

Aulus Cornelius Celsus
on *ars* and *natura*

HEINRICH VON STADEN
Institute for Advanced Study, Princeton

I. INTRODUCTION

The shifting, unstable semantic boundaries of the Latin words *ars* and *natura*, and of their Greek counterparts *techne* and *physis*, have attracted ample scholarly attention over the last one hundred years. Some of the modern discussions have focused on the attempts of certain ancient authors to differentiate *ars* or *techne* from *scientia* or *episteme*¹, while others have drawn attention to the ancient distinction between ‘art’ (*ars/techne*) and ‘practice’ or ‘experience’ (*usus, experimentum, experientia* or *tribē, peira*, and *empeiria*²). So too the many different ancient conceptions of the relation

¹ E.g., ARISTOTLE, *Posterior Analytics* 2.19.100a6-9; *Metaphysics* 1.1.981a1-982a3; *Nicomachean Ethics* 6.3-4.1139b14-1140a23 (in a discussion of the virtues of the rational part of the soul, including *techne* and *episteme*). Yet even Aristotle at times refers to *techne* as itself a kind of *episteme*, inasmuch as *techne* is a practice grounded in a *logos*, i.e., in a rational account that involves theoretical understanding of universals and of causal knowledge; see, e.g., *Metaphysics* 1.1.981a15-16, 981a24-b9. On the ability of *techne* to give a reasoning account of the nature of whatever things it applies and by which it applies them, and therefore to state the cause of each thing, see also PLATO, *Gorgias* 465a2-7, 500e3-501b1. Plato’s theory of knowledge of the forms is often cited as an example of *episteme* or ‘purely’ theoretical knowledge (e.g., *Republic* 5.477a9-b12, 511a), yet he also seems to believe that knowledge of the forms is the foundation of the *techne* of governing the polis. See also PLATO, *Ion* 536c, *Symposium* 210c-d, *Phaedrus* 276c, and below, n. 55 (on Plato’s ‘Socratic’ dialogues and Xenophon); H. VON STADEN, *Herophilus*, pp. 108-110 (test. 42-43, 45); *Stoicorum ueterum fragmenta*, ed. H. VON ARNIM, Leipzig, 1903-1924, vol. II, fr. 93 and 95; CICERO, *De oratore* 2.30 (*ars enim earum rerum est, quae sciuntur; oratoris autem omnis actio opinionibus, non scientia continetur*); *id.*, *De senectute* 78 (*tot artes, tantae scientiae, tot inventa*); *id.*, *De finibus* 1.42 (*medicorum scientiam non ipsius artis . . . causa probamus*). Galen does not use *episteme* and *techne* interchangeably but, like Aristotle, Herophilus, and others he at times depicts *techne* as a form of *episteme*, e.g., *Ars medica* Ib.1-9 (vol. I, pp. 307-309 Kühn = pp. 276-278 Boudon). See below, nn. 53, 55.

² E.g., PLATO, *Gorgias* 463a6-466a4 (especially 463b3-4, 465a2-6); *id.*, *Phaedrus* 270b4-9; *id.*, *Republic* 3.409b8-c1; ARISTOTLE, *Metaphysics* 1.1.980b25-982a3. See also below, n. 60.

between *ars (techne)* and *natura (physis)* have provoked much scholarly debate. It is Aulus Cornelius Celsus' understanding of the latter relation, in particular, that will be explored below.

In ancient technical literature, the elaboration and clarification of *techne* in terms of its relation to *physis* began no later than Hippocratic treatises of the classical epoch (including *On Ancient Medicine*, *On Regimen I*, and *On Techne*³). At times, Greeks of the classical epoch vigorously disagreed on the nature of this relation. They variously described the relation between *techne* and *physis* as adversarial, harmonious, cooperative, mimetic or complementary. Many echoes of these early debates remain audible in Hellenistic and Roman medicine and philosophy⁴, and in Celsus' remarks on *ars* and *natura*, too, striking refractions of these long-lived controversies appear. Before we turn to an analysis of his views on the relation between *ars* and *natura* (part IV below), it will, however, be necessary first to examine his principal uses of *natura* (section II, below) and of *ars* (section III).

II. NATURA

The word *natura* has a broad semantic spectrum in Celsus' *Medicina*, much as does *physis* in Greek medicine, poetry, historiography and philosophy⁵. In Latin

³ See, e.g., *On Ancient Medicine* 20.3-6 (I, pp. 622-624 Littré = pp. 146-147 Jouanna); *On Regimen* 1.2.1 and 2.39.1 (VI, pp. 468, 534 Littré = *CMG* 1.2.4, pp. 122-125, 162 Joly/Byl); *On Techne* 1.2, 8.2-3, 11.1-7, 12.3 (VI, pp. 2, 12-14, 18-22, 24 Littré = pp. 224-225, 232-233, 237-239, 240 Jouanna); *On Joints* 71 (IV, p. 292 Littré = II, pp. 226-227 Kühlewein). See J. JOUANNA, *Hippocrate*, pp. 186-187; H. VON STADEN, «Physis and Techne».

⁴ For Roman examples of such echoes see, e.g., CICERO, *De finibus* 4.10 (*ars tamen est dux certior quam natura*) and 4.16 (*omnis natura uult esse conseruatrici sui . . . Ad hanc rem aiunt artes quoque requisitas quae naturam adiuant . . .*); *De natura deorum* 1.92 (*nulla ars imitari sollertiam naturae potest*), 2.81-90 (especially 2.87: *si igitur meliora sunt ea quae natura quam illa quae arte perfecta sunt, nec ars efficit quicquam sine ratione, ne natura quidem rationis expertis est habenda*), 2.57 (*censet [scil. Zeno] enim artis maxime proprium est creare et gignere, quodque in operibus nostrarum artium manus efficiat, id multo artificiosius naturam efficere . . .*); and below, part IV.

⁵ See G. VLASTOS, *Plato's Universe*, Seattle 1975, pp. 18-22, for a brief but incisive account of the role of *physis* in the transition from the archaic period to the fourth century BCE. W.A. HEIDEL, «*Peri Physêōs*: A study»; D. HOLWERDA, *Commentatio de vocis*; F. HEINIMANN, *Nomos und Physis*; M. MICHLER, «Die praktische Bedeutung»; A. PELLICER, *Histoire sémantique de physis*; D. MANETTI, «Valore semantico e risonanze culturali»; H. PATZER, *Physis*; L. AYACHE, «Hippocrate laissait-il la nature agir?»; M.T. GALLEGÓ PÉREZ, «*Physis* dans la Collection hippocratique»; G.E.R. LLOYD, *Methods and Problems*, pp. 417-434 («The Invention of Nature»); *id.*, *The Revolutions of Wisdom*, pp. 187-190, 322-324; S. BYL, «Liste des fréquences de *physis*»; V. ANDÒ, «La *physis* tra normale»; M. GIAMBALVO, «Normale versus anormale?»; A. ROSELLI, «Dalla *dikaia physis*»; I. GAROFALO, «La nature d'Hippocrate»; H. VON STADEN, «Physis and Techne».

writings of the Roman Republic and early Empire the meanings of *natura* range from ‘genitalia’, ‘birth’, ‘creation’, ‘conditions determined by birth’ (all of which clearly reflect the formation of *natura* from *nascor* / *natus*) to ‘a characteristic’, ‘character’, and ‘natural ability’, ‘the physical world’, ‘nature as the power that determines or regulates the physical properties of natural entities’, and ‘the natural order’.

Among Celsus’ uses of *natura*, three are particularly conspicuous: *natura* as agent, i.e., as acting and exerting power (II.1 below); ‘the *natura* of x or y’ (II.2 below); and ‘x is *by nature* a or b’ (II.3). From an historical point of view, this is not exceptional: all three uses seem to reflect constructions with *physis* in his Greek sources but, as will be shown below, this does not necessarily entail that Celsus’ views on *natura* – and, in particular, on the relation of *natura* to *ars* – invariably coincide with those of his sources. As indicated above, the principal purpose of this contribution is not an investigation of the Greek sources of Celsus’ views on *ars* and *natura* but rather an analysis of his own understanding of these two concepts and of the relation between them. Yet given the enormous impact of much of the preceding Greek tradition upon Celsus (despite his distinctively Roman sensibilities⁶), some allusion to pertinent Greek conceptions and constructions will nevertheless be necessary in order to clarify Celsus’ stance. In this context it will be useful to keep in mind that loan translations – lexical or syntactic – and other forms of linguistic borrowing are not invariably accompanied by doctrinal borrowing, and conversely, that deriving one’s doctrines from authors who wrote in another language does not always entail resorting to linguistic borrowing. Rather, the migration of theories and concepts from one language or culture into another tends to be a complex, multi-layered process in which diverse, at times conflicting strategies – linguistic, rhetorical, social, and theoretical – become visible and in which appropriation, expropriation, and resistance often go hand in hand⁷.

II.1. Nature as agent

A notable use of *natura* is its representation as capable of acting or exerting power (to signal this use, *natura* will be rendered with ‘Nature’, i.e., capitalized, in what follows). Celsus describes *natura*, for example, as capable of acts of giving, of concealing, of resisting, and of helping. Thus Celsus remarks in Book VI that Nature itself gave us eyesight and the use of our ears: *aurēs ... quarum usum proximum a luminibus natura nobis dedit*⁸. In the first prooemium, Nature is depicted as having

⁶ See H. VON STADEN, «Liminal Perils», especially, pp. 394-408; *id.*, «*Apud nos foediora uerba*».

⁷ On the formation of medical Latin and its relation to medical Greek see D.R. LANGSLOW, *Medical Latin*, especially chapter 2 (“Borrowing” – an indispensable contribution). On appropriation and resistance see H. VON STADEN, «Liminal Perils» and «*Apud nos foediora uerba*». See also n. 74 below.

⁸ 6.7.1A (see *A. CORNELII CELSI quae supersunt*, ed. F. Marx, *Corpus Medicorum Latinorum*, vol. I, Leipzig-Berlin 1915, p. 275).

concealed or closed off the internal parts of the body (*quae natura ... clausisset*⁹). In Book III, in a brief discussion of the relation between chance or luck (*fortuna*), a rule-based professional practice (*ars*), and Nature (*natura*), Celsus claims that the medical ‘art’ is ineffective when Nature *resists* or opposes it (*repugnante natura nihil medicina proficiat*¹⁰). And in Book IV, Nature is characterized as sometimes *helping* a patient (*interdum natura quoque adiuvat*¹¹). In all such cases, Nature is depicted as an autonomous agent.

The representation of Nature as an agent of course has a long pre-Celsian history. From the Presocratics, Plato, and some Hippocratics to late antiquity, agency and, in particular, demiurgic activity and *techne*-like activity often were attributed to *physis* or *natura*¹². In medicine, such characterizations of Nature were especially common among authors who had overt teleological sympathies, such as Erasistratus and Galen¹³. This use of ‘Nature’ plays a crucial role in Celsus’ attempt to clarify the relation between *ars* and *natura*, and I therefore shall return to it below (part IV).

II.2. ‘The nature of’ x

The most common use of *natura* in Celsus’ *Medicina* is the noun followed or preceded by another noun in the genitive, to refer to the ‘nature of x or y’. In this construction, *natura* tends to refer not to agency or craftsman-like activity, but rather to a regularly recurrent cluster of characteristics by which x or y could always be defined or recognized as x or y. Celsus refers, for example, to the *natura* of human bodies¹⁴, the *natura* of one’s own body¹⁵, and the *natura* of individual patients¹⁶. Not

⁹ Prooem. 24 (I, p. 21 Marx). See PH. MUDRY, *La preface*, p. 22 Mudry. See also below, n. 67.

¹⁰ 3.1.4 (p. 101 Marx); see below, n. 60.

¹¹ 4.7.4 (p. 158 Marx); see below, n. 65.

¹² See F. SOLMSEN, «Nature as craftsman»; S. BROADIE, «Nature and craft».

¹³ See previous note and, e.g., R.J. HANKINSON, «Galen and the best»; *id.*, «Galen’s theory of causation»; H. VON STADEN, «Teleology and Mechanism»; G. CAMBIANO, «Galeno, Erasistrato e la teleologia di Aristotele».

¹⁴ *Medicina* 1.2.7 (p. 31 Marx), in a passage on useful exercises: *exercitationem recte sequitur modo unctio, uel in sole uel ad ignem; modo balineum, sed conclauis quam maxime et alto et lucido et spatioso. Ex his uero neutrum semper fieri oportet, sed saepius alterutrum pro corporis natura. Medicina* 3.6.5 (p. 111 Marx): *Venis enim maxime credimus, fallacissimae rei, quia saepe istae leniores celerioresque sunt et aetate et sexu et corporum natura*. See F. STOK, «‘Natura corporis’».

¹⁵ 1.3.13 (p. 34 Marx): *ante omnia autem norit quisque naturam sui corporis ...* (see below, n. 38).

¹⁶ Prooem. 53 (p. 26 Marx = p. 32 Mudry): *neque ignorare hunc [scil. medicum] oportet, quae sit aegri natura ...* (see below, n. 39). 3.18.10 (p. 124 Marx): *aduersus autem omnium sic insanientium animos gerere se pro cuiusque natura necessarium est* (see below, n. 28). In 1.1.4 (p. 30 Marx = p. 24 Serbat) Marx suggests that *natura* (FV: *om. J*) is followed by a lacuna; whereas Serbat believes there is no lacuna; whether or not Marx is right, the context suggests that *natura* here too refers to the ‘nature’ of each person’s body: *concupiscendus uero neque nimis concupiscendus, neque nimis pertimescendus est. Rarus corpus excitat, frequens soluit. Cum autem frequens non numero sit sed natura <aestimandus uel habita [coni. Marx]>, ratione aetatis et corporis, scire licet eum non inutilem esse, quem corporis neque languor neque dolor sequitur*.

only every human body as a whole, but also each of its parts is said to have its own *natura*: thus, Celsus discusses the *natura* of the eye¹⁷, the *natura mirabilis* of the *uulua*¹⁸, and the *natura* of the testicles¹⁹. But how does one identify and describe these many ‘natures’?

According to a tradition shared by many authors of the classical, Hellenistic, and Roman imperial periods, the ‘nature’ of x can be recognized, at least in part, by its *dynameis* or *facultates*, i.e., by its capacities to affect other things or to be affected by them²⁰. While Celsus uses *facultas* in other contexts, he does not explicitly link the concept *facultas* to knowledge of the *natura* of a given entity, even if he sometimes describes the *natura* of x in terms that have strong resonances with an account by means of *facultates* (*dynameis*). Furthermore, when specifying the ‘nature of’ an entity, he often turns to aspects that are not normally associated with *facultas* or *dynamis*.

Thus ‘the *natura* of bodily part x’ often is described principally in terms of its anatomical features. Celsus’ account of the ‘nature’ of the eye, for example, includes anatomical descriptions of the cornea and the sclerotic coat (treated as a single coat), of the retina, of the choroid membrane, of the pupil, of the vitreous humour, of the crystalline lens, and so on²¹. These, then, are the features that constitute the *natura* of the eye. So too in his account of the ‘nature’ of the testicles and the parts connected with them, he offers mainly anatomical features, for example features of the cremasters,

¹⁷ 7.7.13A (p. 319 Marx), a passage on cataracts and the surgical treatment of cataracts: *de qua antequam dico, paucis ante ipsius oculi natura indicanda est. Cuius cognitio cum ad plura loca pertineat, tum uel praecipue ad hunc pertinet.* See below, n. 21, for additional details.

¹⁸ 7.29.1 (p. 356 Marx), in a longer discussion (7.29.1-10) of the surgical removal of a fetus that has died, when nearly at term, inside the uterus: *sed ante omnia uuluae natura mirabilis cum in multis aliis tum in hac re quoque facile cognoscitur.* See below, n. 25.

¹⁹ 7.18.1 (p. 335 Marx), in a passage on lesions likely to arise in the area of the testicles: *uenio autem ad ea, quae in naturalibus partibus circa testiculos oriri solent; quae quo facilius explicem, prius ipsius loci natura paucis proponenda est.* See below, nn. 22, 24.

²⁰ For examples see H. VON STADEN, «*Dynamis*: the Hippocratics and Plato».

²¹ 7.7.13A-C (p. 319 Marx): *is igitur summas habet duas tunicas, ex quibus superior a Graecis ceratoides uocatur. Ea, qua parte alba est, satis crassa; pupillae loco extenuatur. Huic inferior adiuncta est, media parte, qua pupilla est, modico foramine concaua; circa tenuis, ulterioribus partibus ipsa quoque plenior, quae choroides a Graecis nominatur. Hae duae tunicae, cum interiora oculi cingant, rursus sub his coeunt, extenuataeque et in unum coactae per foramen, quod inter ossa est, ad membranam cerebri perueniunt eique inhaerescunt. Sub his autem, qua parte pupilla est, locus uacuus est; deinde infra rursus tenuissima tunica, quam Herophilus arachnoidem nominauit. Ea media subsidit <reliquis partibus oculi cauum aequae comprehendit> eoque cauo continet quiddam, quod a uitri similitudine hyaloides Graeci uocant. Id neque liquidum neque aridum est, sed quasi concretus umor, ex cuius colore pupillae color uel niger est uel caesius, cum summa tunica tota alba sit: id autem superueniens ab interiore parte membranula <illa> includit. Super his glutta umoris est, oui albo similis, a qua uidendi facultas proficiscitur: crystalloides a Graecis nominatur* (the indicated additions to the transmitted text were proposed by Marx, who plausibly concluded that the text here is quite lacunose).

of the testicles themselves, of the veins and arteries of the spermatic cord, of various genital membranes, of the scrotum, and so on²².

Not only the anatomical but also the physiological characteristics of a bodily constituent or part are referred to as its *natura*. Thus, when referring to *natura sanguinis*, Celsus has in mind the theory that the blood is not equally hot everywhere in the body and that, of all substances in the human body, it is the quickest to heat up and to cool down²³. While the *natura* of the testicles is, as indicated above, specified by means of anatomical details, Celsus weaves in some non-anatomical details too, for example, that the testicles resemble marrow insofar as they themselves lack all sensation and do not bleed, even if the coverings that enclose them can suffer pain from blows and from inflammation²⁴. Moreover, the above-mentioned *natura mirabilis* of the *uulua* appears to refer in particular to the dilatational capacity of the cervix that allows a surgeon to insert his hand as well as his instruments while trying to extract a dead fetus²⁵.

Furthermore, like the body as a whole and each of its parts, so too every pathological condition has its own, distinctive *natura*. Thus, Celsus talks of the *natura* of a tumour²⁶. But while keeping in mind that each disorder has its nature, the physician should not forget that each patient too has a distinctive ‘nature’, and that different patients therefore display different pathological signs that might require different therapeutic responses, even when suffering from the same disease. Furthermore, there often are different types (*genera*) of the same disease, each manifesting itself differently in different patients and each requiring a different treatment. It is the ‘nature’ of some phrenitis patients to be sad, and of others to be cheerful; some of them are more controlled, others rebellious and violent; of the latter, some are impulsive, whereas

²² 7.18.1-2 (p. 335 Marx): *dependent (scil. testiculi) uero ab inguinibus per singulos neruos, quos cremasteras Graeci uocant, cum quorum utroque binae descendunt et uenae et arteriae. Haec autem tunica conteguntur tenui, neruosa, sine sanguine, alba, quae elytroides a Graecis nominatur. Super ea ualentior tunica est, quae interiori uehementer ima parte inhaeret: darton Graeci uocant. Multae deinde membranulae uenas et arterias eosque neruos comprehendunt; atque inter duas quoque tunicas a superioribus partibus leues paruulaeque sunt. Hactenus propria utrique testiculo uelamenta et auxilia sunt: communis deinde utriusque omnibusque interioribus sinus est, qui iam conspicitur a nobis: oscheon Graeci, scrotum nostri uocant; isque ab ima parte mediis tunicis leuiter innexus est, a superiore tantum circumdatus.*

²³ 4.6.2 (p. 156 Marx): *neque enim natura sanguinis est, ut (ut om. FVP) utique caleat, sed ex is, quae in homine sunt, his celerrime uel calescit uel refrigescit.*

²⁴ 7.18.1 (p. 335 Marx): *igitur testiculi simile quiddam medullis habent: nam (nam om. FV) sanguinem non emittunt et omni sensu carent: dolent autem in ictibus et inflammationibus tunicae, quibus i (hi JV [m2]: hic FV [m1]) continentur.*

²⁵ 7.29.1-10 (pp. 356-358 Marx). On Celsus’ uses of *uulua/uolua* see H. VON STADEN, «*Apud nos foediora verba*».

²⁶ 7.7.7A (p. 315 Marx); *natura carcinomatis* (this expression occurs, however, in an analogy, not in a definition or description of a tumour).

others are as deliberative as sane people plotting cunning schemes²⁷. One therefore should treat

“the minds of all those who are insane [from phrenitis] *according to the nature of each*. For, the empty fears of some [phrenitis patients] need to be relieved, as was done in the case of a very wealthy man fearing starvation [due to poverty], to whom false inheritances were announced from time to time. The violent daring of other [phrenitis patients] has to be restrained, as is done in the case of those who have to be kept under control, even by administering blows to them. The untimely laughter of some of them should be stopped by means of reprimands and threats, while the gloomy thoughts of others have to be dissipated – and, for this purpose, musical performances, cymbals, and loud noises are effective”²⁸.

Celsus proceeds to describe several further ‘natures’ of patients suffering from phrenitis, but the examples cited suffice to show that the divergent ‘natures’ of individuals can also be inferred from differences in their pathological conduct, even if each disease has its own *natura*.

Things external to the body likewise have their distinctive *naturae*. When he turns to the importance of knowing the properties or qualities (*proprietas*) of each kind of food (*cibus*) and drink (*potio*) in 2.18ff., Celsus remarks, for example, that it is both necessary and easy to get to know the *natura* of each kind of water²⁹. Water might be the weakest of all drinks³⁰, but not all types of water have the same qualities. Rainwater is the lightest of all, followed by water from a spring, a river, a well, snow or ice, and so on, until one comes to the heaviest waters, which are from a lake and a marsh³¹.

²⁷ 3.18.3 (p. 122 Marx): *eius autem plura genera sunt: siquidem ex phreneticis alii tristes sunt; alii hilares; alii facilius continentur et intra uerba desipiunt; alii consurgunt et uiolenter quaedam manu faciunt; atque ex his ipsis alii nihil nisi impetu peccant, alii etiam artes adhibent summamque speciem sanitatis in captandis malorum operum occasionibus praebent.*

²⁸ 3.18.10 (p. 124 Marx): *aduersus autem omnium sic insanientium animos gerere se pro cuiusque natura necessarium est. Quorundam enim uani metus leuandi sunt, sicut in homine praediuite famem timente incidit, cui subinde falsae hereditates nuntiabantur. Quorundam audacia coercenda est, sicut in is fit, in quibus continendis plagae quoque adhibentur. Quorundam etiam intemptius risus obiurgatione et minus finiendus; quorundam discutiendae tristes cogitationes; ad quod symphoniae et cymbala strepitusque proficiunt.*

²⁹ 2.18.12 (p. 91 Marx): *facilis etiam et necessaria cognitio est naturam eius (scil. aquae) requirentibus.* See below, nn. 31, 32.

³⁰ 2.18.11 (p. 91 Marx): *aqua omnium inbecillissima est.* The strongest drinks, by contrast, include those made from grains (which are also the most nutritious), milk, mead, and sweet wine or wine of great age, whereas intermediate drinks include vinegar and dry or rich (‘fat’) wine that is only a few years old.

³¹ 2.18.12 (p. 91 Marx): *aqua leuissima pluuiialis est, deinde fontana, tum ex flumine, tum ex puteo, post haec ex niue aut glacie: grauior his ex lacu, grauissima ex palude.*

Weight thus is one of the qualities that constitute the *natura* of a given type of water, but, Celsus makes clear, other qualities come into play too³².

Furthermore, in a passage on regional differences in medical practice Celsus recognizes differences in the *natura* of different localities:

“[They say] that kinds of medicine differ according to *the nature of the places*, and that one kind is needed in Rome, another in Egypt, and still another in Gaul. But, [they say,] if things that are the same everywhere were the things that cause diseases, then the remedies should also be the same everywhere, [but this is not the case³³]”.

This passage, presented in indirect speech in a report on the medical Empiricists’ doctrines, belongs to the Empiricists’ effort to establish the unknowability of nature in general (see below, part IV), and more specifically, of ‘hidden’ or non-evident causes. The Empiricists argued that there is neither universal agreement on the ‘nature’ of things nor in fact a universal ‘nature’ of anything, as illustrated, for example, by the many differences in the ‘natures’ of places and in the treatments in different localities. Whether and to what degree Celsus agreed with the Empiricists’ argument that types of medical treatment differed in Rome, Gaul, and Egypt due to differences in the ‘nature’ of each of these *loci* here is left unclear, and in his extensive demarcation of his agreements and disagreements with the Empiricists, he does not return to the issue of *natura locorum*. But he certainly shared the Greek view that the ‘nature’ of any given local environment in which a person resides will affect his or her body, and that moving to an unaccustomed locality could be perilous to one’s health³⁴.

Numerous things external to the body therefore have their own ‘natures’ too, and, insofar as the ‘nature’ of each human body as well as the many ‘natures’ contained within each body intersect and interact with these external things, knowledge of the

³² 2.18.12 (p. 91 Marx): *nam leuis [scil. aqua] pondere apparet, et ex is, quae pondere pares sunt, eo melior quaeque est, quo celerius et calfit et frigescit, quoque celerius in ea legumina percoquantur.*

³³ Prooem. 30 (p. 22 Marx = p. 24 Mudry): *differre quoque pro natura locorum genera medicinae, et aliud opus esse Romae, aliud in Aegypto, aliud in Gallia. Quod si morbos haec [causae del. Marx] facerent, quae ubique eadem essent, eadem remedia quoque ubique esse debuissent.* The presence of Gaul (and the absence of any reference to Greece) in this argument is noteworthy, especially given that much of this part of Celsus’ prooemium draws, directly or indirectly, on Hellenistic – and notably Alexandrian – Empiricist sources. The Gauls (Γαλάται, Κελτοί) do not seem to appear in extant medical literature before Celsus. The choice of Rome and Gaul as examples of differences in *natura locorum* might be one of Celsus’ many ‘Romanizing’ adaptations of his Greek sources, unless it reflects the use of a relatively late Empiricist intermediary.

³⁴ E.g., 1.2.3 (p. 30 Marx), especially *magis uero grauibis locis ista seruanda sunt, in quibus etiam pestilentiam faciunt.* See also 1.2.1 (*loci*), 1.3.1 (*neque ex salubri loco in grauem neque ex graui in salubrem*), 1.3.4 (*calido loco*), 1.3.5 (*loco tepido*), and 1.3.20 (*locum*).

many external ‘natures’ is essential to medicine (but see below, Part IV, on limits to knowing all these ‘natures’).

It should not be overlooked that Celsus at times questions his predecessors’ ascription of a certain *natura* to x or y. He reports, for example, that some believed that each of the periodicities that characterize certain fevers also has its own ‘nature’, i.e., that the number of elapsed days before each critical turning point in the development of a fever – each of the ‘critical days’ – has a ‘nature’³⁵. In all likelihood Celsus here, as often, borrowed his use of *natura* from a Greek source (*physis*)³⁶, yet he clearly was not convinced by the claim that such fevers should be treated primarily on the basis of counting the days from the inception of the fever and that the ‘nature’ of certain odd-numbered days differs from that of even-numbered days:

“In these matters the Pythagorean numbers, then quite famous, in fact deceived the ancients, since here too the doctor should not count the days but observe the paroxysms [of the fevers] themselves, and on the basis of these he should infer when food should be given [to a patient suffering from fever³⁷]”.

³⁵ 3.4.11-13 (pp. 106-107 Marx): *est autem alia etiam de diebus ipsius dubitatio, quoniam antiqui potissimum impares sequebantur, eosque, tamquam tum de aegris iudicaretur, KPICIMOYC nominabant. Hi erant dies tertius, quintus, septimus, nonus, undecimus, quartus decimus, unus et uicesimus, ita ut summa potentia septimo, deinde quarto decimo, deinde uni et uicesimo daretur... Qui (scil. antiqui) cum octauum primi die naturam habere contenderent, ut ab eo secundus septenarius numerus inciperet, ipsi sibi repugnabant non octauum, neque decimum, neque duodecimum diem sumendo quasi potentiorum: plus enim tribuebant nono et undecimo.* See next note.

³⁶ In 3.4.12 Celsus identifies Hippocrates as one of the *antiqui* who based his therapy on the theory of ‘critical days’. He then introduces Asclepiades of Bithynia’s criticism of the view of the ancients (*antiqui*) that the critical days were not even- but odd-numbered (the third, fifth, ninth, eleventh days, twenty-first day, etc., from the onset of a fever). To what extent the subsequent arguments (3.4.13-15) against this theory are attributable to Asclepiades, or to another source, or to Celsus himself, remains uncertain; but their gist is that the ancients’ theory of ‘critical days’ was full of contradictions. For example, the ancients included an even day – the fourteenth – among the critical days (3.4.13). They even held, Celsus continues, that the eighth day (an even-numbered day) has the same *natura* as the first day (an odd-numbered day), saying that 8 begins the second cycle of 7 (*secundus septenarius numerus* (see previous note), yet they attached no ‘critical’ significance to the eighth day of a fever. The latter part of Asclepiades’ argument (concerning the number 8) would seem to have dubious merit, since ‘the ancients’ to whom he referred did not claim the first day as a ‘critical day’.

³⁷ 3.4.15 (p. 107 Marx): *uerum in his quidem antiquos tum celebres admodum Pythagorici numeri fefellerunt, cum hic quoque medicus non numerare dies debeat, sed ipsas accessiones intueri, et ex his coniectare, quando dandus cibus sit.* On the modern understanding of the pathological basis of the theory of ‘critical days’ and its relation to periodic fevers in malarial countries see W.G. SPENCER (ed., tr.) *Celsus, De medicina*, vol. I, note on pp. 236-240.

The case of the *natura* of critical days in fevers thus illustrates the fact that linguistic appropriation (*physis*>*natura*) does not invariably entail doctrinal appropriation.

What, then, do Celsus' many uses of *natura* with the genitive reveal about the meaning of 'nature' in his *Medicina*? What does it mean to talk of 'the nature of' something or someone? As shown above, 'the nature of' x can be stated in anatomical, physiological, pathological, therapeutic, qualitative or quantitative specificities, or as a combination of some of these sets of specificities. Moreover, 'the nature of' x tends to be *not* a single defining characteristic or feature or quality of x, but rather a set of characteristics that normally or invariably appear in or with x. So, for example, the 'nature' of one's body (*natura sui corporis*) is defined by whether it normally is slender or plump, hot or cold, moist or dry, by whether one has costive or loose bowels, and so on³⁸. The *natura aegri* likewise is delimited by whether the patient's body is moist or dry, whether his or her *nerui* are strong or weak, by the patient's susceptibility to illness, by the severity and duration of his or her illnesses, and by the patient's life style, for example, whether the patient habitually leads a quiet or a very busy, a frugal or a luxurious life³⁹. To know the *natura* of a given body is, therefore, to know what this body normally is like with respect to all these features (and often others as well). It is precisely the regularity, consistency or invariability with which all the specified features appear in a given body that allow one to talk of them as the *natura* of that body. Indeed, one may hazard the generalization that in this construction – *natura* of x – 'nature' tends

³⁸ 1.3.13-14 (p. 34 Marx): *ante omnia autem norit quisque naturam sui corporis, quoniam alii graciles, alii obessi sunt, alii calidi, alii frigidores, alii umidi, alii sicci; alios adstricta, alios resoluta alius exercet. Raro quisquam non aliquam partem corporis inbecillam habet. Tenuis uero homo inplere se debet, plenus extenuare; calidus refrigerare, frigidus calefacere; madens siccare, siccus madefacere; itemque alium firmare is, cui fusa, soluere is, cui adstricta est: succurrendumque semper parti maxime laboranti est.* This passage occurs in a chapter on precepts that hold 'almost invariably' (*paene perpetua*, 1.3.1) but nevertheless require attentiveness to individual variables such as new circumstances, types of bodily constitution (*corporum genera*), gender, age, and seasons. This is a recurrent emphasis throughout Celsus' *Medicina*, as it is in many Greek and Latin medical authors, beginning with the Hippocratic writers. See also Celsus, prooem. 53; 3.5.11; 3.6.5; 3.18.10 (see n. 28 above and nn. 39, 40 below); nn. 57-58 below.

³⁹ Prooem. 53 (p. 26 Marx = p. 32 Mudry): *neque ignorare hunc oportet, quae sit aegri natura, umidum magis an magis siccum corpus eius sit, ualidi nerui an infirmi, frequens aduersa ualetudo an rara, eaque, cum est, uehemens esse soleat an leuis, breuis an longa; quod is uitae genus sit secutus, laboriosum an quietum, cum luxu an cum frugalitate: ex his enim similibusque saepe curandi noua ratio ducenda est.* It is worth noting that in this part of the prooemium Celsus is expressing his own views. The immediate question addressed here is what a physician should do when confronted with hitherto unknown disorders. In an apparent criticism of the Empiricists' principal of μεταβασις τοῦ ὁμοίου [*transitio*]), Celsus argues that similarity to the known is not always a useful guiding principal (prooem. 51). But, he says, evident causes such as fatigue, thirst, cold, heat, hunger, wakefulness, sexual habits may offer useful clues to an appropriate treatment (prooem. 52, in agreement with both the Empiricists and the 'rationalists'). Moreover, in a concession to the 'rationalists', he accepts that knowledge of the *aegri natura* (see above, prooem. 53) will provide fresh therapeutic reasoning that is appropriate to the previously unfamiliar condition.

to signify a recurrent or invariable cluster of characteristics by which x can always be known to be x. In this use, *natura* therefore not only offers a normative version of x or y but also has strong epistemological implications (see below, part IV).

Celsus often, however, leaves unclear exactly what he means by the *natura* of x or what defines a thing's *natura*. In Book III, for example, he makes the following observation in his discussion of the use of the pulse for the diagnosis of fevers and of changes in fevers: "We rely most heavily on the blood vessels, a most deceptive thing, because they [*scil.* pulses] often are lighter or faster because of age, gender, *and the nature of bodies (corporum natura*⁴⁰)". It might be argued that Celsus here considered it superfluous to specify the many things that constitute a *natura corporis*, since he had referred to them earlier in his work⁴¹, but elsewhere his vagueness renders his exact understanding of the *natura* of x or y elusive.

A somewhat different use of *natura* with the genitive is represented by *natura rerum*, which is conspicuous in Celsus' opening historiographic-doxographic prooemium but largely absent from the rest of his *Medicina*⁴². The uses of 'natura of x' discussed above refer to normative characteristics of a limited physical entity (body, eye, testicles, blood, tumour, water, locality) or disease (phrenitis) or activity (for example, a physiological process), whereas *natura rerum* of course refers more generally to the natural world or the universe, as it does in other Latin texts. This becomes especially clear in Celsus' uses of *contemplatio naturae rerum*, *cognitio rerum naturae*, and similar

⁴⁰ 3.6.5 (p. 111 Marx): *uenis enim maxime credimus, fallacissimae rei, quia saepe istae leniores celerioresue sunt et aetate et sexu et corporum natura.*

⁴¹ E.g., pr. 53; 1.3.13-14 (see above, nn. 38, 39).

⁴² See prooem. 6 (p. 18 Marx = pp. 14, 16 Mudry): *primoque medendi scientia sapientiae pars habebatur, ut et morborum curatio et rerum naturae contemplatio sub isdem auctoribus nata sit.* Prooem. 9 (p. 18 Marx = p. 16 Mudry): *eius [scil. partis medicinae] autem, quae uictu morbos curat, longe clarissimi auctores etiam altius quaedam agitare conati, rerum quoque naturae sibi cognitionem uindicarunt, tamquam sine ea trunca et debilis medicina esset.* Prooem. 47 (p. 25 Marx = p. 30 Mudry): *quamquam igitur multa sint ad ipsas artes proprie non pertinentia, tamen eas adiuuant excitando artificis ingenium: itaque ista quoque naturae rerum contemplatio, quamuis non faciat medicum, aptiorem tamen medicinae reddit perfectumque. Verique (veri FV) simile est et Hippocraten et Erasistratum, et quicumque alii non contenti [sint] febres et ulcera agitare rerum quoque naturam aliqua parte scrutati sunt, non ideo quidem medicos fuisse, uerum ideo (id eo J: id FV) quoque maiores medicos extitisse.* Prooem. 59 (p. 27 Marx = p. 34 Mudry), in a critique of Erasistratus: *quod si contemplationem rerum naturae, quam temere medici <isti (add. Marx)> sibi uindicant, satis comprehendisset, etiam illud scisset, nihil omnino ob unam causam fieri, sed id pro causa adprehendi, quod contulisse plurimum uidetur* (Marx added *isti* in view of the earlier mention, prooem. 47, of Hippocrates, Erasistratus, and other unnamed 'rationalists' who examined *rerum quoque naturae*).

expressions as synonyms for natural philosophy⁴³. Celsus more than once raises the question of the relation between the medical *ars* and the *contemplatio* or *cognitio rerum naturae* (to which he also refers as *sapientia* and *studium sapientiae*; see note 43), and this use of *natura* therefore will be taken up again below (section IV).

II.3. x is ‘by nature’ a or b

Closely related to Celsus’ use of ‘the *natura* of x’ is his use of the ablatives of *natura* and of *natura sua* to specify that something ‘by (its) nature’ has a certain quality or qualities – a construction which, of course, corresponds to Greek uses of *physis* in the dative. Yet in Celsus’ *Medicina* a clear difference emerges between these two kinds of construction: ‘by nature’ tends to be used to isolate only one or two characteristics – essential or accidental – of x, but not to refer to the larger set of features that specify or constitute ‘the nature of x’ (*natura* with a genitive). In other words, when Celsus uses ‘by nature’, he tends to single out only a very limited number of the qualities that are regularly displayed by x (or that appear in conjunction with x in its normal state), without attempting to specify *the* (defining) ‘nature’ of x.

Thus the heart is said to be “muscular by nature” (*naturā musculosum*⁴⁴), while the spleen is “by nature soft and loose in texture” (*naturā mollis et rarus*⁴⁵). These qualities, among many other unspecified properties, may belong to ‘the nature’ of the heart and of the spleen respectively, but neither the natural muscularity of the heart nor the natural softness and loosely textured quality of the spleen suffice to define or identify ‘the nature’ of these organs, as Celsus himself implicitly recognizes. After all, having singled out two of the qualities that the spleen has ‘by nature’, he later describes several other features of the spleen: its moderate length and thickness, its position, and its relation to other parts. And even all of these do not suffice to specify ‘the nature of’ the spleen.

⁴³ See previous note. These are not the only expressions Celsus uses to refer to philosophy: *sapientia* (prooem. 6) and *studium sapientiae* (prooem. 8) also appear in this meaning, but less frequently than expressions with *rerum natura*. *Sapientiae professores* appears to be Celsus’ preferred expression for ‘philosophers’ (pr. 7, 15, 28, 46); see also *sapientiae studiosos*, pr. 29. *Philosophia*, *philosophus*, and their cognates never appear in his *Medicina*, although they had become well established in Latin much earlier. Cicero is the first extant Latin writer to make abundant use of *philosophia* and *philosophus*, and, to a lesser extent, of *philosophari*, but well before Cicero these terms are already attested in Latin: e.g., *philosophus* in Pacuvius, Terence, and Sextus Turpilius; *philosophari* in Plautus; *philosophia* in L. Cassius Hemina.

⁴⁴ 4.1.4 (p. 147 Marx): *huic* (scil. *pulmoni*) *cor adnexum est, natura musculosum, in pectore sub sinistrore mamma situm: duosque quasi uentriculos habet.*

⁴⁵ 4.1.5 (p. 150 Marx): *at lienis sinistra non eidem saepto sed intestino innexus est; natura mollis et rarus, longitudinis crassitudinisque modicae; isque paulum costarum regione in uterum excedens ex maxima parte sub his conditur.*

Similarly, the ablative form ‘by its own nature’ (*suā naturā*) is used to refer to the notion that the morning ‘by nature’ is a time of greatest relief from fever and hence normally – though not invariably – a better time for giving feverish patients food⁴⁶. This hardly defines ‘the nature of’ the morning; it does not answer the question, ‘what is morning?’ or ‘what are the essential characteristics of the thing called morning?’ Rather, Celsus merely identifies a relational variable associated with the early morning that should be taken into account in the timing of the feeding of patients suffering from fever. This is a secondary, relational aspect – i.e., the early morning period only *in relation to* fever and to feeding the feverish – but not a defining feature of ‘morning’ itself. As Celsus remarks, it is not because it is morning as such (*non quia mane est*) that one should give the patient food in the morning, but because there is a remission⁴⁷.

A similar use of ‘by nature’ (*naturā*) appears in Celsus’ discussion of the types of weather and seasons that are best for the healthy and the ill, respectively⁴⁸:

“Not only is health steadier when the weather is good, but pre-existing diseases, if there have been any, are also less severe and end more readily. The worst weather for an ill person is that which has made him ill, so much so that even a change to a type of weather which *by nature* is worse, may be a healthy change in the case of this [person’s] physical condition”⁴⁹.

Here again, ‘by nature’ does not define what weather in and of itself is; rather, it refers to types of weather that tend to be bad in relation to one’s health. These include

⁴⁶ 3.5.4-6 (p. 109 Marx): *quidam, quia fere remissius matutinum tempus aegris est, tum putantandum (scil. cibum esse). Quod si respondet, non quia mane est, sed quia remissior aeger est, dari debet. Si uero ne tum quidem ulla requies aegris est, hoc ipso peius id tempus est, quod, cum sua natura melius esse debeat, morbi uitio non est; simulque insequitur tempus meridianum, a quo cum omnis aeger fere peior fiat, timeri potest, ne ille magis etiam quam ex consuetudine urgeatur. Igitur alii uespere tali aegro cibum dant: sed cum eo tempore fere pessimi sint qui aegrotant, uerendum est, ne, si quid tunc mouerimus, fiat aliquid asperius. Ob haec ad mediam noctem decurro, id est, finito iam grauissimo tempore eodemque longissime distante, secuturis uero antelucanis horis, quibus omnes fere maxime dormiunt, deinde matutino tempore, quod natura sua leuissimum est.*

⁴⁷ See previous note. Like many other ancient medical authors, Celsus believed that the distinction between different times of the day and the night, such as the predawn hours, morning, midday, evening, and midnight, becomes medically significant in a variety of contexts. See, e.g., 1.1.4; 1.2.2-5; 1.3.28; 1.4.1; 1.10.1-2; 2.4.1-2; 3.5.4-7; 3.21.11; 3.23.6; 4.31.3-4; 4.32.1; 5.20.6; 5.25.9; 5.25.16; 6.5.3; 6.6.29; 7.4.4C; 8.9.1E.

⁴⁸ 2.1.1-16 (pp. 45-48 Marx). On the importance of weather, winds, climate, and seasons see also prooem. 71-72; 1.2.3; 1.3.1; 1.3.20; 1.3.34-39; 1.5.1; 2.8.18; 2.18.8-9; 2.18.11; 3.4.6-8; 3.7.1B; 3.22.8; 3.27.2B; 4.32.1; 6.6.8D; 7.7.4D; 7.26.2A.

⁴⁹ 2.1.4 (p. 46 Marx): *neque solum in bono tempestatum habitu certior ualetudo est, sed †prior (priors J; praetera con. Marx) morbi quoque, si qui inciderunt, leuiores sunt et (et om. FVP) promptius finiuntur. Pessimum aegro caelum est, quod aegrum fecit, adeo ut in id quoque genus, quod natura peius est, in hoc statu salubris mutatio sit.*

changeable autumnal weather, weather with winds coming predominantly from the sea, foggy or cloudy days, and windy days in winter. All of these might be bad *for one's health*, but none defines what 'bad weather' in and of itself is, let alone what 'the nature' of 'weather' is.

'By nature' accordingly is used by Celsus mostly to single out limited, sometimes even non-essential features of x or y, whereas 'the nature of x or y tends to refer to a cluster of invariable or recurrent characteristics by which x or y can always or usually be known to be x or y.

III. ARS

Latin authors of the later Republic and early Empire used *ars* in a great variety of senses, ranging from 'technical skill', 'skilled practice', 'craftsmanship', 'artistic achievement', 'work of art', 'craft', 'the rules of a *techne*', 'a method', 'a systematic body of knowledge and of related practical techniques', and 'profession' to 'artificial means', 'ruse', 'stratagem,' and 'cunning'⁵⁰. Some of these meanings appear in Celsus too. He uses the plural *artes*, for example, to refer ruses by which some patients mislead doctors⁵¹, and to designate various non-medical *technai*, such as agriculture and navigation⁵². The singular, however, he uses most often to refer to the medical *techne*, at times using *ars* interchangeably with *medicina*, *disciplina*, *scientia*, *scientia medendi*, and similar words and phrases that refer to 'scientific' medicine⁵³.

⁵⁰ Greek authors similarly used *techne* in a wide range of senses; on Hippocratic and related uses of *techne* see, e.g., F. HEINIMANN, «Eine vorplatonische Theorie».

⁵¹ 3.18.3 (p. 122 Marx): *alii (scil. phrenetici) etiam artes adhibent summamque speciem sanitatis in captandis malorum operum occasionibus praebent, sed exitu deprenduntur* (see above, nn. 18, 19).

⁵² Prooem. 31-32 (p. 22 Marx; p. 24 Mudry): *a certis potius et exploratis petendum esse praesidium, id est is, quae experientia in ipsis curationibus docuerit, sicut in ceteris omnibus artibus. Nam ne agricolam quidem aut gubernatorem disputatione sed usu fieri*. The use of indirect discourse reflects the fact that Celsus here is reporting the views of the self-styled 'Empiricists'.

⁵³ See e.g., prooem. 1-13 (pp. 17-19 Marx = pp. 14-18 Mudry): *medicina, hanc scientiam, medicinae multiplex ista medicina, medicinam, medendi scientia, disciplinam hanc, artem hanc, hanc rationalem disciplinam medicinam, ipsa professione, medicina, rationalem artem, medendi rationem, ista nobis professio, medicinae, medicinam*. So too prooem. 29-40 (pp. 22-23 Marx = pp. 22-26 Mudry): *medendi scientiam, scientiam hanc, artibus, medicinam hanc artem, artem*; prooem. 47-48 (p. 25 Marx = p. 30 Mudry): *medicinae, ars*; prooem. 57 (p. 26 Marx = p. 35 Mudry): *medicinam, artis*; prooem. 62-66 (pp., 27-28 Marx = p. 34-36 Mudry): *artis, medicinalis ars, artem, medicina, medicinae, suam professionem*; prooem. 73-74 (p. 29 Marx = p. 40 Mudry): *scientia, medicinam, arte*; 2.6.15-18 (pp. 58-59 Marx): *artis, artem, medicinam, medicinae*; 3.1.4 (p. 101 Marx): *ars, medicina*. At other times *ars* refers to specific, more limited aspects of a doctor's practice or theory.

While some Greek authors sharply differentiated *techne* from *episteme*⁵⁴, Celsus thus joined those who drew no firm distinction between *ars* (*techne*) and *scientia* (*episteme*)⁵⁵. This does not mean that Celsus failed to understand the distinction between ‘knowing why’, ‘knowing that’, and ‘knowing how’, or between theoretical and practical knowledge⁵⁶, or between knowledge of the universal (or general or necessary) and knowledge of the particular (or contingent⁵⁷), or between the certain and the conjectural⁵⁸. But he did not systematically oppose *scientia* to *ars* in order to express these and similar distinctions.

Not irrelevant for Celsus’ conception of the relation between *ars* and *natura* is his distinction between *ars* and what goes on in the mind of its practitioner (*artifex*). More specifically, he differentiates *ars* both from the *cogitatio* of the *artifex* and from his *ingenium*. Celsus argues, for example, that many things that are not, strictly speaking, pertinent to the *ars*, nevertheless are helpful, inasmuch as they stimulate the *ingenium artificis*. They therefore should not be excluded from the *cogitatio artificis*, even though they must remain excluded from the medical *ars* itself⁵⁹. Such non-medical subjects which, if they belong to the thinking of the practitioner of the medical *ars*,

⁵⁴ See above, n. 1.

⁵⁵ Xenophon, who seems to have introduced the word *episteme* more often than any other pre-Platonic author, used *episteme* and *techne* almost interchangeably, especially in his *Memorabilia* and in his *Oeconomicus*. ‘Knowledge’ and ‘knowing’ here are above all associated with knowing how to do things, especially with the systematic rule-based ‘knowing how’ that tends to be associated with *techne*. Both *episteme/epistasthai* and *techné* accordingly have close links with professional expertise, with practical skill, and with practice; see, e.g., XENOPHON, *Memorabilia* 2.7, 7-8, 3.1.6-7, 4.2.20, *Oeconomicus* 1.1-4, 2.12, 6.4-8, 12.4-5, 15.1; see also *id.*, *Symposium* 3.3-6; *Cyropaedia* 7.5.79. Furthermore, in Plato’s ‘Socratic’ dialogues, *episteme* often is used to refer to the knowledge possessed by a practitioner of a *techne*; see, e.g., *Charmides* 165c4-166b6, 17063-c4, 174b11-c7; *Euthydemus* 281a2-6; *Protagoras* 356c8-357a4. See also *id.*, *Ion* 532c5-9; *Republic* 1.341d7-342d1; and above, n. 1.

⁵⁶ After all, much of Celsus’ opening historiographic-doxographic account of the ‘rationalism’ - Empiricism - Methodism controversy deals with causal knowledge vs. ‘knowing how’, or with theoretical knowledge vs. practical knowledge; see prooem. 10-17, 30-33, 38-39, 46-48, 51-52, 54, 59, 63-64, 69-70, 74-75.

⁵⁷ See H. VON STADEN, «The rule and the exception»; cf. *id.*, «ὥς ἐπὶ τὸ πολὺ. ‘Hippocrates’ between generalization and individualization». See also prooem. 62-64 (n. 60 below): *perpetua . . . uix ulla perpetua praecepta medicinalis ars recipit*; n. 38 above (*paene perpetua*).

⁵⁸ Prooem. 48 (p. 25 Marx = p. 30 Mudry): *est enim haec ars coniecturalis*; 2.6.16 (p. 58 Marx): *coniecturalem artem esse medicinam*. Cf. PLATO, *Philebus* 55d5-56a1; ERASISTRATUS, test. 32 (p. 70 Garofalo); DIOSCURIDES, *De materia medica* 1.48.1; CICERO, *De diuinatione* 1.24.

⁵⁹ Prooem. 74 (p. 29 Marx = p. 40 Mudry): *igitur, ut ad propositum meum redeam, rationalem quidem puto medicinam esse debere, instrui uero ab euidentibus causis, obscuris omnibus non ab cogitatione artificis sed ab ipsa arte reiectis*. Prooem. 47 (p. 25 Marx = p. 30 Mudry): *quamquam igitur multa sint ad ipsas artes proprie non pertinentia, tamen eas adiuuant excitando artificis ingenium; itaque ista quoque naturae rerum contemplatio, quamuis non faciat medicum, aptiorem tamen medicinae reddit perfectumque*. On the differentiation of *ars* from *ingenium* see also CICERO, *Epistulae ad Quintum fratrem*, 2.10(9).3; PLINY, *Naturalis historia* 35.74.

will beneficially stimulate his natural intellectual talents and thereby make him a better practitioner include, quite significantly, the study of Nature (*contemplatio naturae*, pr. 47) and therefore of hidden causes (*obscurae causae*, pr. 74) – a point taken up again below (section IV). In these contexts Celsus follows a tradition that reaches back to the ‘rationalist’-Empiricist disputes of the third-century BCE (but which itself has earlier philosophical and medical roots): he distinguishes between (i) an *ars* that accepts insights derived not only from practice and experience but also from reasoning (*ratio*) and (ii) an *ars* that relies only on practice and experience (*usus tantum; experimenta sola*⁶⁰).

Most often, however, Celsus uses *ars*, without any reference to the ‘rationalist’-Empiricist controversy, to refer to a result-oriented professional expertise that is anchored in part by knowledge of natural regularities and that is applied in a rule-based professional practice⁶¹. *Ars* thus entails having a method, i.e., a systematically organized and practised set of rules and procedures that will allow its practitioners to achieve the desired result in a maximum number of cases. This is not a novel conception of *ars / techne*, but it is crucial to understanding his views on the relation between *ars* and *natura*. Celsus believes that *ars* is in part defined by a knowledge of regularities; that this knowledge will allow the practitioner to observe or infer – and also to address – pathological deviations from the norm; and that these regularities belong to, or define, the *natura* of a given entity or disease or process. Indeed, he believes that the regularities known by the ‘art’ are the ‘natures’ of biological organisms and of inanimate things, all of which are endowed with these ‘natures’ through the agency of *Natura*. These views also inform his stand on some of the controversies concerning the relation between ‘art’ and ‘nature’.

⁶⁰ E.g., prooem. 10-11 (p. 18 Marx = p. 16 Mudry): *post quos Serapion (scil. the Empiricist), primus omnium nihil hanc rationalem disciplinam pertinere ad medicinam professus, in usu tantum et experimentis eam posuit. Quem Apollonius et Glaucias et aliquanto post Heraclides Tarentinus et aliqui non mediocres uiri secuti ex ipsa professione se empiricos appellauerunt. Sic in duas partes ea quoque, quae uictu curat, medicina diuisa est, aliis rationalem artem, aliis usum tantum sibi uindicantibus.* See also the use of this distinction in Celsus’ critique of the Methodists, prooem. 62-64 (p. 27 Marx = pp. 34, 36 Mudry): *Themisonis uero aemuli, si perpetua quae promittunt habent, magis etiam quam ulli rationales sunt. Neque enim, si quis non omnia tenet, quae rationalis alius probat, protinus alio [nouo] nomine artis indiget, si modo, quod primum est, non memoriae soli sed rationi quoque insistit. Si, uero quod propius est, uix ulla perpetua praecepta medicinalis ars recipit, idem sunt quod ii, quos experimenta sola sustinent; eo magis quoniam, compresserit aliquem morbus an fuderit, quilibet etiam inperitissimus uidet: quid autem compressum corpus resoluat, quid solutum teneat, si a ratione tractum est, rationalis est medicus; si, ut (ut om. FV) ei, qui se rationalem negat, confiteri necesse est, ab experientia, empiricus. Ita apud eum morbi cognitio extra artem, medicina intra usum est.*

⁶¹ Striking in this context are Celsus’ uses of *professio* (prooem. 10, 11, 64, 66). See also *professor*, prooem. 7, 14, 28, 46; 2.6.15; 7 prooem. 3.

IV. 'ARS' WITH OR AGAINST 'NATURA'?

It has often been claimed that the notion that *ars* (*techne*) can or should change, reshape, overpower or forcibly compel 'nature' is a distinctively modern idea. This notion, it is said, is part and parcel of a modern ideology of the subjugation, modification, conquest or control of natural phenomena by human intelligence, inventiveness, and technology. The ancients, by contrast, according to this widespread modern view, had a less adversarial conception of the relation between *ars* and *natura*; they saw it as a more harmonious relation, as evidenced, for example, by their conceptualization of *techne* as an imitation or re-enactment, a *mimesis*, of *physis*. And indeed, modern advocates of this characterization of the difference between ancient and modern conceptions of the relation of *ars* to *natura* can call on authors ranging from the Hippocratic writer of *On Regimen I* and Aristotle to Vitruvius, Pliny the Elder, Seneca, Marcus Aurelius, Galen, and later ancient Greek and Latin authors for evidence in support of their view⁶².

The extant evidence suggests, however, that at least some ancients had a much more complex view of the relation between *ars* and *natura*. Moreover, already in classical Greece several competing views of this relation had developed. Divergent strands of thought on the issue become visible in Celsus' *Medicina*, too, perhaps in part reflecting a diversity of views in his sources. Here six observations seem pertinent.

First, Celsus never has recourse to the ancient theory that 'art' imitates 'nature' or that *ars* somehow has its origin in the re-enactment of *natura*. Secondly, he nevertheless alludes to several non-adversarial relations between *ars* and *natura*, most of them

⁶² E.g., Hp., *On Regimen* 1.11-12, 1.16-18, 1.21-22 (VI, pp. 486-488, 490-492, 494 Littré = *CMG* I.2,4, pp. 134-136, 138, 140 Joly/Byl). ARISTOTLE, *Meteorology* 4.3.381b6: μιμείται γὰρ ἡ τέχνη τὴν φύσιν; *Physics* 2.2.194a21-22: εἰ δὲ ἡ τέχνη μιμείται τὴν φύσιν; *Protrepticus* fr. 11, p. 44 Ross (= fr. 11, p. 48 Walzer = B13 and B14 Düring = fr. 55j and 55m Schneeweiss): μιμείται γὰρ οὐ τὴν τέχνην ἢ φύσιν, ἀλλὰ αὐτὴ τὴν φύσιν, . . . εἰ τοίνυν ἡ τέχνη μιμείται τὴν φύσιν. See also G. SCHNEEWEISS, *Aristoteles, Protreptikos*, pp. 43-46. CICERO, *De natura deorum* 1.92: *nulla ars imitari sollertiam naturae potest*. VITRUVIUS, *De architectura* 2.1.2-3 (*imitantes, imitabili*). SENECA, *Epistulae Morales* 65.3: *omnis ars naturae imitatio est*; cf. 90.22. MARCUS AURELIUS, 'Meditations' (*To Himself*) 11.10: καὶ γὰρ αἱ τέχναι τὰς φύσεις μιμοῦνται. GALEN, *On Hippocrates' Epidemics I, Commentary* 2.48 (XVIIA, p. 143 Kühn = *CMG* V.10,1, p. 73.21-22 Wenkebach): μιμητὴν γὰρ ἅμα καὶ ὑπέρτερον ὁ Ἱπποκράτης ἀξιολογῶν τὸν ἰατρὸν εἶναι τῆς φύσεως. Galen here is conflating variants which, as he subsequently reports, he found in different manuscripts of *Epidemics I*: in most copies, he says, the relevant part of *Epid.* 1.5 (II, p. 636.2-3 Littré) reads ὁ ἰητρὸς ὑπέρτερος τῆς τέχνης, but in some manuscripts τῆς φύσεως appears in place of τῆς τέχνης; *Commentary on Hippocrates' Epidemics I*, 2.54 (XVIIA, p. 151 Kühn = *CMG* V.10,1, p. 77.12-15 Wenkebach). The sense of the Hippocratic passage, Galen adds, is not affected by this variant. See also PLATO, *Laws* 10.889a-e. Not unrelated is Aristotle emphasis (*Poetics* 4.1448a4-24) on the 'natural reasons' (*aitiai physikai*) responsible for the *techne* of 'making' [poetry]: engaging in *mimesis* is a feature of human nature, and it is innate (*symphyton*) in all human beings since childhood; they differ from other living creatures insofar as they are the most mimetic; they achieve their first acts of learning through *mimesis*; all humans delight in *mimemata*.

characterized by complementarity. Fundamental to the complementary roles of *ars* and *natura* is, in Celsus' view, that while the medical *ars* has considerable power, its power is more limited than that of *natura*. As Celsus remarks with reference to cases in which there is hope of recovery, even where *ars* knows how to apply remedies, *natura* can do the most⁶³. Furthermore, with reference to epilepsy, Celsus remarks that if the disease arises after the age of twenty-five, it is difficult to cure, and if it arises after a patient's fortieth year, it is still harder to treat; indeed, in that case hardly any hope can be found in the medical art, but some hope does lie in 'nature'⁶⁴.

Third, even where he does not ascribe greater power to 'nature' than to 'art', Celsus at times depicts *natura* as helping *ars*. In Book IV, for example, after discussing various therapeutic measures to treat *angina*, he adds:

"If the patient has not benefited from these [treatments], one should recognize that he has been vanquished by his illness. But if the disease has been relieved by these measures and his throat at this point admits both food and breath, a return to good health is easy. *And sometimes nature also helps*, if the disorder passes from a narrower to a wider space [within the body]; accordingly, when redness and swelling have arisen in the praecordia [by moving there from the throat], one may recognize that the throat is being freed [of *angina*]⁶⁵].

'Nature' here is not explicitly said to be more powerful than *ars*, but its auxiliary activity (*natura quoque adiuuat*) is clearly differentiated from the actions that belong to the medical 'art' itself.

Fourth, Celsus at other times, however, depicts the relation between *ars* and *natura* not as complementary or cooperative but as adversarial. In his transition from general classes of diseases to particular diseases – acute, chronic, and neither acute nor chronic particular diseases, in the body as a whole or in particular parts – Celsus observes, for example, that "in no disease can chance claim less credit for itself than can

⁶³ 2.8.20 (p. 71 Marx): *ex quibus cum pleraque per se proueniant, scire licet inter ea quoque, quae ars adhibet, naturam plurimum posse*. See Marx, *ad loc.*, on the lacuna that precedes this passage. The context is a discussion of special signs which in any particular affection indicate either hope (2.8.2-2.8.20) or danger (2.8.21-2.8.43) and which likewise indicate the appropriate treatment.

⁶⁴ 2.8.29 (p. 73 Marx): *morbis quoque comitialis post annum XXV ortus aegre curatur, multoque aegrius is, qui post XL annum coepit, adeo ut in ea aetate aliquid in natura (natū FV) spei, uix quicquam in medicina sit* (see previous note for the context).

⁶⁵ 4.7.3-4 (p. 158 Marx): *quibus si non fuerit aeger adiutus, scire licet malo uictum esse. Si uero his morbus leuatus est, iamque fauces et cibum et spiritum capiunt, facilis ad bonam ualetudinem recursus est. Atque interdum natura quoque adiuuat, si ex angustiore sede uitium transit in latiore; itaque rubore et tumore in praecordiis orto scire licet fauces liberari*.

the ‘art’, just as medicine cannot make any progress when Nature resists⁶⁶. *Fortuna*, in other words, is no less powerful than *ars*, but *ars* itself is powerless when *natura* opposes it. Here Nature enters into direct opposition to *ars*, rendering the medical ‘art’ altogether ineffectual (*nihil medicina proficiat*).

Celsus does not believe, however, that, when relations between *natura* and *ars* are adversarial, the victory will invariably belong to Nature. In his account of ‘rationalism’, for example, he shows familiarity with the idea – not original with him – that *ars* can in fact reveal nature’s secrets by forcibly prying open what *natura* has concealed:

“Furthermore, since pains and various kinds of disease come into being in the internal parts, they [scil. the ‘rationalists’] think that no one who does not know the internal parts can administer remedies for these diseases. It therefore is necessary, they say, to dissect the bodies of the dead and to examine their internal organs and intestines. Herophilus and Erasistratus, they say, did this in the best way by far: they cut open living human beings – criminals – whom they received out of prison from the kings. And, while breath still remained in these criminals, they examined *the things which nature previously had concealed*, also the position, colour, shape, size, arrangement, hardness, softness, smoothness of these things⁶⁷ ...”.

Here *ars* violates an unwilling, recalcitrant Nature in order to force it to render visible that which is naturally invisible.

It is worth recalling that this is far from being a unique case of ‘art’ violating ‘nature’ in ancient medicine. Not only did numerous experiments, such as those conducted by Erasistratus or those later conducted by Galen on the ventricles of the

⁶⁶ 3.1.4 (p. 101 Marx): *in nullo quidem morbo minus fortuna sibi uindicare quam ars potest: ut pote quom repugnante natura nihil medicina proficiat*. This passage probably depends, directly or indirectly, on Greek discussions of the relation between *tyche*, *techne*, and *physis*. See e.g., ARISTOTLE, *Metaphysics* 7.7.1032a12-b2, 12.3.1070a5-8; HP., *On Techne* 4.1-4, 7.1, 8.2-3 (VI, pp. 6, 10, 12-14 Littré = pp. 227-228, 231-233 Jouanna). Cf. *On Places in a Human Being* 46 (VI, pp. 342-344 = pp. 76-77 Joly = pp. 84-86 Craik); *On Sacred Disease* 17.1-2 (VI, p. 392 Littré = p. 86 Grensemann = p. 30 Jouanna); *On Affections* 45 (VI, p. 254 Littré = p. 68 Potter). At first glance, *repugnante natura* might appear to be an echo of HP., *Law* 2 (IV, p. 638.15 Littré): φύσις ἀντιπρῆσσοῦσης, κενεὰ πάντα. But in the Hippocratic passage φύσις refers to the natural talents of the aspiring practitioner. Cf. CICERO, *De officiis* 1.120; *De diuinatione* 2.18.

⁶⁷ Prooem. 23-24 (p. 21 Marx = pp. 20, 22 Mudry = HEROPHILUS, test. 63a, p. 187 von Staden): *praeter haec, cum in interioribus partibus et dolores et morborum uaria genera nascantur, neminem putant his adhibere posse remedia, qui ipsas ignoret. Ergo necessarium esse incidere corpora mortuorum, eorumque uiscera atque intestina scrutari; longeque optime fecisse Herophilum et Erasistratum, qui nocentes homines a regibus ex carcere acceptos uiuos inciderint, considerarintque etiamnum spiritu remanente ea, quae natura ante clausisset, eorumque positum, colorem, figuram, magnitudinem, ordinem, duritiem, mollitiem, leuorem ...*

brains of living animals⁶⁸, forcibly compel nature to reveal what it had previously concealed, but as early as the Hippocratic treatise *On Techne* statements such as the following appear:

“But whenever nature (*physis*) itself does not willingly yield the [signs] that inform us, the medical *techne* has discovered forms of forcible constraint (*ἀνάγκαι*) by which nature, when it has been overpowered by force (*βιασθείσα*), with impunity surrenders [the informing signs⁶⁹]”.

Subsequently, this Hippocratic author offers four examples of the ‘force’ and ‘constraints’ imposed upon nature by *techne* to pry loose nature’s secrets. The passage uses a language of violence, of force, and of torture to represent how *techne* constrains a recalcitrant, secretive *physis*⁷⁰.

Not only the violation of nature by *ars* but also the notion that nature has a tendency to conceal – a tendency that is at the root of much of the adversarial relation between *ars* and *natura* – has a long history. One of its more famous early articulations is a fragment attributed to Heraclitus: “Nature has a tendency to conceal itself⁷¹”. The many different ‘natures’ specified (often elaborately) in Celsus’ uses of ‘the nature of x’ (*natura* with the genitive; II.2 above) admittedly all reveal themselves through signs; otherwise they would have been unknowable and unspecifiable. Once nature is recognized and studied as a semiotic organism, it becomes cognitively accessible to the

⁶⁸ See H. VON STADEN, «Experiment and Experience»; A. DEBRU, «L’expérimentation chez Galien»; M.D. GRMEK, *Le chaudron de Médée*, (with ample references to further secondary literature); J. ROCCA, *Galen on the brain*, pp. 171-196.

⁶⁹ *De arte* 12.3 (VI, p. 24 Littré = p. 240 Jouanna): ὅταν δὲ ταῦτα τὰ μὲνύοντα μὴδ’ αὐτῇ ἡ φύσις ἐκούσα ἀφίη, ἀνάγκας εὐρηκεν ἧσιν ἡ φύσις ἀζήμιος βιασθείσα μεθήησιν. It is worth noting that the plural *anankai* often refers to instruments of torture or of mechanical force.

⁷⁰ See H. VON STADEN, «Physis and Techne».

⁷¹ 22B123Diels/Kranz, from THEMISTIUS, *Oration 5 (To the Emperor Iovianus)*, I, p. 101.13 Schenkl/Downey: φύσις κρύπτεσθαι φιλεῖ. See also PROCLUS, *Commentary on Plato’s Republic*, ed. W. Kroll, vol. II, p. 107.6-7 (perhaps from Porphyry; cf. II, p. 106.14-16 Kroll); PHILO, *Quaestion and Answers on Genesis* 4.1 (extant only in Armenian; cf. the editions by Marcus, vol. I, p. 265; Mercier/Petit, vol. II, pp. 144-145; p. 237 Aucher). For echoes of Heraclitus see PHILO, *On Dreams, That They Are God-Sent*, 1.2.6, *On the Special Laws* 4.8.51, *On Flight and Finding* 32.7-179, *On Those Whose Names Are Changed and Why They Change Them* 8.60; MANILIUS, *Astronomica*, 4.869-870; SENECA, *Naturales Quaestiones*, 7.30.4; JULIAN, *Orations*, 7.216C. G.S. KIRK, *Heraclitus. The Cosmic Fragments*, Cambridge 1954, p. 227, also cites “Themistius’ ... *Or.* XII, 159b”, as an ancient text containing Heraclitus’ fragment, but Kirk seems to be unaware that this ‘oration’ (= *Ad Valentem de religionibus*) is a fake, composed in Latin in the sixteenth century by Andreas Dudith; see R. FOESTER, «Andreas Dudith»; H. SCHENKL./G. DOWNEY/A.F. NORMAN (ed.), *Themistii Orationes quae supersunt*, vol. III, pp. 137-144 (Dudith took the relevant passage – *nam natura, ut ait Heraclitus, occultari uult: multoque magis naturae dominus et fabricator Deus* (159a; III, p. 142 Schenkl/Downey/Norman) – from *Oration 5* (see above).

practitioner of the *ars*. However, Nature does not always yield signs willingly. Celsus thus shares the view that nature both conceals and reveals; it veils and unveils; it closes and discloses. In particular, the natural invisibility and hiddenness of internal parts, of internal processes, and of internal diseases was a frequent source of concern and even complaint among medical writers from the Hippocratics to Celsus and beyond.

Fifth, Celsus was fully aware that some physicians on epistemological grounds rejected such intrusive interventions against nature. They objected that ‘nature’ simply could not be comprehended:

“By contrast, those who call themselves ‘Empiricists’, from ‘experience’⁷², do in fact accept evident causes as necessary. But they argue that the investigation of hidden causes and of natural actions is superfluous, for the reason that *nature cannot be grasped*. And that it cannot be grasped, they say, is obvious from the disagreement among those who debate these things, since there is no agreement about this matter, neither among those who claim expertise in philosophy nor among practitioners of medicine themselves⁷³”.

Celsus stakes out a middle ground in this controversy for himself, as he does in many other disputes⁷⁴. On the one hand, he recognizes the need for *ars* to violate *natura* in order to uncover and discover natural features that might be relevant to the practice of the medical *ars*; on the other hand, he sets limits to violations of *natura* by *ars*. In his view, not all interventions against nature are justifiable. Exactly where Celsus draws the line, depends above all on considerations of morality and of utility. In the debate about the permissibility of human dissection and human vivisection, for example, he firmly rejects vivisection, both on moral and on utilitarian grounds, whereas he unequivocally endorses human dissection as “a necessity for those who are learning [the art]; for they should know the position and arrangement [of the internal parts], and a corpse displays these better than does a living person who has been injured [by vivisection⁷⁵]”.

⁷² Celsus here is of course alluding to the Greek derivation of *empeirikoi* from *empeiria* (see next n.).

⁷³ Prooem. 27-28 (p. 22 Marx = p. 22 Mudry): *contra ii, qui se empiricos ab experientia nominant, euidentes quidem causas ut necessarias amplectuntur: obscurarum uero causarum et naturalium actionum quaestionem ideo superuacuum esse contendunt, quoniam non comprehensibilis natura sit. Non posse uero comprehendere patere ex eorum, qui de his disputarunt, discordia, cum de ista re neque inter sapientiae professores, neque inter ipsos medicos conueniat*. The argument from *discordia* or *diaphonia* was of course widely used in antiquity to discredit opponents (and not only by sceptics and by medical Empiricists; see, e.g., XENOPHON, *Memorabilia* 1.1.11-14; PLATO, *Phaedo* 96a5-c2).

⁷⁴ See H. VON STADEN, «*Media quodammodo diuersas inter sententias*».

⁷⁵ Prooem. 74 (p. 29 Marx = p. 40 Mudry): *incidere autem uiuorum corpora et crudele et superuacuum est, mortuorum discentibus necessarium: nam positum et ordinem nosse debent, quae cadauer melius quam uiuus et uulneratus homo repraesentat*].

Finally, as pointed out above, although Celsus excludes natural philosophy (*contemplatio rerum naturae*) or the study of Nature writ large from the medical *ars*, he more than once claims that, even though the *contemplatio rerum naturae* (*cognitio rerum naturae*, *studium rerum naturae*) will not turn one into a doctor, it will make one a better doctor⁷⁶.

Epistemologically, morally, conceptually, and in one's quotidian practice, *ars* therefore is inseparable from *natura*. In Celsus' view, as a practitioner of the medical *ars*, one should never neglect *Natura*'s agency. Furthermore, the practitioner should recognize and know the many different *naturae* of bodies and of things internal or external to the body – the 'natures of *x*, *y*', etc. – that confront one in one's practice of the *ars*. He likewise should know certain individual natural qualities of such things (that *x* or *y* is 'by nature' *a*, *b*, etc.), regardless of whether *a* or *b* is an essential or incidental quality of *x*, or a quality of *x* only in its relation to another thing. Furthermore, at times one must violate nature's boundaries to gain necessary knowledge, yet one should also know when to desist from doing so. Moreover, Celsus believed that, in one's practice, one should recognize where, when, and how the power of *natura* surpasses that of one's *ars*. And even though the investigation of *Natura* writ large does not fall within the confines of the *ars* itself, the physician does well not to neglect it. Knowing and reflecting on *natura rerum* and on *Natura* as agent will help the practitioner to recognize and respond to the many *naturae* of the countless treacherous particulars that he has to navigate in his practice. In short, for the medical *ars* and its informed practitioners, there is no escape from *natura*. Celsus' *Medicina* thus richly illustrates multiple ways in which *ars* and *natura* had become reciprocally defining by his time, also medicine⁷⁷.

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⁷⁶ See above, n. 59.

⁷⁷ I am deeply grateful to several contributors to this volume for their helpful comments and, in particular, to Arsenio Ferraces Rodríguez for his extraordinary generosity, kindness, and erudition.

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