

CHRYSIPPUS ON NATURE AND SOUL IN ANIMALS

I. CALCIDIUS' ERROR WITH *NUTRIENDO*, *ADOLENDO*

Stoic biology made a distinction between nature and soul, classifying natural bodies into soulless plants and ensouled animals. The clearest influence of this classification, starting from the third century B.C., was in its embryological claim that the foetus, being directed by nature, is not an animal, a Stoic innovation upon Platonic and Aristotelian biology. The mid-second-century A.D. Stoic Hierocles reaffirmed this in his brief account of embryology, but, apart from textual difficulties raised by the surviving papyrus of his book, the question arises: does nature cease or remain in the animal after birth? More specifically, should the animal's faculties of nutrition and growth be classified as parts of soul after this has been formed? It appears that the Stoics' debate about the issue to some degree turned on concepts of competing divisions of the soul's parts or faculties. Unfortunately, insufficient textual evidence remains to illuminate their debate; and how the debate was conducted by Stoics from Panaetius on is uncertain, despite some second-hand reports that may help us to reconstruct it. Our one relevant late Stoic source is the opening of Hierocles' book, but he is entirely silent on it in his ensuing treatment of embryology.¹

Even some degree of doxographical disagreement exists on the issue. Calcidius, at *In Platonis Timaeum* 220, reports a Stoic doctrine, attributed to Chrysippus, that the animal's nutrition and growth are taken over by the parts of soul after birth.² Galen, at *Adversus Iulianum* 5, and ps.-Galen, at *Introductio* 13 (that the latter refers to the Stoics is hardly in doubt), cite another Stoic doctrine, that the animal is governed both by nature and by soul (see below). Under the circumstances, it is hard to determine whether this disagreement was actually one between the historical Stoics, or merely reflects a doxographical divergence in transmission, and whether Chrysippus differed from the other Stoics on the issue. Moreover, the question whether (and if so how) those two Stoic doctrines are fully compatible needs closer scrutiny. Below I shall argue that the Stoics held to a belief in the continuation of nature in the animal, and that any impression of a disagreement, on this view, is likely to derive from Calcidius' misreporting.

Even if Calcidius were right to attribute to Chrysippus the opinion that the soul's parts include provision for nutrition and growth in the animal, it would be probable that this opinion belonged at best to Chrysippus and some Chrysippeans. But

¹ On Hierocles, *Elementa ethica* 1.1–33 see A. A. Long and D. N. Sedley (edd.), *The Hellenistic Philosophers*, 2 vols (Cambridge, 1987), 1.320–1; G. Bastianini and A. A. Long (edd.), 'Hierocles', *Corpus dei Papiri Filosofici Greci e Latini (CPF)* (Florence, 1992), 1.368–451. The question 'Are we to suppose that the newly emergent soul takes over the functions of the physique [nature] which was its previous state?' seems essentially answered by Long and Sedley (see above). My discussion aims rather to resolve some uncertainty regarding Calcidius, *In Pl. Tim.* 220.

² On the full quotation of Calcidius, *In Pl. Tim.* 220, see n. 9. Cf. n. 10; J. B. Gould, *The Philosophy of Chrysippus* (Leiden, 1970), 102; D. E. Hahm, *The Origins of Stoic Cosmology* (Columbus, OH, 1977), 162; B. Inwood, *Ethics and Human Action in Early Stoicism* (Oxford, 1985), 25–9; Long and Sedley (n. 1), 2.313–14.

Calcidius' attribution is itself open to question on account of the absence of sources confirming it. The evidence I present a little later tends to suggest that the classification of nutrition and growth as due to the animal's nature dates back to Stoics as early as Zeno and Chrysippus. This leaves no good reason to distinguish Chrysippus from the other Stoics on the issue. The attribution finds insufficient support elsewhere, not just because of its textual rarity, but also because, as Long and Sedley write, 'If moreover we take it that the commanding-faculty of the newly emergent soul directly controls these vital functions', it is difficult to see 'how it does so in virtue of its basic powers, impression and impulse'.³ More probably, Chrysippus did not fail to recognize this difficulty, but proposed that the animal's nature continues to direct its nutrition and growth automatically after soul has been formed.

Ps.-Galen, at *Introductio* 13, states:

There are two kinds of innate pneuma, the natural kind and the psychic kind. Some people [the Stoics] also posits a third, the *hexis* kind; the pneuma which sustains stones is of the *hexis* kind, that which nurtures both animals and plants is of the natural kind, and that which, in ensouled beings, makes animals capable of sensation and of moving in every way is of the psychic kind.⁴

The text of ps.-Galen seems reliable in view both of his use of standard Stoic terminology and of his reproducing its physical tripartition of innate pneuma. There the notion of the continuation of nature in the animal is apparent, where the author associates 'the natural kind' with 'both animals and plants' and 'the psychic kind' with 'animals'.

One Galenic treatise sets out a similar doctrine: 'For every plant is governed by the agency of nature and every animal by the agency of nature and at the same time of soul if, at any rate, we all name the cause of nutrition, growth and such activities "nature", and that of sensation and motion out of itself "soul"'.⁵ Despite the occurrence of some Stoic terminology, Galen need not have had a Stoic source here. But, in my view, in the concluding conditional ('if, at any rate ...') he was drawing on the Stoic use of 'nature' to designate the cause of nutrition and growth in both animals and plants; 'nature' here contrasts with 'soul' *qua* the cause of sensation and self-motion.

The 'nature' which ps.-Galen and Galen talk about in those passages matches the corresponding Stoic term in the doxography of Diogenes Laertius, where the idea of nature's continuation in animals is clearly a Stoic orthodoxy: 'Nature, they say, is not different in regard to plants and animals at the time when it directs animals too without impulse and sensation, and in us certain processes of a vegetative kind take place. But when impulse has been superadded to the animal ...'⁶ I take this piece of evidence as one of the most accurate testimonies as to how the Stoics used 'nature' to refer to the animal's vital capacities insofar as these differ from its psychic ones. Galen was simply employing that Stoic terminology at this point.

³ Long and Sedley (n. 1), 1.320.

⁴ Ps.-Gal. *Introductio* 13 (14.726 K; *SVF* 2.716): τοῦ δὲ ἐμφύτου πνεύματος διττὸν εἶδος, τὸ μὲν φυσικόν, τὸ δὲ ψυχικόν· εἰσὶ δὲ οἱ καὶ τρίτον εἰσάγουσι, τὸ ἐκτικόν· ἐκτικὸν μὲν οὖν ἐστὶ πνεῦμα τὸ συνέχον τοὺς λίθους, φυσικὸν δὲ τὸ τρέφον τὰ ζῶα καὶ τὰ φυτά, ψυχικὸν δὲ τὸ ἐπὶ τῶν ἐμφύχων αἰσθητικά τε ποιοῦν τὰ ζῶα καὶ κινούμενα πᾶσαν κίνησιν.

⁵ Gal. *Adv. Iulianum* 5 (18. 266 K; *SVF* 2.718).

⁶ Diog. Laert. 7.86: οὐδὲν τε, φασί, διήλλαξεν ἡ φύσις ἐπὶ τῶν φυτῶν καὶ ἐπὶ τῶν ζώων, ὅτε χωρὶς ὁρμῆς καὶ αἰσθήσεως κακείνα οἰκονομεῖ καὶ ἐφ' ἡμῶν τινα φυτοειδῶς γίνεται. ἐκ περιττοῦ δὲ τῆς ὁρμῆς τοῖς ζώοις ἐπιγενομένης, κτλ.

The same doctrine also appears at Sextus Empiricus, *Adversus Mathematicos* 9.83-4: 'So the world is not sustained by the agency of mere *hexis*. If not by the agency of this, certainly by the agency of nature; for things which are governed by the agency of soul were, much prior to that, sustained by the agency of nature'.⁷ Here things which are governed by the agency of soul correspond to animals, including human beings, and are said to be sustained by the agency of nature. In the doxography there is no sign of nature's ceasing in the animal, but instead a sign of its continuation in it much prior to soul. The source which Sextus refers to, then, obviously, held to the same Stoic doctrine as cited by Diogenes.⁸

No evidence suggests a Stoic disagreement about the doctrine in question, other than the testimony of Calcidius. The Stoics appear to have taught that nature remains and performs its own autonomous government in the animal, by distinguishing the 'nature' accounting for the animal's vital life from the 'soul' accounting for its psychic life. It may then be reasonably doubted whether Calcidius was right to include *nutriendo, adolendo* in his account of Chrysippus' division of the soul's parts and faculties.

II. THE SOUL'S PARTS AND *VITALIS SPIRITUS*

Supposing that Calcidius got it wrong, his doxography remains reliable and interesting in dealing with the orthodox Stoic theory of soul. The doxography that he outlines for Chrysippus, which I divide into four sections, runs as follows.

(1) Chrysippus says that it is certain that we breathe and live with one and the same thing; but we breathe with natural pneuma (*naturali spiritu*); therefore we live also with the same pneuma; but we live with soul; therefore the soul is found to be natural pneuma. (2) He says that it is therefore divided into eight parts; for it consists of the *hêgemonikon*, the five senses, the vocal capacity and the spermatric faculty. Moreover, the soul's parts (*animae partes*) flow from their seat in the heart, as if from the source of a spring, and spread through the whole body. (3) Besides, they continually fill all the limbs with vital pneuma (*vitali spiritu*), and govern and control them with numerous different powers, such as [nutrition, growth,] locomotion, sensation and impulse to action, (4) and the soul as a whole dispatches the senses which are its proper functions, like branches from the trunk-like *hêgemonikon* to report what they sense, while it itself like a monarch passes judgment on their reports.⁹

⁷ Sext. Emp. *Math.* 9.83-4 (*SVF* 2.1013, part): οὐ τοίνυν ὑπὸ ψυχῆς ἑξέως ὁ κόσμος συνέχεται. εἰ δὲ μὴ ὑπὸ ταύτης, πάντως ὑπὸ φύσεως· καὶ γὰρ τὰ ὑπὸ ψυχῆς διακρατούμενα πολὺ πρότερον ὑπὸ φύσεως συνέχεται.

⁸ There is close to a scholarly consensus that the section of Sextus 9.81-5 (and even the whole section 9.78-85) has a Posidonian source. Cf. D. N. Sedley, 'Sextus Empiricus and the Atomist criteria of truth', *Elenchos* 13 (1992), 19-56, at 31, n. 24. And the Stoic concept of nature that surfaces in the Sextus passage concurs with that at Diog. Laert. 7.86 (see n. 6). L. Edelstein, 'The philosophical system of Posidonius', *AJPh* 57 (1936), 286-325, at 296 attributes the Diogenes passage to 'the general Stoic dogma', contrasting it with Posidonius, because he 'must have understood these [soul's appetitive and passionate] faculties in the Platonic sense', and 'must therefore have ascribed to plants at least the appetitive soul, desire and sensation'. But where and how, exactly, did Posidonius not follow the general Stoic dogma about nature? Where did he ascribe to plants those psychic faculties in the Platonic sense? With the Sextus passage in mind, we can see that Posidonius followed his predecessors by holding to the continuation of nature in animals, and defined plants as soulless living beings sustained by nature only. No evidence supports Edelstein's interpretation.

⁹ Calcidius, *In Pl. Tim.* 220 (ed.) Waszink (*SVF* 2.879, part): (1) *item Chrysippus una et eadem inquit certe re spiramus et vivimus. spiramus autem naturali spiritu. ergo etiam vivimus eodem spiritu. vivimus autem anima. naturalis igitur spiritus anima esse invenitur.* (2) *haec igitur inquit octo in partes divisa invenitur; constat enim e principali et quinque sensibus, etiam vocali substantia et*

In the opening lines of section 1 Calcidius first introduces a Chrysippean syllogism to prove soul to be ‘natural (or innate) pneuma’ in origin. In the following lines of section 2 he counts the exact ‘eight parts’ into which the Stoics divided soul, and whose highest ruling part they called the *hēgemonikon*. In section 3 he speaks of the ‘soul’s parts’, with regard to its multiple faculties, ‘locomotion, sensation and impulse to action’ (albeit including the contentious terms ‘nutrition [and] growth’). In the remaining lines he precisely describes the mechanism of the soul’s ruling part, located in the heart, the single source or the command centre of an eight-part soul. Immediately following this outline, Calcidius proceeds to describe the *hēgemonikon* of non-rational animals, then citing Chrysippus’ simile comparing a rational *hēgemonikon* to a spider, located at the centre of its web (omitted in the above quotation). The topics Calcidius deals with are likely to have been included in the first half of Book 1 of Chrysippus, *On the Soul*.¹⁰

It is still hard to see why in section 3 Calcidius ascribes to Chrysippus the assertion that the soul’s ‘parts’ fill the animal body with ‘vital pneuma’. The questions arise: How, exactly, do the soul’s parts fill the body with vital pneuma, let alone govern and control it with ‘nutrition [and] growth’? Why do they not rather fill it with psychic pneuma? If Calcidius is at any rate referring to Chrysippus’ treatise, what propositions or terms there could correspond to that assertion? The expression *vitali spiritu*, linked with the *animae partes* in the doxography, is unexpected. To the best of my knowledge, there is no parallel ascription among the extant Stoic testimonies.

Galen, *De placitis* 1.6.79 is perhaps the first port of call in seeking to answer those questions.¹¹ Galen reports that for Erasistratus it is ‘vital pneuma’ that fills one ventricle of the heart and for Chrysippus ‘psychic pneuma’; that is, for Chrysippus,

serendi procreandique potentia. porro partes animae velut ex capite fontis cordis sede manantes per universum corpus porriguntur; (3) omniaque membra usque quaque vitali spiritu complent reguntque et moderantur innumerabilibus diversisque virtutibus, [nutriendo, adolendo] movendo motibus localibus, instruendo sensibus, compellendo ad operandum, (4) totaque anima sensus, qui sunt eius officia, velut ramos ex principali parte illa tamquam trabe pandit, futuros eorum quae sentiunt nuntios, ipsa de his quae nuntiaverint iudicat ut rex. (tr. from LS 53G, modified.)

¹⁰ H. von Arnim (ed.), *Stoicorum Veterum Fragmenta*, 4 vols. (Leipzig, 1903–24), 2.235–6, prints Calcidius, *In Pl. Tim.* 220 (quoted at n. 9) as the first of the fragments that belong to Chrysippus’ *On the Soul*. This treatise of Chrysippus has been extensively discussed by T. Tieleman, *Galen and Chrysippus on the Soul: Argument and Refutation in the De Placitis II–III* (Leiden, 1996), and more recently by J.-B. Gourinat, ‘Le traité de Chrysippe Sur l’âme’, *Revue de Métaphysique et de Morale: Les stoïciens et le monde* (Paris, 2005), 557–77. I do not repeat their discussion here, except in passing making the two following points about the text from Calcidius. First, Calcidius’ text is principally Chrysippean, except for Calcidius’ insertion of *nutriendo, adolendo* and his association of *animae partes* with *vitali spiritu*, as I shall argue. My solution to the inclusion of the two former terms is to view them as Calcidius’ misreporting (hence the square brackets in the above quotation at n. 9). Second, it is broadly true that Calcidius’ text includes a patchwork of quotations and indirect report, and refers to ‘Chrysippus’ without explicitly referring to his treatises as direct sources, as Tieleman (see above), 136–7, points out. But Calcidius’ text, despite some obscure terminology, includes the distinctively Chrysippean topics regarding soul, which largely parallel Galen, *De placitis* 3.1, p. 170, 10–11 De Lacy (see n. 22), and some other testimonies (see n. 24), as I shall argue. Thus the old view of Arnim that Calcidius’ text was probably derived from the first half of Book 1 of *On the Soul*, seems plausible. Alternatively, in view of the variety of topics, Calcidius may have referred to more than one treatise of Chrysippus.

¹¹ Gal. *De placitis* 1.6.79 (p. 141 M; SVF 2.897): ‘Ερασίστρατος μὲν γὰρ ζωτικὸν πνεῦματος, Χρύσιππος δὲ τοῦ ψυχικοῦ πνεύματος πλήρη φασὶν εἶναι τὴν κοιλίαν ταύτην [τὴν ἀρστέραν τῆς καρδίας]. Cf. Gourinat (n. 10), 569: ‘les fragments du livre I de Galien rassemblés par Arnim en SVF II 897 font état d’une discussion de thèses d’Érasistrate’.

'soul' is equivalent to 'psychic pneuma' and not identical with 'vital pneuma' in its technical sense. This reading stands even though both sorts derive from the same innate pneuma. Moreover, considering both the lines of section 3 and the subsequent lines of Calcidius' doxography, it is likely that rather than vital powers Chrysippus intended by the soul's 'parts' psychic powers or capacities ('sensation', 'impulse', 'judgment', 'internal reflection and reasoning'). An immediate response might be to imagine that, like the expressions *nutriendo* and *adolendo*, the expression *vitalis spiritu*, linked with the *animae partes*, is likely to be another misreporting by Calcidius. Otherwise, possibly, the corresponding Stoic terms were somehow loosely associated with 'soul' or its 'parts' in Chrysippus' treatise, which may have attracted Calcidius to link the two imprecisely.

It is reasonable first of all to examine the authenticity of Calcidius' expression *vitalis spiritus* as a Stoic term. There is little evidence to help us find a corresponding Stoic term, but the three following possibilities can be considered. I will argue that only the third is feasible as characterizing Chrysippus' thought and that of the Stoics in general.

(a) The expression *vitalis spiritus* may have come from the corresponding Ciceronian translation of the passages of *Nat. D.* 2, despite the difference in the topics dealt with. Cicero preserves *vitalē et salutarem spiritum* (2.117) and elsewhere in the same treatise *salutarem ... et vitalē calorem* (2.27) and *vitalis et salutaris* (2.41). The contexts of these translations deal with the causal roles of 'heat' in the world and the things in it, with regard to utility for life (*usus vitae*).¹² Some scholars associate Cicero's translation *vitalis spiritus* with the concept of πνεῦμα ζωτικόν, to suggest that 'the pneumatic school of medicine' 'may have borrowed this concept from Posidonius'.¹³ This medical and Posidonian attribution, however, seems to me baseless. The concept is not originally Stoic, since no parallel term is found in the old Stoa. Possibly the only strict attestation may be found in Nemesius, *De nat. hom.* 26; yet even there he preserves the expression τὰς ζωτικὰς, designating the animal's 'vital faculties'; here he propounds a tripartite division of its faculties, alongside natural and psychic ones. Theiler conjectures the Stoic source of this division to be Posidonius, while others propose Panaetius.¹⁴ Even if we take it for granted that this division is a Stoic one, the currency among the late Stoics of the terminology of πνεῦμα ζωτικόν is highly problematic. No extant remains of Posidonius' (or Panaetius') works cite that exact terminology, relying instead on πνεῦμα φύσικόν, a term which the Stoic tripartition of pneuma entails, as cited by ps.-Galen, *Introductio* 13. The attribution to Posidonius of the expression πνεῦμα ζωτικόν and its connection to the *vitalis spiritus* in either Cicero or Calcidius are thus highly contentious.

¹² Cic. *Nat. D.* 2.117: *huic autem continens aer fertur ille quidem levitate sublimi, sed tamen in omnes partes se ipse fundit; itaque et mari continuatus et iunctus est et natura fertur ad caelum, cuius tenuitate et calore temperatus vitalē et salutarem spiritum praebet animantibus.*

¹³ A. S. Pease (ed.), *Cicero: De natura deorum*, 2 vols. (Cambridge, MA, 1955–8), 2.844: 'R. Philippson (*Rhein. Mus.* 77 (1928), 301, n. 1) renders πνεῦμα ζωτικόν, and suggests that the pneumatic school of medicine ... may have borrowed this concept from Posidonius.'

¹⁴ Nem. *De nat. hom.* 26 (Panaetius fr. 126 Alesse; fr. 86a Straaten). Cf. W. Theiler (ed.), *Poseidonios: die fragmente*, 2 vols. (Berlin, 1982), 2.329–33; F. Alesse (ed.), *Panezio di Rodi e la tradizione stoica* (Naples, 1994), 194–217. Despite the reception by some scholars of Nemesius' text, I find it difficult to attribute to the Stoa, Panaetius or Posidonius. Some uncertainty persists in Nemesius' use of the term ζωτικὰς, which is too odd to be Stoic. A normal Stoic division of the animal's faculties is bipartite, and little evidence supports a Stoic origin for his counting of it as one of the three faculties of the animal.

(b) It is possible that the expression *vitalis spiritus*, taken together with the *naturalis spiritus*, had already become current in Latin, corresponding to the term πνεῦμα ζωτικόν, outside the Stoic school at or before Calcidius' time. This becomes thinkable as a possibility when one sees later Christian commentators using it for their own purposes. Galen hints that the exact term πνεῦμα ζωτικόν was used by the third-century B.C. physicians such as Erasistratus; Calcidius himself attributes it to Herophilus in its translation *spiritus naturalis*.¹⁵ In the case of Erasistratus, πνεῦμα ζωτικόν corresponds to 'vital pneuma', distinguished from 'psychic pneuma' in its fineness, and forms part of a particular medical bipartition current at that date. Heinrich von Staden outlines this as follows.¹⁶ The pneuma comes from and around the arteries and the left ventricle of the heart, as the pneuma that makes life possible, accounting for the animal's vital activities (digestion, respiration and the pulse). Any kind of pneuma travels from a single source, namely the external air as taken in through respiration. It is refined into vital pneuma in the cardiac ventricle before the arterial system carries a portion of it to the brain. In the brain this vital pneuma becomes further refined into psychic pneuma. This pneuma runs from the brain to the nerves, accounting for the animal's psychic activities (cognition and voluntary motor activities). It is possible that the Stoa later made use of most of these medical terms, despite the differences between them, to distinguish between nature and soul in the animal.

Nevertheless, there is no reason to equate the *vitalis spiritus* in the doxography of Cicero or Calcidius with that particular concept of vital pneuma used by earlier medical theory. In Cicero the *vitalis spiritus* is related, rather, to the causal power of cosmic fire or natural heat. It connotes fire's life-enabling function in the world in the broadest sense, as the foremost of the four elements imparting 'the breath of life and health' to animals and other living beings. It is equivalent to what Zeno calls craftsmanlike nature and Cleanthes cosmic soul. In Calcidius the term cleaves closely to soul's causal power, conveying the same life-enabling function in animals, which is located in the heart and not in the brain. This doctrine is associated overwhelmingly with Chrysippus. It is by no means unquestionable that the *vitalis spiritus* in Cicero or Calcidius carries the same sense as the medical term of the third century B.C., despite their lexical identity.

(c) The final possibility is that, when Calcidius described the *naturalis spiritus* of Stoicism, he had in mind 'connate pneuma' (σύμφυτον πνεῦμα), and that the expression *vitalis spiritus* might be closely related (or even identical) to this Stoic designation. In fact, at successive points in the doxography, Calcidius introduces both the Zenonian and the Chrysippean syllogisms for the derivation of soul.¹⁷ There

¹⁵ Cf. n. 11; ps.-Gal. *Introductio* 9 (14. 697 K; Eras. fr. 86; *SVF* 2.716); Calcidius, *In Pl. Tim.* 246 (Waszink, 256–7; *Heroph.* T86). Calcidius says that according to Herophilus the optic nerve contains 'natural pneuma' (*spiritus naturalis*), alluding to his identification of the substance of soul with pneuma (although 'natural' in Herophilus generally describes involuntary activities such as respiration); but no ancient author confirms Calcidius' attribution of *spiritus naturalis* to Herophilus.

¹⁶ H. von Staden, 'Body, soul, and nerves: Epicurus, Herophilus, Erasistratus, the Stoics, and Galen', in J. P. Wright and P. Potter (edd.), *Psyche and Soma* (Oxford, 2000), 79–116, at 92–6.

¹⁷ Calcidius, *In Pl. Tim.* 220 (*SVF* 1.138 = 2.879, part): *spiritum quippe animam esse Zenon quaerit hactenus: quo recedente a corpore moritur animal, hoc certe anima est. naturali porro spiritu recedente moritur animal: naturalis igitur spiritus anima est.* Cf. M. Schofield, 'The syllogisms of Zeno of Citium', *Phronesis* 28 (1983), 31–58, at 34; Gourinat (n. 10) at 563. On scholars' debate about the similarity between the Chrysippean syllogism cited by Calcidius and by Alexander, *De anima cum mantissa*, p. 117, 31 Bruns (*SVF* 2.792), see Tieleman (n. 10) at 168, n. 81; Gourinat

Calcidius identifies soul with *naturalis spiritus*, namely the pneuma with which ‘we breathe’ and ‘live’, and by whose agency ‘the animal is moved’. The syllogisms, thus representing the Stoic argument for the nature of soul from its origin, define it broadly as a life-enabling pneuma innate in the animal.

This broad concept of soul is evident in a variety of Stoic texts. According to Diogenes Laertius, soul is defined by Zeno and later by Antipater of Tarsus and Posidonius as ‘a pneuma connate (συμφυές) in us’, which provides for us ‘the breath of life’ (ἐμπνούς) and ‘motion’, and a portion of which is emitted in human sperm.¹⁸ Arius Didymus, in the doxography dealing with Zeno’s view of the stars, says that soul is in its function analogous to designing fire, being one of the two kinds of fire, ‘causing growth and preservation, as is the case in plants and animals where it is nature and soul respectively’.¹⁹ Galen, *De placitis* 3.1, p. 170, 10, quotes the Chrysippean account of soul, which contains the same definition as the Zenonian: ‘The soul is a pneuma connate (σύμφυτον) in us, continuous, penetrating the entire body, as long as the <freely flowing breath> of life (ἡ τῆς ζωῆς <εὔπνοια>) is present in the body.’²⁰

To judge by the evidence from Galen just quoted, Chrysippus agreed with Zeno on the matter of that life-enabling pneuma in animals, the same pneuma that is taken to denote ‘nature’ in plants. Calcidius preserves precisely this Chrysippean definition of soul in a syllogism, in which, as in the Zenonian syllogism, the expression *naturalis spiritus* best matches the term ‘connate pneuma’, translated by Tertullian as *consitus spiritus*.²¹ The term is further equivalent in Stoic zoology to the other term ‘psychic pneuma’ (πνεῦμα ψυχικόν), since, when used in zoological contexts, these prove entirely interchangeable, denoting the soul of rational and irrational animals. The two terms were, with some variations, recurrently used by the Stoa, primarily to prove the soul to be ‘corporeal’ (contra Plato and Aristotle), and to be ‘connate’ in the animal and not acquired from the outer air in its origin, despite its dependence on breathing (contra Praxagoras, Herophilus and Erasistratus). In the latter respect, the Stoic term ‘psychic pneuma’ fundamentally differs from the medical term ‘psychic pneuma’, despite their homonymy.

If so, we can take the expression *naturalis spiritus* as parallel to ‘a pneuma connate in us’ in Chrysippus; by comparison, the expression *vitalis spiritus* can best refer to ‘the <freely flowing breath> of life’, the term cognate with ‘life’ (ζωή) or ‘the breath of life’ (ἐμπνούς) frequently found in the other Stoics (see above). In that case, Calcidius’ expression *vitalis spiritus* seems as Stoic in provenance or currency as the *naturalis spiritus*, even if Calcidius was mistaken to link it with the *animae partes*, as I argue below.

(n. 10), 564, n. 42; R. Sharples, *Alexander of Aphrodisias, Supplement to On the soul* (London, 2004), 240.

¹⁸ Diog. Laert. 7.156–7 (fr. 139 EK): τὴν δὲ ψυχὴν αἰσθητικὴν <φύσιν>. ταύτην δ’ εἶναι τὸ συμφυές ἡμῖν πνεῦμα· διὸ καὶ σῶμα εἶναι μετὰ τὸν θάνατον ἐπιμένειν· φθαρτὴν δ’ ὑπάρχειν, τὴν δὲ τῶν ὄλων ἀφθαρτον, ἧς μέρη εἶναι τὰς ἐν τοῖς ζώοις. Ζήνων δ’ ὁ Κιτιεὺς καὶ Ἀντίπατρος ἐν τοῖς Περὶ ψυχῆς καὶ Ποσειδώνιος πνεῦμα ἐνθερμον εἶναι τὴν ψυχὴν· τοῦτω γὰρ ἡμᾶς εἶναι ἐμπνούς καὶ ὑπὸ τούτου κινεῖσθαι.

¹⁹ Arius Didymus, *Epitome* fr. 33 Diels (p. 467, 4–7 DG; SVF 1.120, part).

²⁰ On the full quotation of Gal. *De placitis* 3.1, p. 170, 10–11 De Lacy, see n. 22.

²¹ Tertullian, *De an.* 5 (SVF 1.137) preserves another Zenonian syllogism to prove a corporeal soul. Cf. J. Mansfeld, ‘Doxography and dialectic: the *Sitz im Leben* of the *Placita*’, in W. Haase (ed.), *ANRW* 2.36.4 (Berlin–New York, 1990), 3056–229, at 3135; Gourinat (n. 10), 566, n. 54.

Two sections of Galen, *De placitis* 3.1, p. 170, 10–11, will help us identify what I claim to be Calcidius' error.

(10) ... Chrysippus says in book I of *On the soul* ... The soul is (a) a pneuma connate in us, (b) continuous, penetrating the entire body, as long as the <freely flowing breath> of life is present in the body. (11) Now of its [soul's] parts that have been attributed to each part [of the body], that of them which extends to the windpipe <we say> is the voice, that to the eyes sight, that to the ears hearing, that to the nostrils smell, that to the tongue taste, that to the whole flesh touch, and that which extends to the testicles, possessing another such account, the spermatic part. That part where all these part of the soul comes together is located in the heart, which is the part of soul that is the *hēgemonikon*.²²

Galen, after explicitly citing 'book I of *On the Soul*', first quotes Chrysippus' definition of soul as connate pneuma (section 10).²³ Immediately following this definition, Chrysippus proceeds to explain soul's eight parts at length, with regard to its psychic faculties (voice, sight, hearing, smell, taste, touch, and its spermatic part) and especially to the *hēgemonikon* (section 11).

It appears that Calcidius' text quoted earlier, though less concise, basically follows the terms of the two sections from Galen just quoted. In comparison, section 10 is, it seems to me, a fairly abridged version of the greater part of the report preserved by Calcidius. The definition that the soul is 'a pneuma connate in us' in (a) of section 10 represents, most likely, a synopsis of the Chrysippean syllogism in Calcidius' text. The phrase 'continuous, penetrating the entire body, as long as the <freely flowing breath> of life is present in the body' in (b) of section 10 recalls the sentence 'they [soul's parts] continually fill all the limbs with vital pneuma' in Calcidius' text, in that both describe the soul's penetration of the body.

There is, however, one notable difference in that, whereas 'vital pneuma' in Calcidius is linked with the 'soul's parts', 'the <freely flowing breath> of life' in Galen is not. Galen is right to resist this equivalence, because section 10 is a verbatim fragment of Chrysippus, and also because there is no evidence to suggest a structural connection between the soul's 'parts' and the breath of life.²⁴ Instead each part is described by Chrysippus as responsible for its own psychic function, attributed respectively to bodily organ(s) apposite to it. Even the ruling part of soul is connected by the Stoics normally with four psychic functions, impression, impulse, assent and

²² Gal. *De placitis* 3.1, p. 170, 10–11 De Lacy (*SVF* 2.885, part): (10) ... ὁ Χρύσιππος κατὰ τὸν πρῶτον αὐτοῦ περὶ ψυχῆς λόγον ... (a) ἡ ψυχὴ πνευμά ἐστι σύμφυτον ἡμῖν, (b) συνεχὲς παντὶ τῷ σώματι διήκον, ἐστ' ἂν ἡ τῆς ζωῆς <εὐπνοία> παρῇ ἐν τῷ σώματι. (11) ταύτης οὖν τῶν μερῶν ἐκάστω διατεταγμένων μορίῳ, τὸ διήκον αὐτῆς εἰς τὴν τραχείαν ἀρτηρίαν φωνὴν <φάμεν> εἶναι, τὸ δὲ εἰς ὀφθαλμοὺς ὄψιν, τὸ δὲ εἰς ὅτα ἀκοήν, τὸ δὲ εἰς ῥίνας ὀσφρησιν, τὸ δ' εἰς γλῶτταν γεῦσιν, τὸ δ' εἰς ὅλην τὴν σάρκα ἀφήν, καὶ τὸ εἰς ὄρχεις, ἑτερόν τιν' ἔχον τοιοῦτον λόγον, σπερματικόν, εἰς δὲ συμβαίνει πάντα ταῦτα, ἐν τῇ καρδίᾳ εἶναι, μέρος ὃν αὐτῆς τὸ ἡγεμονικόν. The text is taken from von Arnim (n. 10), 2.238–9 and its translation from Tieleman (n. 10), 154f. modified. Tieleman's translation omits the phrase τὸ δ' εἰς ὅλην τὴν σάρκα ἀφήν, and is too loose regarding the phrase ἑτερόν τιν' ἔχον τοιοῦτον λόγον. Tieleman (n. 10), 136–7 adopts ἡ τῆς ζωῆς <εὐπνοία>, and von Arnim (n. 10), 2.238 and Gourinat (n. 10), 562 ἡ τῆς ζωῆς εὐπνοία; I follow them.

²³ On the Stoic term σύμφυτον πνεῦμα see *SVF* 2.715 and 2.773–80. Aristotle is the only known user of the term before Stoicism, differing from the Stoics in using it in physiological and psychological contexts; for the Stoics, the term is not different from 'psychic pneuma', as designating a corporeal soul, whereas, for Aristotle, it is the 'vehicle' of 'innate heat' or the instrument by means of which incorporeal soul performs its psychic functions.

²⁴ Cf. n. 18; Aët. *Plac.* 4.21.1–4 (*SVF* 2.836, part).

reason.²⁵ If that is the case, despite Calcidius' implication, the idea that any of soul's parts performs a life-enabling function in animals does not appear to be Chrysippean or more generally Stoic.

It is interesting to find that Chrysippus' definition of soul in section 10 does not concern the soul's individual parts or functions, but rather suggests the more primary function of soul as a whole, characterizing all eight parts generally. When Chrysippus wrote the words repeated in that section, he may have had it in mind that the soul as connate *pneuma* primarily provides the animal body with the most suitable bodily condition for its psychic activities; as long as this condition is sufficient, soul's psychic functions adequately operate through its eight parts; the presence of the breath of life in the body bears out the sufficiency of this bodily condition; and, further, the animal's possession of it is the first and foremost function of soul for making the animal a single psychic functioning being. Bearing these assumptions in mind, Chrysippus seems to have argued that animal soul possesses a life-enabling power, but that this power of soul cannot be equated with any of its eight parts, rather representing their common characteristic.

To sum up the above discussion, there is not the slightest doubt that Chrysippus concurred with Zeno on the broad concept of a life-enabling soul, despite the non-occurrence of his name in the doxography of Diogenes. Galen, *De placitis* 3.1, p. 170, 10, is a good attestation for this, as is the syllogism at the opening of Calcidius' doxography. However, despite the Stoic authenticity of the expression *vitalis spiritus*, the association of it with the soul's 'parts' is likely to be another of his misreportings.

III. THE THEORY OF AN EIGHT-PART SOUL

I first argued that the attribution to the soul's 'parts' of 'nutrition [and] growth' is Calcidius' error, as the evidence shows the Stoics to have held that the animal is governed both by soul and by nature. I then argued that the Stoics held to a broad concept of soul as connate *pneuma*. Zeno applied this explicitly to zoological species and Stoics later than him to all types of ensouled beings (including the stars and the world). Calcidius, despite some obscure terminology, and also Galen, inform us how the Stoics, in holding to that concept of soul, committed themselves to the position that the animal is governed by the unitary power of soul. The Stoics probably thought that many vital functions, discharged in lower entities such as plants by nature only, are performed in higher animals inseparably from soul. This represents their doctrine of the *scala naturae* that soul performs and controls not only its own psychic functions but also lower vital functions in the animal, even if these functions are not listed as any of soul's eight parts.²⁶

The compatibility between those two Stoic doctrines is still a matter of discussion. It should however be noted that the Stoic vocabulary of 'soul' is not univocal, as Long

²⁵ Arius Didymus, *Epitome* fr. 39 Diels (DG p. 471, 11; *SVF* 2.821) may appear to imply that the *hégemonikon* performs a 'life' function in the animal. Arius reports a Stoic idea that 'every soul' (*πάσαν ψυχήν*), including that of irrational animals, has 'some sort of the ruling part' (*ἡγεμονικόν τι*), which he describes as 'life, sensation and impulse' (*ζωή καὶ αἴσθησις ... καὶ ὁρμή*). In referring to these three functions together, Arius probably meant thereby the common characteristic of all souls.

²⁶ Cf. Inwood (n. 2), 25–9. Inwood attributes the doctrine of the *scala naturae* to the early Stoa, and probably to Chrysippus. Although its basic idea is traced back to Chrysippus, it was later propounded significantly both by Panaetius (cf. Cic. *Off.* 2.11) and by Posidonius (cf. Cic. *Nat. D.* 2.33–6).

points out.²⁷ The currency of at least more than one Stoic use of 'soul' differing from 'the *hêgemonikon*' is attested by ancient authors such as Sextus Empiricus. Diogenes (and perhaps Philo also) says that the Stoics defined soul broadly as a nature endowed with impression and impulse, and even more broadly as the *hexis* that holds together bodily form in general or its parts such as bones and sinews.²⁸ Once we cease to treat 'soul' as a univocal concept in Stoicism, it is not difficult to find the former doctrine just as Stoic as the latter. Only in the specific sense of 'soul', as designating the *hêgemonikon* in the theory of an eight-part soul, did the Stoics assert that the animal is governed both by soul and by nature, restrictively marking off 'soul' from 'nature'.

The question then arises why Stoics such as Chrysippus placed such weight on the vocabulary of the *hêgemonikon*. We should remember here that, in the Stoic distinction between nature and soul, 'soul' specifically refers to an eight-part soul with regard to its psychic capacities. The reference to 'soul' in such specific terms later became a criterion by which the Stoics identified animal *qua* animal, as different from other living beings. There is no sign of a disagreement among the Stoics over this zoological reference, which does however signal their divergence in a major way from the language of the Peripatetics. For the Peripatetics, 'soul' is a criterion by which living beings, including plants, foetuses and sperm, are broadly identified and distinguished from non-living beings. Contrarily, Hierocles already made his Stoic schema clear at the opening of his book; that is, 'ensouled beings' are 'animal' (1.3–4), 'differ[ing] from non-animal in two respects, sensation and impulse' (1.31–3).²⁹ The correlation of soul to 'life' is Peripatetic and that of soul to 'animal' is Stoic.

We should say something further here to illuminate this Stoic correlation between soul and animal. In defining 'animal', the Stoics start first from a unified body within a triadic division of bodies, distinguished both from a collection of separable entities and from bodies composed of contiguous parts. Thus a Stoic animal is in its ontological identification primarily characterized as a single unity; it is, at this point, the same kind of unified body as a stone and a plant, existing by virtue of *hexis* or the unifying quality of the pneuma. Furthermore, the animal body is the same kind of natural body as a plant, existing again by virtue of nature or the vital power of the same pneuma. It is only in the possession of soul that the animal differs from all other beings. In marking off animal from non-animal, the Stoics seem to have had it in mind that *hexis* as such does not denote any vital or psychic faculty of connate pneuma. The Stoic reference to *hexis* works rather as a means of identifying any body simply in terms of unity or bodily coherence in general. Thus this reference offers no criterion for distinguishing between living and non-living beings, let alone between animal and non-animal. A relevant criterion for the former distinction may be found in the Stoic reference to nature in terms of life and involuntary motor activity, and for the latter to soul in terms of psychic and voluntary motor activity. Insofar as the pneuma determines this psychic activity of the animal, the Stoics named it specifically 'the *hêgemonikon*'.³⁰

²⁷ A. A. Long, 'Soul and body in Stoicism', *Phronesis* 27 (1982), 34–57, at 41 = A. A. Long, *Stoic Studies* (Cambridge, 1996), 224–49, at 234.

²⁸ Sext. Emp. *Math.* 7.234; Philo, *Leg. alleg.* 2.22–3 (*SVF* 2.458, part); Diog. Laert. 7.138–9 (fr. 21 EK); cf. n. 18.

²⁹ Cf. n. 1.

³⁰ Cf. Sext. Emp. *Math.* 9.78–85 (*SVF* 2.1013); Plut. *St. rep.* 1053F–1054B (*SVF* 2.449); Alex. *Mixt.* 216.14–218.6 (*SVF* 2.473); Philo, *Quod Deus* 35–42 (*SVF* 2.458), *QG* 2.4 (*SVF* 2.802); Origen, *Princ.* 3.1.2–3 (*SVF* 2.988, part), *De orat.* 6.2.311 (*SVF* 2.989, part); M. Aur. *Med.* 6.14.

On the basis of this particular *pneuma* Chrysippus illuminated the basic structure of the *hêgemonikon* as part of the theory of an eight-part soul.³¹ Diogenes Laertius characterizes this theory as follows: ‘The *hêgemonikon* is the most authoritative part of soul, in which impressions and impulses arise and from which reason is sent off. It is located in the heart.’³² In essence, the theory states that, in determining animals’ psychic actions, the *hêgemonikon* above all combines its own capacities in the primary triad impression–assent–impulse, while, in performing human psychic actions, it co-ordinates the same set with reason added, namely impression–assent–impulse–reason. Although the details of these sets should be scrutinized further, according to reports by ancient authors the Stoicism of the third and second centuries B.C. held that in any given psychic action of an animal the *hêgemonikon* performs its own capacities through this associative mechanism of tripartition (or quadripartition).

For instance, impression is formed by the approach of an external object which strikes the mind through sensation; impulse has a close relation to impression; and assent makes both action and impulsions possible, since all impulses are acts of assent; reason, finally, is a product or outflow of the *hêgemonikon* and impulse a modification of it. Iamblichus reports the Stoic doctrine that the *hêgemonikon* combines all those four in the human body, by drawing an analogy with an apple: ‘Just as an apple possesses in the same body sweetness and fragrance ...’³³ The ‘apple’ analogy is perhaps not originally Stoic; yet Iamblichus’ use of it, despite some obscure terminology, summarily exhibits the Stoic theory of the *hêgemonikon* as operating by a mechanism unifying the different modes of its capacities.³⁴

If we bear in mind this understanding of the *hêgemonikon*, the Stoic reference to an eight-part soul may then be taken as the most specific way in which the Stoics identify ‘animal’ (and ‘human’). This new term, perhaps originating from Zeno, though it may have been independently coined or used by the Peripatetic Strato, was commonly used by the Stoics to denote the centre of consciousness.³⁵ The doxographical reports do not always make clear the Stoic use of the term, but in many contexts it has two designations: broadly, as that which produces the primary triad in the case of any *hêgemonikon*, and specifically, as that which produces reasoning in addition to the other three modes in the case of the human *hêgemonikon*. The latter is therefore called the reasoning faculty or mind. The human being thus differs from irrational beings in its possession of both reason and a mature form of assent, alongside impression and

³¹ Cf. Diog. Laert. 7.110, 7.157 (*SVF* 2.828); Nem. *De nat. hom.* 96 (*SVF* 1.143); Aët. *Plac.* 5.4.1 (*SVF* 1.128), 4.4.4 (*SVF* 2.827), 4.21.1–4 (*SVF* 2.836); Porph. *De an.* (Stob. *Ecl.* 1, p. 350.13; *SVF* 2.830); Gal. *De placitis* 3.1.112 (p. 251 M; *SVF* 2.885), 5.3.160 (p. 421 M; *SVF* 2.841); Alex. *De an.* 97.8, 98.24 (*SVF* 2.839).

³² Diog. Laert. 7.159.

³³ Iambl. *De an.* (Stob. *Ecl.* 1.368.12–20; *SVF* 2.826, part): ὥσπερ γὰρ τὸ μῆλον ἐν τῷ αὐτῷ σώματι τὴν γλυκύτητα ἔχει καὶ τὴν εὐωδίαν, οὕτω καὶ τὸ ἡγεμονικὸν ἐν ταῦτά φαντασίαν, συγκατάθεσιν, ὁρμήν, λόγον συνείληφε. Long (n. 27), 49–50 pinpoints the puzzling inclusion of the term *logos* in the soul’s faculties listed by Iamblichus, because it was basic Stoic doctrine that the entire human *hêgemonikon* is rational, and yet in Iamblichus *logos* features as the last member of a quartet.

³⁴ Inwood (n. 2), 264, n. 55; basing himself on the earliest use of the ‘apple’ example in Alexander, *De anima* 31.4–5, Inwood attributes this to the tradition of the Aristotelian commentators, ‘whence no doubt it entered the tradition’. But the attribution is uncertain, since the ‘apple’ example is found not only in the passages of Alexander and Iamblichus, but also at Sext. Emp. *Math.* 7.102–3 and *PH* 1.91–2. It was probably a popular analogy among authors in late antiquity.

³⁵ On Strato’s use of ‘the *hêgemonikon*’ see Long and Sedley (n. 1), 2.313.

impulse, and only to the mature human being does reason accrue, representing human *qua* human.³⁶

Compared to a Platonic soul whose three types differ in localization, as well as in capacities (that is, reason is sited in the head, spirit between the midriff and the neck, and desire between the midriff and navel), a Stoic soul does not have either its three (or four) capacities or its eight parts located in different parts of the body. Starting from the ruling part the remaining seven parts (the five senses, the vocal faculty and the spermatic faculty) stretch out into their appropriate bodily organs (the eye, ear, nose, tongue, larynx, genitals), each part being a sequence of different modes of the psychic pneuma transmitting information to and from the ruling part in the heart. The analogy used is with the tentacles of an octopus or the filaments of a spider's web. In this sense, the seven parts figure rather as the instruments of the command centre in the animal's psychic actions, associated with it physiologically and psychically, so that the command centre may use them to exercise its integral control by virtue of its capacities. Although some uncertainty persists concerning the question of whether and if so how such a characterization of multiple psychic capacities is fully compatible with various Stoic divisions of soul's parts, the common characteristic of animals indicates the possession of the same eight-part soul and the same three capacities, impression, assent, impulse of the commanding part.

To sum up the above discussion, the hard core of the Chrysippean theory of an eight-part soul is that it distinguishes between nature and soul by strictly limiting 'soul' to animals' psychic capacities.³⁷ Quite obviously, the focus of the theory is not on any denial that nature accounts for animals' vital activities. In Stoicism 'soul', in that very specific sense, designates that which carries accountability for the voluntary motor and cognitive activities of animals. Considering the surviving evidence for the physiology of the late fourth and third centuries B.C., one may speculate that such a radical Chrysippean distinction between nature and soul arose from the growing influence on Chrysippus of his older contemporaries the physicians Herophilus and Erasistratus, and particularly of their distinction between vital pneuma and psychic pneuma in animals.³⁸ But crucial differences between Chrysippus and those physicians must not be neglected either, for instance, whether pneuma is innate or originates from external air, and whether the bodily localization of the command centre is in the heart or in the brain. Many explanatory principles concerning soul's causal roles in animals can still be credited to Chrysippus' insights. Those insights effectively founded Stoic psychology, and provided a rich treatment of its physiological concerns, touching on the complex and diverse mechanism of the human soul.

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³⁶ Inwood (n. 2), 32–3 proposes to 'use *hêgemonikon* for the human mind alone, since the word is used to refer to a part of the human soul by virtually all our sources' (Inwood further proposes to call it 'quasi- *hêgemonikon*' in the case of irrational animals). *Contra*, see Long (n. 27), 50. Long suggests that 'the first three "qualities" pick out permanent dispositions of any *hêgemonikon*, animal or human', a suggestion I follow, on account of an impression that the Stoa retained the two uses of the term, one broadly and the other specifically.

³⁷ Cf. Long and Sedley (n. 1), 1.320: 'If pressed, the Stoics would probably have been willing to attribute all features of an animal's life to its soul', and their doctrine of soul's powers 'suits only their restricted conception, whereby it refers to the commanding-faculty'.

³⁸ On the physicians of the third century B.C., Herophilus and Erasistratus, and their alleged influence on Chrysippus, see von Staden (n. 16), at 102.