Chapter 1
Pharmacology and Toxicology at the Court of Cleopatra VII: Traces of Three Physicians

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In a tattered papyrus, recovered from the charred scrolls in the Villa dei Papiri in Herculaneum, is a scorched remnant in eight columns of a Latin poem, *Carmen de Bello Actiaco* (*The Battle of Actium*). With some difficulty regarding orthography, since its original unrolling in 1805, scholars gradually have deciphered, edited, and translated this priceless bit of almost contemporary history.\(^1\) The full epic most likely focused on the actions and participants in the naval battle at Actium (31 BC), in which Octavian emerged victorious over Antony and Cleopatra, and the poet—who remains anonymous, although Rabirius seems favored among classical scholars—details characteristic behaviors of the protagonists; two of the eight surviving columns describe, with bloodthirsty relish, Cleopatra’s “experiments” with methods of murder on living human beings:

... and the place assigned, where the crowd of criminals would collect and provide sad spectacles of their own deaths. Just as, for an army and fleet on the point of attack, weapons, flags, and trumpets are readied this is what the place looked like, as the cruel instruments of death were collected, brought together in varying stages of readiness. Thus, every kind of ugly death, every kind of ugly fear, was gathered there on the field. One man lies cut down by the sword; another is swollen with poison, or with an asp hanging on his throat he slips into sleep, led on by his lust for death; another a small basilisk strikes with his hisses alone, without a bite; or a tiny bit of poison smeared in a small wound does away with him more quickly; others are forced by tight nooses to pour forth their last breath through compressed passages; and others had their throats

closed when they were immersed in water. In the midst of this slaughter she descended from her throne and in the midst of ...

Similarly, Plutarch gives purported details of Cleopatra’s heartless trials on slaves and criminals, seeking means of rapid demise through poisons—probably tales based on Alexandrian traditions, also reflected in Galen’s version of the famous suicide. Many scholars have questioned the standard account of that suicide, and it is clear the bite of an Egyptian cobra would not guarantee an instant and painless death. Cleopatra herself had a fairly well-founded expertise in the lore of drugs and poisons, poisonous snakes, and other presumably harmful creatures native to Egypt, even though she bequeathed in her often-quoted works—assumed by authorities in Roman antiquity to be genuine—a respected proficiency in the arts of cosmetics, as contrasted to the more

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2 The translation is by Sider, Library, 67–8.
8 E.g., Galen, Compound Drugs According to Place on the Body, 1.1, in Opera omnia, ed. Kühn, 12:403–5; from Cleopatra’s books on cosmetics, esp. on hair loss (alopecia); ibid., 1.2 (ed. Kühn, 12:432–5); from Cleopatra’s books on hair-growers; and ibid., 1.8 (ed. Kühn, 12:492–3): on cures for dandruff from Cleopatra’s books on cosmetics. Galen most likely obtained his blocks of quotations from Cleopatra’s works in a circulating collection of texts assembled by Criton, chief physician to Trajan (AD 98–117). Caius Fabricius, Galens Exzerpte aus älteren Pharmakologen (Berlin: Walter de Gruyter, 1972), 201–2 (“Kleopatra”); John Scarborough, “Criton, Physician to Trajan: Historian and Pharmacist,” in John W. Eadie and Josia Ober (eds), The Craft of the
ominous reputation (in company with Mithridates VI of Pontus and Attalus III of Pergamon) of being a royal toxicologist.9

Plutarch mentions that an important source for his account of Cleopatra’s death was a physician named Olympus, who apparently was present when the queen committed suicide.10 If Olympus was the author of any medical writings, he has left us with no actual tracts, nor do later authorities mention any of his works.11 Jacoby simply records the Greek text in Plutarch, with his blunt commentary that scholars who have attempted connections with Octavian/Augustus are sadly misled, quoting the renowned line from Plutarch, “nobody


10 Plutarch, _Antony_, 82.4 (ed. Pelling, 111). Pelling argues that Olympus is behind much of the account in Plutarch’s _Life of Antony_, 77.3, and for details throughout 71–87; ibid., 307 and 313. Roller, _Cleopatra_, 148.

11 Drugs called “The Olympic” or “The Olympus” (e.g., Paul of Aegina, 3.22.22 and 7.16.24, see _Paulus Aegineta_, ed. J.L. Heiberg, _Corpus Medicorum Graecorum_ 9 [2 vols, Leipzig: Teubner, 1921–24], 1:180 and 2:339) are “brand names,” not necessarily named for an individual inventor of a compound. The “Olympionicus” at Galen, _Opera omnia_, ed. Kühn, 12:753, is not “Olympus,” the physician to Cleopatra, and for the pharmacologist named at Galen, _Opera omnia_, 13:261, Kühn carries an extra iota, viz. “Olympius.” Unless a scribal error or corruption in the printed Greek text, this obscure Olympus is not the same man as recorded by Plutarch. Moreover, the pharmaceutical formula attributed to Olympus is for the fashioning of an emollient plaster (malagma) made from seeds (_to dia ton spermaton pharmakon_), and includes garden-variety ingredients, certainly not a “royal” compound.
knows the truth.”

We cannot, therefore, determine if Olympus had any influence on the queen’s learning in pharmaceuticals, but he certainly represents the continual presence of a “royal physician” attending to her requirements. It is also probable that Olympus’ “journal” had some limited circulation, and it seems reasonable to suppose that Galen’s often-expressed disgust at Alexandrian mores (which included the supposedly humane methods of execution by means of cobra bites) may have surfaced, in part, from such eyewitness accounts, perhaps available through the book trade.

Firmer testimony on the circle of physicians who ministered to the medical needs of Antony, Cleopatra, and others of this late Ptolemaic court offers details of the pharmacology involved in the practice of medicine among royalty, as well as some anecdotal evidence on how a doctor functioned in the milieu of one of the most famous imperial entourages in classical antiquity. Connections are secure in the texts for two other physicians, Philotas of Amphissa (c. 55 BC–AD 30) and Dioscorides “Phacas” (fl. c. 80–45 BC), but links to the Ptolemaic court during the reign of Cleopatra VII of four more doctors then resident in Alexandria (Sostratus, Apollonius “the Mouse” [Mys], Ammonius, and Philoxenus) are woolly at best and generally conjectured alone on simple chronology and locale.

Philotas of Amphissa was one of the young medical attendants serving Marcus Antonius Antyllus, Marc Antony’s elder son by Fulvia (born probably


in late 47 or 46 BC).\textsuperscript{16} In the early 30s BC, Philotas returned to Amphissa after completing his medical studies at Alexandria. At the age of about 75,\textsuperscript{17} Delphi honored Philotas with an inscription for his numerous years of service.\textsuperscript{18} Plutarch’s grandfather, Lamprias, listened with unbridled fascination to the stories of the then-elderly and quite garrulous Philotas, tales that included the luxurious culinary habits of Antony and Cleopatra: according to the oral narratives, as reported by Plutarch, Antony and Cleopatra insisted that eight boars should be in separate stages of roasting, so that when the royal couple called for their meal, the meat would be done to perfection.\textsuperscript{19} Oral sources were quite important to Plutarch,\textsuperscript{20} and he provides a valuable characterization of his grandfather’s particular style of storytelling, and why a little wine went a long way: Lamprias was “his most eloquent and resourcefully clever self while imbibing, saying that since frankincense becomes vaporous fumes from heat, thus he was made so by wine.”\textsuperscript{21}

Philotas acquired some of the usual medical theories while he was a student in Alexandria, most likely attending lectures given by noted medical philosophers of the day, who perhaps espoused a common version of “Hippocratic” or Aristotelian notions of opposites as they existed in the wider universe and in the physiologies of animals and humans. Another third-hand report from the mouth of Lamprias suggests a “social application” of medical theory in debates and conversations some time in the 40s and 30s BC. During an evening meal with Marcus Antonius Antyllus and his cronies and attendants, the youthful Philotas challenged an apparently annoying older physician in his cups with a blunt analysis of how a doctor might treat fevers: “To someone who is slightly feverish, one must administer something cold; and anyone who displays a fever is slightly feverish; therefore everyone who is feverish should be given cold [water].”\textsuperscript{22}

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\item\textsuperscript{16} Eleanor Goltz Huzar, \textit{Mark Antony: A Biography} (Minneapolis: University of Minnesota Press, 1978), 70–71.
\item\textsuperscript{17} W.A. Oldfather, “A Friend of Plutarch’s Grandfather,” \textit{Classical Philology} 19 (1924): 177.
\item\textsuperscript{18} Plutarch, \textit{Antony}, ed. Pelling, 195; \textit{Supplementum epigraphicum graecum} (Leiden: Brill, 1923–), 1:181.
\item\textsuperscript{19} Plutarch, \textit{Antony}, 28.3 (ed. Pelling, 70).
\item\textsuperscript{21} Plutarch, \textit{Moralia: Table-Talk}, 1.5.622E, ed. F.C. Babbitt et al., Loeb Classical Library (14 vols, London: Heinemann, 1927–76), 8:64; my trans.
\item\textsuperscript{22} Plutarch, \textit{Antony}, 28.2 (ed. Pelling, 70; my trans.).
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Mirrored in the fragments of Philotas’ writings, pharmacology was an important aspect of medical instruction in Alexandria, and one can surmise that he applied such knowledge in the context of the Ptolemaic court. Perhaps Philotas’ pharmaceutical formulas and recipes were very useful indeed for soldiers and gladiators, since his kephalikon among the rhaptousi (compound drugs, normally prepared as plasters, which “sewed up” or “sealed” a wound) would have been immediately applicable in instances of skull fractures and broken bones.23 Philotas’ kephalikon includes expected ingredients (beeswax, myrrh and frankincense, the agglutinative Eretrian earth combined with vinegar, four kinds of copper flakes as well as copper rust [verdigris], the gummy exudates of birthwort [Aristolochia spp.], raw alum, oil of roses, and olive oil), but also, most unusually, 25 drachmai of ichthyokolla, “fish glue” derived from the natural gelatin made from the sounds or swimming bladders of large freshwater fish, usually sturgeons.24 Galen notes that Philotas’ compound, with its large quantity of fish glue, is also good for inveterate wounds, that is those of “long standing” (ta chronia), and for those injuries difficult to treat and heal (kai dysalthē), especially “promoting the setting of broken bones and the formation of a callus.” Once applied, fish glue dries glass-hard and transparent, and its employment for skull fractures and hard-to-seal wounds continued well into the twentieth century.25 The Ptolemaic pharmacist first pounded the fish glue in a glass vessel, adding slowly the vinegar, then the copper flakes, and the Greek text concludes...

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Philotas’ inclusion of *ichthyokolla* as a prominent constituent of his *kephalikon* stands out as not quite unique in Greco-Roman pharmacy, but his apparently innovative application of the hardening gelatin to fractures merited the approval of both Celsus and Galen. It is uncertain if fish glue is an effective wrinkle remover, but women in the Roman aristocracy of Pliny’s own time seemed to think so. Philotas, however, does not suggest fish glue as a cosmetic treatment, if our fragments represent his work reasonably well.

Philotas also composed recipes in verse, if the testimony in Galen is to be trusted. According to this extract, Philotas composed the formula of ingredients in poetry “for a close friend,” and it is a complex, multistage compound for the treatment of “lichen-like eruptions on the skin” (the ailment was known as *leichēn*, the pharmaceutical compound was a *leichēnikon*), and *leichēn* is equivalent to the Latin *mentagra*, an eruption that frequently occurred on the chin. A number of minerals are prominent ingredients (copper flakes, *misy* [copper ore from Cyprus, the copper sulfide ore chalcopyrite, found above *chalkitis*], the famous Egyptian “salt” of Ammon, the Eretrian earth in small quantities, others), and the pharmacist is to mix these in a mortar with a goodly quantity of vinegar; then, after five days, one adds frankincense, myrrh, and other fragrant medicinals including two kinds of birthwort (*Aristolochia* spp.) to be ground in the open air, sunlit during the day; then one forms the compound into a kind of liquefied plaster, using beeswax, the oil of the terebinth tree (*Pistacia terebinthus*), galbanum, and olive oil. The result is an emollient salve, which “will be applied to the outgrowths [and] removes them quickly from the surface [of the skin].” One can assume that Philotas’ cosmetic dermatology could be somewhat reflected in Cleopatra’s often-quoted salves, ointments, and powders, redolent soaps occasionally stuffed with fragrant ingredients that enhanced the health of the skin, certainly essential for frequent appearances at court.

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26 Criton in Galen, *Compounds According to Place on the Body*, 5.3 (Opera omnia, ed. Kühn, 12:83–89).
27 So says Dioscorides, *De materia medica*, 5.100; ed. Wellmann, 3:71.
28 This is the so-called “Chian turpentine,” and the galls are used for tanning. George Usher, *A Dictionary of Plants Used by Man* (London: Constable, 1974), 466.
One is inclined to place Philotas’ multi-ingredient eye-salve (an *aphroditarion*, “darling”) in the contexts of Antony and Cleopatra’s court. Here are 12 *drachmai* of the opium poppy latex, 24 *drachmai* of zinc oxide (*kadmeia*, sometimes called calamine), 36 *drachmai* of gum *arabic* from *Acacia* spp., and a whopping 12 *drachmai* of the saffron crocus, along with pure rainwater, to be spread on with an egg, then washed off; the *kollyrion* was supposed to engender a copious flowing of tears, and the inclusion of the saffron crocus certainly made this “tear jerker” a phenomenally expensive ointment, profligately flaunting the easily wasted wealth at the Ptolemaic court. One can only guess what the *aphroditarion* had as a function: perhaps the flowing of tears enhanced one’s sexual attractiveness at the point of love-making, or such a copious production of lacrimal fluids could underline one’s anger at the point of open rage. Possibly the *aphroditarion* offers a glimpse into the stormy years when Cleopatra seduced Antony into thinking he—not Octavian—was destined to inherit command over the faltering Roman Republic from an Egyptian base.

The third physician known to have practiced in and around Cleopatra’s court is Dioscorides “Phacas,” whose epithet translates as “The Warty One,” or “The Mole-Faced One,” or “Warty-Faced.” In contrast to Philotas of Amphissa, Dioscorides has left less of a trace for his medical knowledge, even though he was a leading actor in the dramas that attended the early years of the joint reign of Ptolemy XIII and Cleopatra VII. He had been a court physician and roving ambassador in the earlier reign of Ptolemy XII (80–51 BC), and Julius Caesar indicates Dioscorides continued in that role.

Caesar, however, is somewhat ambiguous regarding the fate of Dioscorides, while functioning as an emissary of Ptolemy XIII to Achillas, at that time threatening civil war when Caesar’s troops were in the city of Alexandria (48 BC): “[Achillas] commanded that they [Dioscorides and Serafion] should be arrested and killed, but one of them was merely wounded and was quickly rescued by his friends and carried away as if he were dead.” If Dioscorides indeed survived, he would have been an elderly and wily court physician to Ptolemy XIII and Cleopatra VII, and the Byzantine *Suda* indicates a near-linkage with the phrase, “associated with Cleopatra in the time of Antony.” Caesar furthermore reports that Dioscorides had acted as an envoy to Rome in the reign of Ptolemy XII, and was “of the greatest influence on [the king],” so one can presume an equally powerful, if not greater, sway over

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Ptolemy XII’s “rancorous children.” The Pseudo-Galen, *Hippocratic Lexicon*, notes Dioscorides was a late member of the Herophilean sect, still operative in Alexandria two centuries after the death of its founder, and the *Suda* continues its terse account by relating that Dioscorides had written 24 books on medical topics. It is reasonably certain that Dioscorides wrote exegetical commentaries on various aspects of the vocabulary in the Hippocratic writings, and von Staden argues that Dioscorides was a “follower” of Herophilus in terms of both Hippocratic exegesis and clinical medicine. Rufus of Ephesus in his *Strange Diseases* (excerpted by Oribasius) records that a Dioscorides (most likely our “Phacas”), along with a Posidonius, had written a work on a nodular-swelling (“bubonic”) plague of uncertain time ravaging Libya; and Paul of Aegina quotes directly from a “Dioscorides of Alexandria” that shows a keen ability in the detailed description of skin diseases, in this instance *terminthos*: “Dioscorides of Alexandria says that *terminthoi* are protuberances formed on the skin, that are round and colored dark green, similar to the fruit of the terebinth tree.” Perhaps it is significant that both Philotas of Amphissa and Dioscorides “Phacas” should give such prominence to the “fruits” and oils from the “Chian turpentine” tree, *Pistacia terebinthus*. Skin diseases seem to have been specialties of both physicians, and dermatology coupled with careful pharmacology overlaps what is contained in the Greek texts presumably written by Cleopatra.

A century ago, Max Wellmann cautioned against contriving the court of Cleopatra to be a “center” for medical learning, and one has to remember that Alexandria “the Great” (as Galen liked to call the city) was home to many skilled practitioners of several of the arts and sciences, a traditional status hearkening back to the reign of the first Ptolemy. As famed as might be the ultimately tragic story of Cleopatra VII and her two Roman lovers (Julius Caesar and Marc Antony), it behooves the student of Hellenistic Alexandria to shed exaggerations that can only be designated as fiction. To be sure, Cleopatra has been—and

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38 Paul of Aegina, 4.24 (ed. Heiberg, 1:345).
doubtlessly will be—the subject of many novelists’ portrayals, and her image in Western literature has a long if checkered history.

**Bibliography**


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