth of the moon is related more to an explanation of solar eclipse; and it remains unclear what theory of lunar illumination he did adhere to: Kidd, *Comm.* pp. 476–8.

As for what Posidonius says, that it is the depth of the moon that prevents the penetration of the sun's light through it to us, that is patently refuted. Air is boundless and so has depth many times greater than the moon, yet air is in its entirety sunlit and illuminated by the sun's rays.

125 Plutarch, *De Facie in Orbe Lunae*, 19.932B–C

Context: Plutarch has been comparing the deeper darkness of night, through occultation by earth, and the darkness of eclipses through occultation by moon. He argues that the difference is due to the different size of the occulting bodies. His objection to Posidonius' statement, which is commonplace, appears to be based on the composition of the moon, which Plutarch believed to be earthy.

Aristarchus demonstrates that the ratio of the diameter of the earth to the diameter of the moon is smaller than 60 to 19 and greater than 108 to 43.[51] Consequently, it is the size of the earth that removes the sun from sight completely [i.e. at night-time]; for the obstruction is large, and the duration that of the night. But in the case of the moon, even if there are times when it hides the sun completely, the eclipse does not have duration nor extension, but a kind of

[51] Aristarchus, *On the Sizes and Distances of the Sun and the Moon*, Prop. 17.

light appears around the rim, and so does not permit the shadow to be profound and absolute. Of the old writers, Aristotle gives this, in addition to some others, as a reason why the moon is observed in eclipse more frequently than the sun: the sun, he said is eclipsed by the blockage of the moon, but the moon by the blockage of the earth, which is much larger.[52]

Posidonius defined it this way: 'What happens in solar eclipse is a conjunction of the moon's shadow ⟨with whatever parts of the earth fall under that shadow⟩;[53] for only those experience eclipse whose visual rays towards the sun are caught and blocked by the moon's shadow.'

Now really; since he admits that a shadow of the moon falls on us, I cannot see that he has left himself anything to say; for it is impossible that there be a shadow of a star,[54] for shadow means lack of light, and light does not create shadow, it naturally destroys it.

Lunar eclipses and lunar latitude

126 Diogenes Laertius, VII.146

Context: Diogenes' section on eclipses first mentions solar eclipse from Zeno, then passes to F126. There is nothing remarkable about Posidonius' statement on lunar eclipse, which is a simple, correct account of the cause. But the last sentence has nothing to do with lunar eclipses, although Diogenes probably did not understand that. It refers to an account of lunar latitudes in the form of an angular measurement known as 'the steps', expressed as fractions of the ecliptic using the starting point of Leo 0°. See below.

The moon is eclipsed when it falls into the earth's shadow. So eclipses take place only at the time of full moon. But although there is a full moon every month with the moon's position opposite the sun ⟨there is not an eclipse every month⟩, because the moon moves obliquely to the orbit of

[52] Aristotle, F210 Rose, 738 Gigon.
[53] The addition is by Cherniss, but it is confirmed by the following sentence.
[54] Posidonius said that the moon is a star, F127.

the sun, with the moon's latitude diverging either too far north, or too far south. But when the moon's latitude comes right on the solar orbit and the ecliptic and she is then diametrically opposite the sun, that is when there is an eclipse. The moon's latitude is right at the ecliptic in Libra and Scorpio and in Aries and Taurus, according to Posidonius and his group. [Note: The final sentence can have nothing to do with eclipses. For it says that the moon's latitude is right at the ecliptic in Libra and Scorpio and in Aries and Taurus, which would imply a stable nodal line for the moon which obviously is not true. If, however, a line is drawn as the diameter through these points mentioned in the ecliptic, it can be seen to be a nodal line at right angles with respect to Leo 0° as northernmost point, which shows that we are dealing with lunar latitudes in the form of angular measurement known as 'the steps', expressed in fractions of the ecliptic. See Fig. 9, and Kidd, *Comm.* pp. 481f.]

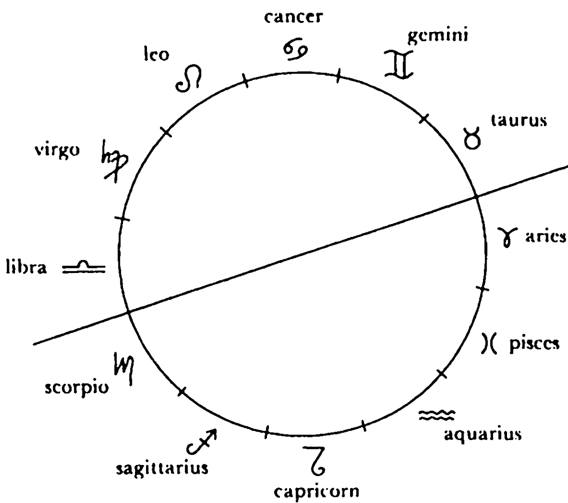


Fig. 9

Definition of star

127 Arius Didymus, *Epitome*, Fr. 32 (Stobaeus, *Eclogae*, 1.24.5 = 1.206.18W; *Dox. Gr.* pp. 466)

Context: It seems from F127 that *astron* was regarded as a more general or generic term than *aster*. But it is also clear that in everyday speech any such distinction was ignored, as stated by Achilles, *Isag.* 14, pp. 41.17ff. Maass. In F128, Achilles uses *aster* exactly as Arius uses *astron* in F127, and there is no distinction between the two accounts: *Comm.* pp. 483ff.

From Posidonius: Posidonius says that a star is a divine body composed of aether, radiant and fire-like, never stationary, but forever moving in a circle. The term 'star' [ἄστρον/*astron*] used specifically is applied to the sun and the moon; but the term *aster*/ἀστήρ differs from the term *astron*/ἄστρον; every *aster* will necessarily also be called an *astron*, but not *vice versa*.

128 Achilles Tatius, *Introductio in Aratum*, 10

According to Diodorus [*Dox. Gr.* p. 19],[55] star is a divine body, a body in the heavens that shares the same substance as the place where it is,[56] a body that is radiant and never stationary, but forever moves in a circle. The same definition was given by Posidonius, the Stoic, before him.

The Milky Way

129 Aetius, *Placita*, III.1.8 (Ps.-Plutarch, *De Placitis* III.1, *Mor.* 893A; Stobaeus, *Eclogae*, 1.27.8 = 1.227.1W; *Dox. Gr.* p. 366)

Context: For a comparison of the two different doxographies from Aetius and Macrobius, with the possibility that at least a part may be traced back to a Posidonian doxography: *Comm.* pp. 486–8. This is the only certain surviving reference to the Milky Way in Stoicism.

[55] Of Alexandria; possibly a pupil of Posidonius. [56] I.e. aether.

Posidonius says that the Milky Way has a fiery constitution, rarer in texture than star, but denser than light.

130 Macrobius, *Commentarii in Ciceronis Somnium Scipionis*, 1.15.3–7 (*v.* T68)

There has been a great variety of opinion expressed on this Milky Way, some producing fabulous explanations, others natural causes. I omit the fabulous and shall speak only of what seemed to relate to its natural constitution.

Theophrastus said that the Milky Way was a seam where the two hemispheres of the celestial sphere were welded together, and so, where the lips of the two halves met, a marked brilliance was observable.

Diodorus[57] said it was fire of a dense and compressed essence compacted into a single track with a curved boundary, through the heaping together of separate parts in the construction of the universe, and so permitting visibility; the rest of the celestial fire does not present its light to our sight because it is diffused through the extreme rarifaction of its nature.

Democritus (68A9 Diels) says that it consists of countless stars, all small, packed dense into a single unit, with the narrowest of gaps between them, in close proximity on all sides, and so in scattering light in all directions, present the show of a continuous body of common light.

But Posidonius, with whose definition most people agree, says that the Milky Way is a flow of stellar heat, so designed to curve obliquely to the zodiac that, since the sun, by never leaving the boundaries of the zodiac, has left the remaining part of the sky without a share in its heat, this circle, passing athwart the path of the sun, tempers the universe with its warm band. I have already recorded above [1.12.1] at what parts it intersects the zodiac.

So much for the Milky Way.

[57] Of Alexandria, possibly a pupil of Posidonius.

Theory of comets

131a Scholia in Aratum 1091

Context: Neither text of F131a and b is good on its own, but the Parisinus codex (F131b), for long ignored by Posidonian scholars, helps to improve our knowledge of the original text. For the doxography, and indeed the tripartition of basic theories, compare Aristotle, *Meteor.* 1.4 and 6–7, and Seneca *NQ* VII (and F132). Again, however, this doxography may derive from Posidonius (*Comm.* pp. 491–3). Posidonius' theory of comets, although individual, is similar to that of Aristotle (*Meteor.* 344a16ff; 341b36ff); and see Seneca *NQ* VII.4–8 (F132).

The Pythagoreans count comets with the planets, appearing at long intervals of temporal revolutions and in varied places; one of them they propose even appeared to the north beyond the zodiacal circle. But that is precisely an objection to their theory, because the zodiacal circle is the area defined for planets, and their phenomenon could not be classed as a planet, as it appeared outside this area. And if it had been one of the planets, expert scientists would certainly have observed its revolutions as they do with planets. Anyway, this is not a single phenomenon, but many; nor are they seen in one form[58] [or, perhaps, 'place'], but some are called 'comets': they appear above the stars and have a tail; others are called 'beardies' and appear below, while others, 'swords', in between; and there are other variations.

Democritus and Anaxagoras [59A81 DK] say that comets arise in the conjunction of two planets when near each other, like mirrors reflecting light on each other. They too are misled in saying this; for comets don't appear only in the zodiacal circle, but also to the north and south of it. And often as many as three comets are seen at the same time; but since there are five planets, it would be impossible for three comets to be so seen. And some fixed stars

[58] So the manuscript, τύπῳ; but the emendation of Maass, τόπῳ ('place'), would suit the context better.

are observed with luminous tails; for example, Aristotle says [*Meteor.* 1.6.343b] that he had observed a tailed star in the hip-joint of the Dog;[59] and he added that planets vanish by gradually fading away, without setting. And it often happened that planets come near each other without a comet appearing because of that.

Posidonius says that the generic principle of comets is when a denser bit of air is shot under pressure into the aether and is bound in the whirling revolution of the aether; as their sustenance flows in they are borne on to spin faster; and so they are seen to expand and decrease, as at one point they grow greater as the sustenance increases, at another as sustenance fails they contract. That is why they form above all in the north, where the air is thicker and condensed. Changes of weather coincide with their conflagration and destruction; droughts or violent rain storms, the opposite, occur at their dissolution, precisely because their formation occurs in the atmosphere.

131b Anonymus, Parasinus 2422, fol. 143, cap. 1–3

What is the source of comets?

You should know that comets come from dry exhalation;[60] the exhalation, set easily alight by its own heat, sends something like rays upwards from its underlying material – it is the nature of fire to move upwards. It is these rays from any star they think are comet-tails.

The Pythagoreans count comets with the planets appearing at long intervals of temporal revolutions and in varied places, and one of them they proposed was even seen to the north beyond the zodiacal circle. And that is precisely an objection to their theory; for the zodiacal circle is the place defined for the planets; and what appears outside the zodiacal circle could not be a planet.

[59] The hound of Orion.
[60] The theory of Aristotle: Arist. *Meteor.* 1.7.344a9ff; 1.4.341b6ff.

Posidonius says that the generic principle of comets is when a denser bit of air is shot under pressure into the aether and is bound in the whirling revolution of the aether, and then as their basic material flows in they seem to increase to spin faster; and so they are seen to expand and decrease, as at one point they grow greater as the material increases, at another, as it fails, they contract. That is why they form above all in northern regions, where the air is thicker and condensed. Changes of weather coincide with their conflagration and destruction; droughts or violent rain storms, the opposite, occur at their dissolution, as their formation occurs in the atmosphere. This is what Aratus meant when he said they provided tokens of drought.

Occurrence of comets; theory of comets

132 Seneca, *Naturales Quaestiones*, VII.19.1–21.2

Context: The subject of Bk VII is comets, and before this fragment Seneca classified three types of theory: (1) produced through whirlwinds, where dense air from dry exhalations had been squeezed up and fed until dissolution. Although Epigenes is named for this, it is basically the theory of Aristotle and Posidonius; (2) optical illusions through conjunctions of planets (Democritus and Anaxagoras); (3) they are planets (Apollonius of Myndus; but usually, Pythagoreans). Seneca then turns to Stoic theories (F132). Although in F132 the third Stoic view is that of Posidonius, Seneca curiously nowhere names him for this, but uses him incidentally in his derision of a consequence of this theory as pandering to the general love of the miraculous in marvels and portents: *Comm.* p. 495f. So Seneca dismisses it and goes on to offer a theory of his own.

19.1 Our own Zeno [*SVF*, I.122][61] holds the following view: his conclusion was that comets are a conjunction of stars with interconnected rays; from this community of light springs an apparition of an elongated star. So some Stoics think that comets have no real existence but are an optical illusion produced from the reflection of light from neighbouring stars or from the union of stars in conjunction.

[61] Of Citium, founder of Stoicism.

19.2 Certain Stoics say that comets exist all right, have their own orbits, and after fixed periods come into human view.

Certain Stoics say that they exist all right, but are not to be called stars,[62] because they dissolve, do not last long, and are broken up in a short space of time.[63]

20.1 It is this last view that most of our Stoics hold, and they think it consistent with the facts. We see in the heavens a variety of fiery phenomena generated: at one moment the sky blazes, at another, 'long trails of flame glow white behind a star' [Vergil, *Georg.* I.367], yet again torches of huge fireballs shoot across. Lightning itself, for all its remarkable speed that at a single stroke dazzles the sight and leaves it whole, is fires of air subjected to friction and the impact of abnormal force; that is why lightning does not remain fixed, but once ejected dissipates and dies immediately.

20.2 Other fires, though, last a long time and don't disperse until all the sustenance they feed on is used up. This is the category for those marvels Posidonius has written about, the columns, the blazing shields, and other flaming phenomena of remarkable novelty.[64] These would not attract attention if their passage conformed to the usual laws of nature; what confounds people is the suddenness of the display of fire in the heavens, whether a flash that is gone at once, or a glow forced from compressed air – those are marvels. 20.3 And look! Sometimes the aether retreats, a gap is revealed, and an immense glow lights up the hollow. Couldn't he cry out, 'Oh, what is this? "I see the parting of the centre of heaven, and the stars wandering in the sky" [Vergil, *Aen.* IX.20–1].' These are stars which sometimes don't wait for night to gleam, but blaze out in full daylight. But this involves a different enquiry: why do they appear in the air at a time not their own,

[62] Or planets. [63] This is the theory of Posidonius. [64] Portents.

when it is generally agreed that they exist even when concealed? 20.4 We don't see many comets because they are concealed by the rays of the sun. Posidonius reports that once in an eclipse a comet had appeared, which had been blotted out by the nearness of the sun. And often, when the sun sets, straggling lines of fire are to be seen not far from it. Obviously the star itself of the comet is blanketed by the sun and so can't be observed, but the tail escapes from the sun's rays.

21.1 So members of our School[65] are satisfied that comets, like Torches [i.e. shooting stars], like Trumpets [i.e. meteors] and Beams [another kind of meteor] and other marvels in the sky, are created from condensed air. That is the reason they appear most often in the north, because there lies the greatest mass of sluggish air. So why do comets move, and are not stationary? I'll tell you. Like fire, a comet follows its own sustenance; for even though its tendency of thrust is upwards, when its fuel gives up, it backslides and falls on its own. In the air too it doesn't veer to right or to left, there is no route there for it, but only where the supply of fodder leads it, there it winds; it doesn't move like a star, but feeds like a fire.

Theory of halo

133 Alexander, *Commentaria in Aristotelis Meteorologica*, III.3 (372a29), pp. 142.21–143.11 Hayduck

Context: See F121 Context for halo commonly grouped for explanation with rainbow, rods and mock sun. In this case, Alexander classifies Posidonius as following Aristotle with a mirror reflection theory, as opposed to practically everyone else who favoured refraction theories. It has to be said that Aristotle's own account in *Meteor.* III.3.372b12ff. is a great deal clearer than Alexander's paraphrase.

And first, Aristotle gives an account of halo, and investigates its shape, why it is circular, and why it occurs

[65] The Stoics.

around the sun itself or the moon, or whatever star it is seen around, and not directly opposite it or oblique to it. He says that the visual reflection appears here from vapour condensing into a cloud after rising, if the condensation is actually uniform and the condensed particles small. With such a form, if a luminous star or the sun or the moon moves over it, what is perpendicular to the body moving over it must become rarer and finer in texture as long as that kind of movement goes on in it, but from that point on nothing like that happens to it, and it stays as it is. Since this sort of reaction occurs equally in every direction round the perpendicular because of the evenness of the cloud, the edge of the moisture that has been pretty well rarified must form a circle. Beyond that again it is more compacted, but being a uniform mixture of small parts, it has a form of tiny mirrors that are continuous at the circumference of the circle. According to those who allege the cause as reflection from our sight rays, it is against these mirrors that our sight falls and reflecting to the star creates the image of a halo; but really, it is the light from the star that falls on the mirrors we have mentioned, and then reflecting and passed on to the sight of the viewer that produces the image of the halo. Because of the smallness of the aforesaid mirrors, all we have is an impression of colour.[66]

That is a summary of the sort of view Aristotle held on the halo. Posidonius followed him; practically everyone else put the cause not as reflection, but as refraction of sight, as happens with objects seen through water. They assume the cloud to be global in shape and hollow, and then the star above it, they say, is seen spread in it as a circle. But my teacher Sosigenes showed well enough in his Bk 8 of *On Sight* that such opinions on the halo are false.

[66] But not shape.

Theory of rainbow

134 Seneca, *Naturales Quaestiones*, 1.3.14–5.1; 5.10–14

Context: Grouped for explanatory purposes with halo and mock sun: F121 Context. Seneca's treatment begins at 1.3 with preliminary suggestions raised on effects of peculiarities of cloud, and of sun on drops of water. At §§5–8, a theory, which appears to be that of Aristotle (*Meteor.* III.4–5), based on optical reflection between sun and rain cloud, is presented and criticised for some details. After F134, Seneca raised arguments on size, shape, optical illusion and reality, colours, position, time and season which contain no allusions to Posidonius. Posidonius is revealed as agreeing with Aristotle that rainbow is an optical phenomenon only, but disagreeing crucially in taking the whole cloud as a reflector, rather than the individual drops in it. See also F15.

3.14 Research in other matters concerning the rainbow is wayward, where we don't have anything to get a grip of and must make wide use of conjecture. But here it is obvious that there are two causes of a rainbow, sun and cloud, because it never occurs in a clear sky, nor in a cloudy one where the sun is hidden; so for certain it is from both of these: there is no rainbow if one of the two is missing.

4.1 We may now add this too, which is equally obvious: the image is reflected in the manner of a mirror, because it only ever occurs opposite the sun; that is, only where the object reflected stands on one side, and on the other the mirror that reveals it. Proof of this that is not persuasive but convincing is adduced by mathematicians, and removes any doubt that the rainbow is an image of the sun imperfectly drawn because of the flawed shape of the mirror. But in the meantime let me try some other proofs that can be picked up in the street as it were.

4.2 Among the arguments that the rainbow is so originated, I offer the extreme speed of its creation. A huge and intricate phenomenon is woven in the sky in less than an instant, and is effaced no less quickly. But nothing is produced so quickly as a mirror image; because it is not making anything, only reflects it. 4.3 Artemidorus of Pa-

rium even contributes the kind of cloud that should reflect that kind of image of the sun. If, he says, you construct a concave mirror, like a ball cut in half, and stand outside the centre, anyone standing next to you will appear upside down to you, and closer to you than to the mirror. 4.4 The same thing happens, he says, when we look at a round, hollow cloud from the side.[67] The image of the sun detaches itself from the cloud, is nearer to us, and turned more in our direction. Its fiery red colour comes from the sun, the blue from the cloud, and the other colours a mixture of the two.

5.1 The following are given as objections to this theory. There are two opinions about mirrors. One group thinks that what we see are replicas in the mirrors, that is, shapes of our bodies released from our bodies and separated from them. The other lot think that it is not images in the mirror that we see, but the actual bodies themselves, our eyesight being turned back and reflected on itself again ... [Seneca continues by raising problems such as: rainbows and sun are not at all like each other; air does not seem to be like a mirror in texture.]

5.10 That is what is said by those who support the view that the cloud *is* coloured. Posidonius and those who explain the production of that kind of phenomenon by the theory of mirror reflection, make this answer: 'If colour did exist in the rainbow at all, it would persist and be seen more clearly the nearer you get to it; but as it is, the image of the rainbow is distinct at a distance, and perishes on close approach.' 5.11 I[68] do not agree with this objection, although I approve of the main sentiment itself. Why so? I'll tell you. It is because the cloud can be coloured all right, but in such a way that its colour is not visible from every direction. Why, the cloud itself isn't even visible

[67] This appears to be identical with the theory assigned to Posidonius at 5.13 below.

[68] That is, Seneca.

from any direction: no one in the cloud itself sees it. So what's surprising about its colour not being visible to someone to whom the cloud itself isn't visible? And yet, although you don't see it, the cloud exists; so too does its colour. So it is no proof that its colour is not genuine, because it stops being visible as you approach. The same thing happens with clouds themselves, but they are not illusory because they aren't visible. 5.12 And here is another point: when you are told that a cloud is suffused with colour from the sun, you are not told that this colour is branded, as it were, into a solid body that is stable and permanent, but as on matter that is unstable and shifting, receiving nothing more than a fleeting impression. And again, there are certain colours which show their effect best at a distance, like Tyrian purple: the better and richer its dye, the higher you should hold it to display its full brilliance. The fact that the display of its colour, in a cloth of the very best colour, depends on the way it is hung, does not mean that it doesn't have the colour.

5.13 I am of the same opinion as Posidonius in holding that rainbows arise in a cloud shaped like a hollow, round mirror, whose form is that of a ball cut through the middle.[69] This cannot be proved without the aid of geometry, which instructs us with proofs that leave no doubt that a rainbow is a representation of the sun, but not a copy. For not all mirrors reflect faithfully without distortion. 5.14 There are some mirrors you are scared to look at, because of the enormity of the misshapen and distorted reflection of the viewer; the likeness is there, but much worse. There are others which can boost your self-satisfaction at your manly strength when you look: what muscles on those arms, and the whole body's physique has grown to superhuman size. Some mirrors turn your face to the right, others to the left, some twist it, or turn it upside down.

[69] See above, 4.3.

So what's surprising about a mirror of this kind occurring in a cloud whereby a corrupted image of the sun is reflected?

Theory of thunderstorms and lightning

135 Seneca, *Naturales Quaestiones*, II.54.1–55.3

Context: An analysis of Seneca's exposition on thunder and lightning from *NQ* II.12 onwards, indicates that the Posidonian theory to which Seneca is returning is that of chs. 21–30, which are not there ascribed by name: Kidd, *Comm.* pp. 503–6, with examination of the difficulties of the structure. Posidonius' theory is again similar to that of Aristotle, but independent of him (*Comm.* pp. 507–9).

54.1 Now I return to the view of Posidonius. From the earth and all terrestrial phenomena emanate exhalations, one type of which is moist, and the other type dry and smoky; the latter is the fuel for lightning, the former for rain.[70] Any dry, smoky exhalations that reach the atmosphere do not tolerate being enclosed in clouds but burst through what confines them; that is the cause of the sound we call thunder.[71] 54.2 But also, in the air itself, whatever is rarified at once becomes dried and heated. This too, if enclosed, equally seeks escape, and emerges noisily. If it bursts out altogether, there is a more violent sound than if the air emerges bit by bit and gradually. 54.3 So it is this moving current of air that produces thunder, either by bursting the clouds, or by flying through them. The turbulence of air shut up in a cloud is the most powerful type of friction. Thunder is nothing else but the sound produced by air in fast motion; the sound can only happen while the air produces friction or bursts out.

55.1 It may be objected: 'If clouds collide with each other, there is the blow you need.' But it is not a complete blow, for whole clouds do not crash into other whole clouds, but bits with bits; and soft things do not make a

[70] This is straight from Aristotle (*Meteor.* 365a14ff.; 369a13ff.; Sen. *NQ* II.12.4).
[71] This too is based on Aristotle, but what follows is distinctively Posidonian.

noise, unless they collide with hard things; you don't hear flowing water unless it crashes into something.

55.2 Another objection: 'As fire plunged into water hisses while being extinguished, so the noise may come from fire in a wet cloud.' Suppose that is so; it supports my case. For it is not the fire that is making the sound at that point, but the air escaping through the extinguishing water. I grant you that fire is both created and extinguished in a cloud, but it is generated from air movement and friction.

55.3 'But look here,' goes another objection, 'couldn't it be produced from a shooting star falling into a cloud and being extinguished?' I'm prepared to believe that this too can sometimes happen; but what we are looking for now is the natural and regular cause, not one that is occasional and accidental. Don't get me wrong; I admit that what you say is true: it sometimes happens that after thunder, fires flash like shooting and falling stars. But the thunder was not produced because of that; no, it was concomitantly when that happened that thunder was produced.

Theory of hail

136 Seneca, *Naturales Quaestiones*, IVb.3.1–2 (*v.* T52)

Context: A puzzling fragment because the preceding context, which presumably examined the related phenomena of cloud, moisture, rain and snow is missing from our surviving text of *NQ*, along no doubt with earlier remarks on hail. Also Seneca's attitude to Posidonius in what survives is quite ambiguous: Kidd, *Comm.* pp. 510ff.; F11. Posidonius' theory, as stated, is original and survives nowhere else (*Comm.* pp. 513f.).

If I maintained to you that hail is formed in the very way that ice is with us, with a whole cloud frozen, I would be much overstepping my modesty.[72] So I count myself a second-grade witness, who confesses that he was not an eye-witness. Or I may follow the historians' practice when,

[72] What precisely Seneca means by this sentence remains baffling. See Kidd, *Comm.* pp. 510ff.

after a string of lies to their own satisfaction, they are unwilling to guarantee some single point and add: 'the authority will be found in my sources'.[73] So, if you have little trust in me, your guarantee is Posidonius, both for the past statement and for what follows. He will assure you, as if he'd been there, that hail comes from a watery cloud only just turned to liquid.

Compass card of winds and Homer

137a (F74 Jac.) Strabo, I.2.21

Context: Strabo is defending Homer's geographical knowledge. Eratosthenes had criticised Homer's description of winds, and Strabo uses Posidonius to counter this criticism. What is at the base of this controversy is two conflicting classifications of wind compass card systems, differing (1) in the number of points on the card, towards economy or plurality; and (2) in the direction of some of the winds.

Some say that there are two cardinal winds, Boreas and Notus;[74] the rest of the winds differ by slight inclination: the one that blows from summer sunrise[75] [NE] is Eurus, and from winter sunrise [SE], Apeliotes; the one from summer setting [NW] is Zephyrus, and from winter setting [SW], Argestes. For the two-wind theory, they cite as witnesses Thrasyalces [35.2 Diels] and Homer himself, who attaches Argestes to Notus [*argestes Notus*, *Iliad*, XI.306],[76] and Zephyrus to Boreas: 'Boreas and Zephyrus, the twain that blow from Thrace' [*Iliad*, IX.5]. [See Fig. 10.]

But Posidonius says that not one of the recognised authorities on these matters, like Aristotle, Timosthenes[77] and the astronomer Bion,[78] have handed down any such account of the winds; not at all; they say that the wind from the summer rising [NE] is Caecias, and the one diametrically opposite to it, i.e. from the winter setting [SW],

[73] Seneca here is quoting Sallust, *B. Jug.* 17.7.
[74] I.e. North and South.
[75] I.e. from the tropic of Cancer.
[76] *argestes* in Homer is an adjective meaning 'brightening'.
[77] Of Rhodes, fl. c. 280–270 B.C.
[78] Perhaps Bion of Abdera (Diogenes Laertius IV.58), but uncertain.

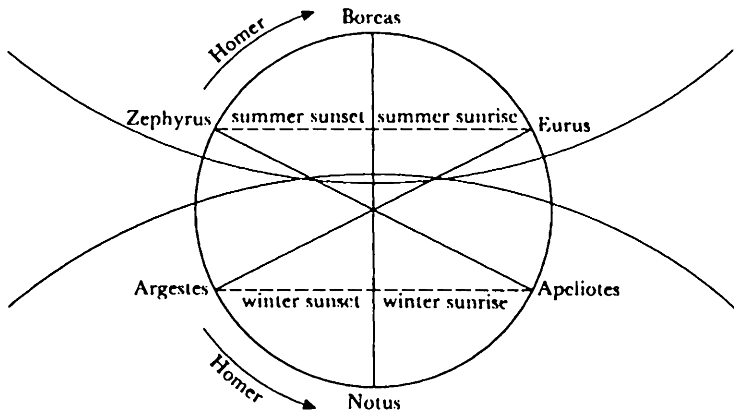


Fig. 10

is Lips; and again, the wind from the winter rising [SE] is Eurus, and its opposite wind [NW] is Argestes. The winds in the middle [i.e. E and W] are Apeliotes and Zephyrus. [See Figs. 11 and 12.]

Posidonius adds that when Homer says 'stormy Zephyrus' [*Iliad* XXIII.200] he means the wind we call Argestes; his 'loud-blowing Zephyrus' [*Odyssey* IV.567] is our Zephyrus; and his 'argestes [brightening] Notus' is our Leuconotus [SSW]; for Leuconotus thins the clouds, while Notus proper is somewhat stormy: 'As when Zephyrus drives away the clouds of argestes Notus, striking them with a violent storm.' (*Iliad* XI.305–6). This is 'the stormy Zephyrus' he is talking about now, which usually scatters the thin clouds brought by Leuconotus, 'argestes' being applied to Notus as an epithet. Some such correction must be made to these remarks of Eratosthenes, made at the beginning of Bk 1 of his *Geography*.

137b Eustathius, *Commentarii ad Homeri Iliadem*, XXI.334
The geographer[79] puts it like this too; Zephyrus does not blow from Thrace, but meets with Boreas[80] in the Gulf

[79] Strabo. [80] The North wind.

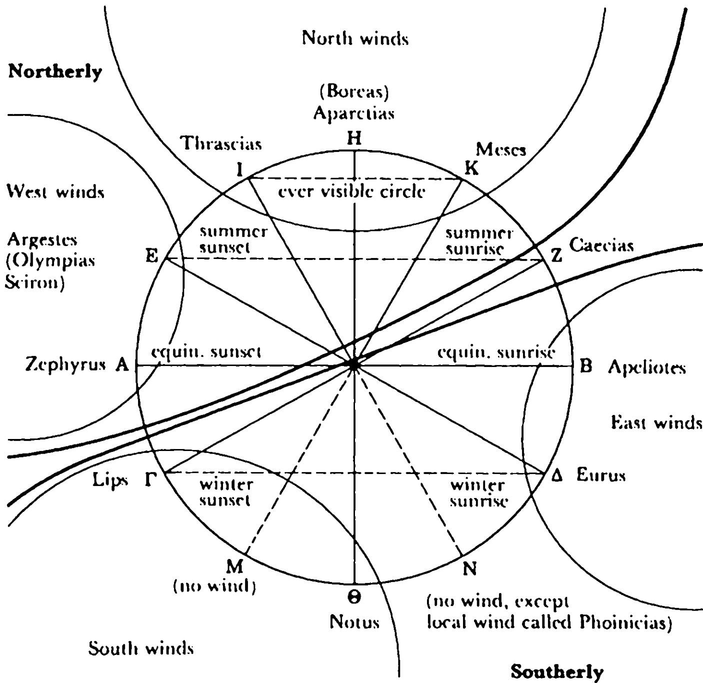


Fig. 11 Aristotle, *Meteor.* II.6

of Melas[81] upon the Thracian sea.[82] The same writer says [Strabo, 1.2.21, F137a] also that Posidonius says that Homer's 'stormy Zephyrus' is what we call Argestes, and his 'loud-blowing Zephyrus' is our Zephyrus; his 'argestes Notus' is, from the epithet 'argestes' ['brightening'], our Leuconotus [Clearnotus], whose clouds Zephyrus strikes broadside and scatters.

NB: according to Posidonius' account, Argestes, when used on its own, is related to Zephyrus, Argestes being itself 'stormy' compared with the 'loud-blowing' of

[81] Gulf of Saros. [82] This is repeating Strabo 1.2.20.

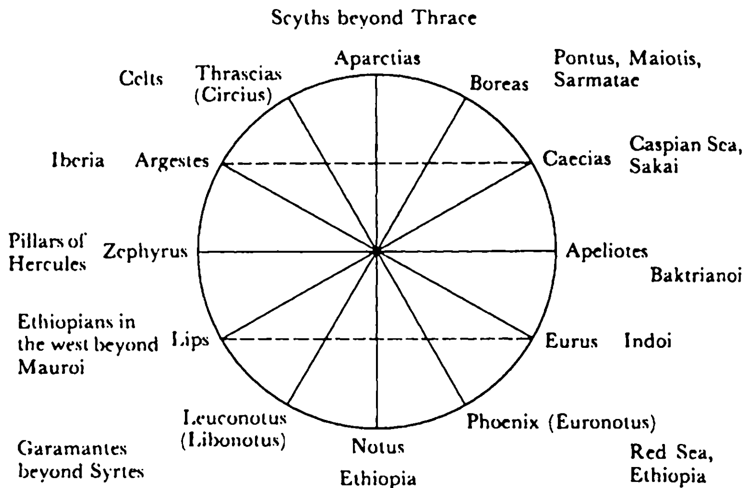


Fig. 12 Timosthenes (Agathemerus II.7)

Zephyrus; while here in Homer 'argestes Notus' blows contrary to Zephyrus, which scatters the clouds of argestes Notus.

Moon, winds and tides

138 (F81 Jac.) Aetius, *Placita*, III.17.4 (Stobaeus, *Eclogae*, I.38.4 = I.253.1W; *Dox. Gr.* 383)

Context: A doxography on tides. Frs. 214–20 give the full Posidonian theory of lunar periodicity of tides. Whether this fragment reflects an alternative 'scientific' theory, or some form of intermediate causation between moon and tides, or a misinterpretation of wind on wave motion, remains quite uncertain from the brevity and vagueness of the doxographic entry: *Comm.* pp. 523–5.

How ebb and flow tides occur

Posidonius says that winds are moved by the moon; the winds move the seas in which the forementioned phenomena [i.e. tides] take place. [But see Frs. 214ff.]

Soul: definition

139 Diogenes Laertius, VII.157

Context: Diogenes began his general account of soul in Stoicism at §156. By the following citing of particular reference, clearly deviation is not intended, but the recording of particular phrasing of normal Stoic doctrine.

Zeno of Citium [*SVF*, 1.135] and Antipater in his *On Soul* [*SVF*, III. Ant. 49] and Posidonius say that soul is warm breath [*pneuma*], for it is by this that we have the breath of life in us, and by its agency we move.

140 Macrobius, *Commentarii in Ciceronis Somnium Scipionis*, 1.14.19

Context: This is part of a long, terse doxography on definitions of soul, clumsily inserted in the middle of an examination of the nature of soul begun at 1.14. Of the 21 names (not in chronological order), that of Posidonius is the most recent. Posidonius appears in the first group where *idea* (form) means something like Platonic Form or some comparable immaterial sense of the word. This is impossible for Posidonius (see F139), and at most it indicates that Posidonius used the term *idea* in a definition of soul; see F141.

Plato [*Phaedrus*, 245] said that soul was self-moving substance, Xenocrates ..., Aristotle ..., Pythagoras and Philolaus ..., Posidonius said the soul was 'form' [*ideam*].

141a Plutarch, *De Animae Procreatione in Timaeo*, 22.1023B–D (*v.* T45)

Context: Plutarch has been criticising explanations of Plato's account of the generation of soul in *Timaeus* 35a1–b4. After dealing with Xenocrates and Crantor, he rejects (ch. 21) the view that the constituents of soul include the indivisible in the sense of shape and the divisible interpreted as corporeal matter, with the criticism that Plato introduces the presumption of matter *after* the generation of soul. At this point, he introduces the Posidonians as liable to similar criticism. Anyone reading this fragment needs all the help (s)he can get. See in general and in particular Kidd, *Comm.* pp. 529–38.

Posidonius and his followers[83] too are liable to criticism similar to that; for they did not withdraw far from matter, but having accepted that 'the being of the limits' was the

[83] The phrase is slightly ambiguous; *v.* Kidd, *Comm.* p. 530.

meaning of 'divisible in the case of bodies' [*Timaeus* 35a2–3], and having mixed these with the intelligible, they declared the soul to be form [*idean*] of that which is everywhere extended, constructed according to number which encompasses concord. For they said that, as the mathematicals have been ranked between the primary intelligibles and the perceptibles, so it is appropriate for the soul, which has the permanence of the intelligibles and the passivity of the perceptibles, to have her being in the middle.[84]

The Posidonians failed to see that god [i.e. in *Timaeus*] later, after he had produced soul, used the limits of the bodies for the shaping of matter by limiting and circumscribing its dispersiveness and incoherence with the surfaces from the triangles fitted together.

A still greater absurdity lies in making soul form;[85] soul is in perpetual motion, Form is without motion; Form is without mixture with the perceptible, soul is bound together with body. In addition to that, god's constitution in relation to Form is that of imitator to pattern; in relation to soul he is artificer to finished product. And Plato did not posit the substance of soul as number, either, as I have stated above,[86] but as being ordered by number.

141b Plutarch, *De Animae Procreatione in Timaeo, Epitome*, 3, 1030F–1031B

The above is repeated.

Faculties of soul

142 Galen, *De Placitis Hippocratis et Platonis*, v.454–5, p. 432.9–15 M, p. 312.29–34 De Lacy

Context: At the beginning of an argument against Chrysippus that judgements and emotions do not occur in a single part of the soul, or by virtue of a single faculty of it. While Posidonius is enlisted as evidence, he is distinguished from Plato.

[84] For the severe difficulties of this sentence, see Kidd, *Comm.* pp. 535f.

[85] Plutarch deliberately and inexcusably equates the Posidonian use of 'form' with a Platonic 'Form'. See Kidd, *Comm.* pp. 532f.

[86] At 1013C–D.

That there are three faculties of soul with which we desire, are angry and think is agreed by Posidonius and Aristotle. The doctrine of Hippocrates and Plato is that they are separately located, and our mind not only has in it many faculties, but is basically a composite of parts which are different in kind and in their being.

143 Galen, *De Placitis Hippocrates et Platonis*, v.480, p. 461, 4–6 M, p. 336.24–6 De Lacy

Context: An examination of Plato, *Rep.* iv on the three parts of the soul.

That we think, are angry and desire with different faculties is a doctrine common to Aristotle, Plato and Posidonius.

144 Galen, *De Placitis Hippocratis et Platonis*, v.481, pp. 462.12–463.3 M, p. 338.11–16 De Lacy (*v.* T96)

Context: As F143.

For Plato's set purpose in *Republic* concerning justice and the other virtues, all of which he discusses in what follows, it was sufficient to have shown that there were three faculties of mind distinct in kind. To that extent at least, Posidonius took him up and departed from Chrysippus, and preferred to follow Aristotle and Plato more. [*v.* Frs. 32; 33. F183 follows]

145 Galen, *De Placitis Hippocratis et Platonis*, v.493, p. 476.2–6 M, p. 348.17–20 De Lacy

Context: As Frs 143 and 144.

... I shall not yet criticise Aristotle and Posidonius in this Book [Bk v] for agreeing that we think, are angry and desire with agencies that differ from each other, but that these differences are faculties, certainly not different species or parts of the mind; ...

146 Galen, *De Placitis Hippocratis et Platonis*, vi.515, p. 501.7–14 M, p. 368.20–6 De Lacy

Context: Galen has been comparing Plato's metaphorical imagery for the parts of soul in *Phdr.* 253c–254a and in *Rep.* ix.588c6–d8.

Plato, since he thinks the faculties of mind are separate in physical location and differ very greatly in essence, reasonably terms them forms or species and parts. Aristotle and Posidonius refuse the terms 'forms' and 'parts' of mind, but say they are faculties[87] of a single substance, with its base in the heart. Chrysippus not only pulls anger and desire into a single substance, but so also into a single faculty.[88]

Divisions of soul

147 Tertullian, *De Anima*, 14.2

Context: Tertullian has been arguing that the soul is a simple entity incapable of being divided, yet philosophers divide it into parts. He gives a doxography. It appears that Posidonius adopted a classification of powers of soul based on the categories rational/irrational and governing/subordinate.

Yet the soul is divided into parts: into two by Plato, into three by Zeno [*SVF*, I.144], into five by Aristotle and into six by Panaetius [85 St.], into seven by Soranus, even eight according to Chrysippus [*SVF*, II.874], and nine according to Apollophanes [*SVF*, I.405]; but the soul is also divided into twelve parts by certain Stoics, and into two more by Posidonius, who, starting from two labels, 'governing' (which Stoics call ἡγεμονικόν/*hegemonikon*) and 'rational' (called by them λογικόν/*logikon*), proceeded to cut up the soul into seventeen parts.[89] So a variety of subdivisions arising from a variety of sources divide the soul.

Irrational faculties of soul

148 Galen, *De Placitis Hippocratis et Platonis*, v.467, pp. 445.13–15, 446.10 M, p. 324.9–11, 20 De Lacy

Context: See Frs. 31, 34.

[87] Or capacities or powers.

[88] On the confusion between essence and substance in this fragment, see Kidd, *Comm.* pp. 543f.

[89] This is the reading of the best manuscript, but it is obvious that the arithmetic does not work out. For an assessment of different methods of solution, see Kidd, *Comm.* pp. 546f.

'This is the best education for children, a preparation of the emotional faculty of soul so that it be most conformable to the rule of the rational faculty.' ... For powers of knowledge do not occur in the irrational faculties of soul ... [*v.* F31]

v. F34, Galen, *De Placitis Hippocratis et Platonis*, IV.349.4 M, p. 248 De Lacy

... there is a distinct irrational faculty ... [See also F161]

Relation of soul and body

149 Achilles Tatius, *Introductio in Aratum*, 13

Context: See the doxographies of Frs. 129, 130. It is arguable that this doxography may be traced back to Posidonius through Eudorus and Diodorus the mathematicus from Alexandria. Posidonius' statement is Stoic in general (e.g. *SVF* II.439, 440; see S.E. *Adv. Math.* IX.72). But with his original views on mathematical shape as containing limit, he may have shown particular interest in soul as containing concept.

A living being [ζῷον/*zoon*], according to Eudorus [*Dox. Gr.* p. 22 Diels] is ensouled substance. That the stars are living beings, is not the view of Anaxagoras [DK 59A79], nor of Democritus in his *Great Universal Order* [DK 67B1], nor of Epicurus in his *To Herodotus Epitome* [p. 2 and 28 Us.], but it is held by Plato in *Timaeus* [40B], by Aristotle in *On the Heavens*, Bk 2 [292b], and by Chrysippus in his *On Providence and Gods* [*SVF*, II.687]. The Epicureans say there are no such things as signs of the zodiac [ζῴδια/*zodia*], because they are ⟨not⟩[90] held together by bodies, but the Stoics maintain the opposite. Posidonius said that the Epicureans do not know that it is not bodies which hold souls together, but souls bodies, just as glue controls both itself and what is outside it.

[90] Added by Sandbach, necessarily for the sense.

ETHICS

(*v*. Frs. 29–41)

All ethical dogmas depend on understanding of soul or emotions

150a Galen, *De Placitis Hippocratis et Platonis*, IV.421, pp. 396.15–397.8 M, pp. 284.33–286.7 De Lacy (*v*. T97)

Context: See F165.

And yet Plato too has written wonderfully well on that,[91] as Posidonius points out as well; he admires Plato, calls him divine, and respects his philosophy on the emotions and mental faculties, and all he has written on preventing emotions rising in the first place, and once they had occurred, their quickest means of stopping [T97]. Posidonius says that instruction on the virtues and on the end is also tied to this, and that in short all the doctrines of ethical philosophy are bound as if by a single cord to the knowledge of the powers [or faculties] of the soul.... *v*. F165.

v. F30, Galen, *De Placitis Hippocratis et Platonis*, V.469, p. 448.9–11 M, p. 326.12–16 De Lacy

150b Galen, *De Placitis Hippocratis et Platonis*, V.471, p. 451.5–13 M, p. 328.21–7 De Lacy

Context: See F187.

But I really think it better to put before you what comes next to this in Posidonius' text; it goes like this: 'Once the cause of the emotions was seen, it broke the absurdity [of Chrysippus' explanation of the End], showed the sources of distortion in choice[92] and avoidance [of good and evil], distinguished the methods of training, and made clear the problems concerning the impulse that rises from emotion.' These are certainly no small or chance benefits he says

[91] The treatment of emotions, to prevent them rising, and healing them once they occur.

[92] A convincing emendation by Müller.

we shall derive from the discovery of the cause of the emotions. *v.* F187

Emotions: Posidonius' relation to other theories

151 (T91) Galen, *De Placitis Hippocratis et Platonis*, v.478, pp. 458.9–459.5 M, p. 334.23–33 De Lacy

Context: At the end of *De Plac.* Bk IV, Galen declared his intention of continuing in Bk V with criticism directed against Chrysippus' inconsistent statements on emotions (T61), using Posidonius. The direct attack on Chrysippus in Bk V lasts until p. 334.15 De Lacy. At this point, Galen excuses himself from examining Zeno's position, since Chrysippus is his main target (p. 334.16–23). F151 follows, and then at p. 336.16 he turns to Plato.

My opposition to Chrysippus was demanded by my plan; and if Zeno favoured the same position as Chrysippus, he will stand subject to the same criticisms, whereas if he followed Plato's principles and starting points, roughly the same as Cleanthes and Posidonius, he would in that case be a partner in our philosophy; but if, and I believe this to be the case, he thought that emotions supervene on judgements, then he would be in the middle between the worst view on them, that of Chrysippus, and the best, which Hippocrates and Plato were the first of all to pursue. Posidonius adds Pythagoras, but since no work of Pythagoras has survived to our time, he infers this from the written work of some of his pupils. [See Galen, 401.11–15 (F165); F142]

Definition of emotions

152 Galen, *De Placitis Hippocratis et Platonis*, v.429, p. 405.5–14 M, p. 292.17–25 De Lacy (*v.* T98)

Context: At the beginning of *De Plac.* V (292.4ff. De Lacy), Galen refers to his criticism in Bk IV of Chrysippus' position that the emotional and rational elements are situated in one place (the heart) and are the work of a single faculty, before he proceeds to a more detailed attack on Chrysippean inconsistencies at 294.26ff. F152, which follows immediately, recalls the discussion in Bk IV given in F34. This fragment is followed by F157.

Well, Chrysippus, in *On Emotions*, Bk 1 [*SVF*, III.461], tries to prove that emotions are judgements of a kind of the rational, while Zeno thought that the emotions are not the actual judgements, but the contractions and expansions, risings and fallings of the spirit that supervene on judgements. Posidonius differed from both, and both praised and approved of Plato's doctrine; he opposed the Chrysippean school of thought by pointing out that the emotions were neither judgements nor what supervenes on judgements, but certain motions of distinct irrational powers, given the name by Plato of desiderative and spirited. [See F34]

Emotional movements

153 Galen, *De Placitis Hippocratis et Platonis*, v.464, p. 443.9–11 M, p. 322.12–14 De Lacy

Context: See in general F169. The immediate context is a discussion by Posidonius of physiognomy (pp. 320.29ff. De Lacy), maintaining that different physical characteristics and states produce their own peculiar 'emotional movements', i.e. emotions. F31 follows shortly.

... Different physical temperaments each produce emotional movements peculiar to themselves; 'emotional movements' was the term Posidonius habitually applied to them. *v.* F169

Classification of affections and emotions

154 Plutarch, *De Libidine et Aegritudine*, 4–6

Context: This is part of the first of the so-called 'Tyrwhitt's Fragments', published by him in 1773 from Harleianus 5612. The authorship has been much debated, Pohlenz (*Dissertation* p. 593 n.1) and Ziegler (*Studi in onore L. Castiglioni* p. 1135) arguing against Plutarch; but F. H. Sandbach (Plu. *Mor.* vol. xv [Loeb], pp. 32–5, and *Rev. de Phil.* 43 [1969], pp. 211–16) has put a positive case in favour of Plutarch. The fragment addresses itself to the old question whether body or soul is responsible for emotions.

[4] Whatever else they may disagree about, you would think that philosophers who claim to offer positive doctrines and

a firm grasp of reality would agree with each other and concur on the activity of the affections at least. Not a bit of it; they are far from meeting our expectations. Some allot the whole bunch of these phenomena without more ado to the soul, like the scientist Strato [F111 Wehrli] ...

[5] Others go to the opposite extreme and restrict even opinion and calculation (never mind the emotions) to the body; they don't even admit that a substantial soul exists at all, but say that such phenomena are brought about by physical differences, qualities or powers of the body ...

[6] Certainly Posidonius at least says in his classification that (1) some are of the soul, (2) some are of the body, and (3) some do not belong to soul but are physical with mental effects, and (4) others do not belong to the body but are mental with physical effects.

(1) Instances of what belongs to the soul without qualification are those having something to do with rational decisions and suppositions, like desires, fears, fits of anger.
(2) Those which belong to the body without qualification are fevers, chills, contractions, opening up of the pores.
(3) Those which are physical with mental effects are lethargies, madness arising from black bile, mental pangs from physical gnawing pains, sense presentations, feelings of relaxation.
(4) And the other way round, those which are mental with physical effects are tremors and pallors, that is, changes of appearance in fear and grief.

Anger

155 Lactantius, *De Ira Dei*, 17.13

Context: At *De Ira*, 17.12ff. Lactantius is arguing that Greek philosophers (of whom he names Stoics and Peripatetics) did not understand that there is a just anger (which is rational) as well as an unjust anger.

But that philosophers were ignorant of what is a rational explanation of anger,[93] is obvious from their definitions of anger as listed by Seneca in the volumes he wrote *On Anger*. Anger, he says, is a desire to avenge wrong [*De Ira* I.2.4ff.], or,[94] as Posidonius says, desire to punish whoever you think has unfairly injured you [see *SVF*, III.396]. Some have defined it like this: anger is the arousal of the mind to harm anyone who has either harmed or wished to harm you [see *SVF*, I.434]. Aristotle's definition is not very far from ours.[95] He says [see *De Anima*, 403a30] that anger is desire for retaliation. [*v.* F36]

Nature of emotions recognised by immediate experience

156 Galen, *De Placitis Hippocratis et Platonis*, v.502, pp. 486.14–487.10 M, pp. 356.25–358.3 De Lacy (*v.* T87)

Context: At p. 336.16 De Lacy, Galen brings to an end an extended criticism of Chrysippus through Posidonius, and turns to an examination of Plato's discussion of the parts of the soul in *Republic* IV. At this point he has just produced *Rep.* 441a7–c2, with its quotation of Homer, *Odyssey* XX.17.

I could have wished that Chrysippus too had read this passage in Plato [*Republic* 441b] and put his mind to it. He too would unquestionably have profited by learning when and on what subjects it is apposite to call in Homer as a witness. Quotations should not be used at the beginning of an argument, but only when you have adequately proved what you set out to prove, *then* it is unobjectionable to call in an older generation as witness; and not on subjects utterly obscure but for evident facts, or for things the indication of which lies close to sense perception; an exam-

[93] Lactantius is arguing that Greek philosophers did not understand that there is a just anger (which is rational) as well as an unjust anger.

[94] The manuscripts divide between 'or' (introducing an exclusive alternative, *aut*) and 'others'. But it is difficult to see any distinction between the two definitions, and the evidence for Posidonius remains unclear. See the discussion in Kidd, *Comm.* pp. 564f.

[95] I.e. Seneca's own definition.

ple is mental emotions: they don't need long arguments nor more rigorous demonstrative proofs either; all they need is a reminder of what we experience on each occasion, as Posidonius said too.

Proof of cause of emotions

157 Galen, *De Placitis Hippocratis et Platonis*, v.430, p. 405.14f. M, p. 292.25f. De Lacy

Context: This sentence follows F152, and is itself followed by T62.

Much has been said by Posidonius in relation to a proof of the old doctrine [that emotions arise from irrational faculties, and are not judgements nor supervene on judgements] ...

v. F34, Galen, *De Placitis Hippocratis et Platonis*, iv.377–8, pp. 348.12–349.7 M, p. 248.3–13 De Lacy

Posidonius completely departed from both these views;[96] he believes that emotions were neither judgements nor what supervened on judgements, but were caused by the spirited and desiring powers or faculties, in this following completely the old account. And time and again in his work *On Emotions*, he asks Chrysippus and his sympathisers what is the *cause* of the excessive impulse. For reason, whatever else, could not exceed its own business and measures. So it is obvious that there is some other distinct irrational faculty as cause of the impulse's exceeding the measures of reason, just as the cause which makes running exceed the measures of its choice is irrational, namely the weight of the body.

Natural goals

158 Galen, *De Placitis Hippocratis et Platonis*, iv.424, pp. 399.14–400.10 M, p. 288.9–18 De Lacy

Context: Galen is discussing why emotions diminish and cease in time. See F165.

[96] Those of Zeno and Chrysippus.

As the emotional aspect of soul has its own proper natural goals, so too in attaining them it is satisfied, and in so doing calms down its own movement which was in control of the conation of the animal and in keeping with its nature was leading it on whatever misguided path was its goal. So the causes of the cessation of emotions is by no means beyond the powers of reason, as Chrysippus would maintain, but are actually absolutely clear to anyone who does not want to do down our older philosophers. For nothing is more obvious than that there are certain powers in our souls with natural goals, the one for pleasure, the other for power and victory. Posidonius said that it is an observed fact that these powers exist also in all other animals; I too[97] pointed that out, right at the beginning of my first book. [*v.* F165]

Emotions in animals and children

159 Galen, *De Placitis Hippocratis et Platonis*, v.431, pp. 406,16–407.7 M, p. 294.13–20 De Lacy

Context: Galen, in excusing the length of his attack on Chrysippus, says that there are some errors which he cannot ignore. In general, see F163.

But where Chrysippus knocks himself down and is in conflict with clearly observable fact, at that point I think one might well feel ashamed and move over to a better view. That is what Posidonius did when he was ashamed to advocate a doctrine of all other Stoics which was manifestly false. They reached their peak of argumentative contentiousness by maintaining that since the emotions belong to the reasoning power, irrational animals have no share whatever in emotions; and most Stoics do not agree that even children possess emotions, since they too are obviously not yet rational. [*v.* Frs. 33, 31]

[97] I.e. Galen.

Three natural affinities of soul

160 Galen, *De Placitis Hippocratis et Platonis*, v.460–1, pp. 438.12–439.9 M, p. 318.12–24 De Lacy

Context: See F169.

So we have these three natural affinities related to each form of the soul's parts,[98] to pleasure through the desiring factor, to victory through the passionate factor, and to the morally good through the rational factor. Epicurus had eyes only for the affinity of the worst part of the soul,[99] Chrysippus only for that of the best part,[100] maintaining that we had an affinity to what was moral only, which he says is also obviously good. It was the old philosophers only who had their eyes securely on all three affinities. So Chrysippus had nothing to do with two of the affinities and ... Posidonius, with good reason to my mind, censures and criticises him for all the foregoing. *v.* F169. [*v.* F34]

161 Galen, *De Placitis Hippocratis et Platonis*, v.472, p. 452.3–10 M, p. 330.1–6 De Lacy

Context: See Frs. 187, 150b.

'The discovery of the cause of the emotions taught us the sources of distortion in what is to be chosen and what is to be avoided.'[101] Some, you see, are deceived into thinking that what belong to the irrational powers of the soul as natural goals, are natural goals without qualification; what they don't know is that pleasure and power over one's neighbour are goals of the animal aspect of our soul, while wisdom and all that is good and moral together are the goals of the rational and divine aspect.[102] *v.* F187. [*v.* F31]

[98] 'form' and 'parts' are terminology imported by Galen. Posidonius deliberately rejected the terms, and confined himself to 'powers'; see Frs 142–6.

[99] I.e. pleasure through the desiring part.

[100] I.e. the rational part.

[101] Part of a quotation from Posidonius given a few lines before; *v.* F150b.

[102] And so are natural goals without qualification.

Puzzles about the impulse that arises from emotion are clarified by recognition of the cause of emotions.

162 Galen, *De Placitis Hippocratis et Platonis*, v.473–4, pp. 453.11–454.7 M, p. 330.22–31 De Lacy

Context: See F187. F174 follows.

These too then are the benefits Posidonius says we receive from the recognition of the cause of the emotions, and besides that, 'It clarified,' he says, 'the puzzles about the impulse that arises from emotion.' Then he himself goes on to explain what these difficulties are, in this way: 'I think that you have noticed for long enough how we may be rationally convinced that an evil is within us or approaching, and yet we are neither afraid nor distressed, but we are so when we get an image presentation of the evils themselves. You see, how could you move the irrational rationally, unless you thrust before it a vivid mental picture similar to one you can see? Let me give you an example: there are cases of people tumbling into desire from a description; and some people are scared merely by a vivid injunction to take to their heels from a charging lion, even although they have not actually seen it.' [*v.* F187]

Sickness of soul, cure, education, training

See also F31.

The condition of the soul of imperfect men, illustrated by the analogy of health and sickness

163 Galen, *De Placitis Hippocratis et Platonis*, v.432–5, pp. 408.4–411.9 M, pp. 294.32–296.36 De Lacy (*v.* T94)

Context: (a) The general structural context of *De Plac.* Bk v. At the end of Bk iv, Galen declared his intention of continuing in Bk v to discuss Chrysippus' views on the emotions, but confined himself to contradictions in Chrysippus, to inconsistencies of his statements with observed fact (p. 290.22–26 De Lacy), and to Posidonius' criticisms (T61). At the beginning of Bk v, Galen challenges the Chrysippean contention that the heart is the seat of both emotions

and intelligence; he thinks that this mistake is due to the failure to realise that emotions and reason have different sources and starting points. Posidonius does not agree with either Chrysippus or Zeno that emotions are judgements of the reasoning part or supervene on judgements, but holds that they are motions of irrational faculties (F152). So also Posidonius would object to the contention that emotions do not occur in animals or children because they are irrational (F159). This is followed by a detailed attack on Chrysippean inconsistencies which lasts from pp. 294.26 to 326.8 De Lacy.

(b) The immediate context: F163 is introduced by the assumption that the older philosophers and Chrysippus agree that: (i) emotion is a motion of soul that is unnatural and irrational; (ii) this emotion does not arise in the souls of good men. Disagreement occurs over the condition of souls of imperfect men, illustrated by the analogy of health and sickness. The argument that follows F163 in Galen (p. 298.1ff. De Lacy) shows that the background to the controversy over the analogy between mental and physical health and sickness is related to the therapeutic cure of sickness and emotions (see *SVF.* III.471). Discussion: Kidd, 'Euemptosia', *Rutgers Studies, Arius Didymus*, pp. 107–13.

A
Galen's report of Posidonius' criticism of Chrysippus' comparison or analogy

But Chrysippus and the older philosophers no longer think alike when it comes to the condition of the mind of men of imperfect character in respect to the emotions and before emotions arise. Chrysippus says [*SVF*, III.465] it is comparable to bodies apt to fall into fevers, attacks of diarrhoea or something else like that, on a small or chance cause. That comparison of his meets with Posidonius' criticism; the mind of imperfect men, says he, should not be compared to that, but to bodies that are healthy simply; for whether you run a fever from big causes or little makes no difference in relation to being affected by it and being brought into an affected state in any way at all; no, bodies differ from each other by falling into disease easily or with difficulty. So, he says, Chrysippus is not correct in comparing on the one hand the health of the mind with physi-

cal health, and on the other comparing the disease of the mind to that condition of the body that falls easily into sickness; because the mind of the wise man is immune to affection obviously, but no body can exist immune to disease. No, he said, it was more correct to liken the minds of imperfect men 'either to physical health with its "proneness to disease"' (that was Posidonius' nomenclature), 'or to disease itself,' for he said that it was either a kind of sickly state, or already sick.

But he himself agrees with Chrysippus to the extent of saying that all imperfect men are sick in mind, and that their sickness is like the stated conditions of the body.

B

Direct quotation of Posidonius

At least he says the following, and I quote him: 'For this reason too sickness of the mind is not like, as Chrysippus had assumed, that sickly bad condition of body by which the body is swept off to fall into random irregular fevers; mental sickness is rather like either physical health with its proneness to disease, or disease itself. For physical disease is a state already sick, whereas Chrysippus' so-called disease is more like proneness to fevers.'

C

Galen's criticism of Posidonius

This much I approve of Posidonius in that he says that the minds of imperfect men, whenever their condition is apart from emotions, are similar to bodies that are healthy, but I do not approve of him giving the name 'disease' to conditions of that sort. If he were making a correct comparison, he should say that the minds of good men are in a similar state to bodies immune to disease, whether or not there are any such bodies, for the investigation of that question is superfluous to our proposed image; the minds of progressors in virtue are like robust bodies, the minds of aver-

age men like healthy bodies without being robust, those of the majority of imperfect men like bodies sick at a slight cause, minds of men enraged or in a temper or completely settled in some emotion like bodies already sick. But you see, I think he is careful not to be caught disagreeing with Chrysippus in everything. What other explanation could one give for him likening the disease of the mind to the condition *both* of healthy bodies *and* of bodies already sick? Minds that are sick were better compared not with both, but with sick bodies only; for it is impossible that a single thing, disease of mind, be likened to two opposite things, health and sickness, at the same time. For if you actually grant that, health too will necessarily be basically similar to disease, if it is true that each of the two is like disease of the mind; for things which are similar to the same thing are certainly, I imagine, similar also to each other.

Criticism of Chrysippus' view that the cause of emotion can be ascribed to degree of magnitude of presentations or to weakness of soul

164 Galen, *De Placitis Hippocratis et Platonis*, IV.397–403, pp. 369.7–376.13 M, pp. 264.9–270.8 De Lacy (*v.* T104, T60)

Context: This argument is part of a long series of criticisms (pp. 240.11ff. De Lacy) from Galen initiated by Chrysippus' attempted explanations of emotion as involving excessive impulse, opinion and judgement. Posidonius first attacked Chrysippus' interpretation of excessive impulse (F34); then problems related to opinion and judgement are attacked, with Galen debating whether a rational or irrational process was implied, whether emotion arose simply from a mistake or error or not (pp. 262.15ff. De Lacy). He accuses Chrysippus of using 'judgement' in different senses (*v.* F34). But Chrysippus stressed 'in excess of what is natural' (pp. 262.35 De Lacy), so the question arises how degree in the context of opinion and judgement can cause emotion. Also this is related to education and training by the quotation from Chrysippus' book *Cure of the Affections* which aligns the 'excess' to 'infirmities'. F164 now follows and consists of a series of six arguments from Posidonius reported by Galen. They are given as a continuous piece, but we do not

know how much was omitted (as some material certainly was) or how literal (one passage is expressly quoted *verbatim*) or how compressed different parts of the report were. When F164 begins, Galen is in the process of accusing Chrysippus of three contradictory statements: (a) emotion involves judgement; (b) emotion is irrational; (c) there is no irrational faculty. Galen seizes on madness as an obvious case of irrational emotion, and then considers a possible objection.

But look here, a possible objection could be that madness is not caused by an irrational faculty, but through a matter of degree because the judgement and the opinion have been carried beyond the right point; as if it were put like this: infirmities of soul are not purely and simply false suppositions that *X* and *Y* are good or evil, but occur through thinking *X* and *Y* are the *greatest* good or evil: you see, the opinion of money as a good is not yet an infirmity; it only becomes so when one thinks it is the greatest good, so that one supposes it is not even worth living without it; *that* is what constitutes love of money and avarice as infirmities.

(1) Well, Posidonius opposes that argument in this sort of way: 'But from that kind of argument from Chrysippus, one would first of all be at a loss how it is that wise men think that all moral goods are the greatest unsurpassable good, but yet are not moved passionately in the sense of "desiring" what they seek or experiencing excessive joy when they achieve it. For if it were the magnitude of the apparent goods and evils that sets in motion the belief that it is appropriate and in accordance with their valuation when present or at hand to be moved emotionally, and admit no reason that they be moved by them otherwise, then those who thought that what was happening to them was unsurpassably great [i.e. wise men], must have been so affected [i.e. greatly impassioned]. But that is not observed to occur. Secondly, a similar argument would apply to progressors along the path to virtue, if they suppose the occurrence of great harm from their vice; for they ought to be swept into experiencing *excessive* fear and distress; but that doesn't occur either.'

(2) Next to that statement, Posidonius goes on to write the following: 'And if in addition to the magnitude of impressions of good and evil, they are going to put the blame on excessive weakness of soul as well and say that is the reason wise men are completely free from emotions, while morally imperfect men, when their weakness is not of the common or garden kind, but one that has gone to extremes, are not,[103] well, the question isn't solved by that either. Everyone is agreed that the emotional condition is a form of mental illness; but that is not the question, but how the soul is moved or moves in emotion; and that hasn't been explained.'

(3) Next comes this: 'And to suppose that to be moved in accordance with valuation of what happens to one in such a way as to abandon reason reveals a great emotion,[104] is to suppose badly; for it occurs also through a moderate and small emotion.'[105]

(4) Juxtaposed to that, Posidonius writes this: 'Two persons may have the same weakness and receive a similar presentation of good or evil, yet one may incur emotion, the other not, one less, the other more; and sometimes the weaker of the two, who supposes that what has befallen him is greater, is not moved; and the same individual under the same conditions is sometimes emotionally moved, sometimes not, sometimes more, and sometimes less. At least, the more unused a man is to a situation, the more affected he is in circumstances of fear, distress, desire and pleasure; and the more vicious, the more speedily seized by emotions.' At this point, Posidonius supplies poetical quotations and historical accounts as evidence for his statements, and

[103] Adopting the insertion of the negative as proposed by Edelstein.
[104] I.e. does not arise unless in a great emotion.
[105] This is a difficult sentence, both uncertain textually and obscure in interpretation. See Kidd, *Comm.* pp. 592f. for suggestions. But Galen appears to have compressed the original.

then says in conclusion, 'So, what is vicious is quickly seized by the unaccustomed, but what has been brought up in the opposite way, being changed in time by habituation ⟨either is not distraught at all or only slightly⟩;[106] in those cases, the suppositions held are often equal, and the degree of infirmity too, but the emotions do not arise equally, and are not equal.'

(5) Now after that he raises questions like the following – and I quote him exactly, even if the passage is a little long: 'How is it that there are cases of people who think a great evil is upon them, and weak in judgement though they be, yet deliberate the matter and call in others to advise them, like the famous sleepless Agamemnon? He, you remember, because of the rout of his army, was at once struck, so the Poet tells us,[107] like the rest of the heroes, with unspeakable grief. But when that emotion subsided, although his supposition of what had happened was still there, and so was the weakness of his reasoning powers, inactivity no longer seemed right [*Iliad* x.17–20]:

"But this counsel seemed best in his heart
To go first to Nestor, Neleus' son,
To see whether he could work out some fine scheme for him
That might ward off disaster from all the Danaans."

And when Nestor himself marked him approaching through the dark in the distance, and asked him who he was, he made himself known with some asperity and says [*Iliad* x.91–5]:

"I wander like this, for sweet sleep will not settle on my eyes;
I worry for the war and the troubles that beset the Achaeans.
My fear for the Danaans is terrible and excessive; my heart
Is in turmoil, in sore distress, leaps from my chest,
And my shining limbs shake under me."

[106] The addition was suggested by Edelstein. [107] Homer, *Iliad* ix.3.9.

Now look; either he is there taking counsel and advice while his heart is pounding with fear, and so we have someone in the category of a man in great emotion being moved emotionally, who yet thinks it appropriate in evaluation of what has happened to him *not* to reject reason; or on the other hand, if he is no longer in terror, but recalling the experience of fear when he says this, then why on earth, one might reasonably object, does the same man reject reason, and then later seek it, although his supposition of the state of affairs and his weakness of judgement remained the same? Chrysippus has not given the cause of emotion in its entirety.'

(6) After that Posidonius says the following: 'Not only to abandon reason in desires,[108] as Chrysippus says, but also to make the additional assumption[109] that even if not advantageous, one must have it, contains a contradiction, namely:

(a) to be carried off as if to a great advantage;
(b) through its *greatness*, even if it is inadvantageous, think it worthy (even if it has no benefit, but actually the opposite) nevertheless even so to cling to it.[110]

Let us suppose three admissions:

(i) Chrysippus' supporters reject those who say that it is not advantageous;
(ii) they think that those who profess to show that it is inadvantageous are talking nonsense;
(iii) what is pursued is pursued because of the *great* benefit.[111]

[108] I.e. when emotionally disturbed.
[109] This may be an inference by Posidonius.
[110] This whole sentence is obscure both textually and in argument. I give what seems to me the most probable solution. Details and alternatives in Kidd, *Comm.* pp. 596f.
[111] That is (a) all pursue what seems good or advantageous, not what is inadvantageous, although they may be in error; (b) it is the degree of advantage which determines the judgement, not the advantage.

But precisely what is unconvincing about this is to argue: *because* of supposing it is a *great* good, men think that they should, even if it is a very great evil, yet grasp it, hollering the while "Let me perish! That's what is good for me now".[112] You see, it's not credible that the *cause* of *that* should lie in the supposition that what one is impelled towards is a great good. The cause is yet to seek.'

I [Galen] can find no answer to Posidonius on these points, nor do I think anyone else will be able to either, to judge from the evidence of the facts and from contemporary Stoics. My generation has not lacked Stoics either in number or distinction, but I have heard no convincing statement from any one of them to answer these difficulties put forward by Posidonius.

Criticism of Chrysippus on the cause of why emotions arise and abate in time. Importance of time and habit in treatment of emotional disturbance

165 Galen, *De Placitis Hippocratis et Platonis*, IV.416–27, pp. 391.3–403.5 M pp. 280.19–290.22 De Lacy (*v.* T101, T97, T95, F150a, F158)

Context: After F164, Galen continued criticising quotations from Chrysippus. The beginning of F165 forms a declared transition from the general outline and character of Chrysippus' theories to Posidonius' objections. The structure of the fragment is complicated by the fact that Posidonius, Galen and Chrysippus are all involved in this report, and it is not always clear who is saying what: *Comm.* pp. 599–607.

A

Posidonius' criticism of Chrysippus' definition of distress in the light of why emotions arise and abate in time

I move on to some of Posidonius' criticisms of Chrysippus.

Here's an example, says Posidonius: this definition of

[112] *CAF*, III.350. A stock example of the utterance of a very emotionally disturbed person; see Plutarch, *De Virt. Mor.* 446A.

distress[113] [*SVF*, III.481], like many of the other definitions of the emotions given orally by Zeno [*SVF*, I.212] and written down by Chrysippus, clearly refutes Chrysippus' view. Chrysippus says that distress is a fresh opinion that evil is at hand for you. Sometimes they phrase that still more concisely,[114] formulating it like this: 'Distress is fresh opinion of the presence of evil.' Now on the one hand, he says[115] that 'fresh' is 'recent in time', but on the other hand, Posidonius demands to be told the cause why the opinion of evil, when it is fresh, contracts the soul and produces distress, but when it is prolonged, it doesn't contract it at all or no longer equally. Yet Chrysippus should not even have accepted the inclusion of 'fresh' in his definition, if he meant what he was saying as true; because it was rather his view to describe distress as an opinion not of a fresh evil, but of a great or intolerable or unbearable evil – these were the terms he himself habitually used.

Here too Posidonius criticises Chrysippus from both angles. With regard to this second definition, he recalls the case of wise men and morally imperfect men, as has already been said [*v.* F164]: the former suppose themselves to be with the greatest goods, the latter with the greatest evils, yet neither, on that account, are in an emotionally disturbed state. But with regard to the first definition, he asks the reason why distress is caused not by the opinion of present evil, but by the 'fresh' opinion only. And Posidonius says, 'The reason is that if anything we are unprepared for or is strange to us suddenly hits us, it knocks us off balance and displaces our old judgements; while what is practised, familiarised or prolonged either doesn't disturb us at all to give rise to emotionally disturbed movement, or only to a very limited extent.' Therefore, says Posidonius, we ought

[113] Reading λύπης with Cornarius, assured from the context.
[114] Galen is being pedantic.
[115] I.e. probably Posidonius interpreting Chrysippus.

to actually live with things in advance, and treat what is not yet with us as if it were. Posidonius means by this expression 'live with things in advance' to imagine beforehand as it were, and prefigure in our mind what is going to happen, and so gradually bring about a kind of habituation to it as to something that had already occurred. That's why he brought in at this point the story about Anaxagoras [59A33 DK], how when someone brought him the news that his son was dead, he said 'I knew that I had fathered a mortal'; and he added the example of how Euripides had taken up this idea and made Theseus say [F964 N]:

> 'A wise man taught me that,
> And I kept setting my mind to worries and misfortunes,
> Adding to my lot flight from my native land
> And death untimely and other paths of disaster,
> So that should I ever suffer what I was imagining,
> It should not fall fresh and new and tear my mind.'

The same point is made by the following lines [Euripides, F821 N];

> 'If this were the first day of my distress
> Instead of my long voyage through pain and stress,
> Why so might I rear like a new-saddled
> Colt, just strapped to the bit;
> But now I am dulled and tamed to disaster.'

And sometimes you get this [Euripides, *Alcestis* 1085]:

> 'Great age will soften it, but now disaster's in its prime of youth.'

Even Chrysippus [*SVF.* III.466] bears witness to the fact that emotions soften in time, even if we continue to think that some evil has befallen us. In *On Emotions*, Bk 2 he puts it this way: 'One might enquire too about the relaxation of distress, how it comes about, whether one of our opinions is changing, or whether they all remain the same as they

were, and why this will be so.' Then he adds: 'It seems to me that the sort of opinion that what we are actually undergoing is evil stays put, but as it is prolonged in time, the contraction of soul is relaxed, and so, as I think, is the impulse that follows the contraction. But it may be that even although that persists, what follows on will not conform to it because of some different kind of supervening disposition while these events are occurring that is hard to reason out. In this way, you see, people both stop weeping and weep against their will when the underlying circumstances create like[116] impressions, and something or nothing stands in their way. For in the same way as cessation of wailing and lamenting occurs, it is reasonable to think that sort of thing or something like it happens in the case of what causes motion initially especially, as I said happens in the case of what moves laughter.'

B

Chrysippus and Posidonius contrasted on the aetiology of why emotions arise and subside in time

Well, Chrysippus himself admits that emotions cease in time, although the opinion persists; but the cause of why this happens he says is 'hard to reason out'. Then next he goes on to write of different things happening similarly, and *their* cause, I need hardly say, he does not profess to know either. But, Chrysippus, Posidonius doesn't say he is ignorant of the causes of things like that; oh no, he has praise for and accepts the pronouncements of the earlier philosophers, as I shall relate in due order.[117] But you make no mention of these earlier authorities, nor do you offer a separate cause of your own, but think the enquiry is resolved if you admit ignorance of the cause. And yet the

[116] Deleting a negative in the main manuscript, which is also absent in the repetition of this quotation later in the fragment. See Kidd, *Comm.* p. 602.

[117] Pp. 336.16ff. De Lacy.

theme unifying the whole work on the theory and practical cure of emotions is precisely to find out the causes by which they arise and cease. For that is the way, I [i.e. Galen] think, one could prevent their arousal and stop them once aroused. For I think it is reasonable that the coming to be and existence of things are removed with their causes. It is precisely this that you are at a loss to give an account of in your book *On Emotions*, and produce the sort of thing we could concentrate on to prevent each of the motions arising in the first place, and cure them once arisen.

And yet Plato too has written wonderfully well on that, as Posidonius points out as well; he admires Plato, calls him divine, and respects his philosophy on the emotions and mental faculties, and all he has written on preventing emotions arising in the first place, and once they had occurred, their quickest means of stopping. Posidonius says that instruction on the virtues and on the end is also tied to this, and that in short all the doctrines of ethical philosophy are bound as if by a single cord to the knowledge of the powers [or faculties] of the soul [F150a].

C

Posidonius' explanation of the cause why emotions abate in time

Posidonius himself shows that the emotions arise from anger and desire,[118] and the cause of why they subside in time, even if the person's opinion and judgement persists that an evil exists or has arisen for him. He even uses Chrysippus himself as a witness to this, quoting from his *On Emotions*, Bk 2: 'Similarly with distress: there are people who seem to leave off it as though sated, as with Achilles, so the Poet puts it, grieving for Patroclus [*Odyssey* IV.541; *Iliad* XXIV.514]:

> "But when he was sated with weeping and rolling on the ground,
> And the longing left his heart and limbs",

[118] I.e. Plato's faculties of 'the spirited' and 'the desiring'.

he set about rallying Priam by confronting him with the irrationality of his distress.' Then next Chrysippus adds this statement: 'By this account, one could not fail to expect that with the passage of time and the abatement of the emotional inflammation, reason might not steal in, claim its ground as it were, and show up the irrationality of the emotion.' Clearly here Chrysippus admits that the emotional inflammation abates in time, while the supposition and opinion still persist; admits also that people get sated of emotional movements, and when because of that the emotion takes pause and quietens down, reason gains the upper hand. Now that is the truth if anything is, but it is in conflict with Chrysippus' own assumptions. The same goes for the following passage, which is introduced like this: 'Such words are spoken too on the change of the emotions [*Odyssey* IV.103]: 'Swift is the satiety of hateful grief'; and again this sort of thing on the attractive powers of distress [Euripides, F563 N]: 'Somehow for those in trouble, / Weeping and bewailing one's lot brings pleasure.' Then next still, this [*Iliad* XXIII.108]: 'So he spoke, and aroused in them all a longing for lamentation', and this [Euripides, *Electra* 125f.]: 'Stir up the same lament / Raise up tearful pleasure'."

It is no trouble to collect very many other quotations from the poets as evidence that men are sated with grief, tears, wailing, anger, victory, honour, indeed anything like that; and it is not difficult from this evidence to conclude or infer the cause why emotions cease in time and reason gains control of our impulses. As the emotional aspect of soul has its own proper natural goals, so too in attaining them it is satisfied, and in doing so calms down its own movement which was in control of the conation of the animal and in keeping with its nature was leading it on whatever misguided path was its goal. So the causes of the cessation of emotions is by no means beyond the powers of reason, as Chrysippus would maintain, but are actually

absolutely clear to anyone who does not want to do down our older philosophers. For nothing is more obvious than that there are certain powers in our souls with natural goals, the one for pleasure, the other for power and victory. Posidonius said that it is an observed fact that these powers exist also in all other animals; I too[119] pointed that out, right at the beginning of my first book. [F158]

D

Further Posidonian criticism of Chrysippus vindicates earlier theories of conflict between reason and emotion

Posidonius is also right in condemning Chrysippus for saying, 'Although the conation persists, what comes next will not comply because of another kind of supervening disposition'.[120] For, Posidonius says, it is impossible that the conation be present, yet its own activity be hindered by some other cause. So when Chrysippus says, 'so men both stop weeping and weep when they don't want to, when the underlying circumstances create like impressions',[121] Posidonius again at this point asks what the cause is, why they – and this goes for most people – often weep when they don't want to, unable to restrain their tears, and others stop weeping before they want to; it is obviously because of the emotional movements, either pressing violently (and so beyond control of the will), or completely at rest (and thus no longer capable of arousal by it).

This is the way that the conflict and disagreement between reason and emotion will be uncovered and the powers and faculties of the soul clearly preserved, not, for Heaven's sake, as Chrysippus says, because of some causes which are not subject to rational explanation, but because of the causes stated by the older authorities. For it wasn't only Aristotle or Plato who held such a view, but before them Pythagoras, among others, who, according to Pos-

[119] I.e. Galen. [120] See above. [121] See above.

idonius, was the first to state it, while Plato worked it out and perfected it.

E
The importance of time and habituation in effecting the cessation of emotional disturbance

Now, this is the reason why habits and time in general have the most powerful effect on emotional movements. The irrational element of the soul gradually makes itself at home in habits in which it is nurtured, and in time, as has been said, cessation comes about of emotions through satiety of the irrational faculties of soul in what they were desiring before. But the mere passage of time itself does not seem to affect rational opinions or judgements and in general all sciences and arts, so that they become hard to dislodge like emotional habituations, or to change or cease, like distress and other emotions. Whoever abandoned or changed his mind about two and two make four through being sated with the passage of time? Or that all radii in a circle are equal? And in any other theorem you like no one through satiety set aside his old opinion, as he does weeping, grieving, moaning, groaning, mourning and everything like that, even although his assumptions that what had happened was bad remain throughout the same.

Well, that's sufficient, I would hope, to show up Chrysippus' mistakes on emotions in the soul, and what is still prior, on the powers that produce them.

How reason may gain control over emotions

166 Galen, *De Placitis Hippocratis et Platonis*, v.474–6, pp. 454.15–456.14 M, p. 332.5–31 De Lacy (*v.* T93)

Context: This passage occurs towards the end of Galen's summary of Posidonius' ethics in Bk v, for which see F187. It recapitulates and adds to the more detailed account in Bk IV of the reasons why emotions abate in time, and how they may be treated, for which see F165. This fragment is followed in Galen by F33.

Posidonius next explains the cause of why emotions through time become calmer and weaker; on this subject Chrysippus admitted in *On Emotions*, Bk 2, that he was at a loss. I [i.e. Galen] dealt with it at the end of Bk 4 [F165], and will now give a kind of brief summary of what Posidonius said at considerable length.

So: the emotional aspect of soul through lapse of time in part is satiated with its proper desires, and in part grows weary through its lengthy movements, and so because of both of these factors it calms down, its movements moderate, and the rational can now gain control. It's as if a runaway horse carried off its rider by force, but then as it both tires and in addition becomes sated with its desires, the rider regains control.[122] This is common observable practice. Trainers of young animals permit them to tire themselves out and get their fill of their runaway dashes, and after that impose on them. On such matters Chrysippus was stuck, because he was unable to refer their causes to an emotional faculty of mind; and on top of that – and Posidonius shows this too in what comes next – he is in disagreement not only with observed fact, but with Zeno and Cleanthes too. Posidonius says that Cleanthes' [*SVF*, 1.570] opinion about the emotional element of soul is revealed in the following verses:

> 'What do you want, Anger? Tell me that.
> Me, Reason? To do anything I want.
> A regal view! But tell me again.
> Whatever my desire, to be accomplished.'

Posidonius says that exchange clearly shows up Cleanthes' opinion on the emotional element of soul, if he really has made reason argue with anger, implying that they were two different things.

[122] For this, see F31.

Support for Plato against Chrysippus on treatment of emotions

167 Galen, *De Placitis Hippocratis et Platonis*, v.458, p. 436.7–10 M, p. 316.12–14 De Lacy

Context: This particular argument from Galen runs from 312.22–316.20 De Lacy, and consists of an attack on Chrysippus for being unable to explain how one can heal emotions when they occur, or prevent them from occurring, because Chrysippus held that all activity and emotion occur in the rational only. Chrysippus confuses judgement and emotion; but Galen asserts that judgements occur and emotions arise, not through one part of the soul or through one faculty of it, as Chrysippus said, but that there are a number of faculties of it different in kind and several parts. This Galenic psychology is supported by appealing to Posidonius, Aristotle, Hippocrates and Plato. This argument is followed by F169.

Let us not be surprised any longer that Plato wrote correctly on the cure of emotions, as Posidonius too bears witness, while Chrysippus wrote incompetently on the subject.

Modes of education

168 Galen, *De Placitis Hippocratis et Platonis*, v.472–3, pp. 452.10–453.11 M, p. 330.6–21 De Lacy

Context: See F187. The irrational is affected, roused and calmed by the irrational.

'And the modes of education,' says Posidonius, 'are defined by the recognition of the cause of the emotions.' We shall prescribe for some a regimen of rhythms, modes and exercises of a certain kind, for others those of a different kind, as Plato taught us; bringing up the dull, sluggish and timid characters with tense rhythms, modes that strongly move the spirit, and with exercises of a like kind, but the more fiery crazily helter-skelter natures with the opposite. For why was it, for Heaven's sake – and I'll go on and put that question to Chrysippus' clique – that when the musician Damon came on the girl with the clarinet jazzing it up in the Phrygian mode to a drunken party of young men acting crazily, and told her to change to the Dorian mode,

did they at once stop their wild behaviour? For obviously opinions held by their rational faculty were hardly changed through instruction from a musical instrument; but since the emotional element of soul is irrational, they are aroused and calmed through irrational movements. You see, the irrational is helped and harmed by what is irrational, the rational by knowledge and ignorance.

The problem of evil

169 Galen, *De Placitis Hippocratis et Platonis*, v.459–65, pp. 437.1–444.11 M, pp. 316.21–322.26 De Lacy (*v.* F160, F153)

Context: See F167, which this fragment follows. F169 is in turn followed immediately by F31.

Structure:

A: The problem of the governing power in childen, the facts of whose behaviour cannot be explained by Chrysippus.

B: This behaviour is explained by a theory of natural affinities which comes from Posidonius.

C: Chrysippus therefore cannot solve three difficulties in the problem of evil.

D: Chrysippus' two-fold explanation of the cause of corruption in children is criticised by Galen, who is following Posidonius.

E: Posidonius' explanation of the cause of vice, and how it is that children err.

F: Further amplification of the problems from Posidonius' theory of physiognomy.

G: How vice may be cured.

A

Well, let me confine myself to what is most necessary for the subject before me, and so first address the problem of the governing power of children. It is impossible to say that children's impulses have reason as their guardian, for children don't yet have reason; nor can one say that they are not angry, feel pain and pleasure, laugh, weep and undergo countless other such emotions. For children feel more frequent and more severe emotions than adults.

These facts certainly do not follow logically from Chrysippus' doctrines, just as they don't follow either from his view that there is no natural affinity to pleasure or alienation from pain. But *all* children rush untaught towards pleasures, avert themselves and flee from pains. We *see* them raging, kicking, biting, wanting to win and boss other children, like some animals, where no other prize is on offer but only victory. Such conduct is obvious in quail, cocks, partridge, ichneumon, asp, crocodile and countless others.

B

So children too seem to have a natural affinity to pleasure and victory,[123] just as at some later time they show when they grow up that they have a natural affinity towards moral values. Part proof of this is that they are ashamed as they grow older of their mistakes, are glad in noble actions, lay claim to justice and the other virtues and often act in accordance with their notions of these virtues, whereas before, when they were still small, they lived by emotion, having no care for the commands arising from reason.[124] So, since these three things to which we have an affinity exist fundamentally by nature, corresponding to each form of the parts of the soul, pleasure through the desiring factor, victory through the passionate factor, morality through the rational factor, Epicurus had eyes only for the affinity of the worst part of the soul, Chrysippus only for that of the best part, maintaining that we had an affinity to what was moral only, which he says is also obviously good. It was the old philosophers only who had their eyes securely on all three affinities[125] [F160].

[123] This is Posidonius' theory; *v.* F158, F160.
[124] So F31.
[125] But since this was also Posidonius' theory, it looks as though Galen took this whole passage from Posidonius, although the terms 'each form of the parts of the soul' were rejected by Posidonius (Frs. 142–6), and must therefore have been imported by Galen.

C

So by abandoning two of the affinities, Chrysippus naturally has difficulties with the origin of vice; he can't say what its cause is, nor the manner of its constitution, and is incapable of discovering how children err; for all of which Posidonius too reasonably censures and refutes him. For if it were really true that childen had a natural affinity to morality right from the beginning, vice could not arise internally from themselves, but would have to come to them from an external source only. But surely, we *see* children going wrong in any case, even if brought up in good habits and properly educated. And even Chrysippus admits precisely that. And yet, I suppose he could have turned a blind eye to plain fact and admitted only what followed from his own assumptions: if childen were well brought up, it was bound to follow from that that they would become wise men in due time. But he didn't have the nerve to falsify the facts to *that* extent. No, he does say that even if children were raised under the exclusive guidance of a philosopher, and at no time ever saw or heard any example of vice whatever, even so it did not necessarily follow that they would become wise philosophers.

D

The reason for this is that Chrysippus says that the cause of corruption is two-fold: one arises from oral communication from the majority of men, the second from the very nature of things. I [i.e. Galen] am at a loss with both of these, the one that arises from our circle of acquaintances to begin with. For why don't children, when they see or hear an example of evil, why don't they hate it and run from it, since they have no natural affinity for it? And my surprise increases still more in the case of the other 'cause', when although now neither seeing nor hearing any evil, they are deceived by the things themselves. For what

necessity is there that children be enticed by pleasure as a bait if they have no affinity to it, or turn themselves and flee from pain if they are not naturally alienated from it too? Why should children have to fling themselves at and delight in praise and honours, be distressed and run from condemnation and dishonour, if it is true that they actually do not have natural affinity and alienation towards these? If Chrysippus did not actually say so, at least his words seem to imply that he recognised some kind of natural affinity and alienation in us towards each of the foregoing. For when he says that perversion in regard to good and evil in morally imperfect men arises through the persuasiveness of appearances and through communication from others, he must be asked the cause or explanation why pleasure proffers a persuasive appearance of good, and pain of evil. And so too why are we so readily persuaded when we hear winning at the Olympics and the erection of one's statue praised and glorified by the majority as good, and defeat and disgrace as evils? Yes that too is criticised by Posidonius.

E

And Posidonius tries to show that the causes of all false suppositions, when they occur in the contemplative sphere ⟨arise through ignorance, but when they occur in the emotional sphere⟩[126] they arise because of the emotional pull; this pull is preceded by false opinions[127] when the rational faculty has become weak in regard to judgement.

[126] The Greek makes clear that originally there was an antithesis, part of which has dropped out. I have supplied what seems to me the probable lacuna. See Kidd, *Comm.* pp. 620f.

[127] Such as pleasure and winning are good and their opposites evil, which Galen outlined above. We have a natural affinity to these, but *simpliciter* they are false judgements; yet this triggers an impulse, which if the rational faculty is in a weak state, becomes an 'overriding impulse', which in turn through its 'emotional pull' demands an 'assent', and so affects a judgement or rational decision to a particular act.

For he said that while a creature's impulse was sometimes born in the judgemental decision of the rational faculty,[128] most often it occurs in the movement of the emotional faculty.

F

Posidonius reasonably attaches to this discussion the phenomena from physiognomy: all broad-chested and warmer creatures and humans are more spirited by nature, the broad-hipped and colder, more cowardly. And environment contributes to considerable differences in human character with regard to cowardice, daring, love of pleasure or toil; the grounds for this are that the emotional movements of the soul follow always the physical state, which is altered in no small degree from the temperature in the environment. For he makes the point too that even the blood in animals differs in warmth and coldness, thickness and thinness, and in a considerable number of other different ways, a topic which Aristotle developed at length.[129] I [i.e. Galen] shall mention them at the appropriate time in the development of the argument, when I include the actual passages from Hippocrates and Plato concerning them. At the moment, my argument is concerned with Chrysippus and his group, who as well as their general ignorance on questions concerning emotions, do not know that different physical temperaments each produce 'emotional movements' peculiar to themselves; 'emotional movements' was the term habitually applied to them by Posidonius [F153]. But Aristotle straight out calls all such settled states of mind in animals 'characters'[130] and explains in what way they are composed in their different mixtures.[131]

[128] I.e. the impulse towards the morally good.
[129] E.g. *Pol.* VII.6. 1327b18ff.; and see *De Part. Anim.* 647b30ff., 650b19ff.
[130] Adopting De Lacy's emendation, ἤθη, for ἤδη HL.
[131] This does not seem to have survived in our Aristotle. Perhaps Galen found the reference to Aristotle in Posidonius.

G

This is the reason, I believe, why the cure of mental disturbance is also in some people welcome and easy because their emotional movements are not strong, and the rational is not weak by nature,[132] nor void of understanding; it is rather through ignorance and bad habits that such men are compelled to live by emotions. But with some people the cure is harsh and rough, when the movements of emotion which necessarily occur through their physical state, are in fact big and violent, and the rational is by nature weak and uncomprehending. For two things are necessary if one is going to demonstrate improvement in a man's character: (a) the rational aspect must grasp knowledge of the truth, and (b) the movements of emotion must be blunted by habituation to good practices.

Wealth, health and the like are not 'goods' nor 'evils', but 'advantages'

170 Seneca, *Epistulae* 87.31–40

Context: From the beginning of his *Letter*, Seneca is arguing that wealthy trappings are superfluous. Simple necessities are all that are needed. Precious possessions are lumber. Virtue is sufficient for the happy life. From §12 a succession of Stoic syllogisms is offered to prove that riches are not a 'good'. At §28 the following syllogism is offered: that which involves us in many evils when we desire to attain it, is not a good. In desiring to attain riches, we become involved in many evils. Therefore riches are not a good. At this point Seneca brings in his anonymous rhetorical objector, which is characteristic of his style of argument:

(a) (§28) But in desiring to attain virtue, we become involved in many evils.

(b) (§29) Anyway, if it is through wealth that we become involved in many evils, wealth is not only not a good, but is positively an evil. And yet Stoics maintain merely that it is not a good. Moreover, Stoics are accused by the 'objector' of granting that wealth is of some use, as they count it among 'advantages'; but wealth

[132] Perhaps because of their physical temperament and physiognomy.

cannot even be an advantage, if it is through riches that we suffer disadvantages.

(§30) Certain Stoics answer like this: it is wrong to assign disadvantage to riches. Wealth harms no one; it is man's own folly (or neighbours' wickedness) that harms him. It is not the sword that slays. Wealth does not harm just because you are harmed on account of wealth.

F170 now follows giving a *better* answer in Seneca's opinion from Posidonius.

Structure:

A: Posidonius' 'better' answer explains in terms of a logical distinction of causes, how wealth may be said to be a cause of evil. Wealth is distinguished from 'goods'.

B: Seneca's rhetorical objector suggests that wealth then is an evil, which is countered.

C: A syllogism is specifically assigned to Posidonius, which produces the conclusion that wealth, health and the like are not goods. The syllogism is extended by Posidonius to reach the same conclusion.

D: Seneca's 'objector' suggests that on this reasoning they are not even 'advantages'. This is countered.

E: Posidonius reports a refutation by Antipater of a fallacious Peripatetic syllogism that wealth is not a good. Seneca comments.

The rhetorical 'objector' must come from Seneca, and cannot therefore be Posidonius. In each section it must be considered whether the arguments which specifically counter the 'objections' come from Seneca, or whether they may be based on Posidonius. See Kidd, *Comm. ad loc.* and Kidd, Fondation Hardt, *Entretiens* XXXII.

A

[31] Posidonius, to my mind, is better;[133] he says that riches are a cause of evil, not because they themselves do anything, but because they rouse men to do evil. For there is a distinction between efficient cause, which necessarily harms straight off, and antecedent cause. It is as this antecedent cause that riches act: they swell the temper, beget pride,

[133] Than the Stoics of §30; see Context. And it is a 'better' answer to the objection raised in §29 (Context (b).

arouse envy, and so derange the mind that a reputation for having money, even when it is harmful, delights us.

[32] But all goods should be free of blame; unmixed, they do not corrupt or seduce the mind. It is true that they elate and expand the spirit, but don't inflate and inflame it. What is good produces unshaken confidence, riches recklessness; what is good enlarges the mind, riches produce arrogance. But arrogance is nothing else than a false counterfeit of greatness of spirit.

B

[33] 'By that way of arguing,' an objector may say, 'wealth is actually an evil, not only not a good.' It would be an evil if it harmed us of itself; if, as I said, it possessed an efficient cause; but as it is, it is an antecedent cause it possesses, that not only rouses our minds certainly, but pulls them on too. For wealth swamps us with a counterfeit of good, that has an appearance of truth and so credible to the majority of us. [34] 'Virtue too,' continues our objector, 'incorporates an antecedent cause, leading to envy;[134] for many people are envied because of their wisdom, many for their justice.' But that the source of the cause of *that* is virtue, has not even a semblance of truth in it. On the contrary, more like the truth is that image of virtue which, on striking the minds of men, invites love and wonder.

C

[35] Posidonius says that we should syllogise like this: 'Things which do not give to the mind a greatness of spirit, or unshaken confidence, or peace of mind[135] are not goods.

[134] This springs from §28. See Context (a).

[135] This trio of *magnitudo, fiducia, securitas* is markedly and suspiciously Senecan. See Kidd, *Comm.* pp. 631ff.

Riches, good health and the like produce none of these. Therefore they are not "goods".' Posidonius went on then to intensify his syllogism still further like this: 'What is not productive of greatness of spirit, unshaken confidence or peace in the mind, but on the contrary of an inflated conceit and arrogance, is evil. But we are driven to these things by chance things. Therefore they are not "goods".'[136]

D

'By that line of reasoning,' says our objector, 'these things will not even be advantages.' But 'advantages' are distinct from 'goods'. 'Advantage' is what has a preponderance of usefulness over distress; 'good' should be pure and totally free fom harm. So what has a greater proportion of benefit is not a good; 'good' is what benefits *and nothing else.* [37] And besides, 'advantage' applies to animals, and to humans who are either imperfect or stupid morally. And so there can be a mixture of disadvantage in with it, and the name 'advantage' comes from the valuation of the larger ingredient. But 'good' is applied to the sage alone, and must be untarnished.

E

[38] Take heart! One knot remains, but it is a Herculean one:[137] 'Good does not arise from evil. Riches result from many cases of poverty. Therefore riches are not a good.' But our School[138] do not accept this syllogism; it is fabricated by the Peripatetics[139] who also provide a solution. Anyway, Posidonius says that this piece of sophistry, which had been tossed around through all the schools of dia-

[136] For the peculiarities of this see Kidd, *Comm.* p. 633. Seneca must be telescoping.

[137] That is, a magic one difficult to unloosen, but Seneca is probably being sarcastic. 'Herculean knots' were a popular feature, as reef-knots, in Hellenistic jewellery, where they had amuletic associations.

[138] The Stoics.

[139] Such aped 'counter syllogisms' were common in the Schools.

lectic, was refuted by Antipater in this way: 'Poverty is not defined by possession, but by withdrawal' (or 'deprivation', *orbatio* as our forefathers put it, or κατὰ στέρησιν in Greek);[140] 'it is not defined by what one has, but by what one does not have. And so nothing can be filled up by a lot of empties: wealth is created by many things, but not by many "lacks". You have a false understanding,' he says, 'of what poverty means. Poverty is not the possession of little, but the non-possession of much; it is defined not by what it has, but by what it lacks.' [40] It would be easier for me to express what I mean if there were a Latin word that was the equivalent of the Greek ἀνυπαρξία ['non-existence'],[141] which Antipater applied to poverty. For my part, I don't see what else poverty could be than the possession of little.

Distortions of the valuation of wealth, health and the like

171 Diogenes Laertius, VII.103

Context: Diogenes has just itemised (§102) what Stoics include in the categories of 'goods', 'evils' and 'neither of these'. He places wealth and health in the last category, under the subclass of 'preferred'; they are distinguished from 'good', because the peculiar property of good is to benefit only; wealth and health like the other 'indifferents' do neither. The sources cited for this are Hecaton, Apollodorus and Chrysippus.

In addition they say[142] that whatever you can make good or bad use of is not good. But both good and bad use can be made of wealth and health. Therefore wealth and health are not 'good'. But Posidonius says that these too are in the category of 'goods'.[143]

F172 Epiphanius, *De Fide*, 9.46

Context: In Epiphanius' catalogue of Greek philosophers.

[140] This is Seneca's added note.
[141] Seneca's attempt is the noun 'lacks' (*inopiae*) above.
[142] Hecaton, Apollodorus and Chrysippus.
[143] This is in straight contradiction with the lengthy argued account of Seneca in F170, and with other evidence. For suggestions as to how the misconception arose, see Kidd, *Comm.* pp. 639ff., and Kidd, Fondation Hardt, *Entretiens* XXXII.

Posidonius of Apamea said that the greatest good among men was wealth and health.[144]

F173 Diogenes Laertius, VII.127–8

Virtue is self-sufficient for happiness as Zeno says [*SVF*, I.187], and Chrysippus in *On Virtues*, Bk 1 [*SVF*, III.49], and Hecaton in *On Virtues*, Bk 2 [3 G] ... But Panaetius [110 St.] and Posidonius say that virtue is not self-sufficient, but they say that there is need of health, resources and strength.[145]

Progressors and the sage

F174 Galen, *De Placitis Hippocratis et Platonis*, V.474, p. 454.7–15 M, pp. 330.31–332.4 De Lacy

Context: This is added as an addendum to F162.

Well, that[146] is well said by Posidonius, and so is what follows when he explains all the causes of the difficulties encountered by Chrysippus, which I dealt with at the end of the preceding book; so I have decided to bring an end to my argument here and now, with one more quotation from a passage which comes next in his book:[147] 'And indeed "progressors" are not distressed at the thought that great evils are with them. The reason is that they are carried to this state of belief not by the irrational aspect of soul, but by the rational.'

Defence of a syllogism from Zeno that the sage will not be a drunkard

175 Seneca, *Epistulae*, 83.9–11

Context: Seneca's *Letter* is on the subject of drunkenness. In §8 he wonders what can have been meant by the most intelligent men

[144] This outrageous statement from a reporter who inspires little confidence perhaps derives from an earlier misconception such as F171.

[145] This is consistent with F171 *q.v.*, but incompatible with the rest of the evidence. The terms used are noticeably Peripatetic, and the passage may arise from Peripatetic argument and criticism.

[146] F162.

[147] Posidonius' *On Emotions*.

who produced proofs that were of the lightest weight and contorted on the most important matters, proofs which may be true, but are like fallacies. The example of Zeno's syllogism follows. The argument over drunkenness was part of the debate whether virtue once attained could be lost. Chrysippus thought that it could be lost through drunkenness (μέθη) and madness; Cleanthes thought that it could not (D.L. VII.127). At some point in the debate, a distinction seems to have arisen between getting drunk and being a drunkard.

[9] Now Zeno, a very great man himself, and the founder of this most resolute and scrupulous School of ours,[148] wants to discourage us from drunkenness. So listen to how he deduces that the good man will not get drunk [*SVF*, I.229]: 'No one entrusts a secret to a drunk man [*ebrio*]. But one entrusts a secret to a good man. Therefore a good man will not be drunk [*ebrius*].' But look how he can be ridiculed by setting up a similar syllogism to face his (one out of many will do): 'No one entrusts a secret to a man who is sleeping. One entrusts a secret to a good man. Therefore the good man does not sleep.'

[10] Posidonius pleads the case of our Zeno in the only way he can, but even that, to my mind, can't be done. He says that there is an ambiguity in the use of the word 'drunk' [*ebrius*]: one sense applies to a man overcome by wine and out of control [i.e. drunk]; the second is for a man who is usually drunk and addicted to the vice [i.e. drunkard].[149] Zeno meant the man who is usually drunk, not the man who is drunk. No one would ever entrust a secret to him to be blurted out in his cups. [11] But this is not true ...[150]

148 The Stoics.

149 Actually, there is a distinction in Latin between *ebrius*/drunk and *ebriosus*/drunkard, which is not clear in Greek.

150 Seneca continues with his main point of attack, that such syllogistic dialectic is an ineffective instrument for practical morality. But Posidonius thought it worth while to defend such a syllogism from Zeno.

The importance of admonitory methods in moral training

176 Seneca, *Epistulae*, 95.65–7

Context: Seneca's *Letters* 94 and 95 are complementary on the relative importance of moral rules or precepts (*praecepta*) and moral principles or categorical imperatives (*decreta*). So in *Letter* 94 he puts the case and argues against it that precepts are useless for ethical training, and only principles are necessary. In *Letter* 95 he puts the opposite case and argues against it, that precepts are sufficient to make a man good. For the relationship in Stoic pedagogy between such admonitory teaching for the 'moral progressor' and the rational training necessary for perfect moral action, see Kidd, 'Moral Actions and Rules in Stoic Ethics', *The Stoics* (ed. J. Rist), pp. 247–58, and *Comm.* pp. 646ff.

[65] Posidonius pronounces his opinion that not only 'precepting'[151] (I don't see anything to stop me using the term) is necessary for moral training, but so is recommending, consoling and encouraging too;[152] and to that list he adds the investigation of causes[153] – I don't see why I can't call it aetiology, since our professors of language, guardians of our Latin tongue, do so on their own authority. He says that description of each virtue will also be useful. Posidonius calls this 'ethology'; others call it 'characterisation', i.e. allotting a stamp or mark for each virtue and vice whereby like forms may be distinguished. [66] This has the same force as giving a precept; for anyone who gives a precept is saying, 'If you want to be self-controlled, you will do this'; while a person who is giving a description is saying, 'The self-controlled person is the man who does this, keeps off that'. What's the difference?, you ask. Well, the one gives precepts for virtue, the other an exemplar of virtue. These 'descriptions', 'specifications' to use the technical jargon of contractors, are useful, I admit: in setting forward an example for praise, you will find an imitator. [67] You think it useful to be given evidence whereby you

[151] The use of precepts, i.e. maxims, rules, injunctions in moral training.
[152] All terms for set categories (*suasio, consolatio, exhortatio*) in both Greek and Latin philosophy and rhetoric.
[153] Peculiarly characteristic of Posidonius, *v.* e.g. T85.

can recognise a thoroughbred horse, and not be cheated in your purchase, or waste time on a nag. How much more useful then this is, to recognise the marks of an outstanding mind, marks which can be transmitted from another to yourself.

Actions a philosopher would not do to save his country

177 Cicero, *De Officiis*, 1.159 (*v.* T107)

Context: The general subject under discussion is the relationship between morality (the virtues; *honestas*) and duties (*officia*), and the possible conflict between them. Cicero argues against the background of four components or categories of virtue, with their related duties: (1) knowledge and its pursuit (*cognitio*); (2) justice, or duties related to society (*communitas*); (3) courage, or greatness of spirit (*magnanimitas*); (4) self-control (*moderatio*). The argument narrows to concentrate on the responsibilities of coming to the aid of one's country. He has already argued that duties related to society (2), should take precedence over duties connected with categories (1) and (3). He now turns to the possible conflict between categories (2) and (4).

But this should be investigated perhaps, whether duties of society, which are particularly in accordance with nature, are to be preferred always to duties that arise from moderation and propriety. The verdict is no. There are, you see, certain actions so vile and so infamous, that the wise man would not do them even to save his country. Posidonius collected a great number of these, but some instances are so foul and disgusting that it would appear disgraceful even to mention them. So the philosopher will not undertake *those* for the state, *but* nor will the state even wish them to be undertaken on its behalf.

Disapproval of preambles added to laws

178 Seneca, *Epistulae*, 94.38

Context: For the general context of *Letters* 94 and 95, see F176, Context. The immediate context derives from the Stoic, Ariston of Chios, who maintained that moral precepts were useless for ethical training. Moral precepts have a similar function to laws in states;

but Ariston argued that laws (nothing else than precepts mixed with threats) may order this or order that, but fail to instruct us or give us the knowledge of how we *ought* to behave. Seneca contests this.

In this matter I disagree with Posidonius. He says, 'I disapprove of Plato's practice of adding preambles to his laws. A law should be brief, so that the unskilled may grasp it more easily. Let it be like a voice sent from heaven; let it order, not argue. Nothing seems to be more pedantic, more pointless than a law with a preamble. Advise me, tell me what you want me to do; I am not learning, I am obeying.'

Time and moral education

179 Seneca, *Epistulae*, 78.28

Context: This is an isolated quotation thrown in at the end of a *Letter* on combatting pain and illness. The topic of time and morality was introduced at §27; but there is no clue to Posidonius' context.

Refresh yourself with these thoughts, and in the meantime make a space for our letters. The time will come when we are united and together again; and no matter how short the time, the knowledge of how to use it will lengthen it. As Posidonius says, 'A single day for educated men spreads further than the longest lifetime for the unskilled'.

Virtue

(*v.* Frs. 29; 2; 31; 38; 172)

Classification of virtues

180 Diogenes Laertius, VII.92

Context: Diogenes Laertius VII.89–91 deals with virtue in general. There are two references to Posidonius in VII.91: F29, F2. After F180, Diogenes proceeds to catalogue generic and specific virtues.

Well, Panaetius [108 St.] says there are two classes of virtues: theoretical and practical; others that they are to be classified under logic, physics and ethics. Posidonius and his lot give a fourfold classification,[154] but a greater plural-

[154] But if this refers to the classification of the four primary virtues, that was stock Stoic theory from the beginning. If Posidonius is singled out here, some individual fourfold classification must be hinted. But there is no clue here as to what this could be.

ity is the view of Cleanthes [*SVF*, I.565], Chrysippus [*SVF*, III.261] and Antipater [*SVF*, III.Ant. 60]. While Apollophanes [*SVF*, I.406] says there is a single virtue, wisdom.

Criticism of Chrysippus' On the Difference of the Virtues

181 Galen, *De Placitis Hippocratis et Platonis*, VIII. 660–1, p. 662.3–8 M. p. 490.1–5 De Lacy

Context: At the beginning of Bk VIII, Galen explains why he attacked Chrysippus' psychology in favour of his own, which he supported with scientific proof. Posidonius has been mentioned in this section for his criticism of Chrysippus' psychology (T84, F32) and the attack on the theory of virtues (F38).

So although I could oppose Chrysippus' three books *On Emotions* and prolong my criticisms of his self-contradictions, I have chosen not to do so, just as I have too with his four books *On the Difference of the Virtues*; on them Posidonius too takes him to task.

182 Galen, *De Placitis Hippocratis et Platonis*, VII.589, p. 584.4–10 M, p. 430.11–16 De Lacy (*v.* T64)

Context: See T64. At the beginning of Bk VI, Galen refers to Posidonius as a source which he had used earlier, and now proceeds with criticism of Chrysippus on the difference in virtues, probably still following Posidonius.

I also mentioned Posidonius' works in which he praises the old account while criticising Chrysippus' errors on mental emotions and the difference between the virtues. For just as mental emotions are destroyed if the mind itself were only to consist of the rational element, without any desiring element or passionate element, so too all the rest of the virtues, apart from intellect, would be destroyed.

Agreement and disagreement with Plato and Aristotle on the differences in the virtues

183 Galen, *De Placitis Hippocratis et Platonis*, V.481, p. 463.1–6 M, p. 338.14–18 De Lacy (*v.* T96)

Context: F144 precedes; see T96, F143. Galen has embarked on an examination of part of Plato, *Republic* IV in order to criticise

Chrysippus' psychology, and attempt a basic doctrine common to Plato, Aristotle and Posidonius.

To that extent at least,[155] Posidonius took him up and departed from Chrysippus, and preferred to follow Aristotle and Plato more. I added that 'more', because on individual points the three men are found to disagree to some extent on the difference of the virtues, but on the whole they agree with each other.

Flesh fitted only for the reception of food

184 Seneca, *Epistulae*, 92.10

Context: The *Letter* is concerned with the self sufficiency of virtue for the happy life. The whole of the section from the beginning of the *Letter* to the quotation from Posidonius has been taken to be Posidonian, from which whole new theories have sprouted. I argue against this in *Comm.* pp. 665–9, and in 'What is a Posidonian Fragment' in *Collecting Fragments/Fragmente Sammeln* (ed. G. Most), pp. 228–31. The arguments and language are Senecan. He is specifically combatting the view that the final good can be a combination of rational and irrational, virtue and pleasure. Immediately before the reference to Posidonius, Seneca illustrates his theme by quoting Vergil's lines on Scylla, a monster of ill-suited parts, with human face and breast, but beast-like below. It is this Senecan (not Posidonian) image that dominates the following indignant argument on the revolting combination of such parts for the human good. Posidonius has only supplied for this the tag: ⟨flesh⟩ 'fitted only for the reception of food'.

The primary part[156] of man is virtue itself; to this is joined useless flabby flesh, 'fitted only for the reception of food' as Posidonius says. That divine virtue ends up in obscenity, and to the higher parts of man, worshipful and heavenly, is tacked on a sluggish, languid animal.... What elements so inharmonious as these can be found?

[155] See F144.

[156] Other codices have 'art', favoured by some editors. But the dominating 'parts' illustration from Scylla clinches the reading of 'part'.

The End

185 Diogenes Laertius, VII.86–7

Context: Diogenes' context is concerned with Stoic views on the progression of natural principles governing plants, animals and human beings.

But when impulse is superadded in animals, through the influence of which they make for their own proper goals, in their case, Stoics say, 'what is in accordance with nature' is to be governed by what is in accordance with impulse. But when in the case of rational creatures, reason has been bestowed in the way of a more perfect governance, in their case living in accordance with reason rightly becomes 'what is in accordance with nature'; for reason as craftsman supervenes on impulse. That is why Zeno first, in his *On the Nature of Man* [*SVF*, I.179], defined the end as 'to live in harmony with nature', that is, precisely, to live in accordance with virtue, because it is virtue that nature leads us to. So, similarily Cleanthes in *On Pleasure* [*SVF*, I.552] and Posidonius and Hecaton in *On Ends* [I G].

186 Clement of Alexandria, *Stromateis*, II.xxi.129.1–5

Context: A list of the definition of The End by individual leading Stoics beginning with Zeno. Posidonius' definition comes last. As Clement elsewhere (e.g. *Strom.* II.xix.101; V.xiv.95) gives a blanket definition common to all Stoics ("to live in accordance with nature'), the following are presumably intended as individual clarificatory interpretations of a common accepted definition.

And again, Zeno the Stoic [*SVF*, I.180] thinks 'living in accordance with virtue' is the end; Cleanthes [*SVF*, I.552] that it is 'living in harmony with nature'; Diogenes [*SVF*, III.Diog. 46] that it lies in 'reasoning well in the selection of what is in accordance with nature'. Antipater [*SVF*, III. Ant. 58], his pupil, supposed the end lay in 'continuously and undeviatingly selecting what was according to nature, and deselecting what is contrary to nature'. Archedemus [*SVF*, III. Arch. 21], in his turn, thought the end to be 'to

spend one's life choosing the greatest and most authoritative things in accordance with nature, lacking the capacity to pass them by'. In addition to them, again, Panaetius [96 St.] declared 'living in accordance with the tendencies bestowed on us by nature' to be the end. On top of all of them, Posidonius said it was 'to live contemplating the truth and order of all things together and helping in promoting it as far as possible, in no way being led by the irrational part of the soul'. Some of the later Stoics rendered it like this: 'The end is living in agreement with the constitution of man'.

187 Galen, *De Placitis Hippocratis et Platonis*, v.469–76, pp. 448.11–456.14 M, pp. 326.17–332.31 De Lacy (*v.* F150b, F161, F168, F162, F174, F166, T93)

Context: Galen's summary of Posidonian ethics in relation to The End. F31 and F30 (*q.v.*) precede. Frs. 150b, 161, 168, 162, 174, 166 form the final section, following in immediate sequence.

A

A quotation from Posidonius on the connection between the cause of emotions and goods, the end and happiness.

I think that I have given sufficient indication that correct opinion on the virtues has been tied to correct opinion on the emotions; that this is also true for correct opinion on the virtues and on the end, I need do no more than interpolate a quotation from Posidonius which goes like this:

'The cause of the emotions, that is, of inconsistency and of the unhappy life, is not to follow in everything the daimon in oneself, which is akin and has a similar nature to the one which governs the whole universe, but at times to deviate and be swept along with what is worse and beast-like. Those who have failed to observe this [*SVF*, III.460][157] neither give the better explanation for the emotions in these things,[158] nor do they hold correct opinions about happi-

[157] I.e. the Chrysippeans. [158] I.e. in the sphere of goods and the end.

ness and consistency. For they do not see that the foremost thing in happiness is to be led in no way by the irrational and unhappy, that is, what is godless in the soul.'

B
Galen's comment

In this passage, Posidonius clearly taught us the magnitude of the Chrysippean mistake not only in their reasoning about the emotions, but also with regard to the end. For 'to live in harmony with nature'[159] is not how they describe it, but as Plato taught us: since we have in us a better part and a worse part of soul, he who follows the better part could be said to live in harmony with nature, while he who follows the worse part rather, in discord; the latter lives by emotion, the former by reason.[160]

C
Posidonius' attack on the Chrysippean explanation of The End

But not content with that, Posidonius attacks the Chrysippeans (*SVF*, III.12) for not explaining the end correctly in a passage that is both clearer[161] and more forceful. This is how it goes:[162] 'Some actually disregarding this, contract "living in harmony" to "doing everything possible for the sake of the first things according to nature",[163] thereby making it similar to presenting pleasure or freedom from trouble or the like as the goal. But that exhibits a contradiction in the expression itself, and nothing morally good and pertaining to happiness. For it is a necessary consequence of the end, but is not the end. But when this

[159] The Stoic definition of The End.
[160] Galen, himself a Platonist, is following Plato here.
[161] This is hardly the case.
[162] It is probable that Galen omitted material between the previous quotation and what follows.
[163] This is recorded as the definition of Antipater (*SVF*, III. Ant. 58; see *SVF*, III.195).

too[164] is correctly grasped, one may use it to cut through the puzzles which the sophists bring forward,[165] which is certainly more than can be said for the formula "to live in accordance with experience of what happens in accordance with the whole of nature",[166] which is equivalent to saying "to live in harmony", when this tends to gaining the indifferents, as long as you don't do that meanly or shabbily.'[167]

D

The Posidonian attack on Chrysippus is widened to show how he could, by the same method of recognising the cause of emotions, solve related ethical puzzles tackled unsatisfactorily by Chrysippus

Well, perhaps that quotation is enough to indicate the absurdity of Chrysippus' interpretation of the end in how one may attain 'living in harmony with nature'. *But I really think it better to put before you what comes next to this in Posidonius' text; it goes like this: 'Once the cause of the emotions was seen, it broke the absurdity [of Chrysippus' explanation of The End], showed the sources of distortion in choice and avoidance [of good and evil], distinguished the methods of training, and made clear the problems concerning the impulse that rises from emotion.' These are certainly no small or chance benefits he says we shall derive from the discovery of the cause of the emotions* [F150b]. For it is by the discovery of the cause of the emotions that we were helped to understand exactly what sort of thing it is 'to live in harmony with nature'. For he who lives by emotion, does not live in harmony with nature; he who does not live by emotion, does live in harmony with nature;

[164] I.e. the correct definition of the end, Posidonius' definition.
[165] The Academic and Peripatetic attack on the Stoic formulation of the end.
[166] This formula comes from Chrysippus' *On Ends*, Bk I (Diogenes Laertius VII.87; *SVF*, III.4), and maliciously expanded by what follows.
[167] For discussion of different interpretations of this difficult quotation, see Kidd, *Comm.* pp. 678–82.

this is because the one follows the irrational and capricious aspect of the soul, the other the rational and divine aspect.

'And the discovery of the cause of the emotions taught us the sources of distortion in what is to be chosen and what is to be avoided.' ... F161

'And the modes of education,' says Posidonius ... F168

These too then are the benefits Posidonius says we receive from the recognition of the cause of the emotions, and besides that, 'It clarified,' he says, 'the puzzles about the impulse that arises from emotion.' Then he himself goes on to explain what these difficulties are, in this way: ... F162

Well, that is well said by Posidonius, and so is what follows when he explains all the causes of the difficulties encountered by Chrysippus, which I dealt with at the end of the preceding book; so I have decided to bring an end to my argument here and now, with one more quotation from a passage which follows next: ... F174

Then next Posidonius explains the cause of why emotions through time become calmer and weaker ... F166

LOGIC

(*v.* Frs. 42–5)

Dialectic: definition

188 Diogenes Laertius, VII.62

Context: This fragment occurs in the second, more detailed version of Stoic logic in Diogenes, running from §48ff. The account of dialect begins at §55 and until this passage deals with Stoic theory of language; immediately after this passage the account turns to 'things, and things signified'. Posidonius' definition here recurs at Diogenes Laertius VII.42, and at Sextus Empiricus *Adv. Math.* XI.187 simply as Stoic. So also does Chrysippus' version here reappear simply as Stoic at Diogenes Laertius VII.43 and at Seneca, *Ep.* 89.17. So it is probable that the two versions are not intended to be in contrast, but complementary, relating to different aspects of dialectic: Kidd, *Comm.* pp. 684f.

Dialectic, according to Posidonius, is the science of what is true or false, or neither; Chrysippus said this was about what signifies and what is signified.

Rhetoric: the classification in rhetorical theory of status, *or the crucial basic points at issue*

189 Quintilian, *Institutio Oratoria*, III.6.31–8

Context: Quintilian III.6 is devoted to the question of *status*, a technical term in rhetorical theory for the crucial basic points at issue in a case. From §29 he embarks on a historical review of theories of *status*, with regard to the number and names of divisions. Posidonius is included in the group which recognises two categories only.

Some established two basic categories of *status*: Archedemus,[168] into 'conjectural' and 'definitive'; he left out 'quality',[169] because he thought that such questions of 'quality' were of the form 'What is unfair?', or 'What is unjust?', or 'What is disobedience?'. He calls that rather questions of identity and difference ... [34] Pamphilus held that view, but subdivided 'quality' into several species ... [35] Apollodorus[170] says the same thing ... [36] Theodorus[171] says the same ... [37] Posidonius too divides *status* into two: language and facts. Under language he thinks come the questions: 'Does this have any meaning?'; 'What is its meaning?'; 'How many meanings has it?';[172] 'And how?'[173] Under fact he classifies 'conjecture',[174] which he says depends on sense-perception; 'quality', that is definition of the fact,[175] which Posidonius names as conceptual; and

[168] Possibly the Stoic Archedemus of Tyre, but perhaps a Hellenistic rhetor of the same name.

[169] These technical rhetorical terms are explained by Quintilian in §§5–10.

[170] Of Pergamum, the teacher of Augustus, and head of a school of rhetoric.

[171] Of Gadara, teacher of Tiberius, and head of another school.

[172] Ambiguity, perhaps.

[173] Perhaps etymology, analogy, anomaly; or perhaps in written law, how the law is expressed, or how applied.

[174] For this see Quint. III.6.5. Quintilian illustrates this term thus: 'You did it'; 'I did not', 'Did he do it?'.

[175] Illustrated by Quintilian at III.6.5 with the sequence: 'You did this'; 'I did not do this'; 'What did he do?'

'relation'.[176] A result of this classification is another division into 'written' [law] and 'unwritten'. [38] Even Celsus Cornelius[177] formed two general classes of *status*: 'whether a thing is' and 'what kind it is'. Under the first he placed the species 'definition' because it can equally be asked whether a man committed sacrilege if he denies that he has stolen anything from a temple, or if he admits that he has stolen private money from a temple. He divides 'quality' into fact and written law ...

Cause

(*v.* Frs 95; 18; 170)

190 Galen, *De Causis Contentivis*, 2.1–2 (*v.* T51)

Context: In his introductory chapter, Galen claimed that the first philosophers to speak of cohesive causes were the Stoics. He then derives from Stoic physics that the function of Stoic *pneuma*, or the physical active principle of the Stoic universe, is to produce cohesion in natural and animate bodies, and this is a cohesive cause. After this fragment, Galen proceeds to explain and give practical medical illustration of Athenaeus' three causes of diseases. He then turns to his own view. All this is a good example of the close relationship between the Hellenistic schools of philosophy and the schools of medicine; Posidonius and the Stoics were clearly involved.

With Athenaeus of Attaleia, the founder of the Pneumatist medical School, it suits his doctrine to speak of a cohesive cause in illness, as he based himself on the Stoic School (he was a disciple of Posidonius); but it does not suit the theories of those other medical writers who support different views, to look for a cohesive cause in every illness, nor in the *homoiomeries*[178] in their natural state; nor can they say, as Athenaeus did, that there are three types of primary cause that are ultimate in their class. The different kinds,

[176] Clarified by Quintilian at III.6.23 as questions of relative terms, better/worse, greater/less (*comparatio*), or whether a charge is competent or should be transferred (*translatio*).

[177] An encyclopaedist of the time of Tiberius.

[178] The basic natural bodies derived from the elements, of which all other bodies are compounds (1.1).

which Athenaeus said were three in number are: (1) cohesive [*coniuncta*/συνεκτικόν], (2) antecedent, or predisposing [*antecedens*/προηγούμενον], (3) initiatory [*procatarctica*/προκαταρκτικόν].[179]

Relational syllogisms

191 Galen, *Institutio Logica*, XVIII.1–8

Context: Galen's treatment of relational syllogisms begins at *Inst. Log.* XVI and ends with this fragment. He starts with mathematical examples: twice as much as, half as much as, and suggests that what they have in common is 'the fact that they have the cause of their structure derived from certain axioms'. What he means is: if *A* equals *B* and *B* equals *C*, *A* equals *C* because 'things equal to the same thing are also equal to one another', which he argues is the base of Euclid's first theorem. He widens his field to cover all syllogisms involving relation, including 'more' and 'better'. After some more general remarks in XVII, he returns to relational syllogisms in XVIII.

As the class of relational syllogisms include the type 'more and less', so also they include syllogisms involving 'likewise', that is, syllogisms of proportion; so one must investigate whether the validity of these too is derived from some universal axioms; and let it make no difference whether we use 'likewise' or 'equally' or 'similarly'. [2] That is the sort of argument Plato used in *Republic* [368Eff.] ...

[5] Since a great deal is demonstrated by mathematicians in the same form of argument, and it could be naturally and clearly exhibited to anyone, that anything demonstrated in that form mathematically is valid, I myself for that reason wrote about this syllogism in my work on syllogisms. Here is an example of the concept that will do even for those who are mathematically inept: when $(A:B):(C:D)$, then if *A* is double *B*, *C* is double *D*.

[6] But in arguments of this kind as well everyone understands and believes a general axiom: things which are in

179 The technical terms of (2) and (3) became technical labels in medical pathology for predisposing causes, and it is highly probable that they too derive from Posidonius.

general in the same ratio, are also in every case in the same particular ratio. So, anyone who posits that *A* is in the same ratio to *B* as *C* is to *D*, and that the ratio of *A* to *B* is double, would hardly deny that the ratio of *C* to *D* is double; just as if the ratio of *A* to *B* were triple, so too he will say that the ratio of *C* to *D* is triple, or if the ratio to *B* were quadruple or fivefold (or whatever the reckoning was), it will be apparent that the ratio of *C* to *D* will be four- or fivefold. [7] For if the same ratio holds generally between *A* to *B* and *C* to *D*, so too will the same ratio hold in particular cases; and one of the particular cases is five times, so it follows that that is the ratio between *C* and *D*.

[8] So all such syllogisms must be said to be of the genus relational syllogism, and that they are in species constructed by the implied force of an axiom; this is just as Posidonius too says that he called them 'conclusive by the implied force of an axiom'.[180]

Grammar: etymology

192 Apollonius Dyscolus, *De Constructione* IV.65, pp. 487.3ff. Uhlig

Context: Apollonius is considering words formed from a combination of preposition and adverb (e.g. ἐπ/άνω, περι/κύκλῳ, ὑπο/κάτω, etc.). Are such words two parts of speech by juxtaposition, or one by synthesis?

In previous chapters it was completely demonstrated that prepositions only have meaning in their proper sense by juxtaposition when combined with their appropriate oblique cases (they do not combine indiscriminately with any case, as I demonstrated in what I called my Introduction); with indeclinables though, they form a single formation.[181] For

[180] That the Greek word ἀξίωμα here does not have its Stoic logical sense of 'proposition' but the mathematical usage of 'axiom' (as in Proclus, *In Euclid. Elem.* p. 76 Friedlein) is explicitly stated by Galen (*Inst. Log.* I.5; XVII.7), and confirmed by the context.

[181] I.e in synthesis.

that reason, as well as others I put forward, there is no juxtaposition with the nominative, which is caseless. This is why it is absolutely necessary to accept the same principle with adverbs,[182] since adverbs do not have oblique cases through which prepositions will have meaning by juxtaposition. Do not suppose that the word δι' ὅτι [*dihoti*] contradicts this: I showed [IV.26–31] that this contains an accusative [ὅτι, neuter accusative of ὅστις] governed by the preposition διά, and not ὅτι, the conjunction; otherwise [i.e. if it were ὅτι the conjunction] it would have to be a single part of speech like the causal particle ἐπεί [*epei*], which is a *synthesis* of the conjunction εἰ [*ei*] and the preposition ἐπί [*epi*], as Posidonius says. [See Frs. 45; 24]

Etymology of ὄψις *(sight)*

193 *Etymologicum Magnum*, s.v. ὄψις

Posidonius: the etymology of 'sight' [*opsis*] derives from 'kindling' [*hapsis*, 'kindling'], light being a kind of *hapsis* [kindling] in shining on[183] and illuminating each of the underlying objects, like fire.

Others have it that sight [*opsis*] derives from *hapsis* in the sense of 'contact' [*synapto*] as creating a contact for observation through what is seen.[184]

Or from the future tense of seeing.[185]

Sight

194 Aetius, *Placita*, IV.13.3 (Stobaeus, *Eclogae*, I.52.11 = I.485.1 W; *Dox. Gr.* 403.12)

Posidonius calls sight a natural fusion of light rays.[186] [*v.* F85]

[182] I.e. synthesis only, not juxtaposition.
[183] Reading ἐλλάμπουσα (Kidd) for the unintelligible ἐμποιοῦσα of the codices.
[184] For this, see Chrysippus in *SVF*, II.864.
[185] Following a suggested emendation by F. H. Sandbach.
[186] See Plato, *Tim.* 45c–d.

SCIENCES

MATHEMATICS

(*v.* Frs. 46–7)

The distinction between theorems and problems in mathematical methodology

195 Proclus, *In Euclidis Elementa*, pp. 77.7–81.4 (Friedlein)

Context: The methodology of mathematics is based on a procedure of proof from first principles to what follows them. First principles are classified as: (1) axiom; (2) hypothesis; (3) postulate. Proclus now turns to what follows the first principles which Euclid divided into problems and theorems.

Again, what follows from the first principles he[187] divides into problems and theorems. Problems comprise the constructing of figures, sections of figures, subtractions or additions to figures, and in general the characters that result from such procedures. Theorems demonstrate inherent properties belonging to each figure ...[188]

Some of the ancients, like the followers of Speusippus and Amphinomus,[189] thought it right to call all propositions theorems; they thought that the appellation 'theorem' is more proper for theoretical sciences than the appellation 'problems', especially since these sciences deal with eternal objects.[190] ... [78.8] Others, like the mathematicians connected with Menaechmus,[191] thought it right to hold that all propositions are problems, but that problems are two-fold

[187] Euclid.

[188] A passing reference is made to productive sciences having some theory in them, while theoretical sciences take on problems analogous to production. Proclus now turns to a historical review of the controversy as to whether propositions were theorems or problems.

[189] Possibly a contemporary of Speusippus.

[190] Therefore there is no coming to be or construction of what did not previously exist. So all propositions have a theoretical, not a practical, import.

[191] A pupil of Eudoxus and Plato.

in character[192] ... [In the omitted passage, Proclus argues that both views are in a way right] ...

[80.15] Zenodotus (and his adherents), who was familiar with the teaching of Oenopides,[193] although he was one of the pupils of Andron, would distinguish theorem and problem. Theorem seeks what is the property predicated of the matter in it; a problem asks the question, 'what is the condition for something to exist?'

Hence Posidonius and his adherents distinguished on the one hand a mathematical proposition by which what is investigated is whether a thing exists or not, and on the other hand one[194] in which it is sought what or what sort of thing it is. And they said that the theoretical proposition ought to be put in categorical form; e.g. every triangle has two sides greater than the remaining one; or, the angles at the base of every isosceles triangle are equal. But we must form the 'problematic' proposition as if it were an enquiry; e.g. is it possible on this given straight line to construct a triangle? For they said there is a difference between (a) enquiring simply and in an undefined way whether it is possible to erect a perpendicular to a given line at a given point,[195] and (b) contemplating what the perpendicular is.[196]

Definition of figure

196 Proclus, *In Euclidis Elementa*, pp. 143.5–144.5 (Friedlein)

Context: The subject is Euclid, *Def.* XIV (136.18ff. Fr.): 'A figure is that which is contained by any boundary or boundaries'.

[192] (a) to provide something sought for; (b) to determine the nature of something.

[193] Of Chios, mid-5th c. B.C.

[194] Here I delete πρόβλημα πρότασιν of the codices; see Kidd, *Comm.* p. 703.

[195] I.e. a problem.

[196] I.e. the nature of the perpendicular, a theorem.

A

Definitions of figure by Euclid and Posidonius are compared

So Euclid, calling figure the figured and that which involves matter and coexists with quantity, naturally designated it as what is contained. Posidonius defines shape as enclosing limit, separating the definition of figure from quantity and making it cause of determination, limitation and containing. For that which encloses is different from what is enclosed, and limit from what is limited.

It seems somehow that the one [Posidonius] is concentrating on the outer enclosing boundary, the other [Euclid] on the whole of the object. So Euclid will say that the circle is a figure by virtue of the whole plane surface and the outer circuit, but Posidonius by virtue of the circumference. Euclid shows he is defining that which is shaped and investigated with its substratum, Posidonius that he wishes to exhibit the definition itself of shape, that which is limiting and enclosing quantity.

B

An objection to Euclid's definition is answered

But suppose some smartass of a logician were to accuse Euclid's definition of defining genus from species (for what is contained by a single boundary and what is contained by several, are species of figure), we would have to reply to him that the genera themselves[197] have presupposed the powers or characters of their species in themselves. And whenever the ancients want to make clear genera from the powers or characters in the genera, although they seem to proceed from species, in fact they are explaining genera from themselves, that is, from the powers in them. [See F16]

[197] Reading αὐτὰ τὰ γένη (Kidd), for κατὰ γένη (codices).

On the fifth postulate of Euclid. Definition of parallel lines

197 Proclus, *In Euclidis Elementa*, p. 176.5–17 (Friedlein)

Context: Proclus is commenting on Euclid, *Def.* xxxv (xxiii Heiberg): parallel straight lines are straight lines which, being in the same plane and being produced indefinitely in both directions, do not meet one another in either direction. After giving Posidonius' definition, Proclus criticises Euclid's definition by objecting that the absence of intersection does not always make lines parallel. He claims to be taking much of this from Geminus. But the problems of the definition were notorious; e.g. Apollonius of Perge and Nicomedes raised the problem of asymptotic lines, so that the mere absence of intersection does not always make lines parallel. But what also lies behind this controversy is Euclid's notorious fifth postulate: that, if a straight line falling on two straight lines make the interior angles on the same side less than two right angles, the two straight lines, if produced indefinitely, meet on that side on which are the angles less than two right angles. But this is given not as an axiom, which is indemonstrable, but as a postulate, and the debate raged both in ancient and modern times whether a postulate may be demonstrable, and was based on this fifth postulate; see e.g. E. Cassirer, *The Problem of Knowledge* 23, and Kidd, *Comm.* pp. 708f. Posidonius, by substituting for Euclid's non-intersection theory an equidistance theory of parallels was able to evade the difficulty of the fifth postulate. Posidonius' definition was adopted by Hero of Alexandria, *Def.* 70, iv.48.5ff. Heiberg.

This is the way Euclid defines parallel straight lines. Posidonius says that parallel lines are lines that neither converge nor diverge on a single plane, but have all the perpendiculars equal that are drawn from points on the one line to the other. Any lines that keep causing the perpendiculars between them to get shorter, converge on each other. For the perpendicular can determine the heights of figures and the distances between lines. For this reason, when the perpendiculars are equal, the distances between the lines are equal; when they become greater or less, so the distance lessens and they converge on each other, on the side on which the perpendiculars are shorter.

Classification of quadrilaterals

198 Proclus, *In Euclidis Elementa*, pp. 169.10–171.4 (Friedlein)

Context: On Definitions xxx–xxxiv (Def. xxii Heiberg), namely definitions of quadrilateral figures, square, oblong, rhombus, rhomboid, trapezia.

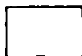
Quadrilaterals should first be divided into two sections: A parallelograms; B non-parallelograms:

A Parallelograms

(1) Both right-angled and equilateral: squares

(2) Neither right-angled nor equilateral: rhomboids

(3) Right-angled but not equilateral: oblongs



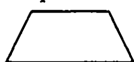
(4) Not right-angled but equilateral: rhombi.

For parallelograms necessarily are *either* both equilateral and right-angled, *or* neither of these, *or* one of the two only (and that works in two ways); so there is a fourfold classification of parallelograms.

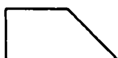
B Non-parallelograms

(5) No sides at all parallel: trapezoids

(6) Only two sides parallel (trapezia) of which:
(6a) The sides joining the parallels are equal: isosceles trapezia



(6b) The sides joining the parallels are unequal: scalene trapezia



Hence we have a sevenfold classification of quadrilaterals: square, oblong, rhombus, rhomboid, isosceles trapezium, scalene trapezium, trapezoid.

Posidonius has made a complete division of rectilinear quadrilaterals positing these seven species, as he has done also for the triangle. [This must refer to Proclus, pp. 168.3ff. Friedlein, although Posidonius is not actually named there. The sevenfold classification of triangles is: (1) equilateral: one only and acute angled; (2, 3, 4) right-angled isosceles, obtuse-angled isosceles, acute-angled isosceles; (5, 6, 7) right-angled scalene, obtuse-angled scalene, acute-angled scalene. Euclid had a sixfold division of triangles.]

Euclid [Def. XXIII] could not make the division into parallelograms and non-parallelograms, because he had not spoken about parallel lines yet, nor instructed us about the parallelogram itself.

Definition of point

199a Gerard of Cremona, *In Euclidis Opera* (Curtze), p. 3.23

Context: Gerard, a 12 c. A.D. translator of Arabic versions of Greek science, is here translating Al-Nayrizi's 9/10 c. A.D. commentary on Euclid's *Elements*. The latter used commentaries by Hero of Alexandria and Simplicius extensively on the *Elements*. The comments are on the first Definition, the definition of point. This

fragment is introduced by the proper name Aposedanius. The problems of transposing Greek proper names into and back from Arabic are notorious, but the definition itself could well be a distant retrieval of Posidonius; see Diogenes Laertius VII.135 following immediately F16. So Tannery could well be right in restoring 'Posidonius'.

But Posidonius said that point is limit without extension, or the limit of line.

Definition of centre of gravity

199b Hero, *Mechanica* 1.24 (= Archimedes, II.546.4)

Context: Hero's *Mechanics* survives only in an Arabic translation (for this passage, Nix-Schmidt, II.1, p. 63). 1.24 concerns the topic of gravity: one speaks of gravity only in relation to bodies; but if you speak of the centre of gravity in geometric figures being a certain point, Archimedes has sufficiently explained that. Now follows a definition of centre of gravity from Posidonius a Stoic, after which Hero returns to Archimedes. There has however been doubt about the name in Arabic. Also the sentence after the fragment implies that Archimedes followed Posidonius in time. If so, it cannot be Posidonius of Apamea. Indeed, the whole section 1.24 is garbled, and in general the ambiguities of this fragment are such that little weight can be put upon it: Kidd, *Comm.* pp. 715f.

Posidonius, a Stoic, determined the point of inclination [i.e. falling centre?] and the centre of gravity in a natural [physical?] definition, and said that the falling centre and centre of gravity is a point such that if the weight is suspended at it, it will be divided into two equal parts [i.e. in equilibrium]. [The translation goes on to say that *therefore* Archimedes and his followers in mechanics made a distinction between suspension point and centre of gravity.]

MATHEMATICAL GEOGRAPHY

(*v.* F49)

Shape of the habitable world

200a (F98a Jac.) Agathemerus, *Geographia Informatio*, 1.2 (p. 471 Müller)

Context: The *Sketch of Geography* of Agathemerus was written after Ptolemy, and is a hotchpotch of disconnected superficial material culled from earlier sources including Artemidorus (see T78). This passage comes from the second section on 'The geography of the ancients', and comprises a list ending with Posidonius, and so may come from a doxography derived from him or from an epitome based on him. The subject is the shape of the habitable world as represented on a map.

The ancients mapped the habitable world as circular, with Greece placed in the middle, and Delphi in the middle of it; for they said it held the navel of the world. It was Democritus [68A94 Diels], a man of great experience, who first realised that the world is elongated, with its length half as much again as its breadth; Dicaearchus the Peripatetic [109 Wehrli] agreed with him. Eudoxus [80, p. 16 Gisinger] made the length double the breadth, but Eratosthenes more than double. Crates [8a Mette] made it semicircular, Hipparchus trapezoid, others 'shaped like a tail'. But Posidonius the Stoic said that it was shaped like a sling, that is, broad in the middle from south to north but narrowing to east and west, yet with the eastern part towards India broader.

200b Eustathius, *Commentarii ad Homeri Iliadem*, VII.446

You should know ... and that according to Homer the whole world is endless, that is, it is spherical and circular. But Posidonius the Stoic and Dionysius[198] say it is shaped like a sling, Democritus that it is elongated, and Hipparchus that it is trapezoid.

201 (F98b Jac.) Eustathius, *Commentarii in Dionysium Periegetam*, I

Context: Eustathius is commenting on lines 3–7 of Dionysius' poem *Geographical Description of the Inhabited World*, which begins with

[198] Dionysius Periegetes, on whose poem *Geographical Description of the Inhabited World*, of the time of Hadrian, Eustathius wrote a lengthy commentary (see F201).

earth as a boundless island in Ocean, but continues that it is not circular all the way round, but sharper at either end like a sling.

That is not true, as was also the opinion of Herodotus [IV.36] when he said that he did not accept those who portrayed the world as circular, as if described by a pair of compasses. Dionysius corrects this with 'not completely circular throughout', but clearly extended lengthwise, as will be said, like a sling. For the habitable world, as Posidonius thinks too, is that sort of shape.

That is the reason also why the habitable world is split into two cones, as Dionysius will say in the lines that follow. One of these cones completes Asia, the other makes up Europe and Africa; of this inhabited sling sort of shape, the apexes stretch to the east and to the west; we actually call this the path of the sun. The broader part lies towards the north and to the south. And so with the bases of the two cones together, the sharp ends of the cones lie to east and west, and the breadth of the bases stretch to south and north.[199]

Measurement of circumference of earth

202 (F97 Jac.) Cleomedes, *De Motu Circulari Corporum Caelestium*, I.10.50–2; *Cael.* I.7.1–50, pp. 33–5 Todd

Context: This chapter is on the size of the earth. From many opinions on this subject, Cleomedes singles out what he regards as the two best: those of Eratosthenes and Posidonius. Cleomedes stresses Posidonius' hypothetical method rather than the accuracy or certainty of the figures. Indeed a different figure for Posidonius' circumference of the earth is given by Strabo in F49 (180,000 stades). The distance figures are clearly conjectural and round; and Posidonius was probably bracketing.

There have been very many opinions from physicists on the size of the earth;[200] the best of them all are those of

[199] There is no evidence that this last paragraph derives from Posidonius or is connected with him.

[200] E.g. Aristotle, *De Caelo* 298a; Archimedes, *Sand Reckoner*, I.8; Strabo II.2.2 = F49.32ff. (Posidonius again); Ptolemy, from Marinus, *Geogr.* I.11.2; VII.5.12.

Posidonius and Eratosthenes. Eratosthenes demonstrates its size by a geometrical method, Posidonius' is simpler. Each of them adopts certain assumptions, and then arrive at their proofs through what follows from these assumptions. I shall first give Posidonius' method.

He says that Rhodes and Alexandria fall on the same meridian. Meridians are the circles described through the earth's poles and through the points which are situated as zenith above each place on earth beneath them. So poles are the same for all, but zenith points differ in each case. So an infinite number of meridians can be described. Well, Rhodes and Alexandria lie under the same meridian, and the distance between the two cities is thought to be 5000 stades.[201] Let us suppose that to be the number. Also that all meridians belong to the great circles of the world, that divide it into two equal parts and are described through its poles. Well, from the basis of these assumptions, Posidonius proceeds next to the zodiac[202] (equal to a meridian, in that it also divides the world into two), and divides it into 48 parts, with each of its twelve-parts[203] cut into four. Now if the meridian on which Rhodes and Alexandria lie is also divided into 48 parts in the same way as the zodiac, its sections will be equal to the sections of the zodiac we have spoken of. For when equal quantities are divided into equal parts, the parts of the divided quantities must also be equal.

Granted that, Posidonius says next that the very bright star called Canopus[204] (to the south by the rudder of Argo) is completely invisible in Greece, which is why Aratus in his *Phaenomena* never even mentions it. But proceeding from north to south you begin to see it at Rhodes brushing

[201] Clearly a guess of a round figure.
[202] That is, the ecliptic.
[203] I.e. the twelve 'signs' of the zodiac or ecliptic.
[204] α Carinae.

the horizon, whereupon it sets immediately with the revolution of the cosmos. But when you sail the 5000 stades from Rhodes and arrive at Alexandria, this star is found at Alexandria at a height from the horizon, when exactly culminating at the meridian, of 1/4 of a 'sign' of the zodiac, that is 1/48[205] of the meridian that passes through Rhodes and Alexandria. So it must follow that the section of the same meridian that covers the distance between Rhodes and Alexandria is 1/48 of that meridian, because the difference between the horizon at Rhodes and that at Alexandria is 1/48 of the circle of the zodiac. So, since the part of the earth underlying this section is thought to be 5000 stades, so too will the parts underlying all the other sections be 5000 stades; and so we find that the grand circle of the earth, the circumference, is 240,000 stades. The exact figure may be wrong, but the circumference is proportional to the distance.

That is the kind of method Posidonius used to discover the size of the earth. Eratosthenes stuck to a geometric method, and gives the appearance of being somewhat more obscure.

Measurement of parasang

203 Julian of Ascalon, *Metrological Table*

Context: Julian of Ascalon was an architect of 5/6 c. A.D., writing of the laws and customs of the people of Palestine. To him has also been credited a metrological table, giving a table of measurements from the finger (palm, foot, cubit, pace, rod, plethron, stade) to the mile, each unit in relation to the others. To these are added the parasang and the schoinos. For the problems of this notorious passage, see now Joseph Geiger, 'Julian of Ascalon', *JHS*, CXII (1992), pp. 31–43.

The mile according to Eratosthenes and Strabo [VII.7.4; Fr. 56 Jones], those accurate geographers, is put at $8\frac{1}{4}$[206]

[205] There being twelve signs of the zodiac.

[206] Probably a mistake for $\frac{1}{3}$.

stades, although the prevailing customary measurement of today is $7\frac{1}{2}$, or 750 fathoms, or 1500 paces, or 3000 feet. It should be recognised that the mile today is 750 geometric fathoms, or 875 simple fathoms; for 100 geometric fathoms equals $116\frac{2}{3}$ simple fathoms.[207]

The parasang is a Persian measure. It is not given the same measurement by everyone: in most cases it is 40 stades, but in Xenophon [*Anab.* II.2.6; V.5.4; VII.8.26] it is 30, and in other cases even 60 stades, while some people put it still more according to Strabo [XI.11.5], citing the learned Posidonius as evidence for that calculation.[208]

Observation of Canopus at Gadeira

204 (F99 Jac.) Strabo, II.5.14 (*v.* T16)

Context: Having outlined the shape and size of the inhabited world, Strabo defines the parameters of a parallelogram which contains it, establishing longitude from the Cinnamon Country to a parallel through Ierne, and the axial Rhodian band of latitude (roughly $\phi = 36°$) on the parallel from the Pillars of Hercules, through the Sicilian Straits, Rhodes, Gulf of Ilissus, the Taurus and ranges to the east, to the Eastern Sea. He now lists various methods of plotting places on this parallel. After the fragment, he maintains that with the help of these two basic parallels or *klimata*, other latitudes and longitudes can be drawn.

The most westerly point of the inhabited world is the promontory of Iberia they call the Sacred Cape. It lies approximately [37°] on the line that runs through Gadeira [36;33°], the Pillars [36°], the Sicilian Straits [38;13°] and Rhodes [36° cuts the island, the town is 36;21°]. For they say that there is agreement (1) from the use of sundials and gnomons, (2) favourable climatic and periodic winds that blow from either direction, (3) the length of the longest days and nights[209] (it is $14\frac{1}{2}$ standard hours for the longest

[207] For these figures, which are emended figures, see Geiger, pp. 37f.

[208] But Posidonius is not cited in our edition of Strabo.

[209] Actually the measure of the longest day, or the ratio of longest to shortest day.

day), (4) and along the coastline by Gadeira the star Canopus[210] is sometimes sighted.

Posidonius says that he saw from a high house in a city some 400 stades from that area [i.e. the Gadeira coastline] a star which he conjectured was Canopus itself, (a) because people who proceeded only a little to the south of Spain were in agreement that they saw Canopus; and (b) from research in Cnidus: for it is recorded that Eudoxus had the star Canopus in view from his observatory, which was not much higher than the houses. And, said Posidonius, Cnidus lies on the Rhodian *klima*, or band of latitude, on which too lie Gadeira and its coastline. [See F202]

The elevation of Canopus at Rhodes and Alexandria

205 Proclus, *In Timaeum* (40A–B), IV.277DE; III. pp. 124.18–125.17 Diehl

Context: Proclus is engaged in defending Plato's theory concerning the movement of the fixed stars (*Tim.* 40a7ff.), and criticises the theory of precession of Ptolemy and Hipparchus, that the slow motion of precession proceeds about the pole of the ecliptic, and not about the pole of the equator.

That is the sort of movement that Plato assigned to the fixed stars [*Tim.* 40a7ff.]. But all those, like Ptolemy and Hipparchus, who, relying on observations, give these stars a retrograde movement of one degree every hundred years about the axis of the ecliptic, I would have them know first that the Egyptians, who were using observations before their time, and still earlier the Chaldeans, who, even before their observations, were instructed by the gods, came to the same view as Plato about the movement of the fixed stars.... [this is enlarged upon]... But on top of them, the phenomena themselves are sufficient to convince anyone with eyes to see; for obviously, if the fixed stars moved about the axis of the ecliptic in a retrograde motion, a considerable portion of the Bear would have had to set in

[210] An emendation for the corrupt Ἴβηρας. Canopus is α Carinae.

these regions, the Bear which since the time of Homer[211] is described as 'ever-shining' above the horizon, and in our time would have had to have moved more than 15°;[212] and Canopus could no longer be appearing about the axis of the equator, making a small circle above the horizon for those in the Third Klima,[213] and be shaving the horizon for people in Rhodes as Posidonius says. But of course not: the Bear remains ever-shining above the horizon, and Canopus maintains the same position. So there is no truth in this common talk of theirs that there is a retrograde motion in the fixed stars.

Measurement of isthmuses. Caucasian and Suez 'isthmuses'

206 (F101a Jac.) Strabo, XI.1.5–6

Context: At Bk XI Strabo turns to Asia, dividing it from Europe by the river Tanais (Don), and partitioning Asia itself north and south by the Taurus Mountains, which he takes as stretching from the coast opposite Rhodes to the eastern boundaries of India and Scythia. The Caucasian 'isthmus' was so-called because it was believed that its northern boundary was formed by the Northern Ocean of which the Caspian Sea was an inlet. Posidonius' guess for the distance across the southern neck of this isthmus (from the Caspian to the Black Sea) is a gross underestimate (1500 stades). The actual distance from Batumi on the Black Sea to the mouth of the Kura is over 400 miles. An even worse mistake is the equation with the Suez isthmus which is under 100 miles. The Suez isthmus may have been brought in at this point, because both isthmuses were regarded as boundaries between Europe and Asia.

[5] When we pass from Europe to Asia in my geography, the northern part is the first we come to of our division into two; so we must begin with it. The first region is that about the river Tanais [Don], which I posit as the bound-

[211] E.g. *Iliad* XVIII.487–9, *Odyssey* V.273–5.

[212] This is assuming 1500 years since the time of Homer, and a movement of 1° every 100 years, as above.

[213] This is the Alexandrian parallel, or band of latitude in the standard system of Seven Klimata or bands of latitude. There is no evidence whatsoever that Posidonius was the originator of this system as alleged by Reinhardt and Theiler. See Kidd, *Comm.* pp. 736f., and Neugebauer *HAMA* pp. 333ff.

ary between Europe and Asia. It is a sort of peninsula, because it is bounded to the west by the Tanais and Lake Maiotis [Sea of Azov] as far as the Cimmerian Bosporus [Straits of Kerch] and the coastline of the Black Sea that ends at Colchis; on the north it is bounded by the Northern Ocean up to the inlet of the Caspian Sea;[214] on the east the boundaries are this same Caspian as far as the boundary between Albania and Armenia as far as the mouths of the rivers Cyrus [Kura] and Araxes [Araks], the latter flowing through Armenia, the Cyrus through Iberia and Albania; the southern boundary runs from the river Cyrus to Colchis [south-east corner of the Black Sea], which is about 3000 stades from sea to sea, running through the territory of the Albanians and Iberians, and that is why it is reckoned as an isthmus. But anyone who contracts the size of the isthmus as much as Cleitarchus[215] does, isn't even worth taking into account. Posidonius said the isthmus was 1500 stades, about the distance of the isthmus from Pelusium [Port Said] to the Red Sea [?Suez]; 'And I think,' says he, 'that from Maiotis to Ocean [the breadth of the northern finger of the Caucasian 'isthmus'] does not much differ either.'

[6] I don't know how anyone could trust him on things that are non-evident, if he has nothing plausible to say about them, when what he has to say about what is obvious is so irrational; and this too for a friend of Pompey, who led a campaign against the Iberians and Albanians reaching as far as the seas on either side of their countries, the Caspian and the Colchian [Black Sea]. Anyway, the story goes that Pompey was in Rhodes, when he came out for the war against the pirates ... He had the opportunity to attend a lecture by Posidonius [*v.* T35] ... Add to that,

[214] This is what makes this area a 'peninsula' for Strabo, because he thought that the whole northern boundary was the Northern Ocean.

[215] The Alexander historian, writing under Ptolemy II some time after 280 B.C. was highly unreliable and had probably never been to Asia.

that he [i.e. Posidonius] actually wrote up his investigations about him [i.e. Pompey][216] [*v*. F79]. For these reasons he really ought to have been more mindful of the truth.

207 (F101b Jac.) Strabo, XVII.1.21

The isthmus between Pelusium [Port Said] and the recess by Heroonpolis[217] is 1000 stades, and as Posidonius says, less than 1500....

Zones

Classification by sun shadow

208 (F76 Jac.) Strabo, II.5.43

Context: Strabo began a second introduction to his work at II.5, and concludes it with an outline of the *klimata*, or belts of latitude. He works from south to north, beginning, not with the equator (for geography for Strabo is concerned with the habitable world), but from the Cinnamon parallel, and ends with a parallel north of Byzantium for which his reference points are confused, but for which he appears to be adopting the arbitrarily fixed 'arctic circle' of 54°, the circle for observers on the basic Rhodes parallel of 36° (see F49, II.2.2). What is north of this is uninhabitable because of the cold and so no longer of interest to the geographer. On this Strabo refers to Hipparchus, as well as for all other astronomical information. Hipparchus' treatment is of greater clarity than Strabo's work requires; so is Posidonius' account of zones, which however follows. On Posidonius on zones, see also F49.

A
Clarification of Posidonius' technical terms

The account of Periskians, Amphiskians and Heteroskians which Posidonius gives, is also of greater clarity than I need. For all that, I must mention them to the extent at

[216] But the existence of such a separate monograph remains doubtful; *v*. Kidd, *Comm*. pp. 331f.

[217] To the north of Suez (Arsinoe), on the so-called Bitter Lakes (Str. XVII.1.25), from which another stretch of canal ran to the Red Sea. This may account for the variation beween 1000 stades here, and the 1500 from Pelusium to the Red Sea of F206.

least of clarifying the conception and showing where they are useful and useless for geography.

Since the argument is concerned with the shadows cast by the sun, and the sun on the evidence of our senses follows a circular course parallel to that of the universe, then as with each revolution of the universe there comes a day and a night as the sun at one point moves above the earth and at another below it, so by these conditions you can conceive of people whose shadow may fall on both sides, and also of people whose shadow falls on one of two sides only.

Amphiskians ['Both-way-shadowers'] are all those who at midday have their shadows sometimes projecting this way, to the north, when the sun falls from the south on the vertical pointer of the sundial on the base plane, sometimes in the opposite direction when the sun changes round to the opposite side. This happens only to those who live between the tropics.

Heteroskians ['Either-of-two-ways-shadowers'], on the other hand, are *either* all those whose shadow falls to the north, like us, *or* all those whose shadow falls to the south, like the inhabitants of the southern temperate zone. This, being amphiskian or heteroskian, happens for everyone whose arctic circle is less than the tropic.[218]

But where a person's arctic circle is the same as the tropic [i.e. $\bar{\phi} = 66°$] or bigger [66°+], Periskians begin and continue as far as those who live under the pole [i.e. at latitudes of 66° and over]. For as the sun's course follows the whole revolution of the universe above the earth, obviously its shadow too will traverse in a circle about the gnomon; and that is the reason Posidonius gave them the name of Periskians ['Circle-shadowers'].

[218] Since the tropic was regarded as latitude $\phi = 24°$, the latitude of those whose arctic circle is the same as the tropic $\bar{\phi}$ is 66°; therefore everyone who lives from the equator to just under 66° is either amphiskian or heteroskian.

B

Usefulness in relation to geography

Periskians are of no importance in relation to geography, for these parts are uninhabitable because of the cold as I said in my discussion against Pytheas.[219] So there is no need even to worry about the size of this uninhabited land, apart from accepting that those having the tropic as arctic circle [i.e. in the polar circle] fall under the circle described by the pole of the zodiac during the diurnal revolution of the universe, postulating that the interval intervening between equator and tropic is 4/60 of the greatest circle [the meridian].[220]

Number of Zones

209 (F77 Jac.) Achilles Tatius, *Introductio in Aratum*, 31

Context: The earlier part of section 31 relates the sun's shadow to the different zones of habitation. In the middle of other material and terms (such as 'Short-shadowers' and 'Long-shadowers'), the Posidonian labels Heteroskian and Amphiskian are introduced and explained, but without any reference to Posidonius. Periskians ('Some people want there to be Periskians who have their shadow in a circle round them.') are mentioned as a kind of afterthought. So the Posidonian influence is corrupted and much embroidered. Indeed, on number of zones Posidonius is classed here with Polybius, whom he in fact criticised and disagreed with, holding to a five-zone theory: F49, Strabo, II.3.1f. But Posidonius may have had different classifications for astronomical divisions of zones and for human geography; *v.* Kidd, *Comm.* pp. 748f.

Parmenides of Elea was the instigator of the theory of zones [28A44a Diels; F49, Strabo, II.2.2]. But among those who followed him, there was much disagreement about their number. Some said there were six of them, like Polybius and Posidonius who both split the torrid zone into two;[221] others accepted that there were five, like

[219] See Strabo, II.5.8. Pytheas put Thule at 66°, the existence of which Strabo questioned. Strabo had no faith in the veracity of Pytheas, *v.* T46.

[220] I.e. 24°, the generally accepted angle of the ecliptic.

[221] In fact, according to Strabo, Posidonius criticised Polybius for this, and supported the five-zone theory; *v.* F49, Strabo II.3.1.

Eratosthenes [*Mercurius*, Fr. xv Bernhardy] and many others; it is they that we too have followed.

Climate of the torrid zone

210 (F78 Jac.) Cleomedes, *De Motu Circulari Corporum Caelestium* 1.6.31–3, 1.4,90–131 Todd

Context: Cleomedes is examining the monthly increase or decrease of daylight between the longest and shortest day, the cause of the unevenness of increase or decrease being the obliquity of the zodiac. The sun's path crosses the equator at two signs, and touches each of the tropics at one sign. It crosses the equator and adjacent territory pretty well at right angles, but approaches the tropics more obliquely and with greater inclination; and so this making of an acute angle is the reason why the sun approaches and departs from the tropics more slowly. But at the equator, the sun being more at right angles, its approach and retirement is 'all at once'. Cleomedes gives as the reason for this the eccentricity of the heliacal circle. See also F49.

A

Posidonius' theory and his reasons for it

Since as we said, the approach and retirement of the sun at the tropics is slower and so it spends a greater period of time in their area, and since the area at the tropics is not uninhabited, nor areas still further in the interior (Syene lies on the summer tropic, Ethiopia is still further inland than that), Posidonius, taking his key note from these facts, assumed that the whole latitude at the equator also was temperate. And while the natural philosophers of established reputation declared that there were five zones of the earth, he – Posidonius – declared that what they called torrid was inhabited and temperate. For, says he, although the sun delays longer in the area of the tropics, yet the area at the tropics is not uninhabited, nor are the regions still further in the interior uninhabited, so surely it was much more likely that the equatorial area was temperate, when the sun at this circle [of the equator] quickly approaches and again equally quickly retires and does not

delay in that latitude; and indeed, he says, the night is completely equal to the day there, and for that reason provides an interval long enough for cooling. And this atmosphere being in the most central and deepest shadow, both rain and wind will occur capable of cooling the air; and moreover in Ethiopia continuous rainfall is reported in summer, and particularly at the height of summer; it is from this actually that the flooding of the Nile in summer is conjectured.[222]

B

Cleomedes' criticism of Posidonius

Well, that is the way Posidonius goes. And if conditions in the equatorial area are like that, the seasons will have to come twice a year with them, since the sun too is twice overhead, making two equinoxes.[223] Those opposing this view of Posidonius say that the circumstance of the sun spending longer time at the tropics does not necessarily make Posidonius' view sound. No, the sun stays away again longer from the tropics, and so the air at the tropics is cooled longer, and these latitudes can be inhabited. Whereas the equator lies in between the tropics, and the sun is away from it for a short time and quickly wheels round to it. And the area under the tropics receives the etesian winds from the frigid zones which both assuage the heat of the sun and cool the air. But these cannot reach the equator. And if they were to reach it, they would be hot and scorching from the length of their journey under the sun. As for night being equal to day, that could not of itself contribute to cooling the air there, because the force of the sun is beyond expression, sending its rays perpendicularly and with intensity continually at that latitude, with hardly any inclination worth mentioning from it. It is

[222] But see F222 and F49, Strabo, II.3.3.
[223] And so two 'summers' and two 'winters'.

conjectured by the natural philosophers that the greatest part of the great sea [i.e. Ocean] underlies this latitude, in the most central position for the sustenance of the stars.[224] So it does not seem likely that Posidonius' moves here were correct.

211 Symeon Seth, *De Utilitate Corporum Caelestium* 44

Context: Symeon Seth was a dignitary of the imperial palace of Antiochus in 11th c. A.D; he reported an eclipse of the sun in the reign of Isaac Comnenus (1057–9). It is interesting that Posidonius' name crops up at this late date among the few authors cited by Symeon, and shows the persistence of parts of the geographical/physical/astronomical tradition. This piece is a work of astronomical teleology. He starts on the sun at §38, dealing with its size in 39–42. At 43 he turns to 'Why the sun moves in an ecliptic', a question which rouses his religious admiration for the purpose and benefit of the obliquity of the sun's path. 'In the first place', had it not been so, the area under its circle would have been scorched and destroyed completely. The change of path of the sun brings relief to places perpendicularly beneath it.

At any rate, as it is now, those living at the equator enjoy sufficiently a temperate climate through the changing path of the sun as Posidonius records and those who have come from those parts to our latitudes have narrated for us. Secondly,[225] not only the country under that parallel [the equator] would have been uninhabitable, but also, through the excess of heat and the stationary position of the sun, the adjacent territory up to 20° or even more.[226] And the countries after these would have been very few and extremely narrow in width that had some little share in a temperate climate. They would all have been useless and barren, with no winter through the retreat of the sun, no summer through its nearness, and no spring to precede summer. And the land next to these would have been[227] uninhabit-

[224] For this debate, see F118 and F49, Strabo, II.3.3.
[225] To 'In the first place...' under Context above.
[226] The tropics were usually placed roundly at 24°.
[227] Reading ἂν ἦν Theiler, for οἷον *BR*; or there may have been a lacuna, as suggested by Sandbach.

able through the excess of cold, not only to humans, but to all creatures as well, no better than the Cimmerians.[228] And the whole earth would have remained uninhabitable through the excessive conditions and incongruousness deriving from such a movement.

The orientation and climate of India

212 (F100 Jac.) Pliny, *Naturalis Historia*, VI.57–8

Context: At VI.56, Pliny turned to India from the Himalayas. It is bordered by the Eastern Sea and the Southern Sea. The east-facing coast stretches in a straight line until it comes to a bend (presumably Cape Comorin, opposite Taprobane or Sri Lanka); from there the southerly bend of the coast stretches to Indus, which is the western boundary of India. Pliny gives a series of conflicting measurements for coastlines and length and breadth of India, naming Eratosthenes and Agrippa. The importance of the Posidonian evidence which follows is that it correctly reorientates the position of India on the map. The canonical view, which persisted throughout the Greek and Roman period, was that India stretched in a west to east direction: so Eratosthenes, Strabo, Pomponius Mela, Pliny, Marinus and Ptolemy himself. Posidonius clearly orientated it north to south. So did Megasthenes (c. 300 B.C., Arrian, *Indica* III.7–8) and the author of the *Periplus Maris Rubri* (*Periplus* 50; c. 50 A.D.). All three were ignored and the west-east projection reached on into Ptolemy's map.

Posidonius plotted India on the map from summer rising of the sun [NE] to winter rising [SE], positioning it as facing Gaul, which he drew from summer setting [NW] to winter setting [SW], the whole of the Indian coastline facing the west [wind].[229] And so he informed us convincingly that India benefited from the current of that west wind to become a healthy country. There are different aspects of the heavens there, different risings of the stars; they have two summers and two harvests annually, separated by a winter with etesian winds, while in our own

[228] Who by tradition occupied the northern borders of the world.

[229] Reading *totam favonio ⟨adversam⟩*, Kidd (*v. Comm.* pp. 757f.). Favonius is the west wind, employed, as usual with winds, as direction indicator (see F137).

winter time they have soft breezes and a navigable sea. Their peoples and cities, should anyone want to track them all down, are beyond count.

213 Solinus, *Collectanea Rerum Memorabilium*, 52.1–2

Context: Solinus (early 3rd c. A.D.) almost certainly derives from Pliny, part of whom he rehashes.

India begins from the Middle Mountains, and stretches from the Mediterranean to the Eastern Sea. It is a most healthy country through the current of the west wind, with summer twice a year, two harvests to gather, and enjoys etesian winds instead of winter. Posidonius positioned it facing Gaul.

TIDES, HYDROLOGY

Uniform behaviour of ocean and tides. Extent of Ocean

214 (F82a Jac.) Strabo, 1.1.8–9 (*v.* T79a)

Context: Strabo has been explaining how Homer can be regarded as the first philosophical geographer, particularly in his account of Ocean. Ocean is represented as surrounding the inhabited world, which is consequently regarded as an island. Strabo supports this view with the argument that no one has yet been stopped by land in attempts to circumnavigate the globe. What follows embodies his second argument. See F49.

[8] This theory of circumambient ocean also accords better with the behaviour of the ocean in respect of ebb and flow tides. Evidence to support this is that everywhere there is the same basic manner of changes and particularly of highs and lows, or not much variation, and this is what one would expect if the movement were produced by a single sea and from a single cause.

[9] Hipparchus fails to convince when he opposes this opinion[230] on the grounds that Ocean does not behave uniformly everywhere; and even if that were granted, it does not follow that the Atlantic Ocean flows all round the world

[230] Probably attacking Eratosthenes, who held a circumambient theory.

in a circle. Against the uniformity of behaviour theory, Hipparchus used Seleucus of Babylon[231] as evidence.

But for a more extended account on Ocean and the tides, I refer the reader to Posidonius and Athenodorus, who have sufficiently established the theory of that subject [T79a]. For the moment I will say only this much, that it is better to believe this situation with regard to uniform behaviour; and the further moisture extends round the earth, the better the heavenly bodies would be held together by the exhalations from it.

Tidal ebb and flow

215 (F82b Jac.) Strabo, 1.3.12 (*v.* T79b)

Context: From 1.3.1ff., Strabo is occupied with criticism of Eratosthenes on sea problems, such as theories of depth of seas and changing levels, and in particular the changes of current in straits such as the Straits of Messina. In §12, Strabo leaves tidal theory to Posidonius and Athenodorus, but immediately afterwards returns to his criticism of Eratosthenes on currents in straits.

On tidal ebb and flow, enough has been said by Posidonius and Athenodorus; ... [*v.* T79b]

On Homer's Oceanus and tides

216 (F83 Jac.) Strabo, 1.1.7

Context: Strabo is writing about Homer's geographical insights. §7 is concerned with Oceanus.

Another factor of this same curiosity for knowledge on Homer's part is his awareness of the phenomena of tidal ebb and flow of Ocean: 'back-flowing Ocean' [*Iliad*, XVIII.399] he says, and 'three times a day she sends it up, three times a day sucks it down' [*Od.* XII.105]. And even if it is actually twice a day, not three times – perhaps Homer strayed from his information, or there is a corruption in the text – nevertheless the principle remains the same. And

[231] For Seleucus, see F218.

his 'soft-flowing' [*Iliad*, VII.422] gives some indication of flow tides mounting gently and not with a violent swell.

And Posidonius conjectures, when Homer says headlands are sometimes covered, sometimes bared [*Od.* XII.235–43?], and when he calls Oceanus 'river' [*Il.* XIV.245], that its flow in Homer implies flow tides. Well, Posidonius' first point is good, but the second is not reasonable; for the rising of the tide is not like the flow of a river; and far less so is the ebb.

The wells at Gadeira
Theory of tides

217 (F85 Jac.) Strabo, III.5.7–8 (*v.* T17)

Context: Strabo is giving a general account of Cadiz, and has been discussing the Pillars of Hercules, and whether the pillars in the Heracleion at Gadeira represented them. He now proceeds to a notorious phenomenon of the time, the spring at Heracleion and its behaviour. What follows contains two distinct sections from the point of view of Posidonius: (A) his criticism of previous accounts of wells at Cadiz, and (B) his theory of tides. It is Strabo who combines the two, using the latter (B) as evidence against the former (A). The detailed working out of the evidence into a complete theory of diurnal, monthly and annual cycles of lunar priodicity of tides is a remarkable contribution. The diurnal and monthly cycles are substantially correct and depend on autopsy (T14–17). The annual cycle had to depend on report, and is wrong: annual highs occur at the equinoxes, not the solstices; for a discussion of how the mistake may have arisen: Kidd, *Comm.* pp. 775–9. Even so, although the facts are wrong in the annual cycle, Posidonius' theory remains correct.

A The wells

[7] Polybius says [XXXIV.9.5] that there is a spring in the Heracleion[232] at Gadeira – only a few steps down to the water which is drinkable – which is affected inversely to the sea tides, failing at the flood, filling at the ebb. He gives as the reason that the air that is expelled from the depths to the surface of the earth, when the latter is covered by water

[232] The temple and sacred precinct of Heracles.

from the encroachment of the sea, is blocked off from its proper exits, and returning inside, blocks up the channels of the spring water making it fail; when the ground is uncovered again, the air takes its straight course and frees the veins of the spring so that it bubbles up again freely.

Artemidorus criticises this, gives a reason of his own, and calls in Silanus the historian as support. In my opinion, neither are worth a mention, as both Artemidorus and Silanus are amateurs in these matters.[233]

But Posidonius says this story of Polybius is false: there are two wells in the Heracleion, a third in the city. The smaller of the two in the Heracleion fails within the hour if drawn continuously, but fills up again if left alone. The larger can be drawn all day, although the level falls as in all other wells; at night it fills up if no longer drawn.[234] Since ebb tide often coincides with the occasion of the replenishing of the well, the locals without cause have been convinced of the inverse behaviour as affected by each other.[235] Now Posidonius himself has said that the story is believed, and I myself [i.e. Strabo] have found it as common stock in the *Paradoxes*.[236] And it came to my ears ... [In the lacuna, Strabo is inclined to believe Polybius' explanation, and voices an alternative theory from Athenodorus. He then continues the attack on Posidonius.]

[8] And I don't know how it can be that elsewhere Posidonius reveals the Phoenicians as clever,[237] while here he would be accusing them of stupidity rather than recognising their sharpness.

[233] For Artemidorus of Ephesus, see F119, where again Posidonius contradicts popular tales by autopsy. Silanus was a historian of Hannibal, *FGrH* 175.

[234] This is factual observation.

[235] This points out the difference between observation and inference.

[236] Presumably a collection of doxographic tradition. Strabo seems confused between the accuracy of Posidonius' observations, and the veracity of reports. His main criticism appears to be that Posidonius did not believe the local inhabitants.

[237] The Phoenicians founded Gadeira (F246). For their cleverness, Frs. 285, 286; but F246 for 'Phoenician lies'.

B The Tides

One day and night is a single revolution of the sun, part of the time below the earth, part shining above it.[238] Posidonius says that the movement of ocean undergoes a cycle of a type like a heavenly body, exhibiting diurnal, monthly and annual movement in joint affinity with the moon.

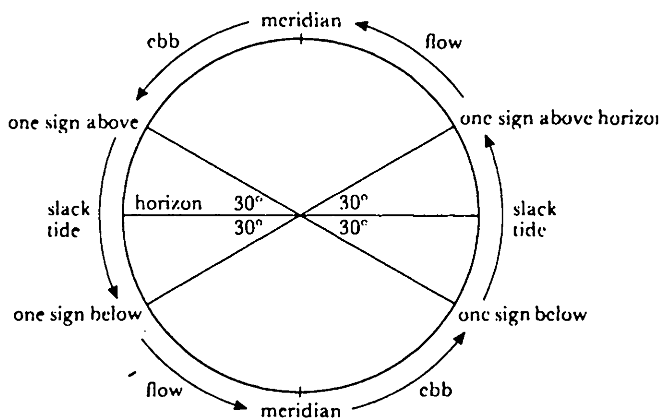


Fig. 13

[Diurnal Cycle] When the moon's elevation reaches one sign of the zodiac [30°] from the horizon, the sea begins to swell and encroach on the land perceptibly until the moon is in the meridian. When the moon turns, the sea retreats again gradually, until the moon is one sign's elevation from sinking. Then the water level remains stationary the whole period the moon takes to reach its sinking, and still more all the period it moves below the earth to a distance one sign from the horizon. Then the sea encroaches again on the land until the moon reaches the meridian below the

[238] This appears to be Strabo's link sentence between the wells and the tides, and so leads to *B*.

FRAGMENTS NOT ASSIGNED TO BOOKS

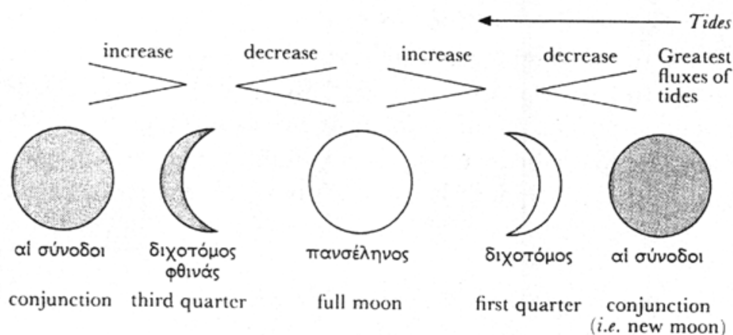


Fig. 14

earth. It then retreats until the moon turning around in the direction of its rising reaches one sign's distance from the horizon. Then there is slack water until the moon passes in elevation to one sign above the earth; and then the tide again encroaches. That Posidonius said is the diurnal cycle. [See Fig. 13.]

[Monthly Cycle] For the monthly cycle, he says the greatest tides occur at the conjunction of the moon, then they lessen until the third quarter; they increase again until full moon, and decrease again until first quarter; then increase until conjunction. Between the third quarter and conjunction, the time intervals between the highs increase and so also the velocity of the tidal waters. [See Fig. 14.]

[Annual Cycle] Posidonius says that he was informed of the annual movements by the people of Gadeira. They told him that ebb and flow tides reached their maxima at the summer solstice. Posidonius himself conjectured from this that the tides then decreased from summer solstice to equinox, but increased from equinox to winter solstice, then decreased until spring equinox, to increase again to summer solstice.

C

Strabo now uses Posidonius' theory of tides (B) to oppose ad hominem *his criticism (A) of the popular views of the wells at Cadiz*

If these diurnal cycles occur *every* day and night, for the total period the sea encroaches *twice*, and *twice* retreats, *regularly* during both daytime and night-time, how is it possible that it 'often'[239] happens that the well fills at ebb tide, but not 'often' that it fails? Or 'often', but not an equal number of times? Or even granting an equal number of times, that the people of Cadiz weren't capable of observing these daily phenomena [i.e. the behaviour of the wells], but were capable of observing annual cycles from what happened once a year [i.e. the annual cycle of tides, reported to Posidonius]? Anyway, that Posidonius believed what the people of Cadiz said is obvious from the conjecture he made in addition to their report, of diminutions and increases from solstice to solstice. And really that isn't probable either that, although great observers, they didn't see what occurred, but believed what didn't occur.

Check at Cadiz of Seleucus' accounts of tidal behaviour. River and estuary flooding

218 (F86 Jac.) Strabo. III.5.9 (*v.* T14)

Context: Follows F217, *q.v.* Seleucus the Babylonian was a mid-2nd c. B.C. Chaldean astronomer, and an authority on tides. The best explanation of the Seleucus report is in Darwin, *The Tides and Kindred Phenomena* IV.88. They are a correct observation for the phenomenon of diurnal inequality for the Indian Ocean, Seleucus' base of observation. Somehow this came to be transferred to annual inequalities. The river and estuary flooding observed by Posidonius when he was in Spain observing tides clearly puzzled him, for it did not correspond with his observations of tidal level.

[239] Quoting Posidonius from *A* above.

A

Posidonius' check on Seleucus on tides

Posidonius says that Seleucus, from the Persian Gulf,[240] reported a certain irregularity in these phenomena [i.e. the tides] and regularity in accordance with the differences of the signs of the zodiac:[241] while the moon is in the equinoctial signs, the responses of the tides are regular, when in the solsticial signs, irregular both in volume and speed, and in each of the other signs, proportionate to their nearness to equinoctial or solstitial. But Posidonius says that he himself at full moon at the summer solstice was in the Heracleion at Cadiz for a good many days without being able to mark the annual differences.

B

River and estuary flooding in Spain

However at the conjunction [new moon] of that month, Posidonius said that he observed at Ilipa [Alcalà del Rio, 16 km north of Seville] a great change in the wave recoil of the Baitis [Guadalquivir] compared with earlier occurrences when the water level had not reached even half way up the banks; but at that time it flooded over so that soldiers drew their water where they were (Ilipa is about 700 stades [129.5 km] from the sea); and although the sea coast was covered actually to a distance inland of 30 stades [5.55 km] by the flood so that islands even were isolated, the water mark on the base of the temple in the Heracleion and on the base of the mole that juts out in the harbour at Cadiz he says he measured at no more than 10 cubits [4.62 m]. If one doubled that measure in line with rises that sometimes happened, even then one could not have

[240] The Red Sea in Greek, but actually what we call the Persian Gulf.
[241] I.e. the different positions of the moon in the zodiac.

presented the spectacle that the size of the flood presents in the plains. This phenomenon is reported as shared round the whole circle of the sea board, but the river Iber,[242] he says, is exceptional and individual. For in some places there are floods quite apart from rain and snow, when the north winds strengthen. The reason is the lake through which it flows; for the standing water from the lake is driven out by the force of the winds.

A group of problems concerning the behaviour and conditions of seas, straits and rivers. Posidonian tidal theory

219 Priscianus Lydus, *Solutiones ad Chosroem*, VI

Context: Priscianus (T71, 72), 6th c. A.D., a pupil of Damascius, accepted an invitation to the court of the Persian king, Chosroes I, for whom he wrote this 'Explanation of Problems for King Chosroes', a collection of disconnected chapters containing an amalgam of philosophical and scientific questions debated in the 6th c. Chapter VI is concerned with seas and rivers. Unfortunately the work survives only in a 9th(?) c. Latin translation of such barbarous crudity that approaches a dense haar of obscurity and unintelligibility in places. Priscianus' bibliography in his Introduction suggests that Posidonius may have filtered through Strabo, Geminus and Arrian. From the fearful tangle and confusion, one vital fact emerges: that Priscianus' authorities recorded Posidonius' account of annual tidal highs, unmistakable and with exact reference, at the equinoxes, not at the solstices.

The following question too is asked: why is it that the Red Sea[243] diurnally flows and ebbs, and how do flood tides vary through the moon; and why is it said that the sea does not increase in volume in flood tides, nor decrease in ebb? Nor again are flood tides brought about by the force of the

[242] A puzzling reference. The Iber would naturally refer to the Ebro in north-east Spain, well out of the area Posidonius is describing. The designation remains obscure.

[243] I.e. the Indian Ocean.

wind, nor ebb tides by their lack.[244] This is also clear because although great rivers flow into the sea without feed back, no addition of sea water is apparent.[245]

On the ebb and flow tides in the Red Sea, and such behaviour that occurs in the external Ocean and in other parts of our sea, there are great differences of opinion among the ancients. But from all of them, those who seem to have collected the causes of this behaviour are the Stoic Posidonius, the Assyrian,[246] and those who agree with him,[247] whose opinion has the approval of Arrian. They say that the outer Ocean [Atlantic] moves in relation to the cycle of the moon; the inner sea [Mediterranean] behaves in unison, for joined only at the Pillars of Hercules it is affected sympathetically as a harbour is by the sea, and receives other special motions.

Posidonius declares that the behaviour of Ocean by the Sicilian Straits is also moved four times in relation to the moon. When the moon rises to meridian, the sea is borne from west to east and is called the 'descending' current, that is from the Tyrrhenian Sea to the Sicilian [Ionian] Sea as far as Dungheap[248] at Taormina. When the moon descends from the meridian, the water turns and flows from its eastern limit to the west, and is called the 'outgoing' current. But it is weaker than the first flow ... For the first one sweeps with a strong current, as you would expect, since from the Pillars of Hercules there is a great rush of Ocean because of its narrow path, the land forcing it in. Again the moon from its sinking goes to the opposite sub-meridian, and the flood tide of the 'descending' current rises. From the opposite meridian the moon returns to its rising, and again the 'outgoing' current is created.

[244] See Aristotle, Aetius III.17.1.
[245] See Arist. *Meteor.* 355b21ff.
[246] A common mistake for Syrian.
[247] Probably include Strabo and Geminus.
[248] The shipwreck coast. The translator was defeated by the Greek word.

This happens also with regard to the outer sea: four motions in a complete cycle of the moon. Flood tides occur in the moon's advance to the meridian, ebb in her sinking and descents to the horizon. The same phenomenon is observed in gulfs, in the Red Sea [Indian Ocean] in the south, and the Hyrcanian Sea [Caspian] in the north, and at Cadiz.

[In the omitted passage, Priscianus adds that flood tides occur not only at the diurnal lunar meridian, but also on a monthly cycle at full moon and conjunction. He then cites some notorious water phenomena which behave oddly for reasons other than the influence of the heavenly bodies: the Euripus passage, the Hellespont, and Arethusa, the well at Syracuse.]

There occurs also outside the Mediterranean a phenomenon of the great sea, such that a flood in much of the mainland and islands reaches 70 stades, as the writer Strabo says, getting it from Posidonius; fields are covered in sea water by flooding to 30 stades, leaving islands; it retreats and leaves quickly dry land, occupied up to that time with water and sailable on.[249]

Each day there are two ebb and flow tides, as I said, in succession. Flood tides which happen monthly much exceed daily tides. At the quarters there is less difference between high and low water; but at full moon and at conjunction, it rises into a great sea and much land is flooded with very fast current. There is also a proportionate cycle each year thus: at each of the solstices there are lower tides and a slower flow; but at equinoxes, the same sort of thing happens as at full and new moons.[250]

Flow tides do not begin immediately at the actual rising

[249] This is a garbled version of Strabo III.5.9 = F218, and also inaccurate: e.g. 70 stades for 700 stades.

[250] This is the important information, correctly giving highs at the equinoxes, not at the solstices; and it appears to come from Posidonius. This recurs below.

of the moon, but only gradually as the moon rises in the heavens; nor again does the culmination of flood tide occur when the moon reaches precise meridian, but gradually as the moon inclines towards another part; and a little after, the water ebbs again until the moon reaches a sign of the zodiac above the horizon of its sinking. Then the water stays put in the same place as long as it takes the moon to reach its own sinking, and still more so until the motion of the moon reaches a sign of the zodiac below the earth's horizon. The same phenomena is observed of lunar motion beneath the earth in relation to the moon's elevation of one sign from the horizon and flow and ebb tides.[251] [72] But at new moon and full moon extensive flood tides occur, but moving from [?] conjunction and full moon.[252] The annual account is similar: so the floodings proceed in order, with the flow turning to ebb by starting to flow back on itself, and then in sequence mount back on the land.[253]

Tidal flow is so powerful that it even turns great rivers in the opposite direction. They say that this happens to the river Rhein flowing from the country of the Celts, and again to other rivers in Spain and Britain. For in Britain, they say, the river named the Thames for four days [?] is reversed, filled up from the sea by the flood tide, so that it seems to be flowing from the sea, going back in the opposite direction. So Posidonius, the Stoic, seeking out the causes of these things, inasmuch as he became a personal investigator of this kind of reflux, noticed that the moon

[251] This is a very garbled account of Strabo's report of the diurnal cycle given in F217, and particularly the account of the slack water period between a sign of the zodiac above and below the horizon does not seem to have been understood by the translator.

[252] Whatever that means. New moon and conjunction are the same.

[253] This is making what one can with Latin that is partly unintelligible. I have accepted Bywater's suggestion that the translator's *terminos*, confuses the original Greek ὁ ῥοῦς 'the flood' with ὅρους 'boundaries'. The translator is certainly capable of such a mistake.

was the cause rather, not the sun. For he said that the sun's heat is pure and of the highest grade; so it removes any moisture whatsoever from land or sea, and soon destroys it by fire. But the moon's heat is not pure but weaker and feebler, and for that reason it is more fertile for earthly things. It cannot consume whatever it encounters, but only raises moisture and makes waves, displacing with its heat, but not reducing because of the weakness of its heat and greater humidity – that is the reason why anything warmed by the moon putrifies. So when water is warmed in a kettle with a medium heat, at first it swells, rises and overflows, but apply a pure flame and the water is consumed and falls. So too the Great Sea suffers the same effects from the sun, as water in the kettle from too much heat; but from the moon, whatever follows from a weak and initial warmth. So thus also the water of the sea follows the cycle of the moon, as when the moon is risen and thus weak, there are flood tides, [73] when it turns to the west the sea turns with it in ebb; and the very same process happens when the moon goes under the earth each day. In the monthly account also the size of the flow corresponds to the quality of the moon, so the maximum rise of water occurs at full moon and conjunction, since at those points the quality of moon is great; for at full moon the whole of it turned towards the earth is shining from the sun; at conjunction, illuminated from above by the sun, it offers by its fullness an equal force of quality on what is on the earth; but when cut in half, it is dim for sea effects. And in the same way each time the moon goes below the earth, the sequence of flows is none the less, with flood-tide certainly rising by the same lunar system. And he says that a reason for the flowing together of waters is also the cyclical nature of water; so waves follow the moon rising in a semicircular pattern. And in the same way the cause of annual flood tides is the moon in the equinoxes. For in each of the equinoxes when the sun is in

Aries and Libra,[254] the quality of the moon at the same hour combining with the sun is great; and for that reason if there is a full moon in either of the equinoctial forms, the sun leads it to the opposite [?]. Posidonius reveals that the Great Sea also is at its highest flow in the cycle at the equinox. For at that point the moon either in conjunction with the sun or at the full and at its maximum elevation above the sea, has its highest flood tides; but when the sun enters other signs of the zodiac, then when the moon comes into Aries or Libra, it is neither full nor in conjunction. But this also can be from the nature of the moon at that time of year: for it is warm and moist, and it is from those qualities that the water rises. Winter equally follows this moisture certainly,[255] but summer is the opposite of moist;[256] spring and autumn however are noticeably moist and warm. And so the moon too is very like these. But flood tide reaches prime when the moon is at the meridian, and the flows are increased still more when it has passed the mid-point; for in the position on both sides they are stronger through the greater connection of the moon. [In the following two sentences (F219.127–134 EK = Bywater p. 74.1–6), still apparently engaged with the relationship of tidal flow and ebb in relation to the position of the moon related to conjunction and full moon, the translator has finally crossed the bounds of intelligibility, and it would serve no purpose to attempt to translate the gibberish which survives.]

[In the passage omitted at this point in F219.134 EK = Bywater 74.6–75.22, Priscianus raises two problems: (a) why does the sea not get bigger with large rivers pouring into it, and answers this with a theory of evaporation; (b) why is the sea salty? In both sections, Priscianus appears to

[254] *Bracchia* as the Claws of Scorpio represents Libra (see F126). Aries and Libra are the equinoctial signs of the zodiac.

[255] But is cold, not warm.

[256] Although warm.

be relying on Aristotle *Meteor.* (see Kidd, *Comm.* p. 788), or on a source quoting or using Aristotle.]

Well the nature of water is like that, and not only in the Great Sea but in very many other places too. He maintains[257] that there are tales of a lake like that where if you tie up a man and throw him in, or a beast of burden, they float on top, says he, and don't sink or even cleave the water. The lake is so bitter and salty that no fish survive in it; where you wash clothes by shaking them after wetting. It is clear that this is so because brine creates a dense substance with an earthy quality at its core. There is another lake in Palestine, often called the Asphalt Lake, and also named the Dead Sea[258] as nothing lives in it; bitumen is produced from it. And in other places in the world rivers or springs have a natural salty current, and some are warm and turbulent.[259] So the cause of all this has been said to be a fiery element inherent or produced in them, because burnt earth produces different forms of effluence depending on the degree of combustion ... [there appears to be a lacuna in the text, and what follows is somewhat tangled] ... is imbued with such qualities through which water is conveyed and filtered, and if originally sweet, or if it is naturally produced from such effusion, in some cases becomes vinegary, in others bitter, and again boils in the heat and turmoil. Research is full of such places gathered from different sources, such as the well said to be in Cissia Persica [the area north of the Persian Gulf] that is like that. Its effusions offer a variety of aspects. For it is bitumen oil, which they call naphtha, but liquid naphtha [or

[257] Still Posidonius? But what follows is an almost literal retake of Aristotle, *Meteor.* 359a18–24.

[258] But the previous salt lake referred to was the Dead Sea in Aristotle's account in *Meteor.* 359a18ff. However, confusion over lakes was by no means uncommon.

[259] We now have brief but clear snatches from Aristotle, *Meteor.* 359b4ff.

white naphtha].[260] This is how there are such differences in draught liquid.

Criticism of Aristotle on tidal explanation for Spain

220 (F84 Jac.) Strabo, III.3.3

Context: At III.3 Strabo turned to his account of the western part of Spain north of Cape St Vincent. His immediate context is the western seaboard north of the Tagus (i.e. from Cape Espichel to Finisterre). Its coastline he says is almost all plain down to the sea. However Posidonius' criticism clearly relates to the area between Morocco and Spain (or between Cape St Vincent and Cadiz). So we must think that it was the low-lying nature of the more northerly stretch which reminded Strabo of Posidonius' attack on Aristotle. So this reference to Posidonius is a Strabonic aside in brackets, and separate from the rest of the chapter. Since Aristotle can have had no experience of marked tidal phenomena, it is doubtful whether he had any theoretical explanation for them. So Posidonius' suggestion may have been illegitimately derived from such a passage as *Meteor.* 354a5ff., where Aristotle is actually talking about refluent currents in straits in the Mediterranean.

The eastern part of Lusitania is high and rough, but the country below it is plain all the way to the sea, apart from a few hills of no size; and it is this actually that caused Posidonius to say that Aristotle was wrong to make the seaboard of Spain and Morocco the reason for tidal ebb and flow. Aristotle said that the back flow of the sea was caused by the high rugged headlands that caught the waves roughly and hurled them back. But quite the contrary, said Posidonius, for most of the coastline there has low sandy beaches.

Depth of the Sea of Sardinia

221 (F91 Jac., who includes §§8–9) Strabo, I.3.9

Context: From §5 Strabo is engaged in criticising Strato's theory that the rise and fall of the sea, inundations and retirements, are caused by different levels of sea bed, from the shallowest in the Black Sea flowing into the deeper Aegean, and from the Medi-

[260] This seems a garbled version of Posidonius' account in F236; see Kidd, *Comm.* pp. 790, 829.

terranean sloping into the deeper Atlantic. In the immediate context, Strabo attacks Strato's defence of the shallowness of the Black Sea through silting from rivers: river silt does not go directly into the sea but is thrown back by a sea movement of inhalation and exhalation like a living creature (a theory from Athenodorus, *opposed to* Posidonius by Strabo at III.5.7), thus building up and extending beaches, not altering the depth of the sea itself. It is thus clear that the whole argument is governed by Strabo, and the specific reference to Posidonius applies only to a side reference to the depth of the Sea of Sardinia.

Now in this way it is possible for the whole sea to be silted up beginning from the beaches,[261] if it has continual influx from the rivers. But this would happen even if we posit the Black Sea to be deeper than the Sea of Sardinia, which is said to be the deepest of those that have been measured, about a thousand fathoms, as Posidonius says.[262]

A Posidonian doxography concerning the explanation for the summer flooding of the Nile

222 (F79 Jac.) Strabo, XVII.1.5

Context: At the opening of Bk XVII Strabo turns to the country around the Nile, and at §5 opens discussion of the most notorious and popular controversy of what caused the summer flooding of the Nile. In the immediate context, he is surprisingly dogmatic about advances in information that had been established by travel and autopsy which, he claims, establish that the cause is tropical rains. Strabo is right, in that the July–September flooding comes from the monsoon breaking in the Abyssinian highlands, but his own instances hardly establish it. However he dismisses other theories, and also Posidonius' doxography of 'rain' theorists as unnecessary in the face of established autopsy.

It is surprising therefore that from such a base the story about the summer rains was not perfectly clear to the men of that time, especially when their priests rather industriously report and store in their secret writings anything that

[261] By successive extension of beach, rather than by direct silting.

[262] 1000 fathoms were the equivalent of 10 stades, c. 1850 metres. This is clearly a round figure, and we have no idea how such a calculation may have been attempted. In fact the Sea of Sardinia is more than 3000 metres in depth in places.

displays curious learning. For they ought to have investigated, if they had researched at all, what even now is still being investigated, why on earth it is in summer and not winter and in the most southerly parts, and not in Thebais and the area of Syene where rains do not fall; whereas the fact that the river risings come from rain did not need investigation, nor witnesses of the kind that Posidonius has given. His account is that Callisthenes [9, *FGrH* 124, F12][263] speaks of the cause from summer rains, taking it from Aristotle [Fr. 246 Rose, 694 Gigon], and Aristotle from Thrasyalces [35 A1 DK] from Thasos (he was one of the early physicists), and he took it from an intermediary source that goes back to Homer, with his epithet for the Nile 'fallen from Zeus' [i.e. fed by rain], quoting Homer *Odyssey* IV.477.

Paucity of rivers in Libya. Climatic differences between east and west

223 (F80 Jac.) Strabo, XVII.3.10

Context: Strabo's account of 'Libya' begins at XVII.3.1; the term may be used as a general name for Africa, but here Strabo uses it for Africa apart from Egypt and Ethiopia. In fact he virtually confines himself to the seaboard of our Morocco, Algeria, Tunisia and Libya, and in that order. 3.10 is an aside in the middle of the Algerian account, and was prompted by a general statement from Posidonius on the aridity of Africa in the general sense, which Strabo criticises, as he (Strabo) himself has just said that 'the parts there (Algeria) near the sea consist of fertile plains, rivers and lakes'.

And I doubt the veracity of Posidonius when he said that Libya was irrigated by few and small rivers;[264] for Posidonius himself[265] has called those rivers which Artemidorus[266] has

[263] Nephew and pupil of Aristotle.
[264] Posidonius was referring to the wider sense of 'Africa' as what follows makes clear, and as Strabo was well aware.
[265] Reading αὐτὸς γάρ Kidd, for the incorrect αὐτοὺς γάρ of the codices.
[266] Artemidorus, named three times in this section, seems to have been Strabo's main authority here.

spoken of between Linx[267] and Carthage, both many and large. It is more true to say that of the interior.[268] He has said the cause of this himself: that it is not rained on in the northern parts, just as Aethiopia is not either they say.[269] For this reason, he says, pestilences often befall through droughts, the lakes are filled with mud, and locusts are prevalent.

He further says that eastern areas are wet, for the sun in rising passes by quickly, while the west is dry, because there the sun retires.[270] For things are called wet and dry partly by the abundance and scarcity of rainwater, partly by the varying heat of the sun; he means here from the sun's movement; but everyone defines these by NS bands of latitude [i.e. not EW]. And really east and west areas, those at any rate that are called so in relation to inhabited districts, vary with each inhabited district and the change of their horizons,[271] so that it is not even possible to say without qualification in the cases of places that are numerically beyond comprehension, that the east is wet, the west dry. But when it is said in relation to the *whole* inhabited world and such of its limits as India and Iberia, he could make, if at all, a statement like that.

So, where is the plausibility in his aetiology? For in a continuous and unintermitting cycle of the sun, what 'retirement' or turning back of the sun could there be?[272] And the speed of the passage of the sun is everywhere equal.

[267] Larasch on the north Atlantic coastline of Morocco (apparently confused with Tangier by Strabo).

[268] It is unclear from the Greek whether this statement is made by Strabo or Posidonius. It could be either.

[269] It is clear from this that Posidonius was alluding not to the fertile Mediterranean coastline, but to the area under the tropic, where Posidonius argued for a temperate equatorial zone to the south, but an arid subtropical zone to the north. See F49, F210 and Kidd, *Comm.* p. 801. Strabo was perfectly well aware of this.

[270] For the problems of this EW climatology, as opposed to NS, and for Strabo's criticisms, see Kidd, *Comm.* pp. 802ff.

[271] Because of different latitudes and longitudes.

[272] Picking up Posidonius' term from the beginning of the previous paragraph.

And apart from that, it is against clear observation to say that the extremities consisting of Spain and Morocco, the parts to the west, are most of all dry. Of course, for the atmosphere is temperate and abounds in a great deal of water. And if the 'retirement' or turning back of the sun is taken in this way, that it is here that the sun is at the last point of the inhabited world above the earth, what does that contribute to dryness? For all other places at the same latitude of the inhabited world as well as here, the sun, leaving an equal interval of night, returns again and warms the earth.

The river Bainis (Minho) in Lusitania

224 (F49 Jac.) Strabo, III.3.4

Context: At III.3 Strabo is moving up the Atlantic coastline of Spain from Cape St Vincent, mainly noting the succession of rivers. The Bainis is classified as the biggest river in Lusitania. It is the modern Minho. What follows the specific Posidonian allusion may or may not derive from him. The tidal effect, and natural design of the rivers, and even the allusion to Brutus, all lie within his interests. He would certainly not have been there himself, but would depend on informants at Gades.

The country of which I'm speaking [Lusitania] is fertile and irrigated by rivers both great and small,... Then come other rivers; and after these the river of Lethe, called by some the Limaia, and by others the Belion; it rises in the territory of the Celtiberians and Vaccaeans, as does the one after it, the Bainis (called by some the Minios), by far the biggest river in Lusitania, and navigable inland for 800 stades. But Posidonius says that its source is in Cantabria. Off its mouth lies an island and two breakwaters affording anchorage. We may admire the natural structure of these rivers in having high banks adequate to cope with flood tides in their channels, and so prevent overflowing and flooding of the plains. This river was the limit of Brutus' campaign. Further on there are a number of other rivers running parallel to the ones I have mentioned.

The River Timavus

225 (F89 Jac.) Strabo, v.1.8

Context: The context is concerned with the remarkable water systems at the head of the Gulf of Trieste, in the country north of Trieste and east of the river Isonzo from the Karst plateau to the sea. It was notorious enough with the ancients to find a place in Latin literature. Posidonius is introduced to correct Polybius.

In the gulf of the Adriatic itself there is also a notable precinct sacred to Diomedes, the Timavum; it comprises a harbour, a remarkable sacred grove, and seven springs of fresh water that empty directly into the sea in the form of a broad deep river. Polybius has said that the springs were all salt water except one, and as a matter of fact the locals name the place 'Source and Mother of the Sea'. But Posidonius says that the Timavus is a river rising in the mountains, then falling into a chasm pursuing its underground course for about 130 stades before debouching into the sea.

A big wave engulfed the army of Tryphon on the Syrian coast

226 (F29 Jac.) Athenaeus, VIII.333B–D

Context: Athenaeus, discussing fish, produces (as is his wont) stories of when it rained fish or frogs, which reminds him of a Posidonian tale about a great quantity of fish. The historical occasion was a battle on the Syrian coast between Ptolemais and Tyre, fought between Tryphon, an Apamean general and Sarpedon, the general of Demetrius II Nicator. The probable date is c. 144/3 B.C. There is another account in Strabo, XVI.2.26, less clear and detailed, and without mention of Posidonius.

I know the Stoic Posidonius too had the following to say, also about a great quantity of fish: 'When Tryphon the Apamean, who had seized the kingdom of Syria, was attacked by Sarpedon, Demetrius' general, near the city of Ptolemais, Sarpedon, when left stranded, retreated into the interior with his personal troops. Tryphon's army, having won the battle, were making their way along the beach when suddenly a sea wave reared high in the air to an extraordinary height, dashed on the ground, and engulfed

the lot of them, drowning them under the water. When the wave retreated, it left a huge pile of fish with the corpses. Sarpedon's force got to hear of the disaster and lost no time in getting to the bodies of their enemies; they carried off a plentiful supply of fish, and made sacrifice to Poseidon, the God of Rout, near the city suburbs.'

A volcanic eruption in the sea between the Liparaean Islands and Panarea, which occurred within the recollection of Posidonius, is described

227 (F88 Jac.) Strabo, VI.2.11 (*v.* T5)

Context: Strabo's enquiry just before this passage, is concerned with the Liparean Islands, and includes some volcanic observations. There are two possible dates for the event Posidonius describes: 126 B.C. and 90/89 B.C. For the argument that 126 B.C. is the more likely, and that we have an early recollection from the young Posidonius, see Kidd, *Comm.* pp. 9f. on T5.

Posidonius from his own recollection[273] says that at dawn about the time of the summer solstice between Hiera [Vulcano] and Euonymus [Panarea], the sea was seen raised to an extraordinary height, and remained with a sustained upward blast for some time, and then subsided. Those who had the nerve to sail towards it, he said, saw dead fish driven by the current, and turned and fled overcome by the heat and the stench. But one of the boats which approached more closely lost some of those on board, while the rest barely survived, alternatively fainting senseless like epileptics and recovering to their right minds, until they got to Lipara. And many days later mud was seen surfacing on the sea, and in many places flames leapt up and murky smoke, then later the scum congealed becoming hard as mill-stones. He says that Titus Flamininus,[274]

[273] The phrase is ambiguous and could, aping a Latinism, mean 'in his own lifetime'. But the given translation is the more likely interpretation of the Greek.

[274] This is an easy emendation by Du Theil for Titus Flaminius (otherwise unknown) of the codices. Titus Quinctius Flamininus, consul 123 B.C., was probably praetor in 126 B.C.

the Praetor of Sicily, reported the matter to the senate, and it sent a delegation to offer sacrifice on the islet and in Lipara town to the gods of the underworld and to those of the sea.

Volcanic fire burst through the sea when an island (Hiera) appeared in the Aegean

228 Seneca, *Naturales Quaestiones*, II.26.4–7 (*v.* T41a)

Context: In chs. 21–30 Seneca is engaged with a theory of lightning and thunder which is based on Posidonius, although he is not named (see F135 and Kidd, *Comm.* pp. 503–6). The immediate context debates how fire can arise from a moist cloud without being extinguished. This fragment gives an example of how this can happen in another sphere, the sea, where the watery element is much more powerful. Posidonius' example of the emergence of an island through volcanic action is Hiera, which emerged, probably 197 B.C., between Thera and Therasia in the Santorin group of the southern Cyclades. Seneca was reminded of Posidonius' account by the eruption of a similar island in the same place (Thia) in his own time (46 A.D.).

[4] Why not? Following the tradition of our ancestors, as Posidonius retailed it, an island rose in the Aegean Sea while the sea foamed during the day and smoke poured up from the depths. Finally night brought fire, not a continual glow but intermittent flashes like lightning, as often as the heat from below overcame the weight of water on top of it. [5] Stones and rocks were hurled up in various stages of corrosion, some intact that the blast had shot out before scorching, others corroded to the lightness of pumice. Finally the peak of a burned mountain emerged, and afterwards the rock gained height and grew to the size of an island. [6] The same thing happened again in my time when Valerius Asiaticus was consul for the second time (46 A.D.)

Why have I brought this up? To make it clear that fire is not extinguished even with a sea on top of it, and a huge weight of water does not prevent its force from bursting out. According to Asclepiodotus, the pupil of Posidonius

[T41a], the depth of water the fire had to cleave before clearing, was 200 feet. [7] Well, if that huge force of water could not batten down the power of flames pressing up from below, what chance is there of fire being tied down by the rare dewy moisture of clouds? [see Frs. 230; 231]

The explanation of the formation of the Stony Plain of la Crau

229 (F90 Jac.) Strabo, IV.1.7

Context: The subject is la Plaine de la Crau, a curious stony area to the north of the Gulf of Fos, bounded by the Rhône to the west, to the north by the Alpilles, and by the Etang de Berre to the east. Still a remarkable phenomenon, it was a notorious feature in antiquity with different attempts at explanation. Strabo gives two: (a) due to earthquakes (Aristotle), and (b) caused by water (Posidonius). Posidonius was probably right, in the sense of a sudden inundation of the river Durance bringing down shingle from the Alpine glaciers; but his theory was clearly wrong. The detailed and graphic description probably comes from Posidonius.

The seaboard I have been talking about[275] offers not a single marvel only, the 'dug mullets',[276] but a second you might think still greater than that, which I shall tell you about. Between Marseilles and the mouths of the Rhône, there is a plain, circular in shape, up to 100 stades from the sea,[277] and that distance also in diameter. It is called The Stony Plain from its condition; for it is full of stones of a size to fill a man's hand, with an undergrowth of rough grasses which supply abundant pasturage for cattle.[278] There is water at the centre, salt springs, and lumps of salt. Now the whole of the country beyond it is exposed to wind, and this plain especially is buffeted by the Black North wind,[279] a violent and juddering blast. They cer-

[275] From the Pyrenees to Massilia.
[276] Just reported: a marsh where you can dig down two or three feet in the mud and spear a fish.
[277] 100 stades (c. eighteen and a half km) from the Gulf of Fos takes one into the centre of the Crau.
[278] It still does for rough autumn grazing down from Alpine pastures.
[279] The Mistral.

tainly say that some of the stones are swept and rolled along by it, and people are knocked off their vehicles and have their weapons and clothing stripped off them by the blast.

Aristotle says [*Meteor.* II.8.44] that the stones were thrown up onto the surface by earthquakes of the kind called *brastai* [vertical shocks], and slid together into the hollow parts of the areas.

Posidonius says it was a lake which solidified as waves continued to lap, and so the solidifying wave ridges were divided into a number of stones. This is like pebbles in the beds of rivers and on the shore; they are similar both in their smoothness and in uniformity of size.

So both writers have given an explanation of the cause of the feature, and the account in both cases is plausible. For stones formed in this fashion of course cannot of themselves either change from liquid to solid, or be split off from great masses of rock through continuing fractures. But what is difficult to defend was understood by Aeschylus (or perhaps he got it from another source), and translated into myth. Anyway, his Prometheus, when providing a guide for Heracles for the route from Caucasus to the Hesperides, says [Fr. 199 Nauck²; 32ᵇ Mette]:

> You will come to the fearless host of the Ligurians,
> Where you will have no complaint of battle, I know it clear,
> Furious fighter though you are; for there it is fated
> That even your missiles will fail you; nor will you have
> Any stone to seize from the ground, for the whole place
> Is soft soil. But Zeus will see your helplessness and take pity;
> A cloud he'll fashion with a snowshower of round stones
> To shadow the earth beneath. With them to fire,
> You will easily thrust your way through the Ligurian host.

You would think, says Posidonius, that Zeus would have done better to shower the Ligurians themselves with the stones and bury the lot of them, rather than make Heracles

need so many stones.[280] Oh well, that 'so many' was necessary; after all there was a very large number of Ligurians; so the mythographer in this case is more plausible than the demolisher of the myth [i.e. Posidonius].

SEISMOLOGY

Classification of earthquakes

230 Seneca, *Naturales Quaestiones*, VI.21.2

Context: Seneca *NQ* VI is devoted to earthquakes. After a review of previous theories, Seneca at 21.1 turns to himself and the Stoa advocating air as the principle cause. After expanding a classification of earthquakes taken from Posidonius, he goes on to distinguish different causes for the different kinds of earthquake. Diogenes Laertius, however, gives a four-fold classification for Posidonius, for which see F12. See also Kidd, *Comm.* pp. 116f. and 817–20.

There are two kinds of earthquakes in Posidonius' view. Each has its own name. One is *succusio* [jolt from underneath], when the earth is shaken by an up-and-down movement. The other is *inclinatio* [tilting], whereby the earth leans to one side or the other like a ship. [see F49 (Strabo, II.3.6)]

Causes and types of earthquakes

v. F12, Diogenes Laertius, VII.154.

Earthquake in Phoenicia engulfs Sidon and has a widespread effect

231 (F87 Jac.) Strabo, I.3.16

Context: From §10 Strabo has been criticising Eratosthenes' theory that currents in straits and inundations can be explained by different sea levels. Strabo objects that earthquakes can be a cause, as they can also explain the separation of Sicily from Italy. At §16 he offers a collection of instances of the power of earthquakes, including the famous creation of the island of Hiera by volcanic action in the southern Cyclades, for which see F228. He now specifically names Posidonius for another instance. That is followed by other instances from different named sources (often wrongly added

[280] So the Aeschylean insert must have come from Posidonius.

for Posidonius), such as Demetrius of Scepsis (§17) and Demetrius of Callatis (§20).

And in Phoenicia, says Posidonius, an earthquake engulfed a city above Sidon, and ruined about two-thirds of Sidon itself, but not all at once, so there was not much loss of life. The same tremor extended over the whole of Syria, but in a somewhat mild form, and crossed to some of the Cyclades islands as well and to Euboea, resulting in Arethusa (a fountain in Chalcis) having its springs blocked off, only to gush up again after many days through another mouth. The island continued to shake in parts until a chasm opened in the Lelantine plain and vomited a river of lava.

Earthquake disaster at Sidon

232 Seneca, *Naturales Quaestiones*, VI.24.6

Context: See F230. A reference to Thucydides' account of the damage caused by shock waves to Atalante, an island off the Opuntian-Locrian coast, reminds Seneca of Posidonius' evidence of the destruction of Sidon by earthquake. Seneca's description of the Atalante disaster is a wild exaggeration of Thucydides' report at III.89.3. The Posidonian reference appears isolated.

Thucydides says that at a point in the Peloponnesian War the whole of the island of Atalante was crushed, or at least the greatest part of it. The same thing happened to Sidon, if we believe Posidonius. But no need to cite authorities for this. Within our own memory, lands have been torn apart by internal movement, areas have been separated in two, and plains cease to exist.

Etymology of Rhagae from earthquakes

233 (F87a Jac.) Strabo, XI.9.1

Context: Rhagae is 12 km south of Teheran at Shahr Rey. Strabo at I.3.19 assigns the etymology (derived from the sense 'Rent') to Duris, and here the etymological reference is the vague 'people say'. Posidonius is specifically cited for the widespread destruction by earthquakes.

From the Caspian Gates to Rhagae is 500 stades, according to Apollodorus, and to Hecatompylus, the royal seat of

the Parthians, 1260 stades. The name of Rhagae ['Rent'] comes from the earthquakes that took place there, they say; according to Posidonius these earthquakes destroyed many cities and two thousand villages there in Parthia.

GEOLOGY, MINERALOGY

The lava of Aetna, and the influence of volcanic ash on the soil

234 (F92 Jac.) Strabo, VI.2.3

Context: Strabo begins his account of Sicily at VI.2.1, where Posidonius is cited for dimensions and bands of latitude (F249). VI.2.2–3 is concerned with the cities on the east coast between Messene and Syracuse. Jacoby and Theiler (F42) begin their Posidonian extract in VI.2.3 a sentence earlier from the introduction of the city of Aetna, Theiler in order to include as Posidonian the myth of the Sicilian brothers who carried their parents on their backs to save them from the lava flow. But this was a common and popular tale (see Kidd, *Comm.* pp. 824f.). Posidonius is cited only for the scientific interest in the effect of the lava ash on the soil.

Whenever, as Posidonius says, the area about Mt Aetna is shaken,[281] the lands of the Catanians are covered with ash to a great depth. Now although the ash causes distress at the time, with the passage of time it benefits the land, for it makes it fertile and ideal for vines (the rest of the country being less suitable for viticulture), and the soil that has had a coating of volcanic ash nourishes[282] the vine roots. And the sheep, they say, grow so fat that they choke; that is why they are bled from their ears every four or five days, a practice I have mentioned as occurring in Erythreia[283] too [III.5.4]. The lava flow solidifying turns the surface of the ground for a considerable depth to rock, with the result that anyone wanting to uncover the original surface has to resort to quarrying. You see, when the rock in the craters melts and is then thrown up, the liquid that is poured out

[281] Adopting Kidd's emendation.
[282] Reading ἐκτρέφει Kidd, for ἐκφέρει codices.
[283] By Erythreia here he means the island adjacent to Gades, i.e. León, now part of Cadiz.

over the top is a black mud, flowing down the mountain; then when it solidifies it turns into mill-stone, and keeps the same colour of its liquid state. And as the rock burns, ash is produced, as from wood. So as rue is fertilised by wood ash, it is reasonable to suppose that the ash from Aetna possesses some similar kind of peculiar natural quality for vines. [see Strabo, v.4.8; xiii.4.11; Vitruvius viii.3.1–27; ii.6.2–3]

Bitumen in Apollonia, Seleucia and Rhodes

235 (F93 Jac.) Strabo, vii.5.8 (*v.* T27)

Context: At vii.5.3 Strabo reports on the Illyrian seaboard of Dalmatia from Pola southwards, and at this point has reached Apollonia (Vlone). Posidonius is cited for mineralogical observation.

In the country of the people of Apollonia is a place called Nymphaeum. It is a rock from which fire rises, and under it flow warm asphaltic springs, produced, it would appear, from burning clods of asphalt. Nearby, on a hill, is a mine of the stuff. If a bit is cut, it fills out again in time, with the earth deposited in the dug hole changing into asphalt – so Posidonius says. He also says that 'vine-earth', i.e. bituminous earth, that is mined in Seleucia in Pieria[284] is a cure for vermin-infected vines; if it is mixed with olive oil and smeared on the vines, the insects are destroyed before they reach the sprouts of the roots. He adds that similar earth was found also in Rhodes, when he was occupying the office of the prytany [T27], but it needed a greater mixture of olive oil [for fluxing the bitumen]. [see Strabo, xvi.2.42–3 (*v.* F279)]

Classification of naphtha in Babylonia

236 (F94 Jac.) Strabo, xvi.1.15

Context: Strabo xvi.1 deals with Assyria. Naphtha and asphalt had already been mentioned in passing, but §15 concentrates exclu-

[284] Now Samandag, at the mouth of the Orontes, below the Gulf of Iskenderun on the border between Cilicia and Syria below Mt Pieria; an area roughly halfway between Apamea and Rhodes, and so presumably known to Posidonius.

sively on them. Posidonius distinguishes by the terms 'white' and 'black' the light-coloured inflammable crude oil with light petrol fractions from the thick, black, fairly harmless asphaltic crude.

Great quantities of asphalt are found in Babylonia, on which Eratosthenes has remarked as follows, that the liquid kind, called naphtha [petroleum] is found in Susis [Iran], and the dry type [bitumen] which can be solidified, in Babylonia [Iraq].... But other authorities say that liquid naphtha also is found in Babylonia.... Posidonius says that the wells of naphtha in Babylonia can be classified into white naphtha and black naphtha; the former, I mean the white, consists of liquid sulphur (which is what attracts the flames); the black is liquid asphalt, which they burn in lamps instead of olive oil.

Floating bricks and porous clay

237 (F95 Jac.) Strabo, XIII.1.67 (*v.* T18)

Context: Strabo reports on Pitane on the Elaitic Gulf in Mysia.

It is said that in Pitane bricks float on the water, similar to the behaviour of certain earth in Tyrrhenia. This is because the earth is lighter than a similar bulk of water, so it rides on it. Posidonius says that he saw in Iberia bricks, made from a clay with which silver-plate is moulded, float when compacted. [see Strabo, XVI.2.42 (*v.* F279)]

Aromatic salt in Arabia

238 (F96 Jac.) Strabo, XVI.4.20

Context: At XVI.4 Strabo turns to Arabia. He explicitly claims to be following Eratosthenes for 4.2–4, and Artemidorus for 4.5–19. 4.20 is introduced by saying that Artemidorus also used Eratosthenes and 'the other historians', and most of the section is occupied by Artemidorus' review of why the Red Sea was called red; Ctesias and Agatharchides are cited. This is followed by a sentence giving an unclear measurement from some anonymous writers, and a general tale on emerald and beryl in the gold mines. The section ends with this specific reference to Posidonius on aromatic salt. Then at 4.22 Strabo says that much specific information on Arabia

came from the expedition of Aelius Gallus (25/4 B.C.). So the Posidonian contribution is confined to the single sentence on salt. That Diodorus' account of Arabia in 2.49–53 comes from Posidonius was first floated by Oder (*Philologus, Suppl.* VII.324), elaborated by Rheinhardt (*Poseidonios* pp. 127ff.), included in Jacoby's Appendix *in petit* (F114), accepted as certain and printed as F78 by Theiler, followed by Malitz, pp. 266ff. The grounds and evidence for this are far from secure.

There is aromatic salt too in the Arabians' country, so Posidonius says.

Metals and mining in Spain

239 (F47 Jac.) Strabo, III.2.9 (*v.* T20, T103)

Context: The account of Spanish mining begins at III.2.8, and praises the richness of the mines over the whole country but especially in Turdetania, which even outdo the Gallic mines in the Cevennes and Pyrenees. Gold, silver, copper and iron are all detailed. For the Posidonian section in 2.9, compare Diodorus Siculus 5.35–8, and Athenaeus, VI.233C–E (F240a). Then in 2.10 Strabo passes on to Polybius' version of the Spanish mines.

Posidonius, in praising the quantity and quality of these ores, does not hold back from his customary rhetorical style, but really lets himself go with some extravagance. He does not disbelieve the story, says he, that once when the forests burned, the earth melted, since it was silver- and gold-earth, and boiled out to the surface, because the whole mountain and every hill was material of coin piled up by a bountiful fortune. And in general, says he, anyone looking at the area would have said that it was a treasure house of everlasting nature or an unfailing treasury of an empire. For the country was not only rich, says he, but even rich underneath, so with that lot, let me tell you, it is not Hades who inhabits the nether regions, but Pluto.[285] Such were the remarks he has made about them in ripe figurative style, as if it were from a mine that he too was excavating his speech in abundance.

[285] And so the god of riches (*ploutos*).

And in speaking of the application of the miners, he adds the *mot* of Demetrius of Phalerum [F138a, b Wehrli; *FGrH* 228, F35a], who says that in the Attic silver mines the men dig as strenuously as if they expected to bring up Pluto himself. So in their case too he makes clear that their energy and dedication to work is similar, cutting their galleries aslant and deep, and for the streams that meet them in the galleries, often drawing them off with the Egyptian screw.[286] But the account is not the same for the Spanish as for the Attic miners; not a bit of it, because for the latter, mining is like a riddle: for in their case all they took up they did not get, and all they had they lost.[287] But for the Turdetanians, mining is much too profitable:[288] copper workers bring up ore of which 25 per cent is pure copper, and some prospectors for silver pick up a Euboean talent in three days.

Tin, he says, is not found on the surface, as the historians keep telling us, but is dug. It occurs in the country of the barbarians beyond Lusitania, and in the Tin Islands,[289] and is conveyed from Britain to Massalia. In the territory of the Artabrians, who occupy the furthest north-west corner of Lusitania, he says the soil 'effloresces' with silver, tin and white gold (gold mixed with silver), and the rivers bring down this soil. The women scrape it with shovels and wash it in sieves into a mould.[290] That is the gist of what Posidonius said on the mines. [see Strabo, III.5.11 (115 Jac.), Diodorus, v.367 (117 Jac.)]

[286] The screw of Archimedes, used in Egypt for irrigation; *v.* Diodorus Siculus 5.37.3–4; Strabo, XVII.1.52, 30.

[287] An adaptation of the Homeric riddle (*Vita Herodotea* 35.498ff.) of unsuccessful fisher boys who caught lice instead; those they caught, they left on the beach, those they didn't, went home with them.

[288] I.e. for their own good; see F240a.

[289] The tin mines of antiquity were concentrated in the north-west corner of Spain and Portugal and in Cornwall.

[290] But the very end of the sentence is uncertain.

Copper

v. F243, Strabo, III.4.15

The corrupting effect of gold and silver

240a (F48 Jac.) Athenaeus, VI.233D–234C

Context: The general context derives from Pontianus, a philosopher from Nicomedia in Bithynia, speaking on the rise of gold and silver in Greece (231Bff.). 233Aff. raises philosophical attitudes to silver and gold: Plato and Lycurgus ban them. Zeno of Citium classes them as 'indifferents', because nature has not excluded such things but made them difficult to get by burying them underground, so that it is only by laborious painful toil that they are obtained. This fragment should be compared with F239, and also with D.S. 5.35–8.

[D] Now nature gives a sample of such precious metals appearing on the surface, if it is true that at the furthest borders of the inhabited world even ordinary brooks bring down grains of gold which women and infirm men rub with sand, sift, wash and bring to the smelting pot, as our friend Posidonius says happens with the Helvetians [Swiss] and some other Celts. And the mountains anciently called Rhipaean,[291] later named Olbian, and now the Alps (in Galatia), [E] when forest fires broke out, spontaneously flowed with silver.[292] But most of it is found by deep and distressful mining as Demetrius of Phalerum says, for greed expects to bring up from the recesses of the earth Pluto himself; for he wittily adds: 'often gambling capital in hand for uncertain futures, they didn't get what they anticipated and lost what they had – like the riddle in their misfortune.'[293]

[F] The Spartans, so our same Posidonius records, forbidden by their social customs to import into Sparta or to

[291] A fabulous range, usually located to the north of the known boundaries of the world of the time.

[292] See F239.

[293] For the Homeric riddle, see F239, n. 287.

acquire gold or silver, acquired them none the less, and deposited them with their neighbours, the Arcadians. They then made enemies of the Arcadians instead of friends so that their disobedience should be unaccountable for scrutiny through the hostility. It is recorded that the gold and silver previously in Sparta was deposited with Apollo at Delphi, but that Lysander brought it to Sparta for public use, and thereby was the cause of much misfortune. [234] For the account goes that Gylippus, the liberator of Syracuse, committed suicide through starvation when convicted by the ephors of embezzling some of the funds brought in by Lysander.[294] It was no light matter for a mere human to treat lightly what had been dedicated to god, and acknowledged, it would appear, as his honour and possession.

The Celtic tribe, Scordistae, will not have gold in their country, [B] but don't omit plundering and defrauding other countries for silver. Their tribe is the remnants of the Celts who attacked the Delphic oracle under Brennus;[295] a certain commander of theirs called Bathanattus settled them along the Danube. Hence the route of their return journey is called the Bathanattian, and his descendants still to this day are called Bathanatti. They have forsworn gold as an abomination, and will not have it in their country, because of all the many terrible things they suffered because of it; but silver they do use, and for its sake they themselves do many terrible things. And yet surely it is not the particular kind of metal that they plundered that they ought to have banned, but the impiety that committed the sacrilege; if they had refused even to have silver in the country, they would have been committing wrong for bronze or iron; and if even these were banned, they would continue to fight crazily for food, drink and the other bare necessities of life.

[294] Plutarch, *Lysander* XVI gives the background. [295] 279 B.C.

240b Eustathius, *Commentarii ad Homeri Odysseam*, IV.89

Context: At this point in the *Odyssey* Menelaus recalls his wanderings in the remoter parts of the south-eastern Mediterranean, where he found a natural abundance of everything.

Note that the abundance of the said metals from the remoter parts of the barbarian world is persuasively composed for Menelaus, if, that is to say, it is true. And absolutely truthful is the man who reported that at the extremities of the inhabited world even ordinary brooks bring down grains of gold. Never mind India; but he says that the ancient Rhipaean mountains in Galatia, later Olbian, now Alpian or Alps, according to Posidonius, when forest fires broke out flowed spontaneously with silver. Most of it is found by deep and distressful mining as Demetrius of Phalerum says.

GEOGRAPHY

(a) Botanical and zoological detail

Remarkable trees in Spain

241 (F54 Jac.) Strabo, III.5.10

Context: Follows F218.

Posidonius also reports a tree at Cadiz with branches bending to the ground, and often with sword-like leaves a cubit in length, but four fingers in breadth.[296] And he says that at New Carthage [Cartagena] there is a tree that yields bark from the thorns, from which very fine woven fabrics are made.[297]

Well, I too know a tree in Egypt like the one at Cadiz in the bending down of the branches, but unlike it with regard to the leaves, and too in having no fruit;[298] Posidonius says that the Cadiz one has fruit. Thorn fabric is woven in

[296] This is the dragon-tree (*dracaena draco*), still a feature of the Canary Islands.
[297] The dwarf palm.
[298] Probably some kind of willow, *salix Babylonica*?

Cappadocia too, but it is not a tree that produces the bark-bearing thorns, but a low-lying plant. With regard to the tree at Cadiz, the following has also been reported, that if a branch is broken off, it oozes milk; if a root is cut, red moisture seeps up.[299] [see Frs. 55a; 55b]

Chalybonian vineyards

242 (F68 Jac.) Athenaeus, I.28D (also Eustathius 1499.64)

Context: The best commentary for the context of the expensive luxurious tastes of the Persian kings is Strabo, xv.3.22.

The Persian king would drink only Chalybonian wine. Posidonius says that it also grew in Damascus in Syria, where the Persians had transplanted these vines.

Peculiar features in Iberian fauna

243 (F52 Jac.) Strabo. III.4.15

Context: An account of Iberian fauna begins at III.4.5. Just before this fragment there has been mention of deer, wild horses, and marshes teeming with birds such as swans and bustards. All this has been included as Posidonian by Theiler (F24), as well as the following section 16. But Posidonius is cited specifically for peculiar features. The rest most likely derives from a common accumulated stock of knowledge available to Strabo from Polybius on.

Beavers are found in the rivers [of Spain], but their castoreum does not possess the same power as that of beavers in the Pontus; for it is the Pontic castoreum that has the medical quality peculiar to it; and this localisation of peculiar features happens with much else. 'For,' says Posidonius, 'Cyprian copper too is alone in producing calamine, chalcanthite [copper sulphide or blue vitriol] and copper oxide.'[300] And a peculiarity of Spain, Posi-

[299] This resin, or 'dragon's blood', actually comes from the bark, not the roots.

[300] All these by-products of Cyprian copper were, like castoreum, used for medicinal purposes; Strabo, XIV.6.5; Pliny *NH* 34.105ff., 123–7; Hipp. *Mul.* I.104.

donius has stated, is the fact that crows are black,[301] and that the slightly dappled breed of Celtiberian horses changes colour when transferred to Further Spain. And they are like Parthian horses, he said, in being faster and better runners than others.[302]

A dead monster in Coele Syria

244 (F66 Jac.) Strabo, XVI.2.17

Context: Strabo's description of Syria begins at XVI.2.1, and reaches Coele Syria at §16. Coele Syria is the hinterland behind Tripolis to Sidon towards Damascus, or roughly, modern Lebanon. Its main feature is said to be two mountain ranges, Libanus (Jebel Liban) and Antilibanus (Jebel esh Sharqi), which enclose two plains, the Macras plain by the sea, and the Lassyas plain beginning further north by Laodicea. The monster was found in the first of these.

The first of the two plains, the one running from the sea, is called Macras or the Macra Plain. It was in this one that Posidonius reports that the corpse of a dead monster that had succumbed there was seen;[303] it was about 100 ft [a plethrum] long, so thick that horsemen standing on either side could not see each other, jaws large enough to take a mounted man, and each flake of its scales exceeded a shield in size.

Observation of apes on the North African coast

245 (F73 Jac.) Strabo, XVII.3.4 (*v.* T21)

Context: Strabo began the account of Libya (North Africa from the Atlantic to Egypt) at XVII.3.1. This note is an insertion in the middle of a description of the fertility of Mauretania. It is clearly a personal, detailed and accurate observation of his own. Compare this with F244.

[301] A peculiarity noted by Pliny (*NH* 10.124) too. The carrion crow in Italy and Greece was ashen-coloured (Schulten, *Iberische Landeskunde* p. 580).

[302] But not in appearance or size.

[303] It is worth noting that Posidonius is careful not to say that he had seen this monster; the fantastic description of which he had from others had clearly grown in the telling.

Mauretania contains a large number of apes. Posidonius too has spoken about them, that when he was sailing from Cadiz to Italy he was carried near the Libyan shoreline and saw a thicket which projected into the sea full of these beasts; some were on the trees, some on the ground, and some with young and suckling them. He said the sight made him laugh: the heavy breasts of the mothers, some males bald, others ruptured, and exhibiting other such ailments and afflictions.

(b) Geographical details

The founding of Gadeira, and the location and explanation of the Pillars of Heracles

246 (F53 Jac.) Strabo, III.5.5

Context: The subject of the Pillars of Heracles and Gadeira (Cadiz) opens at III.5.3. Posidonius is brought in at §5 with regard to stories on the founding of Gadeira and the identification of the Pillars. This section is organised by (*A*) giving the story of the local inhabitants, then (*B*) other versions, and (*C*) Posidonius' opinion. This is followed by Strabonic criticism until the end of §6, and Posidonius only reappears in §7 on the wells at Gadeira (F217).

A The story of the local inhabitants

In presenting the kind of stories they tell about the founding of Cadiz, the local inhabitants base them on an oracle given, they say, to the Tyrians, telling them to send a colony to the Pillars of Heracles; so (i) they sent a reconnaissance force. When they reached the straits by Calpe, believing that the capes which formed the straits were the end of the inhabited world and so of Heracles' expedition, and that these capes were precisely what the oracle named 'Pillars', they put to shore at a place inside [i.e. east of] the narrows, where the city of the Saxitani now is.[304]

[304] Sex, between Malaca and Abdera.

There they made sacrifice, but since the offering was not favourable, they turned back home. (ii) A later expedition went on outside [i.e. through] the straits about 1500 stades[305] to an island sacred to Heracles, situated near the city of Onoba in Spain.[306] Thinking that here were 'the Pillars' they sacrificed to the god, but since again the offering was unfavourable, they returned home. (iii) Arrivals from a third expedition founded Gadeira, and established the temple in the eastern part of the island and the city in the western. Because of all this [i.e. the three expeditions], some think that 'the Pillars' are the capes at the Straits (i), others that they are at Gadeira (iii), and others that they are still further out beyond Gadeira (ii). These are the stories of the Gadeiretans.

B Other opinions

(i) In the neighbourhood of the Straits

(1) But some have supposed that 'the Pillars' are Calpe [Rock of Gibraltar] and Abilyx [Ximiera, Dschebel Musa], the rock facing it on the Libyan side, which Eratosthenes says lies in Metagonium, nomadic territory.

(2) Others say they are the islets near each mountain, one of which is called Hera's island. Artemidorus speaks of Hera's island all right and her temple, but says nothing of any other island, nor of Mt Abilyx, nor of a Metagonian tribe either.

(3) Some translate the Planctae and the Symplegades there, thinking that they are 'the Pillars' which Pindar called 'gates of Gadeira' [F256 Snell], as the furthest point reached by Heracles.

And Dicaearchus, Eratosthenes, Polybius [XXXIV.9.4] and the majority of the Greeks represent the Pillars as in the region of the Straits.

[305] A grave overestimation. [306] Huelva on the Odiel.

(ii) In Gadeira

(1) The Spaniards and Libyans say that the Pillars are in Gadeira, because the features in the Straits are not at all like pillars.

(2) Some say that they are the eight-cubit bronze pillars in the temple of Heracles at Gadeira on which are inscribed the expenses of the temple's construction. Travellers who came to these pillars on completion of their journey and sacrificed there to Heracles, spread the rumour that that was the limit of land and sea.

C Posidonius

Posidonius too thought that this last explanation was the most plausible, and that the oracle and the many expeditions (*A*) were a Phoenician lie.

Odysseia in Baetica and its temple

247 (F50 Jac.) Strabo, III.4.3

Context: From III.4.1 Strabo proceeding up the Mediterranean coast of Spain from Gibraltar, comes, after Malaca, Maenaca and Sex, to Abdera (Adra) and its temple, which Posidonius had mentioned. But the details of the temple that follow come from Asclepiades of Myrleia (in Bithynia), who taught in Spain, and was a rough contemporary of Posidonius.

After that comes Abdera, and it too is a Phoenician foundation. In the mountainous hinterland beyond this area, Odysseia comes into view, and the temple of Athena there, as Posidonius has mentioned, and Artemidorus and Asclepiades of Myrleia,...

The length of the 'isthmus' of Gaul

248 (F34 Jac.) Strabo, IV.1.14

Context: F273 precedes. The fragment is followed by a description of the river system of Gaul, with comment on its almost provi-

dential structure for the benefit of life in the country. This has led K. Schmidt, *Kosmologische Aspekte im Geschichtswerk des Poseidonios*, pp. 80ff., and Theiler F28b to assign it to Posidonius. But there is no distinctive evidence to counter the natural assumption that it comes from Strabo himself, who was, after all, a Stoic. Posidonius here is specifically cited for a detail only, the length of the southern neck (which he calls an 'isthmus') of Gaul, or France, north of the Pyrenees, between the Atlantic and the Mediterranean at Narbonne. It is an overestimate; the distance is in fact c. 380 km.

Tolosa [Toulouse] is situated at the narrowest part of the neck ['isthmus'] which separates the Atlantic from the Mediterranean at Narbo [Narbonne]. Posidonius gives the distance of this neck at less than 3000 stades. [see F273]

The shape, orientation, size and position of Sicily

249 (F62, 63 Jac.) Strabo, VI.2.1

Context: This is the beginning of Strabo's account of Sicily.

A Shape and orientation

Sicily is triangular in shape,... Its shape is defined by three capes: Pelorias [Cape Peloro], which with Caenys and the Pillar of Rhegium forms the Straits [of Messina]; Pachynus [Cape Passero], which juts out to the east and is washed by the Sicilian [Ionian] Sea, facing towards the Peloponnese and the sea passage to Crete; and the third one, adjacent to Libya, facing both it and the winter setting of the sun [i.e. SW or WSW], namely Lilybaeum [Cape Boco]. Two of the sides defined by the three capes are relatively concave; the third, the one that stretches from Lilybaeum to Pelorias, is convex.

B Distances

(a) [Posidonius' figures:] Lilybaeum to Pelorias is the longest side, 1700 stades, as Posidonius has said, to which

he added another 20. Of the other two, the coast from Lilybaeum to Pachynus is the longer, the shortest being the one adjacent to the Straits and Italy, i.e. from Pelorias to Pachynus, which amounts to 1130 stades. And the circumference by sea Posidonius declares to be 4400 stades.

(b) [the Chorographer:] In the Chorography the distances stated are longer and marked off in miles; ... [Details in the lacuna].

C Latitudinal positions

Posidonius, in marking off the island by bands of latitude [*klimata*], puts Pelorias towards the north, Lilybaeum towards the south and Pachynus towards the east. But since bands of latitude are defined as parallelograms in shape, it must be the case that inscribed triangles do not fit because of the slanting, and especially any scalene triangle [i.e. such as Sicily] where no side of the triangle lies along the parallels of the parallelogram.[307]

Syracuse, Eryx and Enna as Sicilian strongholds

250 (F64 Jac.) Strabo, VI.2.7

Context: Puzzlingly none. It is embedded in a section devoted to the fertility of Sicily, as the storehouse of Rome, to which the citation from Posidonius bears no relevance whatsoever. It looks like a misplaced note of Strabo's, which would have been more at home in the previous §6. It is reasonable to think that the Posidonian context came from his interest in the two major slave revolts in Sicily in the second half of the 2nd c. B.C., see F59. And since the sentence immediately following refers to an equally irrelevant devastation of the territory of Leontini, which could refer to the defeat of Salvius in the second revolt, it too may be a misplaced note related to the Posidonian one.

Posidonius says that Syracuse and Eryx are set like two strongholds on the sea, and Enna is another, lying midway between them above the plains all around it.

[307] For the difficulties and purpose of the latitudinal exercise, and Strabo's limited understanding of it, see Kidd, *Comm.* pp. 855–7.

The Tetrapolis and fourfold division of satrapies in Seleucis

251 (F65 Jac.) Strabo, XVI.2.4

Context: Strabo is working his way through the major divisions of Syria, and after Commagene (§3), turns to Seleucis in §4. The four cities of the nickname of Seleucis were: Antiocheia (Antioch on the Orontes, the capital); Seleucea in Pieria (its seaport); Laodicea (Latakia); and Apamea (on the Orontes, the birthplace of Posidonius, T48).

Seleucis is the best of the regions of Syria we have mentioned. Its nickname is Four-Cities, and that's what it is, from the prominent cities in it – and yet it possesses a large number of them ... In a natural relationship to the Four-Cities, Seleucis was divided also into four satrapies, as Posidonius says, the same number as Coele Syria, but Mesopotamia into one.

HISTORY

(*v.* Frs. 51–79)

Alexander

252 (F39 Jac.) Eunapius, *Excerpta de Sententiis*, 36

Context: The *Excerpta de Sententiis* was part of the historical anthologies compiled for Constantine VII Porphyrogenitus in the 10th c. A.D. Eunapius, the Greek sophist from Sardes, probably about the beginning of the 5th c., wrote a universal history in fourteen books of the years 270–404 A.D. The *mot* assigned to Posidonius here was assigned by Plutarch (*Galba* 1.4) to Demades, the Athenian politician and orator of the second half of the 4th c. B.C. There is no reason to doubt that, so Eunapius or his source found the saying in Posidonius, but lost the original ascription. But the context of the relationship between commander and troops, ruler and ruled fits a known interest of Posidonus (e.g. Frs. 57, 58, 60, 66, 67, 253, 263, 284).

Posidonius said that after Alexander died, the Macedonian army was like the Cyclops when blinded.

The brief tyranny of the philosopher Athenion at Athens in the anarchic year 88 B.C. during the Mithridatic War

253 (F36 Jac.) Athenaeus, V.211D–215B

Context: The Athenaean context is a satirical account of the public, social and political pretensions and misdeeds of professional philosophers in public life, where their actions are much at variance with their philosophical doctrines. The case of the tyranny of Athenion at Athens is preceded by the behaviour of the Epicurean Diogenes at the court of Alexander Balas of Syria (211A–D), and followed by the Epicurean Lysias who became tyrant of Tarsus (215B–C); the section is crowned by a long and sarcastic tirade against Plato's account of Socrates (215D–220A), with an appendix on the minor Socratics (220A–221A). As for the Posidonian context, the length, detail and vivid feeling lavished on this comparatively short, insignificant and otherwise unknown episode in the Mithridatic War before Aristion, the only tyrant concentrated on elsewhere, took over at Athens, betrays a moralist's view of historiography, where the relation of events may be sidetracked for an examination of the moral behaviour which caused them. For a detailed commentary on this important fragment for Posidonian historiography, and also for his style, see Kidd, *Comm.* pp. 863–87, and 'Posidonius as Philosopher-Historian' in *Philosophia Togata*, vol. I, pp. 38–50.

Introduction

Alexander Balas[308] was ever a kindly man and fond of scholarly subjects in his social life, which is more than can be said for Athenion, the Peripatetic philosopher who had been in charge of a philosophical School in Athens and in Messene, and then again in Larissa in Thessaly, after which he became tyrant of the city of Athens. He was the subject of a detailed report by Posidonius of Apamea, and, although it is rather long, I'll set it out for you [E] so that we may run a careful, critical eye over those who claim to be philosophers, but are not content with their threadbare little gowns and unkempt beards. As Agathon puts it [*TGF*, Fr. 12], 'If I tell the truth, I'm not going to please you; but

[308] See Context.

if I please you at all, I won't be telling the truth.' But as truth, so they say, is precious, I shall set out the man's story as it happened.

Posidonius' preliminary sketch of Athenion's early life

'A man called Athenion attended the school of the Peripatetic Erymneus, and applied himself assiduously to his philosophy. He bought an Egyptian slave girl with whom he had sex. Her child, [F] whether by Athenion or another, also named Athenion, was brought up in the master's house. The boy was taught to read, would help his mother prop the old man up when he went out, became his heir on his death, and was slipped illegally into the citizen roll to become an Athenian citizen. He married a shapely wench with whose help he set off on the hunt for young pupils in the life of a professional teacher. [212] Having made his pile as a sophist in Messene and Larissa in Thessaly, he returned to Athens.

Athenion's embassy to Mithridates

'Athenion was elected ambassador by the Athenians, when affairs were turning to Mithridates. He insinuated himself into the King's good graces, became one of The Friends,[309] and gained the highest promotion. So he began to buoy up the hopes of the Athenians through letters, leading them to believe that as he had the greatest influence with the Cappadocian,[310] not only would they be freed from their pressing debts and live in concord, but also recover the democracy, [B] and obtain huge gifts both individually and nationally. The Athenians started to brag about this, convinced that the Roman supremacy was broken.

Athenion's reception at Athens

'So when Asia now had turned to the King, Athenion returned to Athens, but was blocked by a storm and put in

[309] An official title. [310] I.e. Mithridates.

to Carystus.[311] The Cecropids,[312] getting word of this, sent warships and a silver-footed litter to escort him home. Aye but, there he was now coming into the city,[313] [C] and practically the greatest part of the city had poured out for his reception; and running with them to join them were many other spectators wondering at the paradox of fortune, when the illegally enrolled Athenion is conveyed to Athens on a silver-footed couch with scarlet[314] coverings, a man who had never seen scarlet before on his scholar's gown, when not even one single Roman had insulted Attica with such a presentation of effeminate luxury. So they were running all together to this spectacle, men, women, children, expecting the best from Mithridates, when Athenion, the pauper who had held subscription lectures, now because of the King [D] farts his way arrogantly through town and country in escort. He was met by the Dionysiac artists,[315] who invited him as the envoy of 'the new Dionysus' to their public dinner complete with prayers and libations. And the man who in earlier days had stepped out of rented accommodation, was escorted to the house of Dies, a gent grown rich with the times from business interests at Delos, a mansion sumptuously fitted out with rugs, paintings, statuary and silver plate. From it he exits with a brilliant cloak trailing, and wearing on his finger a gold ring engraved [E] with the likeness of Mithridates. He was escorted fore and aft by many attendants. In the precinct of the Artists, sacrifices were celebrated in honour of the advent of Athenion and, prefaced by solemn proclamation from the heralds, thank offerings poured. Next day crowds came to the house to await his

[311] On the south promontory of Euboea.
[312] A fancy word for Athenians from Cecrops, a mythical king of Athens.
[313] The rhetoric becomes more marked and vivid to underline the studied sarcasm of the language.
[314] The regal colour.
[315] An ancient and powerful independent guild.

public appearance. The Cerameicus[316] was full of citizens and foreigners, and there was a spontaneous concerted rush of the masses to the Assembly. He came forth with difficulty, attended [F] by a guard of those who wanted to curry the favour of the people, everyone straining to touch his garment if he could.

Athenion's speech

'He mounted the rostrum built in front of the stoa of Attalus for the Roman praetors; he stood on it, looked round in a circle at the crowd, then raised his gaze and said, "Athenian people, although the situation and my country's interest are driving me to report what I know, yet the sheer scale of what is to be said, because of the incredible nature of the state of affairs, holds me back." [213] When there was a concerted shout of encouragement from the bystanders for him to speak on, "Well," he said, "I'll tell you of what is beyond all belief, and never even imagined in our dreams. King Mithridates controls not only Bithynia and Upper Cappadocia, he controls the whole of Asia right through as far as Pamphylia and Cilicia. The kings of Armenia and Persia serve in his bodyguard, as do the princes of the tribes settled round Maiotis and the whole of Pontus to a circuit of 30,000 stades. As for the Romans, the praetor of Pamphylia, Q. Oppius, [B] had been surrendered to him and is led a prisoner in his train; the ex-consul, Manius Aquillius, the man who won a Sicilian triumph, bound by a long chain to a seven-foot Bastarnian, is dragged along on foot by a rider. Of the rest of the Romans, some have taken refuge in the temples, prostrate before the statues of the gods, and the rest have literally become turncoats, changing from the Roman toga back to the original square himation of the Greeks. He is met by every city with superhuman honours, and called

[316] The route into the Agora.

the god-king; oracles from all sides [C] foretell his domination of the world. So too he is sending great armies into Thrace and Macedon, and all parts of Europe have changed in a body to his side. For he is receiving embassies not only from the Italian nations, but from Carthaginians too,[317] demanding alliance for the destruction of Rome."

'He paused a moment at this point, allowing the crowd to chatter about the unexpected news; then, rubbing his forehead, "So," he said, "what is my advice? [D] Don't put up with the anarchy which the Roman senate has deliberately prolonged for us until *it* makes a decision as to how we must be governed. And let us not stand idle while our sacred places are locked, the gymnasia squalid through disuse, the theatre without an assembly, and the courts without a voice, and the Pnyx, hallowed by the oracles of the gods, taken away from the Athenian people. And let us not stand idle, Athenian people, while the sacred voice of Iacchus is silent, and the holy shrine of the two goddesses[318] closed, and the schools of the philosophers without a voice."

Athenion's elections

[E] 'There was much more in the same fashion from this erstwhile houseboy, then the mob, full of excited chatter, rushed in a mass to the theatre[319] where they chose Athenion Hoplite General.[320] And our Peripatetic strode on to the stage, "strutting like Pythocles,"[321] thanked the Athenians and said, "Now *you* command yourselves, and I am your commander-in-chief. If you join your strength to me, my power shall reach the combined power of all of you."

[317] But Carthage itself was destroyed in 146 B.C.

[318] Demeter and Persephone at Eleusis.

[319] Of Dionysus, where the official assemblies of the time were held.

[320] This office, the first of the ten Generals, was the most important and powerful executive position in Athens at that time.

[321] See [Longinus] *De Subl.* 44.7.

With that statement, [F] he then appointed the rest of the archons for himself by suggesting the names of those he wanted.[322]

Athenion's tyranny and the reign of terror

'Not many days passed before our philosopher revealed himself as tyrant (displaying the doctrine of the Pythagoreans on treachery, and what was really meant by that philosophy introduced by our noble Pythagoras, as was reported by Theopompus in the *History of Philip* Bk 8 [*FGrH* 115, F73], and [214] by Hermippus, a follower of Callimachus). Straight away our tyrant, in defiance of the principles of Aristotle and Theophrastus (how true the proverb that says, "don't give a knife to a child"),[323] started by immediately getting right-thinking citizens out of the way; and he stationed a guard on the gates, so that many Athenians, worried for the future, escaped by letting themselves down over the walls. Athenion sent cavalry after them, slew some and brought others back prisoners. He had a large bodyguard, the so-called Mailed Guard. [B] He called assemblies too and frequently pretended that ⟨the captives⟩[324] were Roman sympathisers, brought charges against many of them for communicating with the outlaws and attempting revolution, and kept putting them to death. He now put permanent guards on the city's gates, thirty on each, stopping anyone who wanted to go out or come in. He started to confiscate the property of many, and acquired enough money to fill a large number of tanks. And he sent out as well into the country men to act like highwaymen against any who were trying to leave;

[322] This was the election year 88/7 B.C., labelled by *IG* II² 1713 as a year of *anarchia* in the sense of without an eponymous Archon. For a short review of the discussions on this, see Kidd, *Comm.* p. 878.

[323] There has been clumsy patching at work in the last two sentences; see Kidd. *Comm.* pp. 879f.

[324] Adopting the emendation of Touloumakos.

they brought them back before him, [C] and he tortured, racked and made away with them without trial. But many he brought to trial as traitors, alleging complicity for the restoration of the exiles; some in terror escaped before the judgement, others were condemned in the courts, with Athenion casting the votes himself. He created in the city a shortage of even the basic necessities of life, and rationed barley and wheat in small quantities. And he would send out also into the country military patrols on the hunt for any patriots who had returned into the territory, or for any Athenian [D] trying to leave town and cross the border. Anyone caught suffered death by beating, although some actually died under torture before the final beating. And he imposed a curfew for everyone to be indoors at sunset, with no going about outside even with a lantern permitted.

The expedition under Apellicon to seize Delos

'And it wasn't only the property of Athenian citizens that he plundered, but now he reached for foreign plunder too, the god's treasure in Delos no less. For he despatched to the island Apellicon of Teos, who had become an Athenian citizen and had led a chequered and restless career: a sometime Peripatetic philosopher, he had bought up Aristotle's library [E] and many other collections (he was a rich man); he surreptitiously acquired ancient original decrees from the Metroon,[325] and any other rare and ancient documents he could lay his hands on elsewhere. Caught in the act, he would have been in a dangerous position in Athens had he not fled. He was back not long after, through paying court to a large number of people, and signed up with Athenion as you might expect, since he shared the same philosophic sect. [F] Well, Athenion, forgetting his Peripatetic principles, was rationing out a choinix of barley[326] every four days to the silly Athenians, a

[325] The Athenian archive. [326] Normally a day's ration for a man.

quantity fit for poultry rather than for human beings, while Apellicon, off with his force to Delos, behaved as if he were attending a public festival rather than a military expedition, detailed a far too slack outpost on the Delos flank, and, above all, no guard at all for the hinterland, and without even digging in, bedded down for the night. [215] Orbius, the Roman commander who was guarding Delos, got wind of this, and taking advantage of a moonless night, disembarked his men, fell on the Athenians and their allied contingents in a drunken sleep, cut down 600 of them like sheep, and took about 400 prisoners as well. Our fine general Apellicon slipped out of Delos and fled. Orbius noticed a mass of Athenians taking refuge in farmhouses and cremated the lot, including their siege engines together with the 'citytaker'[327] which Apellicon had constructed [B] on arrival in Delos. Orbius set up a trophy in the region, and inscribed an epigram on an altar:

The dead held by this tomb
Are strangers, who lost their lives
Round Delos in battle on the sea,
When this sacred isle was ravaged
By Athenians in common cause of war
With Cappadocia's king.'[328]

Scipio and Panaetius

254 (F30 Jac.) Plutarch, *Maxime cum Principibus Viris Philosopho esse Disserendum*, 1.777A

Context: Plutarch's subject evolves the practical benefit contributed by philosophers associating with men of power. If a philosopher teaches a private individual, the benefit is limited to him, but that benefit is multiplied if applied to public figures.

But where a philosopher attaches himself to a man of power in politics and affairs, and infects him with goodness of character, many have benefited through one man, as in

[327] A huge siege engine. [328] Mithridates.

the case of Anaxagoras' association with Pericles, Plato and Dion, and Pythagoras with the leading statesmen in the south of Italy. And Cato himself sailed from his army to visit Athenodorus;[329] and Scipio sent for Panaetius, when he was sent out by the senate, 'inspecting both the outrageous behaviour and good order of men' [Homer, *Odyssey* XVII.487], as Posidonius says.[330]

Marius

255 (F37 Jac.) Plutarch, *Marius*, 45.3–7 (*v.* T28)

Context: This account of the death of Marius is part of the conclusion of Plutarch's *Life*. It is followed (§§8–9) by evidence from 'a certain Gaius Piso, a historian', printed in Jacoby's Posidonian F37, but is an incompatible, rival version of Marius' death. After that again comes a further version from an unidentified source 'but some people ...' (§§10–12), again printed by Jacoby and by Theiler F249, but here the psychological picture is different; see Kidd, *Comm.* pp. 889–93. It is clear from the whole context that Plutarch, as was his custom, used a combination of sources. The only certain evidence for Posidonius is the last sentence of this Fragment on pleurisy. But of course elements from the preceding description could have derived from him.

[3] Marius was elected consul for the seventh time[331] ... [4] Worn out by now with his exertions, awash as it were with anxieties, he couldn't lift his mind, which was already quivering from his past experience of horror and weariness, in the face once again of the overwhelming thought of a new war and fresh combats and terrors; reckoning that the danger he was to face was not an Octavius or Merula as generals in charge of a flotsam band or seditious rabble, but it was the Sulla that comes against him, the man who earlier had driven him from his country, and now had Mithridates penned in the Black Sea. [5] Broken

[329] Cordylion in Pergamon.

[330] Plutarch at *Mor.* 200E, with reference to the same event, assigned the quotation to Clitomachus, Carneades' pupil and Head of the Academy from 127/6–110/109 B.C. But it was a common tag.

[331] He assumed office, aged 70, on 1 January 86 B.C., and died on 13 January.

by such calculations, and continually fastening on visions before his eyes of his long wanderings, his flights and dangers as he was driven through land and sea, he fell into terrible distress with fears in the night and troubling dreams, for ever imagining he heard a voice saying, 'Dread is the lair, though the lion is gone'. [6] As more than anything he was afraid of insomnia, he threw himself into drinking bouts, a drunkenness at all hours that fitted ill with his years, in an attempt to induce sleep as a kind of escape from his worries. [7] And finally, when a messenger is come from the sea, new fears attacking him,[332] partly apprehension for the future, partly because he could take no more of the burden of the present that weighed upon him, a little swing on top of the rest to tip the scale, he sank into an illness, pleurisy, as Posidonius the philosopher recounts, saying that he went in personally and conversed with him on the topics of his embassy,[333] with Marius already ill.

Brutus

256 (F40 Jac.) Plutarch, *Brutus*, 1

Context: In his introduction to the *Life of Brutus* (the 1st c. B.C. tyrannicide), Plutarch records that there was no doubt about his mother's genealogy, but that contemporary criticism claimed that the family could not be traced on the father's side to the traditional founder of the Republic and expeller of the Tarquins.

Servilia, the mother of Brutus, traced her family back to Servilius Ahala, who when Spurius Maelius was plotting tyranny ... killed him.[334] That much is admitted; but those who displayed a malevolent hatred towards Brutus because of the murder of Caesar, deny that his family on the father's side goes back to the expeller of the Tarquins, the reason being that no family was left to that Brutus

[332] For the problems of this sentence, see Kidd, *Comm.* p. 891.
[333] For Posidonius' embassy, see T28.
[334] 440 B.C.

after he had executed his sons; no, the Brutus ancestor, they claim, was a plebeian, the son of a steward named Brutus, only very recently risen to office. But the philosopher Posidonius says that Brutus' grown-up sons were killed, as the story says, but a third son survived, a baby, and it was from him that the family sprang. And he adds that some of the illustrious members of this house who had been born and lived in his time, compared the similarity of their appearance with the statue of Brutus.[335]

Marcellus

The story of Nicias of Engyium in Sicily

257 (F43 Jac.) Plutarch, *Marcellus*, 20.1–11

Context: This story follows Plutarch's account of the capture of Epipolae at Syracuse by Marcellus in 212 B.C. Plutarch uses it as an instance of Marcellus' reputation for just and fair treatment towards the Greeks. But since the story is firmly centred on Nicias, not on Marcellus, we have no secure indication of Posidonius' context. The vivid individuality of the account suggests that much of Posidonius' stylistic detail was recaptured or reproduced by Plutarch.

The Romans had a reputation with foreign nations of being formidable in war and fearsome fighters, but of lacking any indication of consideration for others, humanity, or social virtues in general. It was Marcellus who was thought to be the first at that time to show Greeks a greater quality of justice in the Roman character. [2] For such was his treatment of those whom he encountered, so great the list of benefits that he conferred on both states and individuals, that any unfair act that had occurred in Enna or in Megara or in Syracuse was thought to be the responsibility of the sufferers rather than that of the perpetrator. I shall give one example from many.

[3] There is a small town in Sicily, Engyium, very ancient and renowned for the epiphany of the goddesses, called

[335] The statue of the first Brutus on the Capitoline.

Mothers. The temple is said to be a foundation of Cretans, and they showed some spears there and bronze helmets, some bearing inscriptions of Meriones,[336] others of Ulixes, i.e. Odysseus, who had dedicated them to the goddesses.

[5] When this town was violently partisan for Carthage, Nicias, their leading citizen, tried to persuade it to change to the Roman side, speaking openly and plainly in the assemblies, and criticising the folly of his opponents. [6] They were afraid of his power and standing, and so planned to seize him and hand him over to the Carthaginians. [7] Nicias, aware by now that he was actually being secretly watched, began to come out openly with improper statements about the Mothers, and made great play with deprecatory scepticism about faith in their epiphany and standing – and his enemies were delighted that he was furnishing from his own lips the greatest excuse for his fate. [8] Just as they were ready to seize him, there was an assembly of the citizens, and Nicias, right in the middle of a speech of advice to the people, suddenly threw himself to the ground, and after a moment or two, while, as you would expect, there was a stunned silence, he raised his head, twisted it round, produced a tremulous deep voice, gradually intensifying and sharpening the tone, and when he saw the theatre transfixed in horrified silence, ripped off his coat, tore his shirt in bits, leapt up half naked and began to run for the exit of the theatre, shrieking that he was being chased by the Mothers, [9] and no one through superstition had the nerve to put a finger on him or stand in his way, but cleared his path, and out he ran to the city gates, omitting no cry or gesture suitable for a man possessed and out of his mind. [10] His wife, who was in the know and part of the trick with her husband, grabbed her children, first prostrated herself in supplication at the Hall of

[336] One of the leaders of the Cretans at Troy: *Iliad* II.651; x.260ff.

the goddesses, then pretending to look for her wandering husband, safely left the town without anyone stopping her. And so the pair escaped to Marcellus in Syracuse. [11] However, after much violent misconduct on the part of the Engyianians, Marcellus arrived and had them all in bonds for punishment, and it was Nicias who burst into tears at his side, finally clasping him around the arms and legs and pleading for his fellow-countrymen, beginning with his enemies. Marcellus was shaken by this, let them all off, and did their town no harm; as for Nicias, he gave him a great deal of land and many gifts. Well, that's the account the philosopher Posidonius gave.

The statue and inscription of M. Claudius Marcellus in the temple of Athena at Lindos

258 (F44 Jac.) Plutarch, *Marcellus*, 30.6–9

Context: This comes from the end of Plutarch's *Life of Marcellus*, after the account of Marcellus' death in reconnaissance near Venusia in 208 B.C. with Hannibal's reactions, for which Plutarch refers to Cornelius Nepos, Valerius Maximus, Livy and Augustus Caesar. Posidonius is cited only for the statue with its inscription at Lindos, which Posidonius must have known personally.

Apart from dedications by Marcellus at Rome, there was a gymnasium at Catania in Sicily, and statues and paintings from the treasure at Syracuse both in Samothrace at the temple of the gods they call Cabeiri and at Lindos in the temple of Athena. At Lindos too there is a statue of the man himself with this epigram inscribed on it, according to Posidonius:

> This, stranger, is the great star of his country, Rome,
> Claudius Marcellus, sprung from an illustrious line.
> Seven times he held the consular power in time of war,
> And great was the slaughter that he poured on his foes.

(The composer of the epigram, you see, added his proconsular power, which he held twice, to his five consulates.)

Marcellus and Fabius Maximus

259 (F42a Jac.) Plutarch, *Marcellus*, 9.4–7

Context: A general comparison of the contrasting and complementary virtues of the two men.

Roman commanders and men of power have died in battle, but Fabius Maximus, whose greatest reputation lay in his sagacity and reliability, was actually blamed for lacking aggression through the excessive detail of his planning to avoid being caught unprepared in action. The Romans believed him good enough to keep them safe in defence, but not a general capable of seeing off the enemy. So they turned to Marcellus, and mixing and interlocking his qualities of aggression and attack with Fabius' careful planning, sometimes elected them both consuls at once, and sometimes sent them out with one as consul and the other proconsul in turn. Posidonius said that the Romans called Fabius their Buckler, but Marcellus their Sword.

260 (F42b Jac.) Plutarch, *Fabius Maximus*, 19.1–4

Context: A similar comparison of the two generals in a different *Life* by Plutarch shows that the Posidonian contribution is confined to the *mot* on their nicknames.

The most famous were Fabius Maximus and Claudius Marcellus, who were almost equally admired, but from the standpoint of virtually opposite reputations. Marcellus, as has been said in his *Life*, was distinguished by a gusto for aggression, for he was a man with a hammer-blow arm, and a character in tune with what Homer especially calls 'lovers of war' and 'high in spirit', and in his first engagements matched in the reckless vigour of his martial style even the counter-daring of a man like Hannibal; while Fabius stuck to those famous initial calculations of his, which forecast that if no one provoked Hannibal to actual battle, he would be his own detractor and wear himself out in the war, just as an athlete's physique very quickly passes its peak if its capacities are overstrained and exhausted.

This is why Posidonius says that the Romans called Fabius their Buckler and Marcellus their Sword, and that the mixture of the qualities of secure defence from Fabius with the intensity[337] of Marcellus was the salvation of Rome.

The name Marcellus

261 (F41 Jac.) Plutarch, *Marcellus*, I.1–3

Context: From the opening of Plutarch's *Life*. Posidonius was wrong about the name Marcellus: there was an M. Claudius Marcellus consul in 331 B.C., and another in 287 (Broughton, I.143; I.185). And the name does not derive from Mars.

They say that Marcus Claudius, the one that was consul five times at Rome, was the son of Marcus, but was the first of his house to be called Marcellus, which means Martial [man of war], so says Posidonius. He was, you see, trained in warfare, strong of body, with a hammer-blow arm, a natural lover of war, actually displaying a great deal of arrogant gusto in combat, but for the rest of his character moderate, humane with a passion for Greek culture and literature to the point of holding their masters in esteem and admiration, though because of his commitments he was unable to match in himself his ambitions to work at his education.

Revolt of the mining slaves in Attica, c. 100 B.C.

262 (F35 Jac.) Athenaeus, VI.272E–F

Context: The discussion on slaves began at 262B. Before this fragment came F51 (266E–F), and Frs. 265–7 follow at the end of the theme. The immediate context is a comparison between the large number of slaves owned by Romans and Greeks, the Romans mainly for retinue, the Greeks for revenue. For example, much of Nicias' wealth was derived from his slaves in the mines at Laurium; hence the aside on the slave revolt in Attica, which took place c. 100 B.C.

[337] Reading συντονίᾳ with Corais.

The majority of these Athenian slaves in their thousands worked the mines in fetters. At any rate, Posidonius, the philosopher, whom you are continually mentioning, says that when they did revolt, they murdered the mine guards, seized the acropolis at Sunium, and for a long time plundered Attica. This crisis was at the time when also the second uprising of slaves in Sicily took place.

Mithridates and the Taurian Chersonese

263 (F32 Jac.) Strabo, VII.4.3

Context: In his description of the Taurian Chersonese, i.e. the Crimea, Strabo gives a little of the history of the town of Chersonesus itself. Although Posidonius is specifically cited for a detail, the account contains elements of the relationship between ruler and ruled in the form of calling in a protector and voluntary subjection, which we know was of interest to Posidonius (see Frs. 57, 58, 60, 66, 67, 252, 284).

This city of Chersonesus was formerly independent, but when it was being plundered by the barbarians[338] it was forced to call in Mithridates Eupator as a protector, who was keen to campaign against the barbarians who lived beyond the isthmus as far as the Borysthenes [Dnieper] and the Adriatic;[339] this was to be a training run for action against the Romans. So in accordance with such ambitions, he was delighted to send a force to Chersonesus, while he simultaneously made war against the Scyths, namely Silurus and his sons led by Palacus (fifty of them according to Posidonius, but eighty in Apollonides[340]). He forcibly subdued them, and concurrently established himself master of the Bosporus, acquiring it through the voluntary vassalage of its prince Pairisades. From that time on to the present day the city of Chersonesus has remained subject to the potentates of the Bosporus.

[338] The Scythians.

[339] In this context, the head of the Adriatic hardly makes sense geographically.

[340] A Greek geographer of the first half of the 1st c. B.C., used by Strabo for the Far East.

On Roman proper names

264 (F60 Jac.) Plutarch, *Marius*, 1.1–5

Context: The question arises at the beginning of Plutarch's *Life of Marius* as to what was the master name of Roman proper names. The three Roman proper names were the praenomen, the nomen or gentile name, and the cognomen. Posidonius argued that it could not be the third, or cognomen, as many thought, because a number of famous Romans like Marius only had two. Plutarch criticises this view. Greeks, accustomed to a single name with perhaps a patronymic or identifying epithet added, tended to be fascinated and puzzled by the Roman system of proper names. In the 2nd c. B.C. it appears to have been a Greek custom to use the praenomen as *the* name when referring to a Roman, as was the practice of Polybius.

We don't have a third name to put for Gaius Marius, nor for that matter to Quintus Sertorius, the conqueror of Spain, or to Lucius Mummius, the sacker of Corinth; for Mummius was given an agnomen[341] of Achaicus from his exploit[342], like Africanus for Scipio and Macedonicus for Metellus. It was this evidence in particular that led Posidonius to criticise those who thought that it was the third name that was the master proper name for Romans, such as Marcus Furius *Camillus*,[343] and Marcus Claudius *Marcellus*,[344] and Marcus Porcius *Cato*;[345] for those who were called by two names only would then be left nameless. But it has escaped his notice that on that line of reasoning he would be the instrument of rendering Roman women in their turn nameless; for no woman is given a praenomen, which Posidonius thinks is the basic Roman master name.

Of the other two names, one is the common family name, as the Pompeii, or the Manlii, or the Cornelii, as a Greek would refer to the Heracleidae or to the Pelopidae; and the other is an appellative or additional name, given

[341] Not a *cognomen*.
[342] In defeating the Achaean Confederacy in 145 B.C.
[343] The saviour and second founder of Rome after the Gallic invasion, 387/6 B.C.
[344] The Sword of Rome.
[345] The Censor, presumably, and the hammer of Carthage.

with respect to their natures, actions, physical features or temper: Macrinus,[346] or Torquatus,[347] or Sulla[348] (as with the Greeks, Mnemon, or Grypus or Callinicus[349]). Well, the irregularity of customary usage gives rise to many discussions on this topic.

Virtues of the old Romans

265 (F59 Jac.) Athenaeus, VI.273A–B

Context: This and the following two fragments, F266 and F267 occur in an extended context in Athenaeus, and consequently raise source questions as to whether the whole passage in Athenaeus from 273A–275B may derive from Posidonius. The topic latches on to the end of a long discussion on slaves, which contained F51 and F262 (*q.v.*). There the question of extravagance in slaves with Greeks and Romans was raised, and at 273A Athenaeus returns to the contrast of the moderation and virtue of early Romans with regard to slave attendants in retinues. 273A–275B remain on the theme of early simplicity against modern extravagance. Posidonius is explicitly referred to thrice, but is clearly not the only authority. Others are specifically named in 273B–C and 274E–F, and also finally, and in chronological relevance, ludicrously, at 275B. Indeed, throughout the whole extended passage there are distressing chronological ambiguities and discrepancies over the date of ancient virtues and 'present day corruption'. Given Athenaeus' magpie methods and poor sense of chronology, it is safer to restrict the Posidonian contribution to the three specific citations. See Kidd, *Comm.* pp. 910–14.

The old Romans were moderate and the best in all things. At least Scipio Africanus, when sent out by the senate[350] to settle the kingdoms of the world in order to put them in the hands of the proper people, took only five slaves with him, as Polybius and Posidonius relate; and when one died on the journey, he bade his household buy and send him another in his place.

[346] Lean.
[347] Supposedly from the *torques* or collar of the Celt he killed in duel.
[348] Plutarch thought it was from his complexion (*Sulla* 2; *Cor.* 11).
[349] Mindful, Hook-nosed, Glorious-victor.
[350] 140/139 B.C.

266 (F59 Jac.) Athenaeus, VI.274A
For their ancestral habit, as Posidonius says, was hardihood, plain living and simple and uncomplicated use of material possessions in general, and moreover a remarkable piety with regard to the divinity, and justice and great care to avoid sinning against any man, together with the practice of agriculture.

267 (F59 Jac.) Athenaeus, VI.275A (*v.* T6)
But in earlier times 'so sparing in their needs were the inhabitants of Italy that even in our time still,' says Posidonius, 'those who were very well off in their livelihood trained their sons to drink water for the most part, and to eat whatever there was. And often,' says he, 'a father or mother would ask their son whether he wanted to have pears or walnuts for dinner, and when he had eaten some of them, that was enough, and he was off to bed.'

Life in Liguria

268 (F57a Jac.) Strabo, V.2.1

Context: Strabo in his account of Italy, proceeding from the north Adriatic through Gallia Cispadana (the 'first part' of Italy) towards Tyrrhenia or Etruria (the 'third part'), spends one sentence on the rough country of Liguria (the 'second part') which lies in between. Posidonius' joke about having to quarry the ground rather than plough it appears to have been taken literally by Diodorus Siculus (5.39), who had, it seems, no sense of humour.

Let's call the second part [of Italy] Liguria, which is in the Apennines themselves, lying between that bit of Celtica [Gallia Cispadana] I've been talking about just now and Tyrrhenia. It has nothing to describe, except the people live in hamlets, and the ground is so rough they don't so much plough and dig it, as quarry it, as Posidonius says.

269 (F58a Jac.) Strabo, III.4.17 (*v.* T23)

Context: Strabo's context is the barbaric character and customs of the Cantabrians in the north of Spain, traits they share with the Celts, Thracians and Scythians. But both men and women share

the quality of courage. He illustrates this with Posidonius' story. It is marked by the first-hand evidence of his host, and by the precise and succinct report. Compare the more diluted unassigned anecdote of Diodorus 4.20.2–3.

When he was in Liguria, Posidonius says that his host, Charmoleon, who came from Massalia, told him personally the following story: he hired men and women together for digging, and one of the women whose birth pains had started went off from her work nearby, gave birth and returned to work straightaway, not to lose her pay; he personally noticed that she was struggling with her work, but at first didn't know the reason, later found out and dismissed her with her pay. She carried off the baby to a spring, washed and swaddled it with what she had, and brought it home safely.

Hyperboreans in the Italian Alps

270 (F103 Jac.) Scholia in Apollonium Rhodium, II.675

Context: The Hyperboreans were embedded in Greek literature and legend from Hesiod on, and controversy as to their actual existence continued from Herodotus to the 1st c. B.C. (see Strabo. 1.3.22). Posidonius appears to have taken the position that the legend was explained by original historical fact, that the Hyperboreans had existed in the Italian Alps. This attitude to the explanation of legend occurs elsewhere: F239; F240; F256.

Hyperboreans: Herodotus says [IV.36] Hyperboreans were absolutely nonexistent; for, if there were Hyperboreans ['Hypernortherners'] there would certainly also be Hypernotians ['Hypersoutherners']. But Posidonius says that the Hyperboreans did exist, and used to inhabit the Italian Alps.

The Celtiberians

271 (F51 Jac.) Strabo, III.4.13 (*v.* T105)

Context: Celtiberia is the large highland country of north central Spain. M. Claudius Marcellus was elected consul for 152 B.C. in order to deal with the Celtiberian war which had broken out the year before, and Polybius' account of the subsequent treaty is hostile to Marcellus. The reference to Tiberius Gracchus (consul 177 B.C.) concerns the first Celtiberian War of 181–179 B.C.

Posidonius says that Marcus Marcellus exacted a tribute from Celtiberia of 600 talents;[351] from which one has to infer that the Celtiberians were both populous and rich, although they lived in a pretty wretched country. And he made fun of Polybius for saying [xxv.1.1] that Tiberius Gracchus destroyed three hundred of their cities. That, says Posidonius, is flattery of Gracchus; he is calling fortified towers cities – it's just like a triumphal procession! And maybe we should give Posidonius some credit for *that*; both generals *and* historians are easily swayed to such falsification in trying to embroider their events.

Cimbri

272 (F31 Jac.) Strabo, VII.2.1–2

Context: Strabo's Bk VII is devoted to north and east Europe and the northern Balkans. Dividing this area north and south, he begins with the northern sector of the country between the Rhine and Elbe north of the Danube, and remarks that migration is a common feature of all the peoples in this part of the world. So at ch. 2 he turns to the Cimbri, whose migration in the 2nd c. B.C. was the most famous and destructive of all. For Posidonius' explanation of the cause, see also F49 (3.6). Jacoby adds to this fragment the section which follows it (VII.2.3) which tells how the Cimbrian priestesses sacrificed prisoners of war. But that section is introduced by the general plural 'Writers report that ...', which is in sharp contrast to the preceding specific singular of 'he says ...', referring to Posidonius. Strabo surely indicates plurality of sources or common currency for §3.

A Criticism of inundation theories as the cause of the Cimbrian migrations

[1] With regard to the Cimbri, some accounts are wrong, others are extremely implausible.[352] For example, one couldn't accept the sort of explanation of why the Cimbri

[351] A huge sum, obviously doubted by the ironic Strabo.

[352] Adopting Cobet's emendation ἀπιθανότητας, which I argue for in Kidd, *Comm.* pp. 923f.

became migratory and predatory that claims that they were driven from their territories by a great floodtide while inhabiting a peninsula. For you see, they occupy now the country they had before,[353] and sent Augustus as a gift the most sacred cauldron they had, asking for friendship and that their former offences be put out of mind;[354] having got what they wanted, they departed. And it is a ridiculous hypothesis that they departed from their area through losing their temper at a perpetual natural phenomenon that happens twice a day.[355] And that at some time there occurred an excessive floodtide looks like fiction; for although the ocean admits of increases in severity and slackenings, yet they are ordered and regular when it is affected in this way. Wrong too are those who said the Cimbri took up arms against the floodtides, and wrong again the story that the Celti trained their fearlessness by enduring the engulfing of their homes and then rebuilding, and that their losses were greater from water than from war (*that's* from Ephorus) [*FGrH* 70, F132]. You see, the regularity of the tides and the familiarity of the land inundated should have precluded such absurdities: since this phenomenon occurs twice a day, it would be highly implausible that the Cimbri had not even once noticed that the ebb and flow was natural and harmless, and occurred not only to them but to all those who lived along the coast. Cleitarchus [*FGrH* 137, F26] is not right either, namely that the cavalry, seeing the onset of the sea, rode off, and were nearly cut off in their flight. But we know that the tide does not encroach as quickly as that, but rather there is an imperceptible approach of the sea; and what occurs daily and so is familiar to the mind of anyone about to approach the sea even before setting eyes on it, would hardly be likely to arouse such terror that they ran away, as if it had occurred unexpectedly.

[353] The area of Jutland. [354] See Aug. *R.G.* 26.4. [355] I.e. the tide.

B Posidonius' explanation and account of the Cimbrian migrations

[2] Posidonius is right to make these criticisms against the historians, and his own explanation is not a bad conjecture, that it was because the Cimbri were piratical and nomadic that they made a campaign even as far as the country round Lake Maeotis [the Sea of Azov], and the Cimmerian Bosporus [Straits of Kertch] was named after them (i.e. 'Cimbrian' Bosporus, as the Greeks called the Cimbrians Cimmerians). He says that the Boii earlier inhabited the Hercynian Forest,[356] and the Cimbri invaded this territory; repulsed by the Boii they descended to the Ister [Danube] and the Scordiscan Galatae,[357] and then to the Teuristae and Taurisci, who are also Galatae,[358] then to the Helvetii,[359] men rich in gold, but peace-loving. But when the Helvetii saw that the gold from Cimbrian plunder exceeded their own local gold, they were provoked to join in with the Cimbrian invasions, especially the Tigyrenoi and the Toygeni among them. They were all destroyed by the Romans, both the Cimbri themselves and those who had joined their expedition, some after crossing the Alps into Italy, the rest on the other side of the Alps.[360]

The treasure of the Tectosages

273 (F33 Jac.) Strabo. IV.1.13

Context: The Tectosages occupied the territory centred on Tolosa (Toulouse) between the Pyrenees and the Cevennes. The real context of the fragment is the legendary scandal of the 'Tolosan Gold'. The Roman consul of 106 B.C., Q. Servilius Caepio, quelled a revolt of the Tectosages, and plundered the wealth of the temples of Tolosa, which was said to include the legendary treasure from the sack of Delphi by Brennus and the Gauls in 279 B.C. This booty

[356] Probably in this case the Bohemian Forest.

[357] This would appear to be in the area of the confluence between the Danube and the Morava, i.e. in Pannonia, Illyricum and Moesia.

[358] I.e. now in Noricum.

[359] South-west Germany and Switzerland.

[360] Marius' first victory was at Aix-en-Provence in 102 B.C., and the final defeat of the Cimbri was in the Po valley near Vercellae in 101 B.C.

disappeared en route to Rome under highly suspicious circumstances, after which (and the disaster at Arausio in 105 B.C.) Caepio faced charges including sacrilege and was forced into exile. But the debate over whether the Tolosan treasure included legendary plunder from Delphi continued to be discussed. Posidonius' account through a rational critique of historical grounds to explain legend and popular myth, is notably opposed to the scandalous, credulous and superstitious embroidery of an author like Timagenes of Alexandria.

It is said that the Tectosages took part in the expedition against Delphi,[361] and that their treasure found by the Roman general Caepio in Tolosa contained part of that booty, although the people had added to it from their own personal property, trying to propitiate the god with their dedications. Well, Caepio, they say, laid his hands on it and consequently ended his life in misfortune, banished for sacrilege from his fatherland, and leaving as his heirs only two girls who turned to prostitution, so Timagenes[362] said [*FGrH* 88, F11], and so perished in disgrace.

Posidonius' account is more convincing: that the treasure found at Tolosa, amounting to 15,000 talents, stored partly in sacred enclosures, partly in sacred lakes, was unworked gold and silver bullion. But the temple of Delphi by those days[363] was empty of treasure *of that sort*, because it had been stripped [of unwrought bullion] by the Phocians in the Sacred War.[364] And even if there had been any left, it was distributed over a large number of men; and it was not even likely that they reached their homeland safely, as they got away in miserable plight after the retreat from Delphi and scattered in different directions through dissension.

No, as Posidonius said and many others too, the country itself was rich in gold, the people were both superstitiously

[361] Under Brennus in 279 B.C.
[362] Timagenes of Alexandria.
[363] That is, 279 B.C. when Brennus and the Gauls sacked Delphi.
[364] By Philomelus and his successors to pay for the Third Sacred War from 355 B.C., and finally pillaged by Philaecus.

god-fearing and not extravagant in their way of life, and so all over Celtica, treasure amassed. And it was their lakes in particular which preserved the inviolability of their treasure, for they sank great masses of gold and silver in them. Evidence for this is that when the Romans conquered the territory, they sold off the lakes on the state's behalf, and many buyers found millstones of hammered silver in them. But the temple in Tolosa too was a holy place, strictly honoured by the surrounding population, and because of this the treasure multiplied, since many contributed, and no one dared to lay a finger on it.

Celts

See Frs. 67–69

Display of decapitated enemy heads

274 (F55 Jac.) Strabo, IV.4.5

Context: Strabo's Celtic ethnography runs from IV.4.2–6. IV.4.5 concentrates on the Gallic character: their simplicity and passionate nature, their silliness and boastfulness, and love of ornamentation. Their volatility is shown by being unbearable in victory, and scared out of their wits when beaten. F274 now follows. This section ends with a description of human sacrifice involving divination, which also occurs in Diodorus Siculus 5.31.3–4, but in Strabo it is separated from the Posidonian citation, by being introduced by 'It is said that . . .'. That in turn is followed by F276. For the problems of deriving Posidonius' Celtic ethnography from our four surviving ones in Strabo, Caesar, Athenaeus and Diodorus, see Kidd, *Comm.* pp. 308–10, and F67 Context. Strabo had certainly read and used Posidonius, but also other sources like Caesar and Vercingetorix. F274 contains the only express reference to Posidonius in Strabo's ethnology.

In addition to their silliness, the Celts have another barbaric outlandish custom, inseparably connected with the northern tribes mostly, of returning from battle with the heads of their enemies hanging from their horses' necks, and nailing them to the porches of their houses. At all events, Posidonius says that he saw this sight himself often,

and at first was nauseated, but afterwards took it lightly through familiarity. They would embalm with cedar oil the heads of their distinguished enemies and display them to guests, and would not consider ransoming them even for their weight in gold. The Romans put a stop to these customs as well as to those connected with sacrifice and divination contrary to our accepted practice.

Celtic duels (v. F68)

275 Eustathius, *Commentarii ad Homeri Odysseam*, VIII.475

Context: The reference in *Od.* VIII.475 is to Odysseus at the banquet of Alcinous, cutting off a slice from the chine of a boar to give in honour to the bard Demodocus. The citation from Posidonius is reproduced literally from Athenaeus; see above F68.

Posidonius is said to show that not only pieces from the back but also pieces from the thigh were very much sought after, when he wrote that when there was any distribution of portions, 'the best man would get the thigh; but if someone else claimed it, they would join in a duel to the death.'

Rites of Samnite (Namnite) women on an island off the mouth of the Loire

276 (F56 Jac.) Strabo, IV.4.6

Context: Follows F274. It is followed by a couple of fabulous tales from Artemidorus, which contrast with the straight reporting of Posidonius, with his rationalising account of the engineering of the selection of the victim.

Posidonius says that there is a little island in the Ocean [Atlantic] not far out to sea but lying at the mouth of the Loire outlet, inhabited by Samnite[365] women. Possessed by Dionysus, they propitiate the god with mystical ceremonies and other rites; no man sets foot on the island, but the women sail over to the mainland themselves, have sex with the men, and return again. He says that it is their custom

[365] Caesar (*BG* III.9) is probably correct with Namnite (followed by Pliny, *NH* 4.107, and by Strabo himself at IV.2.1). But there was probably an early confusion.

once a year to take off the roof of the temple and roof it again the same day before sunset, and each woman brings her load. The woman whose load slips is torn apart by the others; and they may not stop carrying the pieces of her body round the temple with holy cries until their frenzy stops. It always happens that someone bumps into the woman who is going to suffer this.[366]

The Mysians and the Iliad, *XIII.3–5*

277a (F104 Jac.) Strabo, VII.3.2–7 (*v.* T88)

Context: At VII.3.1 Strabo had turned to the country of the Getae, that is, the lower Danube. He says that it is because of people's ignorance of this area that credence has been given to mythical stories, such as the Rhipaean Mountains or the Hyperboreans (for Posidonius' rationalised view on both, see Frs. 240, 270). Strabo himself will confine his narrative to what he has gleaned from ancient and modern history. What he does first is to turn to Homer and Posidonius.

Strabo's Introduction

[2] The Greeks took the Getae to be Thracians, who settled on either side of the Ister [Danube], as did the Mysians, who were also Thracians, and now in my time called Moesians. From these European Mysians came the Mysians who now live between the Lydians, Phrygians and Trojans. And the Phrygians themselves are Brigians, a Thracian tribe, and the same Thracian origins apply also to the Mygdonians, Berbykes, Maidobithynians, Bithynians, Thynians, and to the Mariandynians too, I suspect. But whereas all these have completely evacuated Europe, the Mysians have remained there.

Posidonius' interpretation of Il. *XIII.3–5*

In my opinion Posidonius was right to conjecture that it was the European Mysians (I mean the ones in Thrace) that Homer referred to when he said [*Iliad* XIII.3–5]:

[366] Reading τῇ τοῦτο πεισομένῃ Lasserre.

Zeus turned back[367] his shining eyes,
Looking away[368] over the land of the horse-riding Thracians
And the close-fighting Mysians.

For surely if one were to understand the *Asian* Mysians, the argument would be dislocated. For the idea of Zeus turning his gaze from the Trojans to the land of the Thracians, and including in it the land of the Asian Mysians, when they are not 'away', but bordering on the Troad and situated both behind and on either side of it, and are separated from Thrace by a wide Hellespont, would be that of a man who confuses whole continents, and at the same time is not listening to the form of the words. For 'he turned back' means above all 'behind him'. And one who transfers his gaze from the Trojans to those behind *them* or on their flanks, transfers it well-forward, but certainly not behind him.[369]

And the following lines[370] give evidence for this very view, where Homer linked with the Mysians the Hippemolgi, Galactophagi[371] and Abii, who are precisely the waggon-dwelling [i.e. nomadic] Scyths and Sarmatians. Yes, and in my time these tribes, and particularly the Bastarnians, were mixed up with the Thracians, rather more to the north of the Danube, but to the south of it as well. And there was Celtic intermingling with the Thracians too, from the Boii, Scordisci and Taurisci. Some call the Scordisci Scordistae, and the Taurisci Teurisci or Tauristae.

[3] Posidonius says that the Mysians abstain from any living creatures through piety, and so also from flocks and

[367] πάλιν.
[368] νόσφιν.
[369] In fact there was much ancient disagreement and debate over the meaning of the words; cf. e.g. Porphyry 1.183.1, and Kidd, *Comm.* p. 942.
[370] In Homer, lines 5–6.
[371] But this seems to be an adjective in Homer; Posidonius below also appears to regard it as a proper name.

herds; they live on honey, milk and cheese, live a peaceful life, and so are called 'god-fearing' and 'capnobatae'.[372] And he says that there are some Thracians who live segregated from women; they are called Ctistae ['Founders'?], are hallowed through the honour they are held in and live free from fear; in a word, it was all these Homer called Hippemolgi, Galactophagi and Abii, most just of men [*Il.* XIII.5–6]. He says that they are called Abii[373] precisely because they are segregated from women, thinking that a life bereft is a life half complete, just as Protesilaus' household was half-complete[374] because it was bereft. And he said that the Mysians were called 'close-combat' because they were unsacked like brave warriors; and that in Bk XIII we ought to emend 'close-combat Mysians' to 'close-combat Moesians'.

Strabo's criticism of Posidonius

[4] Well, perhaps it is going too far to disturb a reading sanctioned for many years. It is much more credible that the original name was Mysian, and changed to the present Moesian. And as for the Abii, one could accept 'without hearth' or 'waggon-living' etymologically as much as 'bereft';[375] for acts of injustice arise especially from contracts and a high value on property, so people who live cheaply from little[376] could reasonably be called 'most just'. For philosophers too who couple justice closely with self-restraint strive first and foremost for self-sufficiency in frugality; and if this is pushed beyond certain limits some of

[372] Literally 'smoke-treaders' which does not make much sense. It may be a corruption for some kind of dress.

[373] Posidonius is thinking of the Greek word *abios* in the sense of 'non-life'.

[374] A reference to *Iliad* II.698–701. Protesilaus commanded troops from Thessaly for the Trojan War, was killed on landing and left his household 'half-complete'.

[375] Strabo resorts to his own etymologising, where the Greek *abios* is taken to mean 'without livelihood'. 'Wagon-livers' would describe nomads.

[376] As nomads do.

them are diverted to Cynicism. And Homer gives no such significance to living apart from women, especially with the Thracians, and the Getae in particular ... [In the lacuna, Strabo enlarges on this especially from Menander]... So, the idea that it is the celibacy of the Getae that makes them peculiarly pious, exhibits a certain irrationality; we should rather not reject that there is a strong enthusiasm for religion in this tribe, and this is derived from Posidonius (and that they abstain from living things through piety),[377] and from the rest of our historical accounts.... [In VII.3.5 Strabo continues with an account concerning Zalmoxis, a notorious legendary figure, and a god of the Getae. This is introduced by the indefinite 'it is said', and so is likely to come from the other historical sources just mentioned, although Theiler prints it as Posidonius. In §6 Strabo passes to an attack on Apollodorus' *On the Catalogue of Ships in Homer* and on Eratosthenes for their criticism of Homer as a 'geographer', in contrast to his own and Posidonius' respect for Homer. So, §7:] ... [7] Just now I was talking about Thracians

> And close-combat Mysians and noble Hippemolgi,
> Galactophagi and Abii, most just of men [*Iliad* XIII.5f.],

because I wanted to compare statements made by me and by Posidonius as against the position of these two [Eratosthenes and Apollodorus]; and notice first that the argument they have adopted is contrary to the thesis they proposed ... [the argument continues to the end of §10].

German eating habits

277b Eustathius, *Commentarii ad Homeri Iliadem*, XIII.6

Context: Eustathius, when commenting on Abii in *Iliad* XIII.6, clearly refers to Strabo VII.3.2–7 (F277a) in a passage beginnng 'The geographer says ...', in which Posidonius is echoed but not named. In the middle of this passage is inserted this reference to

[377] This is probably a gloss as Kramer suggested.

Posidonius on Germani, and to Pindar, F166f. (Bergk), on the Centaurs giving up milk for wine. The Posidonius reference partly reproduces Athenaeus IV.153E (F73), but omits the statement that the Germani drank milk. The Pindar fragment is also quoted by Athenaeus elsewhere (XI.476B). Nomadic milk drinkers are in context because of the Galactophagi (Milk consumers) of *Iliad* XIII.6. The question arises whether Eustathius found this reference to the Germani in the same Posidonian context as his interpretation of the Mysians/Moesians of F277a. If so, it suggests a more eastern, nomadic and perhaps rather vague semi-legendary location for the Germani. Compare F73.

Posidonius reports that the Germans eat meat roasted in joints for luncheon and drink their wine undiluted.... Pindar says that [F166f. Bergk] ... Well that is from Posidonius and Pindar. Whereas this too is from the geographer [Strabo].

Posidonius accused of scandalous lies against Jewish worship and their temple in Jersualem

278 (F69 Jac.) Josephus, *Contra Apionem* II.7.79–96

Context: The Apion attacked by Josephus for his criticism of the Jews, was head of the Alexandrian School before moving to Rome, where he was active under Claudius. At this point (§79ff.) he is being criticised for scandalous stories of the Jewish temple at Jerusalem, and Posidonius and Apollonius Molon are cited as his sources. However, although Posidonius may have voiced some general criticism of the Jews (as in Josephus' first charge), the two specific scandalous tales of the temple relating to the entry and looting of it by Antiochus IV Epiphanes in 169 B.C. are quite contrary to the account in Diodorus 34/35.1, which is more likely to reflect any Posidonian version (see Kidd, *Comm.* pp. 949–51). This is the only time that Posidonius' name occurs in the whole of Josephus, and there is no sign that he had read the *History*. The names of Posidonius and Apollonius Molon were associated elsewhere, and may have been mistakenly so here (see Kidd, *Comm.*). In other words, this evidence carries little or no weight. In this section of *c. Apion* we possess only a Latin version made for Cassiodorus, which at times appears as if it did not entirely understand the original Greek.

[79] I am astonished also at those who supplied Apion with tinder of this kind, namely Posidonius and Apollonius son

of Molon; on the one hand they actually blame us [the Jews] for not worshipping the same gods as other people, and on the other tell lies and invent absurd defamatory statements about our temple[378] without any consciousness of acting impiously. Yet what could be more disgraceful for a man of breeding than to lie on any account, but most of all about a temple celebrated on every man's lips, a temple charged with the utmost sanctity?

[80] In this holy place Apion had the nerve to proclaim that the Jews kept an ass's head, worshipped it and made it the recipient of the highest reverence; an item disclosed, he mantains, on the occasion of the looting of the temple by Antiochus Epiphanes,[379] when the head, made of gold and of great value, was found.... [In §§81–88 Josephus counters this story.]

[89] He added a second story from Greek sources of slanderous nature to us ... [In the gap Josephus argues that the authors are more concerned to defend a sacrilegious king (Epiphanes) than to give a fair and truthful account of Jewish rites and their temple.]

[91] ... He said that Antiochus found in the temple a couch with a man lying on it and a table in front of him loaded with a feast culled from land, sea and air, which had reduced the man to a dazed stupor. [92] At the king's entry, the man prostrated himself forthwith ... falling before his knees, with right arm outstretched, he begged his freedom. The king reassured him, asked him who he was, why he was living there, and what was the reason for the quantity of food before him. Thereupon the man ... in pitiful fashion told the tale of his desperate circumstances. [93] He was a Greek, he said, and when travelling through the province on his own business, he was suddenly kidnapped by foreigners, led off to the temple and shut up there; he was seen by no one, but stuffed with a complete

[378] In Jerusalem. [379] In 169 B.C.

service of feast after feast. [94] At first, it is true, this unexpected lavishness ... brought him pleasure, but suspicion followed, and then consternation; and finally on quizzing the servants who attended him, he said he was told of this unspeakable law of the Jews, for which he was being fattened up; this was performed by the Jews [95] every year at a prescribed season: they would actually kidnap a Greek foreigner, stuff him with food for a year, escort him to a particular wood, actually kill him, make sacrifice of his body according to their rites, partake of his flesh, swear solemn oath through the sacrifice of the Greek that they would maintain a state of hostility towards Greeks, and then toss the remains of the slaughtered man into a certain pit. [96] Apion continued that the man said that only a few days now remained for him to live, and begged the king to free him from the evils that encompassed him, thus showing respect for the gods of Greece and overturning the Jewish plot on his life.

The solidification of asphalt in the Dead Sea

279 Strabo, XVI.2.42–3

Context: The extent of this fragment has been disputed. Strabo begins his account of Judaea at §34. A general geographical introduction is followed (35–9) by a long excursus on Moses, his successors, and the Jewish religion. Then comes a section (40) on Pompey's reduction of Judaea and the taking of Jerusalem, and a section (41) on the local flora. He then turns (42f.) to the most remarkable phenomenon of the region, the Dead Sea. The whole of this was assigned to Posidonius by Norden, *Festgabe von Harnack* (1921), pp. 292ff.; Jacoby prints §§34–45 as his F70, but most *in petit*; Reinhardt included §§35–9 in Posidonius' supposed monograph on Pompey (*RE* pp. 639f.; but see F79EK comm.). Theiler prints §§35–9 as his F133, and this is followed by Malitz (*Die Historien des Poseidonios*, pp. 315ff.). But Aly, *Strabonis Geographica* Bd. 4, 191–207, rightly argued that this is far from proven. Indeed, Posidonius is only mentioned for a specific point in §43 with regard to asphalt in the Dead Sea. There is no positive evidence to tie what goes before to Posidonius; see Kidd, *Comm.* pp. 951f. This fragment gives a

remarkably clear account of asphalt blown to the surface from the depth of the sea, and a good description of an oil seepage emitting hydrogen sulphide containing gases. The Posidonian contribution is an aetiological theory of the formation of bitumens.

[42] The asphalt is clods of earth, liquified by heat, blown up to the surface of the lake and dispersed, then firmly solidified by the coldness of the water characteristic of that lake,[380] so that it has to be cut and chopped; it then floats due to the nature of the water, which as we said prevents even the need to swim; for no one who enters it is immersed in its depths, but floats on the surface. The people sail out to the asphalt in rafts, chop it and carry off as much of it as each man can.

[43] That is actually what happens; but Posidonius says that the people are magic-mongers and claim to solidify the asphalt by incantations and pouring urine and other malodorous liquids over it and then squeezing it out; then they cut it. But it may be that urine has some such suitable property, like the chrysocolla[381] found in the bladders of people with bladder-stones and also derived from children's urine.

The Erembians of Homer, Od. *IV.84, and the Aramaeans*

280 (F105a Jac.) Strabo, 1.2.34 (*v.* T89)

Context: In 1.2.3 Strabo's criticism of Eratosthenes' attitude to poetry leads to a long defence of Homer as a geographer, at least as someone who had a wide range of geographical knowledge. At §31 he examples the account of Menelaus' wanderings in *Od.* IV.81–5, and in particular cites the lines: 'I wandered through Cyprus, Phoenicia and Egypt, / and came to the Ethiopians, the Sidonians, the Erembians, / and to Libya.' This is a notorious subject, Aristonicus, the Alexandrian grammarian, having written a whole book *On the Wanderings of Menelaus* (§31). Strabo himself examines the Ethiopians, then at §33 the Sidonians, and now (§34) the problem of the Erembians.

[380] Strabo's original reference (§42 init.) is to Lake Sirbonis, but he is clearly confusing it with the Dead Sea.

[381] Literally 'gold-solder'; but the word is used elsewhere for malachite or basic copper carbonate.

Strabo's introduction

On the Erembians a great deal has been said, but the most plausible commentators are those who think the Arabians are meant. Zeno, from my own School,[382] [*SVF*, I.275] even writes Homer's line [*Odyssey*, IV.84] like this: 'And I came to the Ethiopians, the Sidonians and the Arabians'.[383] Now it is unnecessary to change the reading, which is an old one; it is better to see the explanation in the variation of the name, which is frequent and obvious in all nations; for instance, some actually do this by changing a letter.[384]

Posidonius' explanation

But the opinion of Posidonius would seem to be best, where here as elsewhere he etymologises from the common element of kinship in the peoples. For the Armenian people, the Syrians and Arabians show common features of race in language, way of life and physical characteristics, particularly in so far as they border each other. This is made plain by Mesopotamia which is composed of these three nations; for it is particularly here that the similarity is marked. There may be greater differences between north and south because of latitude, than between them and the Syrians in the centre, but the common element is predominant. And the Assyrians and Arimanians[385] show some similarities both with the above-mentioned and with each other. Posidonius' hypothesis is that the nomenclature of these tribes too is similar, because the people we call Syrians were called by the Syrians themselves Aramaeans.[386] He said that the names Armenians, Arabians and Erembians are

[382] Zeno of Citium, the Stoic.
[383] Emending Homer's 'Erembians' to 'Arabians'.
[384] E.g. emending 'Erembians' to 'Arambians'; see F281a.
[385] There is variation in our codices over these names.
[386] Again there is some confusion in the codices. Posidonius was himself a Syrian Greek.

like it [Aramaeans], perhaps because the ancient Greeks so called the Arabians.

And the etymology of the word also contributes to this; for the most popular derivation of the word 'Erembian' is given from the phrase '*eis ten eran embainein*' ['to go into the earth'], which people later changed to 'Troglodytes' [Cave-dwellers] for greater clarity; and Troglodytes are Arabians who live on the side of the Arabian Gulf next to Egypt and Ethiopia.[387]

281a (F105b Jac.) Strabo, XVI.4.27

Context: Strabo returns to the problem of Erembians in Bk XVI where he is dealing with Arabia.

When the Poet says [*Odyssey*, IV.84], 'And I came to Ethiopians, Sidonians and Erembians', people are at a loss in the first place about the Sidonians: should the reference be to a people living on the Persian Gulf, from whom our Mediterranean Sidonians were colonists (as islanders called Tyrians and Aradians are reported in the Persian Gulf, from whom our Tyrians and Aradians are colonists), or were they Sidonians in their own right? But there has been still more investigative debate about the Erembians: should we suspect that the Troglodytes are meant, as those think who prize the derivation from '*eis ten eran embainein*', that is, 'to go into the earth'? Or are they the Arabians? Now Zeno, from my own School,[388] emends the text like this [*SVF*, I.275]: 'Sidonians and Arabians'. But Posidonius is more convincing with his slight change of text to 'Sidonians and Arambians', on the grounds that the Poet called what are now the Arabians by the name prevalent at his time. He says that the Arabians consisted of three tribes, situated contiguous to each other, and so revealing a kind of homogeneity with each other, with the result that they were called by closely connected names, Armenians,

[387] This last paragraph is clearly added by Strabo, not Posidonius.
[388] Zeno of Citium, the Stoic.

Aramaeans and Arambians.[389] And just as we may suppose that the one tribe was split into three by the differences of continuing variation of degrees of latitude, so too their names pluralised from the single one. Nor do I find those who emend to Eremnians persuasive; for that name is more apposite to Ethiopians.[390] The Poet also mentions Arimi [*Iliad*, II.783]. Posidonius says we ought not to take this as some place in Syria, or in Cilicia or in some other land, but as Syria itself; for the people in Syria are Aramaeans, and perhaps the Greeks called them Arimaeans or Arimi. Variations of names, especially foreign names, are legion; for example, Dariekes for Dareios, Pharziris for Parysatis, Atargatis for Athara (she was called Derceto by Ctesias).

281b Eustathius, *Commentarii ad Homeri Iliadem*, II.782
Elsewhere Strabo says that according to Posidonius, Arimi refers not to a place in Syria or Cilicia, but to Tyria[391] itself, that is to say, the country about Tyre; because the people there are Arimaeans.

Parthians

282 (F71 Jac.) Strabo, XI.9.3

Context: Strabo embarked on his account of Parthia at XI.9. At the end of the section he declines to repeat his former excursus on Parthian customs from an earlier book, except to add a note from Posidonius on the Parthian senate.

As I have given a lengthy account of the customs of the Parthians in Bk 6 of my *Historical Sketches* [91, Fr. 1 Jacoby], and in Bk 2 of my *History of events after Polybius*, I shall omit them here, in case I should be thought to be repeating myself; but I shall add this much only, that Posidonius said that the Parthian senate was twofold, one part of Kinsmen,

[389] The names vary a little in the codices. [390] Because *eremnos* means 'black'.
[391] Clearly a mistake for Syria.

the other of Wise Men and Magi; in accordance with the advice of both of these it appoints the kings.

Friendship toasts among the Carmani

283 (F72 Jac.) Athenaeus, II.45F

Context: Athenaeus' immediate context is drinking toasts. Carmania (Kirman) was the south-eastern part of Iran, with a coastline straddling the Strait of Hormuz from about Qeys in the Persian Gulf eastwards originally to about Ra's al Kuh on the Gulf of Oman, but expanding to Ra's Jaddi; a large province stretching well north between Persis and Gedrosia. It was well known from the Alexander historians, Nearchus and Onesicritus.

One shouldn't drink toasts as the Carmanians do, says Posidonius: as marks of friendship in their cups, they open facial veins, mix the dripping blood in their drink and quaff it off in the belief that to taste each other's blood is the ultimate in friendship. After swallowing, he says, they anoint their heads with rose perfume preferably, otherwise with quince or iris perfume [orris] or nard[392] to repel the effects from the potion and avoid harm from the fumes of the wine.

The Golden Age; the political and cultural development of man

284 Seneca, *Epistulae*, 90.5–13; 20–5; 30–2 (*v.* T53, T106)

Context: Seneca's Letter is a paean to philosophy and its ultimate importance for human beings as the culminating aim of human endeavour. Under its influence, human fellowship remained inviolate until avarice destroyed and impoverished it (§3). The earliest human generations followed nature and had leader and law in one, where a natural law was for the weaker to submit to the stronger. The leader was chosen for his mind; and those races were happiest where a man could not be more powerful unless he was better (§4); this leads to Posidonius on the 'philosophers' of the Golden Age. In what follows, Seneca agrees with Posidonius on the importance of philosophy in political and social development, but disagrees strongly on Posidonius' apparent emphasis on the

[392] Reading: εἰ δὲ μή, μηλίνῳ [εἰ δὲ μ] ἢ ἰρίνῳ ἢ ναρδίνω, Kidd.

role of philosophy in the development of cultural life with the arts and sciences. This is because Seneca wishes to draw a sharp and excluding line between philosophy and the arts and sciences, regarding the growth of technology as responsible for the corrupting influence of luxury and avarice; but Posidonius, while distinguishing them, wished to emphasise their complementary relationship as natural and necessary (*v.* Frs 18 and 90). Seneca finishes his Letter (§§34–46) by claiming that philosophy is concerned with higher things than the arts. In the primeval era there was indeed a simple 'Golden Age' of natural innocence before the corrupting influences of avarice and luxury; but it wasn't 'philosophical', for philosophy was the ultimate goal to be worked for. Here, as throughout the history of Golden Age versions from Hesiod, through Plato and Dicaearchus to the Roman versions of the 1st c. B.C., there runs a certain confusion between a kind of supposed historical account of the development of human civilisation, and a theoretical explanation of how it arose. For details, see Kidd, *Comm.* pp. 961–71.

A The Golden Age in a philosophy of political and social development

(i) Posidonius' Golden Age

[5] So in the era which people call 'golden', Posidonius holds that sovereignty was in the power of philosophers [*sapientes*]. They held men's hands in check, protected the weak from the strong, persuaded and dissuaded, pointed out advantage and disadvantage. It was their wisdom that saw for their people's needs, their courage that warded off danger, their beneficence that advanced and distinguished their subjects. For them command was a duty, not an attribute of power. No one made trial of his powers against those who had first given him the power, nor did anyone have inclination or cause for wrong-doing, since good commander implies good subject, and the king could make no greater threat to malcontents than his own abdication.

(ii) The second stage of development

[6] But when kingship turned to tyranny through the inroads of vice, there began to be need of laws, but these too

at first wise men [philosophers, *sapientes*] brought forward. Solon, who established the constitution of Athens on a basis of equity, was one of the famous Seven Wise Men; Lycurgus, had he been been a product of that same age, would have increased that hallowed number to eight. The legislation of Zaleucus and Charondas earn praise; and they learned the legal justice they were to apply in Sicily and Greek Italy, then at the height of their powers, not in the public forum or legal office, but in the quiet holy retreat of Pythagoras.

B Philosophy of cultural development

(1) General objections to Posidonius

[7] Thus far I agree with Posidonius; but I am certainly not going to allow that the arts and sciences of everyday life were invented by philosophy, nor claim for philosophy the honour of the workshop of the artisan. 'It was philosophy,' quoth he, 'which taught men who had before been scattered and sheltered in caves or by some undermined rock or in the trunk of a hollow tree, to erect roofed houses.' My verdict is that philosophy no more thought out these devices of piling storey on storey, or city elbowing city, than she devised fish farms walled off to save the gourmet from the perils of the storms, and however savagely the sea may rage, that luxury may have its havens to fatten shoals of whatever brand of fish. [8] What's that? Did philosophy instruct men in locks and bolts? What else was that than giving a nod to avarice? Did philosophy poise these beetling garrets so dangerously for anyone living in them? Not enough, I suppose, to gain cover where chance offered, or to find some natural shelter without the difficulties of technology. Believe me, blessed was the era before architects and plasterers! [9] These were the arts that were born with the concomitant rise of luxury: the squaring off of timber, sawing a beam sure-fisted along the marked line, 'For the first men cleft with wedges wood that

could be split.' [Vergil, *Georg.* 1.144]. Yes, no roofs to furnish them for banqueting halls, no long procession of lorries with pine and fir carted for that purpose through the juddering streets for panelled ceilings hung heavy with gold. [10] Forked poles raised from both sides propped up the hut; a tight pack of twigs stuffed thick with leaves laid downward sloping provided a runnel for rain however torrential. Under these roofs men lived with peace of mind. Straw gave cover for the free, slavery lived beneath marble and gold.

(2) A series of objections in detail to Posidonius

[11] I disagree with Posidonius' judgement in this too, that tradesmen's tools were devised by wise men. In that case he might as well say that it was wise men too who 'then devised snares to capture the prey, bird-lime to trap them, and how to cordon great coverts with rings of hounds.' [Vergil, *Georg.* 1.139f.]. But all that was discovered by human cleverness [*sagacitas*] not by wisdom [*sapientia*].[393]

[12] Another thing I disagree on is this, where he said that philosophers discovered iron and copper mines, when the earth, burnt by forest fires in molten form cast surface veins of ore.[394] But these are found by entrepreneurs.

[13] Even that nice question whether the hammer or the tongs came first into use doesn't seem to me such a delicate judgement as to Posidonius. Both of them were invented by someone with a talent that was nimble and sharp rather than great and sublime; and so was anything else researched with bowed backbone and a mind bent groundwards. The philosopher was uncomplicated in his way of life, of course

[393] This was another source of confusion that runs through Golden Age 'philosopher' theories: the confusion between early intellectual cleverness (σύνεσις, sagacitas) and wisdom/philosophy (σοφία, sapientia). Compare Dicaearchus in Diogenes Laertius 1.40 (F30 Wehrli), and Sextus Empiricus, *Adv. Math.* IX.28, a passage which may refer to Posidonius.

[394] But for this theory in Posidonius, see Frs. 239 and 240, which make it clear that it had nothing to do with a 'Golden Age' theory.

he was.... [Seneca §§14–19 goes on to contrast the natural simplicity of the philosopher in the satisfaction of necessary needs, with the role of artisans in creating through the ingenuity of the arts and crafts a superfluous luxury which foments greed and vice.]

(3) Individual arts

(a) Weaving

[20] It is hard, my dear Lucilius, to believe how easily the charms of eloquence lead even great men from the truth. Look at Posidonius, in my judgement one of those who have contributed most to philosophy, when he wants to describe first how some threads are spun twisted, some drawn out soft and loose; then in weaving how the warp threads are stretched taut with hanging weights attached, how the weft is woven in to soften the warp that presses it in from either side, and is pressed down close and tight by the batten; this weaver's art, says he, was invented by philosophers, forgetting that this somewhat intricate technique was a late discovery, where

> 'Warp is bound to beam, the rod then parts its threads;
> Between is woven the weft with pointed shuttle,
> Rammed down with the broad comb's teeth-like prongs.'
>
> [Ovid, *Met.* VI.55–8, more or less]

What if he had been able to see the looms of our day which produce clothes that conceal nothing, and offer no support to modesty, never mind the body!

(b) Farming

[21] He then passes to farming, and with equal eloquence describes an initial ploughing of the ground and then a second to make the soil more friable and freer for the roots; then the sowing of the seed, and weeding by hand to prevent any stray coarse growth from harming the crop. This too he says is the work of philosophers, as if even today

agriculturalists were not inventing lots of new devices to increase the yield.

(c) Baking

[22] Then, not content with these technological skills, he tosses the philosopher down into the bakery; he describes how by imitating nature he began to make bread: 'Grain,' he says, 'is crushed in the mouth between hard teeth meeting together; whatever escapes is brought back by the tongue to the teeth again; then it is mixed together by the saliva to enable it more easily to pass through the mucous passage of the throat. When it comes into the stomach it undergoes coction by the even heat in it; then at last it is assimilated to the body. [23] Taking this as a model, someone put one rough stone on another to copy teeth, which work by one stationary set waiting for the movement of the other set; then the grain is crushed by the grinding of the two, and is returned again and again until it is reduced to a fine powder by the constant grinding. Then he sprinkled water on the flour, and working it thoroughly by continual kneading fashioned a loaf, which in the first place was cooked in a glowing hot earthenware pot by ashes, and subsequently by the gradual discovery of ovens and other appliances whose heat was more subject to control.' After that, he'll be assigning the discovery of shoemaking to philosophers next!

[24] Now all this is the product of reason, certainly, but not of 'right' or perfect reason.[395] They were the discoveries of men, not of philosophers, just like ships, for heaven's sake, with which we cross our seas and rivers, fitted with sails to catch the force of the winds, and with rudders fixed at the stern to turn the course of the vessel in this direction or that. The model came from fish who steer with their tail, which alters their swift course with a light move-

[395] The reference is to the Stoic phrase ὀρθὸς λόγος.

ment in either direction. [25] 'All these things,' says Posidonius, 'the philosopher indeed discovered, but handed over to his humbler agents what was too insignificant for him to deal with himself.' No, no; they were thought out by none other than those who attend to them today....

[§§25–29 Seneca goes on to give examples of recent inventions, which he claims rank as the discoveries of the lowest type of minion, hardly of philosophy, which trains the mind, not the hand in the turning out of trivialities; philosophy is not the artificer of equipment for our daily needs. He then proceeds to a description of philosophy (§§27–29) with which Posidonius would not have disagreed.]

[30] The philosopher has not withdrawn, say I [i.e. Seneca], as Posidonius thinks, from these arts; he never approached them at all. He would never have judged anything worth inventing, which he would later have judged not worth lasting use; he would not have picked up what had to be laid aside.

(4) Philosopher inventors

[31] 'Anacharsis,'[396] he says, 'invented the potter's wheel, by the circular motion of which vessels are shaped.' Then because the potter's wheel is found in Homer [*Iliad* XVIII.600f.], he[397] prefers to think that the verses are spurious, not the story. But I maintain that Anacharsis was not its inventor, but if he was, then certainly he was a philosopher when he invented it, but not *qua* philosopher; a lot of things philosophers do, they do *qua* human beings, not *qua* philosophers. Imagine a philosopher who is very fast; he will outstrip everyone else in a race through being fast, not *qua* philosopher. I'd like to show Posidonius a glass-blower who by his breath shapes glass into a great

[396] A 6th c. B.C. Scythian prince, renowned for his wisdom (Hdt. IV.76f.), later added to the Seven Sages, and in Hellenistic literature classed as a noble savage of Cynic hue.

[397] But this is an emendation; the codices have the plural 'they prefer'.

number of forms which could hardly be fashioned by the most skilful hand. That was invented long after the invention of his Golden Age philosopher.

[32] 'Democritus,' he says, 'is said to have discovered the arch so that the gradual curvature of inward leaning stones be held fast by the keystone.' That is untrue; before the time of Democritus there must have been both bridges and gateways, most of whose tops are arched.

HISTORY OF PHILOSOPHY

Sidonian Mochus inventor of atom theory

285 (F67 Jac.) Strabo, XVI.2.24

Context: At XVI.2.22 Strabo passed from Coele Syria to Phoenicia, and in particular to Tyre and Sidon. The account Strabo gives of the traditional reputation of the Sidonians for scientific advances has been thought to be Posidonian (Theiler, F57a, II.65), but the context is against this (*v.* Kidd, *Comm.* pp. 972f.); it is more likely to come from Strabo himself (see XVII.1.3). The Posidonian contribution is a short named parenthesis, which Strabo goes on to dismiss as 'ancient history'. Mochus is named in Josephus (*AJ* I.107) as a Phoenician historian, so also by Athenaeus (III.126A) coupled with Sanchuniathon, and by Diogenes Laertius (*Prol.* 1) in a list of early barbarian philosophers. This seems to represent an early Phoenician mythological literature of a cosmogonical nature older than the Trojan War. There were supposed 'translations' by Philo of Byblos (c.70–c. 160 A.D.).

The Sidonians are traditionally held to be skilled in many fine arts and crafts, as the Poet too makes clear [*Iliad*, XXIII.743]; in addition they had an old reputation as philosophers in astronomy and science of numbers, arising from calculation and sailing by night; for each is germane to trade and shipping; just as geometry is said to be an invention of the Egyptians derived from measuring the land, rendered necessary from the Nile confusing the boundaries by its risings. So people are convinced that geometry came to the Greeks from Egyptians, but astronomy and science

of numbers from Phoenicians. But in present times it is possible to get the very greatest abundance of all the rest of philosophy too from these cities; but even here,[398] if Posidonius is to be believed, the doctrine of atoms is an ancient one from Mochus of Sidon, born before the Trojan period.

286 Sextus Empiricus, *Adv. Mathematicos*, IX.359–64

Context: The passage occurs in Sextus' concise doxography of theories of the fundamental elements in the section 'On Body'.

[359] With regard to the most ultimate and primary elements there have been two leading positions, but a lot of sub-divisions; one group maintained that the elements of what is are bodies, the other that they are incorporeal. And of those who declared them to be bodies ... [363] And Democritus and Epicurus declared them to be atoms, unless we should put that view in earlier times and, as the Stoic Posidonius used to maintain, derived from a certain Mochus, a Phoenician,... [364] And of those who asserted the principle that they were incorporeal ...

Pyrrho

287 Diogenes Laertius, IX.68

Context: The account of Pyrrho begins at IX.61, and this passage is in the initial section devoted to Pyrrho's character and way of life. Other named sources are Antigonus of Carystus, Timon and Eratosthenes. Previous tales have included animal stories, and the folly and childishness of human actions. The anecdote also occurs in Plutarch, *Mor.* 82F unascribed.

Posidonius also relates something of this sort about him: when his fellow-passengers in a storm were showing the strain, he remained calm and stiffened the spirit by pointing to a piglet in the boat continuing to feed, and said that the wise man ought to be in such a settled, unperturbed state.

[398] I.e. philosophy in the proper or more restricted sense.

Epicurus

288 Diogenes Laertius, x.3–4

Context: The passage occurs in the opening sections of the Life of Epicurus. For other evidence of Posidonius' hostility to Epicurus and Epicureanism: Frs. 22, 46, 47, 149, 160, 187.

The Stoic Diotimus, being hostile to Epicurus, has slandered him most bitterly, producing fifty scandalous letters as being written by Epicurus; so too the man who edited as Epicurean the notelets commonly attributed to Chrysippus; but also Posidonius the Stoic [and his group] and Nicolaus and Sotion in the twelve books [twelfth book?] of those entitled *Dioclean Refutations*, which are ...[399], and Dionysius of Halicarnassus.

289 (F106 Jac.) Athenaeus, VII.279D–E

Context: The state of the text makes this fragment impenetrable. There must be two lacunas, as marked below; the lack of clues makes supplementation pure guesswork. All we can say is that Posidonius made some remarks about other hedonistic sects of philosophers besides the Epicureans.

It is not only the Epicureans who embrace pleasure; so do the Cyrenaics and ... so-called Mnesistrateans; yes, they too living pleasurably ... welcome, as Posidonius says.

Plato

290 (F86c) Hermias of Alexandria, *In Platonis Phaedrum Scholia*, on 245c

Context: Hermias' commentary reaches the notorious controversy on the interpretation of 'all soul' (ψυχὴ πᾶσα) in Plato's argument for the immortality of soul in *Phdr.* 245c5ff. Posidonius represents the group thinking 'world soul' was meant, Harpocration those who believed the reference was to 'every soul'. The choice of names is curious; Harpocration was a lexicographer. *v.* Kidd, *Comm.* pp. 980f.

We must first ask what kind of soul he means. One group thought that Plato's account referred to the world soul, because he said 'all' [πᾶσα] and a little later introduced

[399] There is a textual corruption here that has not been solved.

to his argument 'or the whole [πάντα] universe and the whole [πᾶσαν] of that which comes to be would collapse into immobility' [*Phdr.* 245d8f.]; The Stoic Posidonius is one of this group. The other group thought it referred to every soul without qualification, including those of ants and flies; Harpocration belonged to them; you see 'all' is understood for every soul.

291 Theo of Smyrna, *Expositio Rerum Mathematicarum ad Legendum Platonem Utilium*, pp. 103.16–104.1

Context: Theo was a Platonist of the first half of the 2nd c. A.D. who wrote a work on elementary arithmetic as an aid to reading Plato. He used Thrasyllus, the 1st c. B.C./A.D. astrologer. Theo is clearly deep into the popular game of arithmology, and discusses the various tetractyes, or figures based on groups of four numbers. He relates the seven numbers constituent of the soul in Plato, *Timaeus* 35bf., to what became known as the second tetractys, or double tetractys of the first four odd numbers and even numbers, forming a hebdomadal pattern, as schematised in the following figure:

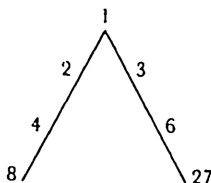


Fig. 15

For the possible relationship of all this to other hebdomadal literature, *v.* Kidd, *Comm.* pp. 982f. And for Posidonius on *Timaeus*, *v.* also Frs. 85, 141.

Plato too when he constructed the soul from seven numbers in the *Timaeus* [35b] was following nature. For day and night, as Posidonius said, have the nature of even and odd; and a month is completed by four sevens, the first seven marked by the appearance of half moon, the second by full moon, the third by half moon, and again the fourth

with the moon in conjunction with sun and the start of a new moon.

MISCELLANEOUS

The magadis in Anacreon

292 (F107 Jac.) Athenaeus, XIV.635C–D

Context: The magadis was a development of the harp class of instruments with an increased number of strings. After an initial discussion in Athenaeus as to whether it belonged to the aulos or kithara family, it is decided that it was a harp-like instrument. Then the argument turns to whether it was a very old instrument invented by the Lydians, or not. In what follows, Athenaeus and Posidonius clearly differed.

On the grounds that the magadis did not yet[400] exist in Anacreon's time (for they say that instruments with many strings came on the scene at a later date), some people are puzzled at the mention of the magadis in Anacreon: 'With my magadis I play with twenty strings, Leucaspis' [*PMG* 374]. And Posidonius says that Anacreon was making mention of three modes, the Phrygian, ⟨Dorian⟩ and Lydian (for these were the only ones used by Anacreon); since, said he, each of these is encompassed by seven strings, he naturally said that he was playing with twenty strings, rounding off to an even number by deleting one. But Posidonius is not aware that the magadis is an ancient instrument, with Pindar clearly saying that Terpander invented the barbitos antiphonal to the pectis used by the Lydians.[401]

On the meaning of the word λάξ (*lax*) in Homer

293 Scholia in Apollonium Rhodium, II.105–6

Context: The scholiast comments on Apoll. Rhod. II.105f. where Polydeuces killed Itymoneus by leaping on him, hitting him with

[400] Reading ὅπως ⟨οὔπω⟩ Kidd.

[401] He goes on to quote Pindar, *PLG* I.440 (F110 Bowra), and says again that the pectis and magadis are the same instrument.

his foot under the breast. The word requiring explanation concerns the foot and its action. The same word occurs in Homer, *Iliad* x.158, where Nestor rouses the sleeping Diomedes by prodding him with his foot. This concern for the meaning of a word in Homer is in line with Posidonius' interest in Homeric interpretation (e.g. Frs. 277a, 281), and with his interest in the exact meaning of single words (e.g. Frs. 170, 175, 261, 277a).

He Ityomeneus: Polydeuces jumped on him and hit him with his foot. The word related to foot (λάξ) refers to the noise of the slap made by the toes of the foot.

Alternatively, it properly refers to the part under the toes of the foot [i.e. the sole]. That is the way Posidonius rendered the passage from the Poet [Homer, *Iliad* x.158]: 'prodding him with (the sole of) his foot'.

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SUBJECT INDEX

Although for the reader's convenience I have subdivided this index into (A) Philosophy (B) History, Sciences, Geography (C) Style and Miscellaneous, it is sometimes difficult to compartmentalise a topic since Posidonius regarded all his work as organically related, and therefore there may be occasions when the reader will wish to check more than one section. The reader is also referred to the list of Contents at the beginning of the volume.

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20	344	53	82
21	345	54	86
22a	346	55a	87
22b	346 comm.	55b	87 comm.
23	347	56	88
24	387	57	114
25	381	58	126
26	371b	59	136a
27	371a	60	147
28a	389a	61a	151a
28b	389b	61b	151b
29	403	62a	157a
30	405	62b	157b
31	406	63	155
32	422b	64	154
33	418	65	158
34	407	66	168
35	423	67	170
36	438a	68	171a
37	470	69	172
38	422b	70	174
39	430	71	179
40	429	72a	180a
41a	431a	72b	180b
41b	431b	73	188
41C	432	74	204
42	460	75	205
43	457	76	210
44	458	77	236
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46	463	79	47a
47	463	80	468a
48a	303b	81	468b
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88	252b	124	295
89	404	125	296
90	447	126	266
91	253	127	271a
92	267	128	271b
93a	299	129	298b
94	300	130	298a
95	269	131a	316
96	268	131b	316 comm.
97a	302	132	322
97b	—	133	315
98	270	134	323
99a	304	135	325
99b	304 comm.	136	318
100	350	137a	5
101	349	137b	5 comm.
102	348	138	317
103	382a	139	390
104	386	140	391b
105	443	141a	391a
106	379	142	414
107	377	143	421a
108	372, 373a	144	421b
109	380a	145	421c
110	378	146	399
111	384	147	396
112	383	148	406
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114	290a	150a	410
115	290a	150b	417
116	261b	151	419
117	265	152	411
118	358b	153	416
119	16	154	436
120	297	155	438b
121	314	156	421d
122	301	157	411

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158	410	196	465
159	412	197	467
160	416	198	466
161	417	199a, b	—
162	417	200a	68a
163	413	200b	68b
164	409	201	68c
165	410	202	287
166	417	203	469
167	415	204	14
168	417	205	74
169	416	206	47a
170	446	207	47b
171	425a	208	15
172	425b	209	II. p. 24, 71
173	425c	210	283
174	417	211	75
175	445a	212	69a
176	452	213	69b
177	433	214	2
178	451	215	10
179	442	216	1
180	424	217	26
181	422c	218	26
182	422a	219	313
183	421b	220	20
184	449	221	9
185	426	222	63
186	428	223	66
187	417	224	21
188	454	225	35
189	456	226	101
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193	394	230	320
194	395c	231	12a
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233	12b	264	184
234	42	265	125c
235	46	266	81
236	53	267	81
237	52	268	36
238	61	269	25
239	19	270	70
240a	402	271	91
240b	402 comm.	272	44a
241	26	273	190
242	115	274	34
243	24	275	171b
244	56	276	34
245	65	277a	45
246	26	277b	188 comm.
247	23	278	131b
248	28b	279	60
249	41	280	7
250	43	281a	62a
251	54	281b	62b
252	84	282	48
253	247	283	116
254	125a	284	448
255	249	285	57a
256	129	286	57b
257	93	287	453[D]b
258	95	288	290b
259	94a	289	290c
260	94b	290	393
261	92	291	392
262	193	292	471
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