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Scientia aliena: intertextuality, orality and medicine: Antiquity, Middle Ages and Renaissance

Medical authors either seek innovation through criticism of their predecessors, or regard themselves as perpetuators of a tradition. Galen, competing with his fellow physicians and frequently alluding to their work, enriches and transforms the so-called “Hippocratic” medicine. Medieval and Renaissance physicians pursue this tradition.

Razes (9th cent.) engages in a hard-hitting dialogue with his predecessors, including Galen, citing them, and pointing out that respect for tradition and adaptation to new realities are not contradictory. We can compare his method with Leonhart Fuchs’ (16th cent.) in his *Paradoxa medicinae* and his commented editions of Galen.

Razes often seeks advice from *oral* sources, travellers or merchants: how can they contribute to enhancing medical knowledge, “reconciling” oral and bookish culture?

Renaissance erudite authors (Fuchs, Gesner, Valleriole...) or authors of practical treatises (Vallambert, Jacques and Charles Guillemeau...) provide numerous references to non-medical *texts* such as poetry, drama, history, the Bible, Christian authors etc. Although Razes is particularly stingy with Koranic citations, we can find some examples of religious or moral references in his treatises.

Our aim is to study how non-medical textual and oral *scientia aliena* is “embedded” in a medical context and what its role is in shaping the medical and cultural landscape.

1. Timeline and methodology

We are covering a chronologically extended period:

Antiquity: Galen, the “role model”, 2nd-3rd cent. A.D.

Middle Ages: Razes 9th cent., *al-Manṣūrī*, *Smallpox and measles*, *Doubts on Galen* (in Arabic)

Renaissance:

In Latin:

Leonhart Fuchs (1501-1566), *Paradoxorum medicinae libri tres* 1555 (highly polemic); Commented edition and translation of Galen’s 4 books *De morbo et accidenti*, 1550

François Valleriole (1504-1580), Commented edition and translation of Galen’s 4 books *De morbo et accidenti*, 1540

Conrad Gesner (1516-1565), *Catalogus plantarum*, 1542

In French:

Thibault Lespleigney (1496-1550) *Promptuaire des médecines simples*, 1537 and 1544

Simon de Vallambert (d. 1558), *Cinq livres sur la façon de nourrir et gouverner les enfants*, 1565

Jacques Guillemeau (1550-1613), *De la grossesse et accouchement des femmes*, ed. and prefaced by his son Charles Guillemeau (1588-1656) who adds his own treatise *Des abus qui se commettent sur les procédures d’impuissance des hommes et des femmes*, 1620

“Citation” will be used as a generic term also for inexact quotations, paraphrases, accounts, or simple references to sources.

Books have readers. We will therefore classify the treatises of our corpus into two main categories, according to their target audience. In the Renaissance, this is stipulated in dedicatory epistles and prefaces. On the one hand, people who are fairly familiar with the sources; on the other hand, practice-oriented people whose familiarity with the sources is imperfect or inexistent, but who may be willing to lean on ancient authorities.

Concerning the context in which the citations are “embedded”, we will distinguish, in each of the above categories, those that expand or enrich a more or less medical context from those that seem out of scope.

2. Erudite books for erudite readers: expected contexts, unexpected citations

How can ancient history or drama help describe a disease and its consequences?

Galen describes the doctor Theophilos’ troubles of memory (K. 7, 62), prompting us to “learn from Thucydides” who said that some people who recovered from the Athenian Plague¹ lost their memory and were unable to recognize their family members and even themselves.

Fuchs (Commentary, p. 195) provides paraphrases of Thucydides’ text (2, 49), thus completing the Galenic reference. This passage, which is not to be found in the Pericles’ Epitaphios, as he claims, is indeed included in “Book 2 of the Peloponnesian War”.

Galen describes (K. 7, 200-201) the threefold symptoms of the “destruction of the authoritative function”, which include “*amentia and amnesia*”². Once again Galen refers to Thucydides’ account of the Athenian Plague. Fuchs (p. 335-336) now provides the exact Latin translation of Thucydides, completing it with a Galenic cross-reference (K. 7, 62) and his own commentary.

Thucydides’ historical citation can be considered “medical” because he describes a disease and its consequences in 5th cent. Athens. Yet the historian’s central point is *not loss of memory* as it is in Galen.

Galen (K. 7, 57) discusses touch and the pain related to it.

Valleriole (p. 143) thinks that pain is such a powerful feeling that it can annihilate even the greatest hero, such as Philoctetes. He cites 2 epigrams, which are in fact part of Accius’ tragedy *Philoctetes* (fr. 2 and 19), without the name of the author, but with reference to Cicero (*Tusc.* 2, 7) who transmitted them.

Philoctetes is indeed a well known mythological character (the reader should know his story), but Galen’s text has nothing to do with heroism or virtues. Furthermore, one may wonder why Valleriole preferred the Latin tragedy to Sophocles’ eponymous play. Is it a mere question of language?

How can one avoid biases stemming from ancient descriptions?

The so-called “lepra” or “elephantiasis”, Greek and Arabic, is a highly controversial point in Fuchs’ *Paradoxa* (p. 382-383).

Sébastien de Monteux (born ca. 1480), who contradicts Fuchs’ reading of Galen, is wrong when he argues that “lepra” is the same in Greek and Arabic medicine, allegedly based

¹ TLG: 9 results associating “Thucydides” and “plague” (λοιμός); 25 references to Thucydides in Galen.

² Galen, *On diseases and symptoms*, transl. by Ian Johnston, Cambridge 2006, p. 263 and n. 68: suggested translation of λήθη is “forgetfulness”; “amnesia” considered too strong.

on “the law of Moses”. Fuchs’ angry response is that “our sources are not the sacred Hebrew texts, but the Greek medical ones”. Yet he himself refers (without citation, but with the exact reference) to the *Levitikon* ch. 13 where one can find an account of the “Greek lepra”, a visible and touchable disease that changes the color and aspect of the skin and hair (they become white).

Monteux’s arguments are also based on the so-called Greek Gospel, namely the miracle of Jesus healing a man suffering from “leprosy”. Fuchs here provides paraphrases of the Gospel’s text, but he explains that what Monteux qualifies as “Greek Gospel” is actually written by Hebrew authors who describe the Hebrew reality, although some of them use the Greek language; furthermore, the Gospels are not medical treatises: no exact medical terminology is needed to describe a disease. The “miraculous” healing is due to the separation of patients in order to prevent contagion.

Monteux uses the Bible as a medical authority. Fuchs thinks that it is a misuse, but he himself refers to the Ancient Testament in order to promote his own argument on the difference between the Greek and Arabic “lepra”. Is there any difference?

Religion is not part of Razas’ *scientia aliena*. The medical books begin with the formula:

“*In the name of the merciful and forgiving God*”.

They end with a thanksgiving to the Divine.

But within the body of the text there are citations neither from the *Qur’an*, nor from the *hadith*, the personal words and sayings of the Prophet.

What is the best place to find the best medicinal plants?

Konrad Gesner’s dedicatory epistle of the *Catalogus plantarum* (1542) is dedicated to Johann Jakob Amman (Ammianus, 1500-1573), a philologist and professor from Zurich, Gesner’s native city.

In this epistle, Gesner pays a tribute to the late chaplain Johannes Frick (Ioannes Fricius), his uncle (or great-uncle, *avunculus*), a scholar of herbs, who taught him botany during frequent walks around the countryside (*rus*) and in the little yet “unique” garden (*hortulus*) he has been assiduously cultivating. Frick used to utilize medicinal herbs from this garden to take care of his own and his friends’ health. This is the reason why he lived “without damage” (in good health, *incolumis*) until the age of 80.

Immediately after the epistle, Gesner cites the Homeric description of the marvelous garden of Alcinoos (*Odyssey* 7, 112-133). This is a standalone Greek citation, without Latin translation.

What is Gesner’s aim here?

We suggest some answers: to give his “*avunculus*’s” garden prestige thanks to Homer; to describe in detail the ideal garden based on Homer’s authority, thus replacing a description of his *avunculus*’s garden; to highlight the fact that gardens, from antiquity until now, have been *the* place one can acquire knowledge about herbs and plants.

3. Erudite books for erudite readers: unexpected citations and contexts

This out-of-scope category includes mythology, as well as questions that can emerge in everyday life, including legal obligations and rights.

Mythology

Galen (K. 6, 850) refers to the diseases due to “the burning effect of the sun, or the condition arising from the heat beside a fire such as those who are called feverish or pyrexial”. The Greek word is *typhodeis* (τυφώδεις).

Fuchs (p. 108) comments on its meaning and story. The central point is the mythical character of Typhon³, “considered a burning divinity (*ardens daemon*) by the poets”:

Pindar, *Olympia* 4, 9-10: “terrible hundred-headed Typhon” (ἑκατογκεφάλα Τυφῶνος δ’ ὀβρίμου) and *Pythia* 1, 16 “Typhon with his hundred heads” (Τυφῶς ἑκατοντακάρανος).

Ovid, *Metamorphoses* 5, 346-353: Typho’s destruction by Zeus.

All three citations are exact.

Fuchs’ appeal to poetry has no apparent relationship with medicine. Yet it may be regarded as an attempt to include medical culture into a broader cultural agenda.

In the *Paradoxa* (p. 139), Fuchs discusses the *sucinum/electron* (amber), which is not the “tears of the black poplar-tree” (*populi nigrae lacrimae*) as Avicenna and others think, probably based on one of the “erroneous” mythological explanations.

Fuchs begins with the exact citation of Ovid, *Met.* 2, 358-366: the poet tells us “in elegant verses” the story of the Heliades mourning their brother Phaetho. They were transformed into poplars and their tears into amber falling to the ground in drops.

Diodorus Siculus, *Bibliotheca historica* 5, 23 (Latin translation of the Greek text), presents “ancient legends about electron” which are “quite uncertain”. His version of the legend, similar to the Ovidean one, includes the place where Phaetho fell down from the sky after being struck by the thunderbolt of Zeus: the river Padus/Eridanus (i.e. Po).

Finally, the right version, according to Fuchs, is given by Pliny (*NH* 37, 11-12), “the nature’s most trustworthy interpreter” who gives the right localization “the islands of the Northern Ocean”, the right tree, “those belonging to the pine genus”, and the old Latin name *sucinus*, the juice of this tree.

If mythology is wrong, then why citing these stories?

Everyday life: (1) legal obligations and rights

Galen (K. 6, 870) discusses *malformations*, including “the penis... unable to send forth the sperm directly, because the channel is distorted”.

Fuchs’ commentary (p.131) is on *adoption* by men who cannot procreate.

To highlight this, he distinguishes the Latin terms *spadones* and *castrati*.⁴

Fuchs provides an exact citation of the legal framework (Dig. 1, 7, 16; text by Iavolenus Priscus, a law expert of the 1st cent. A.D., *Libri ex Cassio* = Cassius Longinus iurisconsultus): “adoption takes place for persons whose nature is effective” (*adoptio in iis personis locum habet in iis natura potest*), meaning that these persons are not injured or do not suffer from an incurable disability.

Then comes another passage from the *Instituta* (1, 11, 9) in Latin and Greek, plus a marginal note prompting the reader to use the Greek rather than the Latin text, because

³ The name of the mythological character appears in Greek: Τυφῶς, Τυφῶν, Τυφωεύς.

⁴ The Latin-English dictionary translates *spado* as “impotent” but also “eunuch”. The verb *castro* means “depriving of generative power male or female, emasculate”. In the LSJ the Greek words σπάδωνες and σπαδωνισμός are translated as “eunuchs” and “castration”.

the former (*Basilica* 33, 1, 59) is correct, so one must also correct the latter where the negative form “those who **cannot** have children such as the *spadones*, can adopt” means the exact opposite of the actual rule concerning adoption. The Greek text reads: “the *spado* whose **hope to beget children is weak**, because he is likely to get rid of his affection, will take (= adopt a child) in replacement”⁵.

This gives Fuchs the opportunity to criticize “the law experts of our time who ignore not only Greek, but also Latin, and in general all the learned literature”. Their wrong definition of *spadones* leads to confusion between *spadones* and *castrati*. Yet if Fuchs’ aim is to provide a definition of the (medical) condition of *spadones*, why does he choose legal rather than medical citations?

At the end of this development, (p. 132) Fuchs acknowledges that he “moved away” from his initial purpose (“*sumus digressi*”). Law experts are the cause of this digression. These experts should not bring forward their opinion, given that they have no experience in medical questions. They should leave it to physicians, the actual experts.

Everyday life: (2) beauty

Galen (K. 7, 28-30) criticizes midwives and nurses whose manipulation of the newborn child may cause malformations, because of their “ignorance to swaddle in a balanced way”.

Fuchs (p. 163) provides an exact citation of Terence, *Eunuch* (2, 3, 21-25) Chaereas is searching for a beautiful girl for his friend Parmeno, not one of those ugly creatures who look like “pugilists”.

Fuchs’ concern is “*venustior forma*” (a more desirable form) of the girl’s body; bad swaddling by ignorant nurses produces the opposite result.

Valleriole (p. 109) explains the same Galenic passage thanks to a series of exact citations concerning beauty and behavior of women:

Christian authors: Prudentius, *Hamartigeneia* 264-265 “the woman is not satisfied with her native grace, so she lies by means of an external beauty”;

Jerome, *Epistula ad Demetriadem...* 18: young girls should dress correctly; their purpose should not be to become agreeable/vendible [*vendibilis*];

Augustine, *De doctrina Christiana* 4, 21, 50 “to change the natural appearance is a folly [*amentia*]”;

Latin poetry: Propertius, *Elegiae* 1, 2, 1,6 prompting Cynthia to preserve her natural beauty: “You lose your natural charm with store bought sophistication, you don't allow your limbs their native splendor” and 2, 18b, 25 “beauty should remain natural” (*ut natura dedit*).

⁵ *Basilica*: Greek translation of the 2 parts of the *Codex Iustinianus* initially in Latin, i.e. *Digesta, Instituta*. This translation was achieved under the emperor Leo VI (the “Sage”) in the 9th cent., when the official language of the Byzantine empire was definitely Greek. It is however unclear whether the *Basilica* includes legislation in force at this period or is limited to translating into Greek the legislation of the past. Fuchs does not pose such questions: for him, not only it is the “Greek version” of the *Instituta*, but it is also the *right* version, as if the translation were the original text.

We have already studied this part of Valleriolo's commentary in our article on midwives and nurses⁶ and in the 2017 Scientiae conference, focusing on its moralistic aspect. Now we focus on the relationship between beauty and medicine.

Galen says nothing about beauty here.

He refers to beauty elsewhere, considering it a result of symmetry, hence his reproach to nurses. In his *PHP (De placitis Hippocratis et Platonis)* K. 5, 425-426 = De Lacy V 3,12-18 (on Chrysippus the philosopher's concept of beauty and health of the soul and the body) Galen discusses beauty related to health of the body. He insists on "proportion [συμμετρία] of the parts of the body" (beauty) vs. "proportion [συμμετρία] of the elements of the body", namely "things that are hot, cold, dry, and wet" (health). He highlights this point referring to the sculptor Polycleitus' *Canon* where we find "full information... about all the proportions of the body", as well as the statue he "fashioned" as a concrete example.⁷ The Galenic "best constitution of the body" (title of the treatise *De optima corporis constitutione* K. 4, 737-749) implies good mix (*eukrasia* εύκρασία) of the so-called "homeomeric" parts and harmonious arrangement (σύμμετρος κατασκευή *summetros kataskeue*) of the whole.

There is no reference in Fuchs or Valleriolo to Galen's definition of beauty. This definition does not include any controversy about "artificial" vs. "natural" beauty, a controversy which has much more to do with society than with medicine. One may notice that Valleriolo in his comment about beauty based mainly on religious citations, establishes a continuity between Galen and his own thought, without separating them. This is a rhetorical method of supporting a personal opinion, linking it to the respected authority: it thus become easier to persuade the reader.

It is time to talk about music.

Galen (K. 7, 242) explains the sound produced by the "flatulence" (φύσα).

According to Fuchs (p.373), the musicians called "τυμβάλται", i.e. "tomb singers" produce the same sound. Such singers are to be found among Greeks and Jews. One can verify this in the Gospel of Matthew (9 Mat. 23): when Jesus came to the house of the dead girl he finally resurrected, he saw the singers and the people who were upset.

There is no citation of the Gospel, only the reference to "the Jew funeral practice". Fuchs presumes that the reader knows the story of the miracle fairly well, thus he/she can easily figure out the scene as well as the sound.

Valleriolo comments on this sound citing Plautus' *Casina* (called "Parasitus" 4, 3, 7): Olympio says: "For some time past my inside has been murmuring against me because of starvation" (*mihi ieiunitate iam dudum intestina murmurant*). This sound is similar to the one of the music instrument named tymbalon. Valleriolo describes it and then mentions the "plebeians" in Montpellier, whose songs and dances it accompanies. He thus highlights the nature of the sound and introduces a picturesque scene of everyday life.

Oral *scientia aliena* in learned books: Razes.

⁶ Dina Bacalexi et Mehrnaz Katouzian-Safadi, « Medical auxiliaries from the physician's point of view in Ancient, Medieval and Renaissance medical texts » *Histoire culturelle de l'Europe* 2, 2017 <http://www.unicaen.fr/mrsh/hce/index.php?id=659>.

⁷ Jacquie Pigeaud, "Homo quadratus: variations sur la beauté et la santé dans la médecine antique", *Gesnerus* 42 1985, 338-352

For treatment against the bite of scorpions of the southwest of the current Iran, (the region of Khûzistân), Razes, in his book *al-Mansûrî*, prefers a local medication called “*askarî*”, instead of different anti-poison concoctions from his predecessors such as the “*theriacs*”.

Another regional remedy is the clay from Neyshâbûr, Razes uses it in particular for stomach problems. This is not an innovation or a discovery, but a common remedy from this geographical region Razes integrated into his (learned) medical books, completing the data with new knowledge.

These treatments are from the two extremities the Iranian high plateau (Neyshabûr, in Khurâsân in the northwest and Khûzistân in the southwest). Razes practiced medicine and traveled on this long road between Neyshâbûr, Ray and Baghdad, important centers of scientific activities where sponsors organized “colloquia” of discussions (*mağlis* in Arabic).

This *scientia aliena* does not stem from books. It is the result of oral exchanges with local unknown patients and practitioners.

4. Practical treatises for non erudite readers: what kind of citations do we expect?

In books intended for druggists, midwives, nurses and surgeons, *scientia aliena* includes less precise citations, but not fewer references to ancient “authorities” through re-written accounts. Here one can also notice the use of “popular” techniques or recipes raised to the same level as ancient bookish culture.

Let us first examine *scientia aliena* integrated into medical context, even though in this kind of treatises distinctions are blurred.

Jacques Guillemeau in the dedicatory Epistle “to the ladies”, promotes maternal breast-feeding. The very first ancient reference is a non-medical author, Aulus Gellius, actually the philosopher Favorinus’ advocacy of breast-feeding in *Noctes Atticae* 12, 12. Jacques Guillemeau becomes a mouthpiece of this authority: the mother who abandons her child to the nurse acts “as if she were killing it after she gave it life”.

Jacques Guillemeau shares this reference with Valleriole, thus introducing his audience to what seems to be part of the erudite humanistic curriculum.

Then he shifts the focus on love between children and parents, citing Plato: this link is forged “when the fathers take them in their arms and the mothers breast-feed them”. It was impossible for us to identify a specific citation of this Platonic idea. This reference, including what looks like an exact citation, is likely to impress – or educate - the “ladies”.

Simon de Vallambert, in the part of his treatise on infantile diseases, explains how to cure a baby that cannot urinate. He mentions in order of importance popular women (in French *bonnes femmes*) whose remedies are detailed, followed by Razes’ and “some other people’s”. “All those remedies are good ones”, Vallambert states.

To avoid chapped skin on the internal side of the child’s thighs, Vallambert details the remedies of Razes and then alludes to “the women of our country” (French women in general, women of his region or those living in the countryside?), “who apply either ashes, or wood or other kinds of powder”.

Vallambert does not differentiate between Razes and the unknown women. He says nothing about the way he acquired this *scientia aliena*: given that these women are unlikely to have written books like Razes, is transmission a plausible hypothesis?

Finally some out-of-scope, but nevertheless attractive, *scientia aliena*.

In his *Promptuaire des médecines simples* intended for his fellow druggists, Thibault Lespleigny pursues an educational and professional project of high level, given the amount of *scientia aliena* included: many recipes stem from ancient and medieval authorities. Yet sometimes one may question his choice of references and his method.

- Aloe is explained thanks to the Gospel of John (Io. 19:39-40): Nicodemus “brings a mixture of myrrh and aloe about a hundred of Roman pounds” in Jesus’ burial.

Thibault does not cite the exact passage, supposed to be well known to the reader, but highlights the holiness of the episode where aloe is involved as a “precious” substance in a “mystic sacrament”. Yet the anointment of Jesus’ body is not related to therapeutic use.

- Incense: Thibault describes incense thanks to the Biblical reference to the Magi: incense represents the divine nature of “the God made a man”. This is the reason why “the authentic and orthodox churchmen use incense to chase away the evil spirits”. Incense “is a pleasure for God, when it is offered in a religious way. It is also a fragrance which chases away stench” (*puanteur*).

The Biblical story (an entire page) almost completely replaces the medicinal reference to the substance use and qualities (two lines).

- Myrrh: Thibault starts with the Biblical references to the Magi and to Jesus’ burial by Joseph and Nicodemus. He then decides to “return to [his] subject”.

Unlike the incense chapter, the Biblical story does not replace the description of the technical aspects, but emphasizes the sacred origin of myrrh. Yet “return to our subject” may mean that this was not the actual subject: why not go directly to the scope?

- The spikenard tells its story: in the Gospel, Saint Magdalene anointed Jesus with “my sweet liquor”. Salomon “praises me in the *Cantica*” (1:12; 4:13-14) as an aromatic substance. Then come its qualities (perfume not included) and therapeutic use. The Gospel and Salomon’s stories are not about medicinal use.

Charles Guillemeau, in his treatise about impotence, thinks that divorce decisions should not be based on midwives’ testimony and expertise concerning sterility.

His argumentation about marriage leans on *scientia aliena* which has nothing to do with medical or technical knowledge and know-how:

* Saint Paul (the actual citation is from the Gospel of Matthew Mat 19:4-6) and Saint Augustine (*Sermo* 51 PL38, ch. 6, 9 “On the conception of Jesus Christ by the Holy Spirit and on the fairness of Joseph”) reject any idea of separation between husband and wife. Augustine’s analysis of the Biblical reference of Jesus’ conception focuses on Mary’s virginity and the “miracle” of her being pregnant thanks to the Holy Spirit as well as on Joseph, who did not repudiate his wife.

* St Paul’s Epistle to the Ephesians (5:29-30) mentions the love a man owes to his spouse.

This survey of *scientia aliena* in medical and paramedical treatises is indeed incomplete, inasmuch as it only presents cases that seem salient according to our understanding of each author’s scientific and educational objective. It may also be frustrating, given the treasures of references included in these treatises, highlighting the place of the

authorities of the past that contribute to strengthening present and future knowledge. Given the diversity of the target audience, *scientia aliena* may also function as mediation between learned sources and a broader public. Spread in the society, it may finally re-emerge in various, unexpected contexts, cementing ties between authors and readers, forging intellectual alliances.

To put it in a nutshell, *scientia aliena* can be a different way to delve deeper into *scientia*. For the contemporaries of humanism as well as for modern scholars fond of interdisciplinary approaches, crossing texts helps to flee over the borders of medicine, making it a virtually “holistic” art and science.

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