INTERACTIONS: PHYSICS, MORALITY, AND NARRATIVE IN SENECA *NATURAL QUESTIONS* 1

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AFTER COMPLETING HIS ACCOUNT of atmospheric lights (meteors, halo, rainbow, and so on) in the main body of *Natural Questions* 1,[1] Seneca steers the book in a different direction when, towards the close (1.16), he tells a story of one Hostius Quadra.[2] Seneca is our only source of information on this spectacular sexual deviant who apparently delighted in indulging himself (and others) before distorting mirrors that reflected not just his every act from every angle but also his vile inner character.[3] Seneca alleges that after Hostius was killed by his own slaves, Augustus himself "almost proclaimed that he seemed to have been murdered justly (*iure*)" (1.16.1). As if in keeping with the (for Seneca) morally perverse images reflected back on him in his house of mirrors, Hostius' cruelty thus rebounds on him in death, with Seneca delivering the final blow at 1.16.9: *facinus indignum! hic fortasse cito et antequam videret occisus est*: *ad speculum suum inmolandus fuit*. "He should have been immolated" before the mirror so that he could directly witness the fate he merited, feel real pain, not sweet sexual agony, and watch his sudden transformation from predator to victim, Hostius to *hostia*;[4] this beast of a man deserved to die like a sacrificial animal.[5]

All references to the text follow H. M. Hine's Teubner edition (1996a). For guidance on many fronts, and for welcome bibliographical advice, I am most grateful to the anonymous readers for this journal.

1. It is important to emphasize at the outset (the point will matter later; n. 50 below) that *NQ* 1 was not necessarily the first book in the original collection; given that the MSS offer different sequences, the true ordering of the books remains controversial. The position taken here (following Codoñer 1989, 1792–94; Hine 1981, 2–23; 1996a, xxii–xxv; Parroni 2002, xlvii–l) is that an original order of 3 4a 4b 5 6 7 1 2 is likely, *pace* Gross (1989, 306–20), who favors (p. 320; also Vottero 1989, 109–13) 4b 5 6 7 1 2 3 4a (with a useful summary of other proposed solutions on pp. 310–11; also Vottero 1989, 109–10).

2. *RE* VIII 2.2517 "Hostius" 5; *PIR*^{2} 4:102, no. 230. For a convenient survey of scholarly interpretation of the Hostius episode, see Berno 2002, 214–16.

3. Indirect evidence possibly in Suetonius' life of Horace (p. 47.13–15 Reifferscheid); "It is generally agreed that the story [Suetonius] relates . . . about the poet having mirrors arranged round his bedroom rests on . . . a confusion between the similar-looking names HORATIUS and HOSTIUS" (Wilkinson 1949, 47).

4. A possible nexus of Senecan plays, with Hosti(u)s the enemy as well as (via *inmolandus*) ritual *hostia* (cf. Ov. *Fast.* 1.336: *hostibus a domitis hostia nomen habet* with Maltby 1991, 284, *hostia, TLL* VI 3.3045.34–41); cf. Berno 2002, p. 227, n. 82: "Seneca potrebbe leggere *Hostius* come *nomen-omen* correlato con *hostia.*" *Facinus indignum!* may play tricks of its own, looking both backwards and forwards (cf. Shackleton Bailey 1979, 450: "The exclamation refers to what follows, not, as Oltramare and Corcoran, . . . to what precedes"): given Augustus' verdict (*hunc* [sc. *Hostium*] . . . *Augustus indignum vindicta iudicavit,* 1.16.1), which is the true(r) *facinus* here, the slaves' or Quadra's, the latter just described with relish in his reported voice (1.16.7–9)? For slaves murdering masters cf. Tac. *Ann.* 14.42–45, Plin. *Ep.* 3.14.1–5, 8.14.12, with Sherwin-White 1966, 246–47 ("Cases were sufficiently rare to merit attention").

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How is this sordid tale to be reconciled with Seneca's main scientific agenda in *NQ* 1? The superficial link between the Hostius episode and what precedes it is supplied by the theme of mirrorlike distortion in nature. Holding that such phenomena as rainbow and halo are the products of *speculi fallacia* (1.15.7), Seneca characterizes them as *simulacra* and "the insubstantial imitation of real objects" (1.15.8), the objects themselves being reflected *in pravum* just as distortion takes place in our trick mirrors (1.5.14); Hostius applies this phenomenon to shocking effect (*fecit . . . specula . . . imagines longe maiores reddentia, in quibus digitus brachii mensuram et crassitudinem excederet,* 1.16.2). As David Leitão has recently observed, the "ever greater distortions in man's physical and moral universe" as portrayed earlier in *NQ* 1 culminate in "the catoptric distortions of Hostius' boudoir."[6] The book opens with a glimpse of the perfect celestial light to which theology (cf. *hanc* [sc. *partem philosophiae*] *quae ad deos pertinet, praef.* 1) guides us by rising above "this darkness in which we wallow" (*hanc in qua volutamur caliginem, praef.* 2). As we descend from this celestial place to the region of *sublimia* (i.e., phenomena *inter caelum terrasque versantia, NQ* 2.1.2), that perfect light gives way to "[t]he distorted reflections characteristic of halos and other atmospheric lights [which] are both a by-product [because of our impaired vision] and an emblem of the human condition."[7] As we proceed through Seneca's account of halos (1.2), rainbow (1.3–8), streaks (1.9–1.11.1), double suns (1.11.2–1.13), and finally, "other atmospheric fires" (e.g., shooting stars, flashes; 1.14–15), we move through stages of increasing distortion: "if streaks, because they have no curvature [1.9.1], are imperfect rainbows, then they are even more distorted reflections of the sun than rainbows are. Thus, they are further removed from the perfect light of the sun. Seneca sums up the relation among halos, rainbows and streaks in this way: *coronam si diviseris, arcus erit, si derexeris, virga* (1.10). The perfect circle is at the top of the hierarchy, and progressively greater distortions of the circle are progressively lower on the hierarchy."[8]

For Leitão, then, the Quadra episode is no mere appendage to the technical portion of *NQ* 1 but integral to Seneca's imaginative, hybrid form of physico-moral investigation here. For present purposes, however, Leitão's argument takes an important turn when he compares the preface to *NQ* 1[9] with the Quadra episode and finds in Hostius something beyond "our paradigmatic bestial man";[10] for "[a]ll these echoes [sc. between the preface and 1.16] assimilate Hostius to some degree to the philosopher who strives to know god, but there are also echoes which make Hostius look like god himself."[11] So, for example, the study of theology gives the philosopher access to *quod extra conspectum natura posuisset* (*praef.* 1); at 1.16.7 Hostius'

5. See on this point Berno 2002, 227, late in a fine discussion that relates the structure of the Hostius episode to that of "un pezzo teatrale" (p. 225) but looks beyond mime to draw (pp. 225–28) suggestive parallels between Hostius and the characterization of, e.g., Medea and Atreus in Senecan tragedy.

6. Leitão 1998, 136.

7. Leitão 1998, 132.

8. Leitão 1998, 133.

9. Flammini 1992, 643–59, for useful analysis.

10. Leitão 1998, 141.

11. Leitão 1998, 145.

mirrors provide their own form of access to sexual acts *quae a conspectu corporis nostri positio submovit.* While the philosopher penetrates nature's mysteries (*secretiora, praef.* 3), Hostius investigates *secreta* of a baser kind (1.16.3). The mind that achieves cosmic freedom looks down literally and figuratively (*terrarum orbem superne despiciens angustum, praef.* 8; cf. 7 *ridere,* 8 *contemnere*) on the petty preoccupations and artificial boundaries that circumscribe our everyday existence (cf. *o quam ridiculi sunt mortalium termini!,* 9); Quadra, too, achieves his own magnified perspective on life, transgressing all sexual boundaries (cf. *quo nequitiam meam, si ad naturae modum pecco?,* 1.16.8) and crossing the gender divide by taking on both active and passive sexual roles (*tam virorum quam feminarum avidus fuit,* 1.16.2; *nonnumquam inter marem et feminas distributus,* 5). By defying nature in exposing every hidden sexual detail to view in the mirror (1.16.8), and by indulging his whole body (cf. *omnia membra stupris occupata sunt,* 1.16.7), he transcends the human: "[w]hereas god is disembodied, Hostius is superembodied."[12]

Leitão concedes that these echoes between the prologue and epilogue may demonstrate a pattern, but not necessarily "a completely conscious one":[13]

> Were the echoes fully conscious and deliberate, we might suppose that Seneca attempted to heighten the contrast between god and the beast through jarring and ironic echoes of earlier language appropriate to god alone: superficial similarity would paradoxically indicate profound incompatibility. *But I fail to detect any traces of conscious irony,* and so it seems more reasonable to suppose that *the echoes are not explicitly intended by the author,* but rather represent points at which the dominant logic of the text breaks down and allows other voices to be heard, voices which are no less at home in the text and in the mind of the author for being subordinate. If the ambiguous and contradictory representation of Hostius is evidence of some deconstructive tendencies in the text, the question becomes how to explain the dissenting voice which makes the debauched Hostius a philosopher if not a god.

Leitão goes on to portray Hostius as a convergence of god and beast, his body "an emblem of cosmic dissolution, and of natural philosophy's promise of regeneration."[14] But is it really possible *not* to detect a conscious pattern of irony in the echoes of the preface in 1.16? Is it credible that Seneca, so adept an ironist in so many other works, prose and verse, should so lack control of the "subordinate" but still resonant voices that Leitão detects here? If we concede the deliberate irony and recognize the profound incompatibility of god and beast, Leitão's "convergence" argument runs into obvious difficulties. Hence his resistance to recognizing Hostius as an unambiguous antitype, a grotesque distortion of the philosopher drawn in the preface;[15] or

12. Leitão 1998, 142.

13. Leitão 1998, 146; my emphasis.

14. Leitão 1998, 152. A different emphasis in Bartsch 2000, 84: "I would suggest that there is a sense in which Seneca's discourse on celestial distorting mirrors, as a model for the flawed quality of human ways of knowing, predisposes us to see Hostius as a sort of everyman: We, too, live among the distorting mirrors of the phenomenal world, and his is but an extreme case."

15. Cf. Berno 2002, 217–24, subtly tracing verbal ambivalence and contrast in *NQ* 1 and beyond to cast Hostius as (p. 228) "un anti-*sapiens,* un esempio di come l'intelligenza più arguta e gli strumenti migliori, se utilizzati per scopi indegni, conducano ai vizi più turpi; lo specchio, altrimenti simbolo della conoscenza virtuosa [cf. 1.17.4], qui rappresenta il capovolgimento di essa."

rather (perhaps the ultimate irony) as a false reflection, or a reverse mirror image, at one end of the book of the philosopher at the other.

The Hostius we shall observe below contributes as much to the thematic coherence of *NQ* 1 as Leitão's Hostius, but in a different way. The following account of Hostius' role will also address other important but neglected aspects of Seneca's highly inventive approach to the doing of science in *NQ* 1, not least the role that his imaginary interlocutor plays in dramatizing the proceedings (as often in the *Natural Questions* and elsewhere in Senecan prose).[16] If the many interlocutory interventions in the main body of *NQ* 1 are attributed to the same narrative voice, a consistent character emerges to provide formidable opposition to Seneca's argument for the reflection theory of rainbow. The interlocutor is brought to life not as a mere straw man for Seneca's "superior" position but as a rounded and complex *dramatis persona* in his own right, a literal-minded character, albeit capable of mordant wit and irony, who argues doggedly for a plainer interpretation of such phenomena as rainbow. In the lively exchanges between these two protagonists, we shall see that different world outlooks are set in contention in *NQ* 1, the one (Senecan) progressive, imaginative, and open-minded, the other more blinkered, rigid, and down-to-earth: to the interlocutor's literal eye, a rainbow is no illusion but evidently real in substance and color (cf. 1.6.3). In contrast to this opponent's "terrestrial" mindset and his focus on the literal and the particular, Seneca will be seen to promote a higher mode of perception—what might be termed a cosmic consciousness—that registers certain interactions between different cosmic parts, operations, and phenomena. If, among Roman investigators, Lucretius, say, or the elder Pliny offer their own distinctive approaches to rationalizing our world, whether through Epicurean/atomist explication or through exhaustive cataloguing, Seneca brings the world to order through *his* own highly creative systematization in the *Natural Questions,* with "seamlessness" the watchword in section II below. The elder Pliny in particular will help further to define the nature of this Senecan systematization in III below; but our approach will find initial orientation in Hostius Quadra's story, and in the philosophical myopia that he shows as he trains his sharp eye on each carnal detail in his hall of mirrors.

I

From the outset Hostius is pictured as all image, a man who shows no signs of any reflective inner life in the sexual philosophy that he espouses in his own voice at 1.16.7–9. For him the mirror has no edifying function (cf. *inventa sunt specula ut homo ipse se nosset,* 1.17.4) beyond enabling him to know himself sexually (*ea* [sc. sexual acts that he can witness only by

16. At, e.g., 1.3.9: *"quomodo" inquis "tu mihi . . . ?"* and 15.1: *"fulgores" inquis "quomodo fiunt . . . ?," inquis* need not refer exclusively, or at all, to Lucilius, addressee of *NQ,* but to a third, imagined participant in the proceedings (cf. Vottero 1989, 23–24, 45)—a third party who allows Seneca to indulge in sharper exchanges (e.g., in 1.5–8) than if his Lucilius, *virorum optimus* (cf. 1. *praef.* 1), were visualized as the interlocutor. The dramatic complexity of interlocutory/competing voices in Senecan prose warrants further scrutiny, after the lead of Mazzoli (2000).

mirror] . . . *arte visantur, ne quis me putet nescire quid faciam,* 1.16.7).[17] The language that first describes him (1.16.1) reflects in its own mirrorings and distortions the confusion of image and reality that *is* Hostius:

> Hostius fuit Quadra obscenitatis in scaenam usque perductae. hunc divitem avarum, sestertii milies servum, divus Augustus indignum vindicta iudicavit cum a servis occisus esset. . . .
>
> There was a Hostius Quadra whose obscene behavior was brought right out into public display. This man, rich, greedy, and a slave to his hundreds of millions, the deified Augustus judged not worth avenging though he was killed by his slaves. . . .

His *obscenitas* is appropriately (mis)reflected in *scaenam.*[18] The echo of *divitem* in *divus* falsely aligns Augustus and Hostius, the divine and the bestial, and the shift from figurative *servum* ("the slave to money") to literal *servis* creates another illusion (Hostius a slave but no slave) while also mimicking the broader movement between object and reflection in Hostius' hall of mirrors. But while verbal effects of this sort reproduce the superficial distortions of his mirrors, Hostius feeds on the images as if they have true substance: *si liceret mihi, ad verum ista* [sc. the images] *perducerem; quia non licet, mendacio pascar* (1.16.9).[19] The metaphor of eating here supports the illusion that the distorted image is tangible and real, his eyes as full as his mouth literally is (cf. *libidinem oris,* 1.16.5) with his partners' enlarged *membra* (*secreta* [i.e., intimate sexual acts] . . . *non in os tantum sed in oculos suos ingereret,* 1.16.3). At 1.16.2 the "stallion" (*admissarius*) positioned behind him lives out the metaphor by rising to superhuman size in the mirror; the only "reality" that Hostius sees in facing the mirror is the reflected image, so that *ipsius membri falsa magnitudine tamquam vera gaudebat.* In revealing to his gaze those body parts and sexual acts that are hidden from normal view by *corporis nostri positio* (1.16.7), the mirror *is* his eye;[20] however distorted, the images he sees are true enough in this regard—his only means of access—so that his eyes are no less directly engaged in (making) the action than any other part of his body (cf. *oculi quoque in partem libidinis veniant et testes eius exactoresque sint,* 1.16.7; his eyes supervise the performance).

17. Cf. Myerowitz 1992, 150, for the hint of deliberate parody of the γνῶθι σαυτόν theme in Hostius' quoted voice here; for the "Socratic" tradition at 1.17.4, see n. 75 below.

18. So Corcoran 1971, p. 83, n. 1; Hine (1996b, 32) cites Varro *Ling.* 7.96 (*obscaenum dictum ab scaena . . . turpe ideo obscaenum, quod nisi in scaena palam dici non potest*), albeit in qualification of Corcoran's play. *Scaenam* is perhaps metaphorical, "meaning he made a show of his immorality [*in scaenam usque perductae,* "brought right out into the open"] instead of keeping it private" (Hine ibid., reviewing different possibilities in answer to Shackleton Bailey 1979, 450); but if literal, see Vottero 1989, p. 276, n. 6, for the licentiousness of the mime show, presumably Seneca's point of allusion (see Berno 2002, 224–25, and n. 5 above).

19. *Pascar* perhaps also sexual (Adams [1982, 138] cites Mart. 12.75.3: *pastas glande natis habet Secundus*), possibly supported by a faint echo of *mentula* in *mendacio* (for Seneca's license in such plays, cf. *mensura . . . mendaciis . . . munditiarum,* 1.16.3), especially if we trace *mentula* to *menta* (*TLL* VIII 782.38–40; but for the strict case against the derivation, see Cic. *Fam.* 9.22.3 with Adams 1982, 9–10). For the feast of seeing, cf. also *oculis quoque gulosi sunt,* 3.18.7: the spectacle of the dying surmullet is as satisfying as dining on it.

20. Cf. of the "seeing" mirror 1.6.2, 1.13.1: *quidquid videt* [sc. *speculum*], *reddit.*

If Hostius stands at the bottom of the philosophical hierarchy informally constructed in *NQ* 1, Seneca's imaginary interlocutor earlier in the book clearly commands a higher place; and yet he too shares something of Hostius' flawed vision, or his overliteral eye, in his own resistance to the possibility that such phenomena as rainbow are illusions.[21] From the perspective of the progressing philosopher (cf. *cum secretiora eius* [sc. *naturae*] *intravi,* 1. *praef.* 3), Seneca views these *sublimia* not with his interlocutor's brand of down-to-earth literalness ("If I can see it, it has substance"), but with the higher insight that is figured in *NQ* 1 as an eye for optical illusion. More broadly in the *Natural Questions,* Seneca's suggestive correlation of the universal parts—*terrena, sublimia, caelestia* (cf. 2.1.1)[22]—to different levels of cognition—the literal, the more abstract, the conceptual—centers the work on that intermediate zone (*sublimia*) where we begin to rely for guidance on a combination of visual and mental discernment; we leave behind the foggy perception (cf. *caliginem, tenebris,* 1. *praef.* 2) that he associates with ordinary humanity at ground level.[23] In the imaginative world of Senecan science, our striving to know *sublimia* thus raises us from a level of literal, "terrestrial" cognition to a higher plane of seeing, inferring, speculating, so that Seneca's debate with his interlocutor in *NQ* 1 is not just, or perhaps even primarily, about the "true" cause of halos, rainbow, and so on, but also between different kinds of world perception: while he aspires to the enlightened "view from above,"[24] his interlocutor embodies "the view from below" (as it were), albeit without approaching the depths to which Hostius sinks in his mirrors (cf. *caput merserat inguinibusque alienis obhaeserat,* 1.16.4).

The different positions that separate Seneca and his interlocutor earlier in the book are conveniently summarized at 1.15.6–7: "Concerning the phenomena discussed earlier (I mean rainbow and halos), there is a question whether [as Seneca holds] they deceive our vision and consist of an illusion (*decipiant aciem et mendacio constent*), or whether [as the interlocutor holds] what is visible in them is also real (*verum sit quod apparet*). I am not content with the theory that there is some real substance (*aliquid corporis certi*) in a rainbow or a halo, but I conclude that what occurs is the deception of a mirror. . . ."[25] The (for now) key stages of argument leading up to this conclusion are as follows: (1) after an initial survey of rainbow theories (1.3.1–10), Seneca pronounces a rainbow to be a reflection of the sun in a moist,

21. The interlocutor shows no particular philosophical affiliation, surveying at 1.5.1 two dominant theories of vision, intromission (i.e., the penetration of the eyes by *simulacra;* originally Democritean) and extramission (originally Pythagorean, and involving raylike emanations from the eyes; Jónsson 1995, 49–56, with Bartsch 2000, 74–75), but without taking sides: *nunc nihil ad rem pertinet quomodo videamus quod ⟨ut⟩cumque videmus,* 1.5.2. However intriguing the possibility, he seems not to play the Epicurean doggedly in debate with Stoic Seneca (cf. *Dial.* 8.1.4–5 for his Stoic interlocutor charging Seneca with an Epicurean affiliation).

22. For their differentiation and characteristics, see Hine 1981, 124–27.

23. Cf. on the familiar metaphysical background Rosenmeyer 2000, 107 (". . . this train of thoughts . . . might well have been written by a Middle Platonist . . .").

24. On this "perennial motif in ancient philosophical writing," see Rutherford 1989, 155–61, with Hadot 1995, 238–50.

25. Cf. 1.6.3 (on rainbow): for the interlocutor the color is real (*esse*), for Seneca only apparent (*videri*). For ancient theory on halo/rainbow, see Gilbert 1907, 600–616, with Kidd 1988, 497–502, on frags. 133–34; from the perspective of modern science, Lee and Fraser 2001, 100–111.

hollow cloud (1.3.11). The image is reflected in the manner of a mirror (1.4.1)—for Artemidorus of Parium,[26] a concave mirror resembling a ball cut in half (1.4.3). He apparently held that a round hollow cloud viewed from its side produces a like effect (1.4.4); (2) 1.5.1–9: the interlocutor's objections to the mirror theory;[27] (3) a counterobjection drawn from Posidonius (1.5.10) and then itself qualified (1.5.11–12) before Seneca agrees (1.5.13) with the Posidonian view that a rainbow is shaped "by a cloud formed like a concave, round mirror, the shape of which is a section cut out of a ball";[28] a rainbow is indeed (cf. 1.4.3–4) produced by a principle of mirror distortion (1.5.14).

It is not hard to trace the many sharp thrusts in the interlocutor's argument that challenge, often with sly irony, specific points made by Seneca in (1). Given the latter's emphasis on our defective vision (e.g., *illud dicam oportet: nihil esse acie nostra fallacius,* 1.3.9) and on mirror distortion (a rainbow is *imago solis . . . male expressi ob vitium figuramque speculi,* 1.4.1), the interlocutor shows a dogged literal-mindedness in still objecting at 1.5.2 (cf. already 1.3.9) that rainbow and sun look so different (*quid . . . est tam dissimile quam sol et arcus, in quo neque figura solis neque color neque magnitudo comparet?*): so how can a rainbow be a mirror image of the sun? How can clouds function like mirrors when the two are evidently so different in nature and texture (1.5.3, 8)? Even after Seneca's rebuttal in (3), the interlocutor persists in his literal attitude ("*quare tamen, si imago solis est arcus, longe ipso sole maior apparet?,*" 1.6.2), only for Seneca to point once more to distortion in mirrors (1.6.2; cf. *neque enim omnia ad verum specula respondent,* 1.5.14). As if trapped in his own tunnel vision, the interlocutor presses on yet further ("*at maior aliquanto est arcus quam sol,*" 1.6.5), his stubborn fixity of view underscored by the hint of impatience in Seneca's response (*dixi modo fieri specula quae multiplicent omne corpus quod imitantur*). For present purposes, however, two particular objections that he raises in 1.5 warrant closer scrutiny because of the further insight that they reveal into his mindset.

(a) "*singula stillicidia singula specula sunt*": at 1.5.4 the interlocutor targets Seneca's earlier coverage of the theory that each raindrop forms a

26. Attacked for his theory of comets (and more) at 7.13, and otherwise unknown (Kidd 1988, 502); cf. Gilbert 1907, p. 675, n. 2 ("Epikureisch scheint die Ansicht" derided by Seneca at 7.13.2), with Parroni 2002, 491.

27. The position taken here is that Hine, in his Teubner text (1996a), rightly attributes 1.5.1 (*de speculis*)–1.5.9 (*ictus*) to the interlocutor (with the sole exception of parenthetical *inquit* at 1.5.9); at 1.5.4 ("*singula stillicidia singula specula sunt*"; cf. 1.3.5) and 1.5.6 ("*quid ergo?*" *inquit* [sc. *Seneca*] "*non . . . solet?*"; cf. 1.3.2), it is crucial to recognize (with Oltramare 1929, p. 27, n. 1) that the interlocutor is "quoting" Seneca back at him, summarizing the latter's earlier points before answering each with interest. Hine's decisive use of single and double quotation marks in 1.5 as a whole clarifies matters that previous editors left murkier (so Gercke 1907, Corcoran 1971, and Oltramare 1929, at least in his printed text; Vottero 1989, p. 244, n. 1 is more helpful); Haase 1852 offers a closer precedent to Hine. Most recently, Parroni (2002, 46 and 494, on lines 55–56) rightly identifies Seneca's notional opponent as the subject of parenthetical *inquit* at 1.5.9; but he unnecessarily complicates matters by distinguishing this "quoted" voice in 1.5.9 from the interlocutory master voice that predominates in his text from 1.5.1 (*de speculis*)–1.5.9 as a whole.

28. Further on the Posidonian theory, see Kidd 1988, 124, on frag. 15 and 501–2 on frag. 134, with the important clarification (p. 501) that "Posidonius differs from Aristotle [*NQ* 1.3.7–8] in taking the cloud as a whole as the reflector instead of the individual moisture drops in it."

mirror (1.3.5), all of them individually reflecting the sun; a rainbow is a fusion of many such images. Seneca associates this position with Aristotle (*Aristoteles idem iudicat,* 1.3.7),[29] but with the modification that for Aristotle the individual raindrops are too small to reflect the sun's shape; they reflect only its color (*solis colorem sine figura exprimunt,* 1.3.8), the individual images again merging to form a unity.[30] But how, the interlocutor objects (1.3.9), can Seneca claim that there are thousands of images where "I see none" (*ubi ego nullam* [sc. *imaginem*] *video;* "none" in the literal sense that *his* rainbow is no mere reflection/*imago* but has real color)? He returns to the point, but from a different angle, at 1.5.4, conceding that "individual raindrops are individual mirrors." But then two objections: (1) clouds contain only the elements from which raindrops can be formed, not the drops themselves (1.5.4); this sharply to deny from the outset that a rainbow can be formed by the reflection of the sun *in cloud* (Seneca's position at 1.3.11); (2) but suppose that the clouds contained raindrops that *did* reflect the sun (1.5.5); even then no rainbow would be formed because "all the drops (*guttae*) together do not reflect an assembled image (*unam faciem*), but individual drops give individual reflections (*sed singulae singulas* [sc. *reddant*])." After all, when mirrors are joined together, they show individual images, not a unified whole; if you place *unum . . . hominem* (Hostius?) before a composite mirror, *populus apparet.* But a rainbow is clearly a unity; so how can individual raindrop reflections possibly merge to form such a coherent image?

For present purposes the main point of interest here is not so much the true science (or optics) of raindrop reflection, but the attitude revealed in the interlocutor's resistance to the fused-image theory. The evidence directly before him (mirror images cannot merge) is straightforwardly transposed to the region of *sublimia,* where he makes no effort, or recognizes no need, to adjust his focus to a different level of visual reality or possibility. And so he sees all too *precisely:* a rainbow is no composite but a single image (*una totius est facies,* 1.5.5), its color real and substantial. For Seneca, on the other hand, our sight is less infallible: *nec dispiciuntur intervalla quibus singulae* [sc. raindrop reflections of the sun] *distant, spatio prohibente discerni* (1.3.6). Central to the imaginative Senecan vision here is that the optical illusions that he identifies at the level of *sublimia* mark a symbolic transition point in our cognition, where our "terrestrial" eye for the literal and the particular loses its precision and we begin instead to see in (for example) rainbow a natural fusion of things, a new unity,[31] the rainbow's different shades obviously

29. Cf. *Mete.* 3.4, 373a35–b28 with Gilbert 1907, 608–9, and Hall 1977, 412–13, for analysis of the debt to Aristotle here (p. 413: 1.3.7–8 and 2.12.4–6 "create a presumption that Seneca had read *Mete.;* if he had not, the source he was using must have been a very good one").

30. Aristotle attributes the rainbow to reflection, not to refraction as well, their combination of course supplying the true explanation. The so-called primary bow is formed when sunlight is refracted on entering and exiting individual raindrops and is reflected on their rear surface; refraction causes the spectrum-like separation of colors (Lee and Fraser 2001, 321–22).

31. Cf. 1.14.3–4: the speed of shooting stars/comets is so great that we see not the stages (*partes*) or points (*momenta*) of their flight but only the movement as a whole (*summa*); in the case of lightning we see only the unity (*universum*) of the space through which it flashes.

distinct but merging into each other seamlessly.[32] But in contrast to this integrating perspective, the interlocutor persists in his "terrestrial" focus on the particular, sharply segregating each mirror image and raindrop reflection and showing signs in the process of a divide-and-separate mentality that is fundamentally at odds with the one-world philosophy permeating the *Natural Questions.* While the cosmopolitan *animus* "plunges into the totality of the world" (cf. *toti se inserens mundo et in omnis eius actus contemplationem suam mittens, Ep.* 66.6), in the Senecan vision our everyday perception is fragmented and partial, our local involvements and localized mindset dividing and separating the totality so that, as Pierre Hadot has it, "the average person has lost touch with the world, and does not see the world *qua* world, but rather treats the world as a means of satisfying his desires."[33] If the *sapiens* ascends only at the level of *caelestia* to full comprehension of the totality, we nevertheless make progress by experimenting with a form of merged perception at 1.3.6, 8; but the interlocutor is too entrenched in his literal, "terrestrial" way of seeing to rise from the ground level.

Of course, the tendency to divide and separate phenomena is shared, albeit very differently manifested, by Hostius, whose mirrors are carefully positioned around him so that his every act is caught in detail (*specula sibi per quae flagitia sua divideret disponeretque circumdedit,* 1.16.4).[34] In his multiple reflections he offers his own distinct demonstration of the interlocutor's point that different mirrors, even if set close together (*coniuncta et simul conlocata,* 1.5.5), project separate images and "make from one man a crowd" (*ex uno quidem turbam efficiunt*); hence at 1.16.5 (*spectabat admissos sibi pariter in omnia viros*) we may wonder whether Seneca captures a moment when Hostius is looking on the multiple images of a *single* lover, a single *admissarius* (cf. 1.16.2). And so in their different ways the interlocutor and Hostius both exemplify the obsession with limits and fine distinctions that Seneca deplores in the personified voice of the liberated *animus* at 1. *praef.* 9 (*o quam ridiculi sunt mortalium termini!*), and which Leitão sharply observes at 1. *praef.* 7: "even in the mosaic floors [*pavimenta*], composed as they are of countless small stones juxtaposed, each with its boundaries intact."[35] In contrast to the freedom that the unencumbered mind enjoys as it soars over the cosmic *spatia* (1. *praef.* 11) that lack all artificial boundaries,[36] the interlocutor and Hostius exhibit a compartmentalized way of thinking and viewing, as if laboring *in angusto* like ants (cf. 1. *praef.* 10), the true dimensions of the world unknown to them. It is this narrowness that the liberated mind leaves behind (*tunc contemnit domicilii prioris angustias,*

32. Cf. 1.3.4 and p. 153 below.

33. 1995, 273.

34. Cf. Parroni 2002, 500, for *divideret disponeretque* adapted from military language (e.g., Caes. *B Gall.* 7.34.1), and also applied by Seneca to the division of philosophy into its parts at *Ep.* 89.1 (Hostius by contrast a confirmed *non*-philosopher).

35. 1998, 143.

36. Hence the conventional categorization of the *universum* into *caelestia, sublimia,* and *terrena* (2.1.1) is itself, from the cosmic perspective, an artificial construct, the boundaries between categories suggestively blurred in Seneca's mini-demonstration of ambiguity and overlap between them at 2.1.3–5 (with Hine 1981, 125–27).

1. *praef.* 13) as it graduates to the cosmic viewpoint and takes the true measure of god (*sic demum magnitudo illi* [sc. *deo*] *sua redditur;* cf. *sciam omnia angusta esse mensus deum,* 17)—in contrast to the false magnifications that so delight Hostius.

(b) The second objection of the interlocutor that warrants scrutiny in 1.5 arises from his insistence that the color in cloud is real and substantial. At 1.5.6, in a gesture that perhaps answers Seneca's quotation of verse early in his own statement on rainbows (1.3.4; Ov. *Met.* 6.65–67), the interlocutor introduces his new argument by quoting a line from Nero: *colla Cytheriacae splendent agitata columbae* ("the neck of the dove of Venus gleams in its movement");[37] then the further example of the peacock, possibly with Lucretian color (*variis coloribus pavonum cervix, quotiens aliquo deflectitur, nitet;* cf. *pluma columbarum,* Lucr. 2.801; *cauda . . . pavonis,* 806). These variations on "the pigeon's neck," that stock example of optical illusion that was worked especially hard by the skeptical tradition in its criticisms of dogmatism,[38] allow the interlocutor easily to score an initial point here: of course the feathers do not function as reflecting mirrors. In some animals, such as chameleons, the color is changed from within them (*ex ipsis*). In others, such as doves and peacocks, their plumage takes on this hue or that according to the position of the light, direct or oblique. In either case, color is intrinsic to the animal; and so too apparently in the case of a cloud, which is no more like a mirror than is any other animal that he has mentioned (1.5.7).

For now there are two main points of interest here, the first, another suggestive similarity between the interlocutor and Hostius. After 1.8.1 the interlocutor's objections to Seneca's argument that a rainbow is an illusion peter out, his case for seeing real color in a rainbow effectively lost. If Hostius "feeds on the lie" (*mendacio pascar,* 1.16.9) that the images he sees in his mirrors are real, in his different way the interlocutor equally misconstrues image as reality, a rainbow's color as real: for from the winning Senecan standpoint, *non est . . . propria in ista nube substantia* [i.e., "no actual substance in the reflecting cloud"], *nec corpus est, sed mendacium et sine re similitudo* (1.6.4). Secondly, and to develop this first point, his appeal to "the pigeon's neck" at 1.5.6 is *itself* an optical illusion of sorts; for the correspondence that he draws between the clouds and the doves, peacocks, and so on (*non minus nubes diversam naturam speculis habent quam aves quas rettuli,* 1.5.7) is clearly, from the Senecan viewpoint, a false correlation—as false as the correspondence that the interlocutor tries to enforce between mirrors and raindrops at 1.5.5 (i.e., multiple mirror images cannot merge; so how can multiple raindrop reflections merge to form a rainbow?). These false correspondences add another dimension to his blinkered and literal world vision, in that they show him to be forcing (mis)connections between phenomena to support his favored theories. In contrast to this "false" use of

37. Frag. 2, p. 357 Courtney, itself with Ovidian color (*Cytheriacus* not found before Ov. *Fast.* 4.15, *Her.* 7.60; cf. also *Met.* 15.386 *Cythereiadasque columbas*). Nero's presence here may lend a (perhaps ominous) shadow of authority to the interlocutor's case.

38. Foss 1973, esp. 145, with Vottero 1989, pp. 248–49, n. 10, citing Cic. *Luc.* 79, etc.

analogy and comparison, the cosmopolitan *sapiens* who "never ceases to have the whole constantly present to mind"[39] never loses sight of the "true" interactive dynamic that operates naturally throughout the totality. As we shall see, Seneca captures something of this higher awareness in his imaginative approach in *NQ* 1 and elsewhere to reproducing this interaction of the different world parts—a cohering process that isolates the interlocutor yet further in his compartmentalized way of thinking.[40]

II

It was of course no innovation for Seneca to emphasize the possible relationship between different world parts and phenomena; we need look no further than the Presocratic use of analogy to find this relational emphasis already embedded in such fields of Greek natural science as meteorology, astronomy, biology, and medicine.[41] In the *Natural Questions,* however, Stoic cosmic sympathy, characterized by Cicero's Stoic Balbus as *tanta rerum consentiens conspirans continuata cognatio* (*Nat. D.* 2.19), gives a special doctrinal significance to the interactions that operate within the Senecan narrative. If in *De natura deorum* 2 Balbus' long account of Stoic theology creatively enacts this cosmic sympathy by collecting evidence of it on so many fronts, especially in his argument for the providential government of the world (2.73–153), Seneca's approach is more oblique, his meteorological focus relying more on suggestion and symbolism than on plain description to recreate this coherence. We have already sampled his *sublimia* as the objects of both our mental and visual discernment at an intermediate level not just of the sky,

39. Hadot 1995, 273.

40. A third point of interest, often overlooked (but cf. Oltramare 1929, p. 33, n. 3; Vottero 1989, p. 256, n. 2), arises at 1.7.2, where Seneca meets another of the interlocutor's increasingly strained efforts to deny that a rainbow reflects the sun's shape (cf. 1.6.2, 5). Since the ridges on a striated glass rod receive the sun at an oblique angle, they appear to reflect only its color, not its image (1.7.1); the implication is that a rainbow might reproduce only the sun's color, not its shape. Seneca effortlessly counters the objection by explaining that the rod's irregular form prevents it from reflecting the sun's shape (1.7.3). But he also hits back by revisiting his interlocutor's contention, already answered to Seneca's full satisfaction (1.5.13–14), that a rainbow has real color: *apparet* ["it is obvious that in the case of a rainbow . . ."] *non fieri ullum colorem sed speciem falsi coloris, qualem, ut dixi, columbarum cervix et sumit et ponit utcumque deflectitur. hoc autem et in speculo est, cui nullus inditur color, sed simulatio quaedam coloris alieni* (1.7.2). In drawing the correlation here between "the appearance of a counterfeit color" in a rainbow and the mirror's "copy of the color of something else," Seneca closes his case (yet again) against his persistent adversary. But in comparing the rainbow's illusory color to the shifting hues in the doves' plumage, he appears to be in error on one point. In the strict sense it was not of course he (cf. *ut dixi*) who mentioned the dove's neck earlier (1.5.6), but his interlocutor. Perhaps a simple misattribution on Seneca's part, or a rare loss of control over a subordinate narrative voice (cf. p. 144 above for Leitão's emphasis on inadvertent contacts between the prologue and epilogue); or a conscious fusing of voices to the effect that (1.7.2) "a rainbow shows the same illusory color as [*ut dixi* through the interlocutor at 1.5.6] the dove's neck that changes its hues in the light." And yet Seneca's *ut dixi* returns us to 1.5.6 only for us to be struck by the *difference* between the two contexts: whereas the interlocutor uses the optical illusion of the plumage as part of an elaborate argument that a rainbow has real color, Seneca applies it in the opposite direction at 1.7.2. From this perspective his *ut dixi* sends a mixed signal, on the one hand taking up his adversary's words at 1.5.6 on the optical illusion of the dove's shifting colors—while merely emphasizing, on the other hand, the irreconcilability of their respective positions at 1.5.6 and 1.7.2. On this approach *ut dixi* is decidedly more mischievous than accidental or innocent, reinforcing the contrast between (rather than identifying) Seneca and his interlocutor.

41. Lloyd 1966, esp. 304–83.

but also of our cognitive progress towards *caelestia*; we now move to their symbolic potential on a different front.

A good initial example of Seneca's oblique approach is offered at 1.3.3, where he reports the theory, possibly derived from Anaximenes,[42] that a rainbow is formed from the combination of brightness and shadow that results because some moisture drops in a cloud transmit sunlight, while others do not. But how then to account for the fact that a rainbow shows not just two colors, light and dark, but several (1.3.4)? The objection is straightforward enough, allowing Seneca quickly to pass on to the (Aristotelian) mirror theory of rainbow (1.3.5). But in a move that may at first appear more indulgent than necessary, he embellishes the objection with a quotation from Ovid's account of Minerva's weaving contest with Arachne in *Metamorphoses* 6. The colors are so finely worked by both contestants that they merge into each other like the different shades in a rainbow, in which (6.65–67)

> diversi niteant cum mille colores,
> transitus ipse tamen spectantia lumina fallit:
> usque adeo quod tangit idem est, tamen ultima distant.
>
> although a thousand different shades shine forth,
> the very transition between them eludes the watching eye:
> so indistinguishable are they where they touch, and yet
> [so] different where furthest apart.

The deceptive seamlessness of the transition between colors in line 66[43] is subsequently restated by Seneca: *commissura decipit: usque eo, mira arte naturae, quod a simillimo coepit in dissimillimo desinit.*[44] Why this further elaboration when the straightforward point of the objection is that multiple colors can be seen in a rainbow? As so often in Seneca's use of poetic quotation in his philosophical prose, the Ovidian lines here lend diverting color to his sober disquisition. But in their seemingly incidental way, the invisible transitions between the rainbow's colors also reproduce and exemplify the seamlessness that Seneca associates with the cosmic whole, and which he contrasts with the ordinary human obsession with boundaries (*o quam ridiculi sunt mortalium termini!,* 1. *praef.* 9) that separate and divide the totality.[45]

The closest that Seneca comes in the *Natural Questions* to establishing a theoretical, even programmatic, framework for this notion of seamlessness is in the early stages of Book 2, where he opens his discussion of "lightnings and thunders" by classifying the three branches of the study of the

42. Hemsing 1913, 14; 13 A 18 D–K with Guthrie 1962, 139, p. 393, n. 1.

43. A symbol also of the artistic oneness of Arachne and Minerva despite their differences of status, taste, and subject matter? Cf. Feeney 1991, p. 192, n. 18.

44. Hine's punctuation (1996b, 22); for *commissura* as a technical term denoting the "gradation of tints in transition" (LSJ, ἁρμογή 6; cf. Plin. *HN* 35.29), Parroni 2002, 489.

45. At 1.3.4, *videmus in eo* [sc. rainbow] *aliquid flammei, aliquid lutei . . . et alia in picturae modum subtilibus lineis ducta,* Seneca neatly reverses the Ovidian emphasis if he means Arachne's/Minerva's *pictura* (cf. Ov. *Met.* 6.23 *pingebat acu* [sc. Arachne], 71, 93, 131, with Parroni 2001, 139–42, and 2002, xxxii–iii), using it as an illustrative analogy for rainbow, and not vice versa.

universe (*caelestia, sublimia, terrena*) before offering in 2.2–11 an introductory account of the nature of air; he turns to his subject matter proper only at 2.12.1. After stating at 2.2.1 that *aër* (spanning plain "air" and "the atmosphere")[46] has *unitas,* he develops the point by distinguishing (2.2.2) the continuous (*continuum*) from the composite (*commissum;* cf. *commissura,* 1.3.4). The severe problems of text and interpretation later in 2.2.2 greatly complicate the relationship drawn between *continuatio, commissura,* and *unitas* here,[47] but the illustrations that Seneca goes on to use in 2.2.3 clarify at least this much: "continuity" is *partium inter se non intermissa coniunctio* (2.2.2), that is, an "uninterrupted joining of parts to each other"; hence, in contrast to things assembled, accumulated, or built from parts (*composita,* e.g., a rope, a heap of grain, a ship), a tree or a rock are "continuous" noncomposites, possessing "a unity of substance" (*unitatem corporum,* 2.2.3).[48] By such unity Seneca refers (2.2.4) *ad naturam corporis nulla ope externa sed unitate sua cohaerentis;* air is a case in point. In proceeding to describe the place and function of air in the cosmic whole (3.1–6.1), its tension (6.2–9.4, with a timely attack on the atomists' theory of tensionless air in void), and then the nature of the atmosphere (10.1–11.2) before making his belated transition to his main theme (11.3), Seneca offers a "vivid series of descriptions" of the character of *aër/spiritus* that relies for its persuasive effect not on "a straightforward, logical chain of reasoning" but "on the creation of a cumulative set of vividly drawn pictures of the power and importance of air."[49] But beneath this superficial vividness lies the passage's symbolic potential. At this late stage in the *Natural Questions,*[50] this disquisition on air assumes a suggestive retrospective relevance in supplying a foundation of sorts, or perhaps rather a capstone, for the cosmic unity pictured in earlier books; for Seneca's treatment of the internal coherence of air makes oneness fundamental to the world at a primary, elemental level, setting in a real, physical base his vision of cosmic coherence at more speculative and artistically intuitive levels in the work.[51]

A unity in itself, the air is also actively unifying as both part and material of the universe (2.3.1)—*materia* in the sense that, like blood in the human

46. Hine 1981, 122–23.

47. Full discussion in Hine 1981, 151–59.

48. In contrasting *continua* and *composita* here, Seneca distinguishes only two parts of the traditional Stoic tripartition of bodies, the third being aggregates *ex distantibus* (τὰ ἐκ διεστώτων), *quorum adhuc membra separata sunt, tamquam exercitus populus senatus* (*Ep.* 102.6); "for Seneca's purposes there is no need to mention" the latter here (Hine 1981, 149, with detailed discussion of the tripartition, "certainly Stoic in origin" and "probably . . . as old as Chrysippus," on pp. 144–48).

49. Hine 1981, 124.

50. If we accept 3 4a 4b 5 6 7 1 2 as the original order of the books; see n. 1 above.

51. True, the nature of this oneness may not remain fully consistent throughout the *Natural Questions,* so that at one point (e.g., 2.2–10) Seneca may envisage the coherence via air/atmosphere of the different world parts while, on the present approach to *NQ* 1, *caelestia, sublimia,* and *terrena* are conceptually related but distinguished within a metaphysical hierarchy of a familiar Platonic stamp. To concede a point well made by an anonymous reader: Seneca need not always work with the same assumptions, finding Stoic interconnectedness useful for his specific approach in *NQ* 2, and "the explanatory power of Platonic disjuncture" preferable for his account of atmospheric lights in *NQ* 1. But despite these local shifts of emphasis, Seneca consistently works within the conceptual framework of an interrelated cosmos: the form of this interrelationship may be variable, but not the basic "fact" of it.

body (2.3.2),[52] it is essential to the overall functioning of the cosmic body. Seneca's account of how the air joins and mediates between the universal parts (2.4.1) immediately offers a suggestive model of cosmic interaction, the checks and balances in his phrasing and style recreating this mediating role:

> hic [sc. *aër*] est enim qui caelum terramque *conectit,* qui ima ac summa sic *separat* ut tamen *iungat: separat* quia medius intervenit; *iungit* quia utrique per hunc inter se consensus est; supra se dat quidquid accepit a terris, rursus vim siderum in terrena transfundit.
>
> For this air/atmosphere is what connects the heavens and earth, and separates the lowest and the highest parts in such a way that it nevertheless connects them. It separates them because it comes between them, connects them because the harmonious relation between the heavens and earth is mediated through the air/atmosphere: it delivers upwards to the heavens whatever it receives from the earth; in the other direction, it transmits downwards to the earth the influence of the stars.

The vertical axis that is drawn here in the harmonious picture of the air carrying nourishment from earth to the stars (cf. 2.6.1) and "the influence of the stars" back down to earth[53] recurs in 2.10, where three layers in the atmosphere are distinguished: at the top, the air is hot, dry, and thin because of its proximity to the stars and heavenly bodies in the celestial region; the bottom layer, near to the earth, is "dense and dark" (*pars . . . densa et caliginosa,* 2.10.2) because it receives the terrestrial exhalations, which also contribute to its warming; the middle layer is more temperate in terms of dryness and thinness (2.10.2) but also colder than the top and bottom layers; *natura enim aëris gelida est* (2.10.4). If "the main elements of [Seneca's] picture ultimately come from Aristotle,"[54] then Seneca's tripartite structure not only simplifes the complex Aristotelian picture; he also develops a very different emphasis that finds partial illumination in a passage of Pliny (*HN* 2.102–4)[55] that describes the effect that the heavenly bodies have on conditions below them in the sky, including the (literal) ups and downs of the weather (2.103–4):

> The power of the stars (*siderum vis*) forces down earthly objects that reach for the sky, and draws to itself things that cannot go up by their own agency. Rains fall, clouds rise upwards, rivers are dried up, hail crashes down, the sun's rays scorch and everywhere beat upon the earth in the center of the universe, and, broken, those same rays bounce back and carry off with them all that they can. . . . So many living things on earth draw their breath (*spiritum*) from on high, but that air (*spiritus*) strives in the opposite direction, and the earth pours the air back to the sky as if it were a void. Thus, as nature goes to

52. For the cosmos long imagined as a living organism, see Lloyd 1966, 232–72; for the body analogy in the *Natural Questions* (the point will matter later), see, e.g., 3.15.1–2, 5, 3.16.2, 3.29.2–3, 5.4.2, 6.3.1, 6.10.2, 6.14.2, 6.18.6, 6.24.2–4, with Hine 1981, 141–42 (on 2.1.4); Taub 2003, 143–44, 147, 151–52.

53. For the earth nourishing and being nourished by the stars cf. Cic. *Nat. D.* 2.83 (*ipsa terra . . . gravidata seminibus omnia pariat et fundat ex sese, stirpes amplexa alat et augeat ipsaque alatur vicissim a superis externisque naturis* [sc. water, air, ether; Pease 1958, 756 ad loc.]. *eiusdemque exspirationibus et aër alitur et aether et omnia supera*) with Hine 1981, 179, on *NQ* 2.5.

54. Hine 1981, 213, with bibliography.

55. On which see Beaujeu 1950, 184, contrasting hesitation over where the meteorological zone begins (cf. *infra lunam haec sedes multoque inferior,* 102) with Seneca's vision, *artistically* contrived on the present reading, of "une dégradation progressive de l'*aer*" from the celestial to the terrestrial zones.

> and fro like a kind of catapult (*ultro citro conmeante natura ut tormento aliquo*), discord is stirred up by the speed of the world's motion.

Our main point of interest here is Pliny's portrayal of the contested region between the heavens and earth as a layer of oscillation and exchange, departure and return, separation and reconnection; the discord stirred by these movements is a consequence (or function) of the unity (cf. *HN* 2.1–2) of the Plinian world order.[56] In distinguishing the three atmospheric layers at *NQ* 2.10–11, Seneca shares this creative vision of the vital connection between parts on a vertical axis; and when we seek parallels for this axis as a Senecan symbol of cosmic unity elsewhere in the work, Book 1 at once yields significant samples—an overlap that may or may not coincide with the broader structural symmetry that Harry Hine detects in Books 1 and 2.[57]

At 1.14.1 Seneca moves to complete his account of lights in the sky by progressing from the visual illusions of 1.2–13 (halo, rainbow, streaks, parhelia) to phenomena showing real fire (cf. *certa . . . substantia,* 1.15.6), including (1.15.1) the lights that "the Greeks term σέλα" (flashes).[58] After his earlier emphasis in the cases of rainbow, streaks and parhelia on the necessary positioning of sun and cloud in relation to each other (cf., on rainbow, 1.3.11, 1.4.1, 1.8.6–7; streak, 1.9.2; parhelia, 1.11.3), these flashes are distinguished in their Senecan choreography by their flexible occurrence in different zones. Conventional boundaries again count for little: at the level of *caelestia* "the high heat of the heavens" (*superioris caeli fervor,* 1.15.1) sometimes causes ignition by seizing on elements below (*inferiora aliquando, si sunt idonea accendi, corripit* [sc. *ignis*]), while Seneca also orchestrates movement in both directions by having the motion of the stars send fire downwards (*ignem . . . in subiecta transmittere*), the atmosphere below drive "the essence of fire" upwards (*non potest fieri ut aër vim igneam usque in aethera elidat . . . ?*). While some of these flashes are stationary, others move with a versatility that symbolically connects the different cosmic levels from the celestial to cloud level (*quaedam in nubibus apparent,* 1.15.2), and from above the clouds (*quaedam supra nubes,* 1.15.2) to ground level when flashes of brief duration come to earth like lightning bolts (1.15.3);[59] this cohering vision also accommodates the hypothetical regions presupposed by the vast, cometary orbits (*ingens illorum* [sc. *cometarum*] *orbis,* 1.15.4) whose dimensions exceed our understanding (cf. *quam multa praeter hos* [sc. *cometas*] *per secretum eunt numquam humanis oculis orientia!,* 7.30.3). When Seneca ends with the phenomenon of the sky appearing to be on fire, the glow that

56. Cf. at the elemental level Beagon 1992, 200: "Overall, . . . *dimicatio naturae* results in a balance. . . . There is an interdependence of the elements designed by *Natura artifex* (2.166, cf. 2.10–12)."

57. Hine 1981, 37–40; already, e.g., Waiblinger 1977, 33–34.

58. Hemsing (1913, 22–23) connects 1.14–15 with 1.1 (on meteors), presuming in 1.14–15 Seneca's reliance on Aristotle via Posidonius; his convenient schema (p. 23) separates these real fires into *ignes aerii* (1.1), *ignes aerii varii coloris* (1.14), and *ignes aetherii* (= σέλα) (1.15).

59. 1.15.1–3 shows interesting overlaps (Vottero 1989, p. 270, n. 1) with the pseudo-Aristotelian *De mundo* (395b3–10), attributed by some to Posidonius (with many challengers; Reale and Bos 1995, 29–37). One might speculate about Seneca's possible debt to the "early and Peripatetic" (cf. Barnes 1977, 41) *De mundo,* or rather to the tradition to which it belongs; but at 395b3 and following there is nothing like the elaborate Senecan choreography just described.

ranges from high to low and draws our gaze up and down (*nonnumquam tam sublimis ardor est ut inter sidera ipsa videatur, nonnumquam tam humilis ut speciem longinqui incendii* [at ground level] *praebeat,* 1.15.5) offers a final illustration in Book 1 of the vertical axis in unifying action; hence perhaps the notable schematic clarity of this closing example.

When we look back on Book 1 from the integrating perspective of 1.15, we can begin to find traces of this cohering dynamic in other areas of Seneca's project that might at first appear more dutifully methodical and "scientific" (e.g., doxographical reporting; the sifting of theories on rainbow, etc.) than "literary" and symbolic.[60] But analogy supplies a more systematic cohering device in the *Natural Questions* generally.[61] In the Roman literary-scientific tradition Lucretius for one had already developed analogy in enterprising ways (some of them influential on Seneca), not least in exploiting the ironic potential of the world-as-body analogy by applying it to the mechanistic and inanimate atomic universe;[62] or in likening, for example, Etna's eruptions to outbreaks of bodily fever (6.647–72), so that the phenomenon is presented as no more significant or extraordinary in the universal context than occasional illness at the human level—a "domesticating" technique notably reapplied by Seneca in *NQ* 6 (on earthquakes).[63] In Seneca's case, however, analogy is perhaps at its most potent as a universal connector when applied to, or imaginatively adapting, the interactive workings of the four traditional (Stoic) elements. So at 5.1.1, for example, air is like water, wind is *fluens aër,* the air itself, like the sea, never without motion even when it is quiet. In stating that air has "a natural force for self-motion" (*naturalem vim movendi se,* 5.5.1), Seneca immediately extends that force (here derived from the

60. So, e.g., in his report of the Aristotelian theory of exhalations (1.1.7–9) to explain meteors and shooting stars, his initial portrayal (1.1.7) of several kinds of exhalation from the earth, some wet, some dry, some hot, some flammable, is "just recognizable as a paraphrase of Aristotle's exhalation theory" (Hall 1977, 413). But in relating the varied hues of different stars and planets (the Dog Star, Mars, Jupiter) to different kinds of exhalation, and in having the earth expel a vast quantity of particles *in superiorem . . . partem,* some of which reach the clouds as "nutriments of fire" (*alimenta ignium*) so as to give rise to meteors, etc. (1.1.8–9), Seneca offers "more a theory of his own, based on Aristotle's, than Aristotle's theory itself" (Hall 1977, 414, with Setaioli 1988, 444). If artistic considerations are allowed to infringe on his scientific agenda here, he molds and modifies the Aristotelian theory to derive from it a prototype, as it were, of the unifying vertical axis that he draws elsewhere in the *Natural Questions,* the exhalations supplying the vital connection between *caelestia* (the Dog Star, Mars, Jupiter), *sublimia* (clouds), and *terrena* (cf. 1.1.8 *copia corpusculorum quae terrae eiectant*).

61. Cf. already on analogy p. 152 above; on its marked frequency in the *Natural Questions,* see Taub 2003, 142–60.

62. Schrijvers 1977, 96–100 (esp. 98–99 on 5.534–63; also Segal 1990, 95–98). Does Seneca consciously answer the Lucretian irony by applying the analogy more "properly" to the living Stoic cosmos? For Lucretian influence on Seneca in this regard, see n. 63 below; for Senecan examples of the basic analogy, see n. 52 above.

63. Cf. Schrijvers 1977, 100–101, on Lucretius: "Les comparaisons établies entre les phénomènes grandioses du cosmos et le corps humain d'une étendue minuscule ont pour conséquence psychologique que, grâce à ces parallèles, le caractère miraculeux et effrayant des *paradoxa* du monde est amoindri." See n. 52 above for the world-as-body analogy in *NQ* 6, where Seneca's theme—discoursing on earthquakes to reduce fear after the Campanian disaster of 62–63 C.E. (cf. 6.1.1–3; Hine 1984 on the date)—parallels Lucretius' motive in Book 6 of freeing us from fear of the gods (cf. 43–95) by explaining the natural causes of atmospheric (96–534) and then terrestrial (535–1137) phenomena, including earthquakes (535–607). One such domesticating analogy for earthquakes, houses shaken by passing wagons (548–49), is conspicuously paralleled at *NQ* 6.22.1 (albeit for Bailey 1947, 1637, a "probably traditional" comparison).

old Stoic theory of vital heat) to water and fire (5.5.2–6.1).[64] Such correspondences reflect the interchangeability of the four elements,[65] whose interaction more broadly in the *Natural Questions* provides an underlying dynamic of unity and cohesion in the Senecan cosmos at a narrative as well as a purely physical level. Hence the unifying emphasis in Seneca's speculation on the role of air, fire, earth, and water as single, contributory, or mutually involved causes of *sublimia* such as, for example, earthquakes in Book 6 (*causam qua terra concutitur alii in aqua esse, alii in ignibus, alii in ipsa terra, alii in spiritu putaverunt, alii in pluribus, alii in omnibus his,* 6.5.1); and hence the suggestive programmatic significance of his account in Book 3 (probably the first in the collection)[66] of the interchangeable elements.[67] Against this backdrop, we find a familiar integrating technique at work in Seneca's apparently idiosyncratic theory of halo at 1.2.2–4. In contrast to what appear to have been the two more familiar branches of halo theory, one related to mirror reflection (Aristotle and Posidonius), the other to water refraction,[68] Seneca posits (1.2.2) a form of circular wave movement in air:

> cum in piscinam lapis missus est, videmus in multos orbes aquam discedere et fieri primum angustissimum orbem, deinde laxiorem, ac deinde alios maiores, donec evanescat impetus et in planitiem inmotarum aquarum solvatur. tale quiddam cogitemus fieri etiam in aëre.
>
> When a stone is thrown into a fishpond, we see that the water spreads out into many circles and that the first circle produced is very narrow, then another wider and then others still larger, until the movement fades and gives way to a smooth surface of still water. Let us suppose that some such thing happens also in the case of the air/atmosphere.

For present purposes the scientific worth of Seneca's theory here matters less than the methodology by which he formulates it. The elements once more interact by analogy, here possibly with the added complication that Seneca reapplies to the impact of light on air an established water analogy for sound;[69] the idiosyncrasy of his theory owes more, we may suspect, to the artistic function of analogy here (as throughout the *Natural Questions*) than to any true scientific commitment.

Other modes of comparison and correspondence support the general effect as the text ingrains in us the habit of seeing diverse phenomena in

64. Cf. Cic. *Nat. D.* 2.23–28, tracing the theory back to Cleanthes (2.24); the vital, generative heat of course extends to the remaining element of earth (2.25).

65. For Stoic application of the idea, see Gilbert 1907, 228–36; for the Platonic/Aristotelian background, see Guthrie 1965, 143 ("The change introduced by Aristotle [sc. to the doctrine of the four elements extending back to Empedocles] was to suppose the elements capable of mutual transformation"), Sandbach 1985, 37–38.

66. See n. 1 above.

67. So 3.10.1: *fiunt omnia ex omnibus, ex aqua aër, ex aëre aqua, ignis ex aëre, ex igne aër. quare ergo non ex terra fiat aqua?* 3: *omnium elementorum alterni recursus sunt: quidquid alteri perit in alterum transit, et* [balanced proportions] *natura partes suas velut in ponderibus constitutas examinat, ne portionum aequitate turbata mundus praeponderet. omnia in omnibus sunt.*

68. Cf. Posidonius frag. 133.25–29 E–K with Kidd 1988, 497–98 ("Seneca . . . appears to have had a theory of his own," 498).

69. Cf. Vitr. *De arch.* 5.3.6 (voice a flowing breath of air that has circular motions like the waves produced when a stone is thrown into still water); see Vottero 1989, p. 228, n. 3, for further parallels.

relation to each other. So at the most basic level the Greeks call halos "threshing floors" (*areas,* 1.2.3) because of their roundness;[70] at 1.2.4 the halo effect is reproduced in the baths (*in balneis quoque circa lucernam tale quiddam aspici solet*); at 1.2.5 those apparently unrelated phenomena, halo and wind, are linked by Seneca's claim that sailors expect wind from the direction where the circle of a halo has broken; at 1.2.7 Seneca takes up the air-water analogy of 1.2.2 to make a different point (an object will only produce expanding circles on impact with still water/air); at 1.3.2 the fuller who sprays water on the clothes stretched out before him reproduces in the spray the multicolor of a rainbow; at 1.5.12 dyes that show their color better from a distance illustrate a parallel phenomenon in cloud color; at 1.5.14 our distorting mirrors illustrate by analogy the same effect in cloud (*quid ergo mirum est eiusmodi speculum in nube quoque fieri . . . ?*); at 1.12.2 (on double suns) the sun and moon can be reflected in the atmosphere just as they are in oil- or pitch-filled basins on earth (*quemadmodum . . . in terris . . . , ita in aëre*). Again, the appeal to everyday experience to elucidate the obscure is hardly exceptional in ancient scientific practice; but the cumulative *artistic* effect of the kinds of linkage that Seneca draws in the examples above is to create the illusion of an integrated whole, a cooperative system of mirrorings and reflections that find an especially topical example at 1.13.1, on multiple "double suns" (parhelia).[71] What is there, Seneca asks, to prevent any number of such parhelia being produced by any number of reflecting clouds? Consider our own mirrors:

> nam apud nos quoque cum plura specula disposita sunt ita ut alteri sit conspectus alterius, omnia implentur, et una imago a vero est, ceterae imaginum effigies sunt. nihil enim refert quid sit quod speculo ostendatur: quidquid videt, reddit.
>
> For, even in our own experience, when various mirrors are so positioned that the sight of one appears in another, all of them are filled with images, and one image reflects the original object, while the others are copies of the reflection. For it does not matter what is shown to a mirror: it reflects whatever it sees.

While the parhelion phenomenon is matched in our everyday mirrors, we can also detect a further reflection here: that of Hostius Quadra, his eyes feeding not just on the image of the real thing (cf. *a vero*) but perhaps also on the images of images that we visualize on all sides around him (1.16.8). The mirror analogy itself functions as a versatile textual connector at 1.13.1, reflecting and mediating between different parts of the book again to connect Quadra's delusions to optical illusion at the level of *sublimia.*

70. LSJ, ἅλως I.

71. For which see Kidd 1988, 466–70, on frag. 121. For Waiblinger (1977, 66–67), the parhelion marks the fullest perfection of mirror imaging in nature, in contrast to Quadra's distortions; but cf. Leitão 1998, 134–35, for a Platonic emphasis on parhelia as copies (even copies of copies) far removed, in the conceptual hierarchy of *caelestia* and *sublimia* that he detects in *NQ* 1, from the true light of the sun. At 1.11.2 Seneca renders παρήλιον by Latin transliteration, justifying it by reference to Virgil: *an facio quod Vergilius? qui dubitavit de nomine, deinde id de quo dubitaverat posuit: et quo te nomine dicam,/ Rhaetica? nec cellis ideo contende Falernis.* Seneca misappropriates *G.* 2.95–96 (*nomine* for Virgil's *carmine*) in what resembles an ironic form of literary parhelion (true but not true).

This integrating approach to *NQ* 1, with its emphasis on the unifying potential of analogy and the fading of our familiar boundaries as we progress towards the seamlessness of the cosmic viewpoint, finds an important moralizing dimension in the Quadra episode. If the oneness of reality is from the outset, before we can know it, fragmented at every level of ordinary awareness so that we habitually categorize phenomena, divide time, partition history, compartmentalize our thoughts, collect and divide the world in this way and that, on offer in the *Natural Questions* is an imaginative vision of the reconstructed wholeness—a vision that incorporates very different but (in Seneca) related meteorological phenomena, prosaic description and poetic quotation, "scientific" technique and "literary" elaboration, and above all physics and ethics.[72] The Quadra episode is fully integrated in *NQ* 1[73] not just by the detailed narrative overlaps that we surveyed earlier, but also by offering a spectacular distortion of life lived in accordance with Stoic nature.[74] If mirrors were invented so that man could derive "knowledge of himself" (*sui notitiam,* 1.17.4), his image stirring him towards reflection and self-improvement (e.g., *formosus ut vitaret infamiam*),[75] Hostius makes no progress beyond delighting in his outer reflection. At 1. *praef.* 6 Seneca commends Lucilius for having escaped the familiar "sicknesses of the soul" (*vitia animi*) in his freedom from *avaritia, luxuria,* and *ambitio,* but his progress is still incomplete: *multa effugisti, te nondum.* The study of nature (cf. *cum disco quae universi materia sit, quis auctor aut custos, quid sit deus,* 1. *praef.* 3) facilitates that escape by turning our focus away from the consuming passions and preoccupations of life (cf. 1. *praef.* 7–8); but Hostius, trapped by his own image, strives in the opposite direction by following the carnal philosophy he espouses at 1.16.7–8. His debauchery might have claimed a negative form of omnipotence (along the lines proposed by Leitão) if allowed to proceed unchecked; hence the reassurance offered by Seneca's allusion at the beginning of the story to Hostius' ultimate demise as a "slave" killed by slaves (*a servis occisus,* 1.16.1; cf.1.16.9).

III

From a modern perspective it may be tempting to detect in Seneca's integrating Stoic viewpoint shades of an Emersonian sort of reengagement with

72. This integrating approach has begun to supplant previous approaches that sharply distinguished, or failed to reconcile, the physical and moralizing aspects of the *Natural Questions;* for the history of the problem, see Codoñer 1989, 1803–8, with Scott 1999, esp. 55–57; and cf. Rosenmeyer 2000, 105: "If physics is the science of how the world behaves, then ethics must be its mandatory junior or perhaps even senior partner." For the distinctive interests of Seneca's "philosophical milieu" (Attalus, Papirius Fabianus, Sotion) influencing his relative emphasis on physics and ethics (not logic), see Inwood 1995, 68–70. The Senecan "wholeness" may have found an important paradigm in Posidonius; cf. Kidd 1999, 5: "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."

73. *Pace* Inwood 2002, 150 (". . . connected to the rest of the book by the thinnest of threads").

74. Cf. Scott 1999, 58: "By voluntarily disobeying nature, Hostius comes to a destructive end. . . ."

75. On the "Socratic" tradition underlying 1.17.4, see Vottero 1989, p. 282, n. 8, with Berno 2002, p. 220, n. 34, and esp. Bartsch 2000, 71–72.

nature,[76] or a variation on the Romantic/postindustrial rejection of the artificialities and mechanizations of life in favor of our reembracing *natura ipsa.* But from the Roman perspective a more grounded point of comparison for Seneca's procedure is supplied by the elder Pliny, first as depicted by his nephew. After surveying his uncle's copious writings (*Ep.* 3.5.3–6),[77] the younger Pliny turns the focus of wonder away from this extraordinary output (cf. *miraris quod tot volumina . . . homo occupatus absolverit?,* 7) and on to the elder himself (*magis miraberis si scieris illum aliquamdiu causas actitasse*). How did he write so much? Here, after all, was a busy man of affairs who held a series of procuratorships in the seventies under Vespasian before dying during the Vesuvian eruption of 79 C.E. (cf. *Ep.* 6.16) at fifty-five while in charge of the Roman fleet at Misenum.[78] The fact is, Pliny claims (*Ep.* 3.5.8), that his uncle combined *acre ingenium, incredibile studium,* and *summa vigilantia* (i.e., the habit of little sleep). The elder Pliny himself claims in the dedicatory preface to his *Natural History* that he has consulted around two thousand volumes and included some twenty thousand facts drawn from a hundred authors (*praef.* 17). Apologizing for any omissions (we can only hope with irony), he pleads the excuse that he is only human (*homines enim sumus et occupati officiis, praef.* 18); he pursues his researches daily after his official duties are done, limiting his sleep so as to live longer; for "to live is to be awake" (*vita vigilia est*).

We shall return momentarily to this Plinian division of life between public duty and private *studium,* but in connection with two other dominant features of his *Natural History.* The first arises from the elder's famed *parsimonia temporis* (Plin. *Ep.* 3.5.13). The more time spent on reading and excerpting (*Ep.* 3.5.10), the more facts are collected and the more documented about the world in this Plinian response to that "anxiety of encyclopedic systematization"[79] in the early Empire. This collection process might crudely be termed "external," in that the Plinian world lies out there to be gathered in, catalogued, and controlled, as if Pliny is engaged in a form of intellectual conquest, bringing the world to Rome for display in his textual museum.[80] Secondly, Gian Biagio Conte interestingly observes in relation to the *Natural History* that the work of the naturalist-classifier who demarcates the world divides where nature in her teleology proceeds without interruption.[81] In this respect, at least, Pliny's venture is preoccupied with limit and boundary

76. Cf. "The American Scholar" (in Emerson 1903–4, 1:85): "To the young mind every thing is individual, stands by itself. By and by, it finds how to join two things and see in them one nature; then three, then three thousand; and so, tyrannized over by its own unifying instinct, it goes on tying things together, diminishing anomalies, discovering roots running under ground whereby contrary and remote things cohere and flower out from one stem. . . ." But for qualification and for difference between Emerson's and Seneca's nature, see Rosenmeyer 2000, 99–100.

77. On these writings, see Sherwin-White 1966, 216–19; now Henderson 2002, 262, 277–81.

78. On his career, see Sherwin-White 1966, 219–21, with Beagon 1992, 1–7.

79. Conte 1994, 68.

80. See Grimal 1965, 463–82, for a useful survey of the Roman encyclopedic literature. Cf. Rosenmeyer 1989, 161, on the Roman encyclopedists working in "the tradition initiated by Chrysippus and his followers," and on Hugh Kenner's interesting "model of the Stoic inventory, the rage to control nature by means of catalogues and serial logging."

81. Conte 1994, 102.

(contrast *o quam ridiculi sunt mortalium termini!, NQ* 1. *praef.* 9); for his classification of accumulated data stresses the particular in the *Natural History,* thus privileging "the concrete discontinuity of events and phenomena" and so obscuring "the idea of the qualitative continuity of being. The idea of the encyclopedia as a summation of positive facts prevails over an image of knowledge structured organically and motivated by a unified epistemological principle."[82]

Conte makes no mention of Seneca here, but he might have done, not least because of the differences that emerge when Pliny's preface to the *Natural History* is compared to that of *NQ* 3.[83] The Plinian division of life between public and private vocations, *occupatio* and *studium,* disappears in Seneca's focus on *studium* to the exclusion of *occupatio* (3. *praef.* 2):

> premit a tergo senectus et obicit annos inter vana studia consumptos. tanto magis urgeamus et damna aetatis male exemptae labor sarciat. nox ad diem accedat, occupationes recidantur, patrimonii longe a domino iacentis cura solvatur, sibi totus animus vacet, et ad contemplationem sui saltim in ipso fine respiciat.
>
> Old age presses hard from behind and rebukes me with the years spent amid empty pursuits. But let me strive all the more, and hard work make good the losses of my ill-spent life. Add night to day, cut back my other involvements, give up all concern for property that lies far away from its owner; let the mind be left entirely free for itself, and at the very end at least look back in contemplation of itself.

Of course, Seneca's dwindling involvement in Nero's court in the early 60s[84] presumably allowed him to devote himself to his new task with all or much of the freedom described in his preface. But biographical considerations aside, Seneca approaches his new task not just with the urgency that comes with advancing age, but also with a totality of commitment that involves a complete, un-Plinian disengagement from worldly affairs. "Add night to day," he enjoins, as if sharing Pliny's tireless *vigilantia,* but not his partitioned existence: the study of "the all" (cf. *animo omne vidisse,* 3. *praef.* 10) presupposes a seamless devotion (cf. *sibi totus animus vacet*) that is only made possible by a radical form of inner conversion.[85] For, as Pierre Hadot puts it, "the utilitarian perception we have of the world, in everyday life, in fact hides us from the world *qua* world. Aesthetic and philosophical perceptions of the world are only possible by means of a complete transformation of our relationship to the world: we have to perceive it *for itself,* and no longer *for ourselves.*"[86] So in the Senecan preface the claims of the utilitarian, everyday world are discarded as Seneca portrays his own graduation to perceiving the world *for itself.*

In contrast to Pliny's "external" engagement with the world, Seneca's different approach thus begins *within* the viewer. Whereas Pliny collects his

82. Conte 1994, 103.

83. On *NQ* 3 as the likely opening book of the original collection, see n. 1 above; on the preface to *NQ* 3, see Inwood 2002, 126–27.

84. Griffin 1976, 93–94.

85. So, e.g., *Ep.* 17.1: *proice omnia ista, si sapis, immo ut sapias, et ad bonam mentem magno cursu ac totis viribus tende*; 19.1: *si potes, subduc te istis occupationibus; si minus, eripe*; *Dial.* 10.18.1.

86. 1995, 254 (emphasis in original).

data with an earthy pragmatism, the Senecan viewer first collects *himself* before collecting the world, retraining his perspective so as to engage with the cosmic immensity. Whereas Pliny shows "the fascination of the archive"[87] (that learned variation on Quadra's hall of mirrors), Seneca ventures forth by constructing a "whole" outlook that informs and pre-coheres, as it were, the *Natural Questions*; and so while Pliny separates and classifies the world in his particularizing approach to global coverage (and while Quadra and the interlocutor in *NQ* 1 segregate and divide phenomena in their own ways), Seneca connects the universal parts, and the parts of his literary operation, through a very different network of sympathetic correlations. This universalizing emphasis is not so much scientific as philosophical or even spiritual;[88] but it is not without a practical utility, in that the cosmic engagement that he engenders creates at least the illusion of release from vulnerability at the local level, whether in the form of uncertain social and political circumstances or the unpredictability of life under an inscrutable emperor. The protection we find in the *Natural Questions* is psychological, in that the work changes the compass of our understanding so that we belong first and foremost to the cosmos, and only then to the local community; we can seek at least a measure of fortification in our primary cosmic identity.

On the negative side, however, *NQ* 1 ends on a pessimistic note, with the luxury mirror grafted onto the familiar literary apparatus of the lost Golden Age at 1.17.4–9.[89] Luxury and vice, complains Seneca, have grown enormously, transgressing old boundaries (1.17.10):

> adeo . . . omnia indiscreta sunt diversissimis artibus ut quidquid mundus muliebris vocabatur, sarcinae viriles sint—omnes dico, etiam militares. iam speculum ornatus tantum causa adhibetur? nulli non vitio necessarium factum est.
>
> All natural distinctions are now so confused by all manner of contrivances that whatever used to be called makeup for women is now standard issue for men—all men, I mean, even soldiers. Is the mirror now *only* used for grooming? There's no vice for which it has not become essential.

While the *sapiens* contemplates the integrated *mundus,* what fascinates here is the very different *mundus muliebris* (lit., "a woman's beauty aids")[90] in a world made integrated (cf. *indiscreta*) by vice, not by a higher philosophy. Quadra lies dead, but Roman mirrors continue to reflect his corruption; the philosophical *mundus* matters less than the cosmetic, and in this respect, at least, the values of Quadra win out at the book's close in Seneca's indictment of his contemporary moral world. Could it be that Quadra thus steals the show from the *sapiens* and his "superior" wisdom modeled earlier in Book 1 (e.g., *praef.* 6)? An intriguing possibility, but one that Seneca perhaps anticipates

87. Conte 1994, 85.

88. Cf. Hadot 1995, 273: "Scientific knowledge was objective and mathematical, whereas cosmic consciousness was the result of a spiritual exercise, which consisted in becoming aware of the place of one's individual existence within the great current of the cosmos and the perspective of the whole."

89. Leitão 1998, 150–51.

90. *OLD, mundus*[2].

and counters by ensuring that Hostius dies before our eyes at 1.16.5: his "triumph" is as hollow as his mirror image and his amoral values.

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