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The licensing function of Galenic anatomical procedures, text and practice

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But if you grow confident through reading only, without being accustomed to the sight of the bones of apes, you will not actually take in nor will you retain the memory of the skeleton of a man if you see it unexpectedly. For, the recollection of perceptible phenomena requires frequent association. And for this reason also we recognize those very people whom we often encounter, but we pass by someone seen once or twice after a while has passed, neither recognizing him at all nor even recalling what he looked like before... For it is necessary to see each of the parts in advance, with no rush, in order to recognize what is seen suddenly, preferably in human subjects but if not, at least in animal subjects fairly similar to a human being.¹

I. Epideixis and Anatomical Demonstration

Text 2. Galen, *Anatomical Procedures* (AA II 669),
It is possible for you to do the same thing even if at some point, on your own, you examine the sort of thing that happens to the animal after the nerves are interrupted in this way [i.e., by ligation]. But for making this demonstration (ἐπιδεικνύμενο), it is better to prepare a thread placed under all these nerves without having tied [them]. For, in this way, when the animal is struck it lets out a howl, then after tightly binding the nerves with the threads it suddenly becomes voiceless.

Terms
Epideixis (ἐπίδειξις) is a generic demonstration. When it is distinguished from *apodeixis*, it picks out performative elements of the demonstration.

Apodeixis (ἀπόδειξις) is, for our purposes, a technical term. A demonstration is an *apodeixis* when its conclusions follows logically (and deductively) from more basic truths.

[The procedure] takes the audience's breath away, as it seems amazing [to them] that phonation is destroyed when tiny nerves in the midriff are ligated. Make sure that in these sorts of demonstrations (ἐπιδεικνύμενος) your assistants are numerous in order that the loops may be set around all the nerves quickly. If you don't want to release them again, constrict [the nerves] however you like. But, if you also want to release [them] all at once to show the animal crying out again, so the audience is even more amazed, slide rings on the loops and constrict them gingerly... And for the animal to cry out suddenly constrict it just enough, as the nerves are crushed when they are constricted too tightly by the loops surrounding them...

And you have all seen me demonstrate all of these sorts of things on pigs, in particular, often in private and in public (ἰδίᾳ τε καὶ δημοσίᾳ), since an ape is no advantage at all in these sorts of anatomical demonstrations and the spectacle is odious.

¹ All translations are my own unless otherwise mentioned. The Greek text of *Anatomical Procedures* is Garofalo (1991) *Procedimenti Anatomici* (Milan).
Text 5. Galen, Anatomical Procedures (AA IX.11.18),
I say, then, that for this purpose you must procure either a pig or a goat, in order to combine two requirements. In the first place, you avoid seeing the unpleasing expression of the ape when it is being vivisected. The other reason is that the animal on which the dissection takes place should cry out with a really loud voice, a thing one does not find with apes (trans. Duckworth).

II. Medical Debate as a Public Agon

Although I had supposed that they [sc. his opponents] would offer no rebuttal to these [refutations] and that they would come to understand the things that they had formerly misunderstood, they show no willingness to do so; rather, just as in wrestling rank amateurs cling to the neck[s] of those who have thrown them and do not let them stand up, since sometimes they don't realize that their back[s] are lying on the ground, likewise these [opponents], as they are ignorant of the falls in arguments, don't allow [me] to be free while they pull out some trick or another, always new, ducking and dodging until anyone would leave, disgusted and exasperated at their shamelessness compounded with their ignorance.

At once he seemed to his fellow Bacchants as the kind of man who spoke well and they began applauding him while he made his exit, leaving me behind, clearly knowing, I figure, that he was about to be refuted. On the following day I gave a book to his entourage, in which was a refutation of the things he had so unexpectedly claimed in this way. And that man was never again as convincing to them since he was at a loss as to how to answer its challenges, which I wrote in the book as follows, "Yesterday you ducked our debate, making like a competitor snatching at the crown and fleeing before even competing, but today you won't escape my refutation; seeing as this little book, which has fallen into the hands of your entourage, will follow you. For its argument is something no less for them than for you..."

Text 8. Galen, On My Own Books (Lib.Prop. XIX 14),
And once while I was speaking on the works of the ancient physicians in public, the [treatise] of Erasistratus On Bringing Up Blood was proposed (προβληθέντος) to me and a stylus was placed in it according to custom; and as it pointed to that part of the book in which he deprecates venesection, I said more against him [i.e. Erasistratus] in order that I might upset that self-styled Erasistratean Martialus.

Once I attended a public gathering where men had met to test the knowledge of physicians. I performed many anatomical demonstrations before the spectators: I made an incision in the abdomen of an ape and exposed its intestines: then I called upon the physicians who were present to replace them back (in position) and to make the necessary abdominal sutures- but none of them dared to do this. We ourselves then treated the ape displaying our skill, manual training, and dexterity. Furthermore we deliberately severed many large veins thus allowing the blood to run freely and called upon the Elders of the physicians to provide treatment but they had nothing to offer. We then provided treatment, making it clear to the intellectuals who were present that (physicians) who possess skills like mine should be in charge of the wounded. That man was delighted when he put me in charge of the wounded- and was the first to entrust me with their care (trans. Iskandar).
...it is necessary that when performing a public display (ἐπιδεικνύντα) you prepare to expose and to show the part, which has been put before you (τὸ προβληθὲν), as quickly as possible in a variety of ways, in this and some other presentation, as I will teach you.

III. Phonation and its Significance

I will remind you of the doctors and philosophers who were present at my debate (ἀγώνα) against the Stoics and Peripatetics and some others along with them, first going over how it began in detail so that if you want to distribute this text to anyone worthy of sharing in these types of arguments, he may know the progression of the things that happened and [so that] you may not spend all of your free time explaining the number of things done by me through the works of my medical practice, both the dissections and the arguments pursuant to them, when I was refuting invidious doctors and philosophers.

When I heard these things [i.e. Alexander's question on the reliability of the senses] I departed leaving them behind with only a word, namely that I was fooled when I supposed that I hadn't come into the presence of some podunk Pyrrhonists (ἀγροικοπυρρονείους). Otherwise, I wouldn't have come at all.

And after I left, the others reprimanded Alexander; and Adrian and Demetrios, invariably ill-disposed toward his excessive love of argument (τὴν φιλονεικίαν), had a credible pretext to rebuke him vehemently. And when this was made known to all of the scholars, so many as were in the city of Rome at the time, and to Severus, Paulus, and Barbarus, they all rebuked him vehemently and demanded that the anatomical demonstrations take place with them present, once they had gathered together everyone else however many were well known in medicine and philosophy.

IV. The Ureter/Bladder Connection and its Significance

[Th]us their sectarian vain-glory is an evil that is difficult to rub off, hard to wash out in these men especially, and more difficult to heal than any lesion. At any rate, one of the sophists of our day, trained sufficiently in eristic arguments and in other arguments too and clever at speaking, if anyone ever was, got into words with me about these matters... "For," he said, "on any day it is clear to see that any bladders, if one were to fill them up with liquid or air, then after tying off the neck squeeze them on every side, will in no way let anything out but keep everything completely inside themselves. And if in fact there were any substantive and perceptible pathways passing into them from the kidneys, so the liquid would be wholly expelled through those [pathways] when the [bladders] are squeezed just as it passed into them." Saying these things and others of this sort, rounding them off abruptly with an unflinching and clear voice, he departed...
1. Galen, AA II 223-4, εἰ δ’ ἀναγνώσεις μόνη θαράτης, ἀνευ τοῦ προεισθήσητα τῇ θεᾷ τῶν πυθρειόν ὅστον, οὐκ ἂν οὐδὲ κατανοήσης ἀκροβάς ἀνθρώπου σκελετόν ἑξαίφνης ἴδων, οὐτε μνημονεύεις. ἥ γὰρ τῶν αἰσθητῶν πραγμάτων μνήμη συνεχός ἔστϊκε καὶ διὰ τούτω καὶ αὐτῶν τῶν ἀνθρώπων ἐκεῖνος τάχιστα γνωρίζομεν, οὐς πολλάς συνεγνώμεθα, τὸν δ’ ἀπαξ ἢ διε ὀφθέντα διὰ χρόνου πλεῖονος θεαομένου πάλιν παρεχρόμεθα, μήτε γνωρίζοντες ὄλως, μήτε ἀναμμηνεύσῃς τῆς ἔμφροτήν θέας... ὁράσθαι γὰρ χρῆ πρῶτον ἐπὶ πολλῆς σχολῆς ἐκατον τῶν μορίων, ἵνα ἑξαίφνης ὁφθέν γνωρίσῃ ἡ μάλιστα μὲν ἀνθρώπων αὐτῶν· εἰ δὲ μή, ἀλλ’ ἐπὶ ἱδίων παραπλασίων ἀνθρώπῳ.

2. Galen, AA II 669, ταῦτά μὲν οὐ νι οὐ πράττειν ἐξεστὶ, κἂν μόνος ἐπὶ σαυτοῦ ποτ’ ἐξετάζῃ, ὥσποιν τι πάσχει τὸ ζῆν ἐπὶ τοῖς νέοισι σώς διαληθείσιν. ἐπιδεικνυμένον δὲ βέλτιον ἐστιν αὐτῷ παρεισκευάσθαι τοῖς νεύοις ἢπα τό γενόμενον οὐν τὸ δεδεόμενον κἂν αὐτός ἐξεραγεῖ γὰρ ὁμοίως παῖδευον, εἰτ’ ἑξαίφνης ἄφθουν γινόμενον ἐπὶ τῷ φαινόμενον τοῖς λίνοι...

3. Galen, AA II 669-70,...τοὺς θεατάς ἐκπλήττει· θαυμαστὸν γὰρ εἶναι δοξεῖ, νεύρων μιχρὸν κατὰ τὸ μετάφρησαν βραχυσήθνην, ἀπολύουσα τὴν φωνήν. ἔστωσαν δὲ πλείσοντι οἱ ύπηρετοῦμενοι σοι κατὰ τάς τοιαύτας ἐπιδείξεις, ἢν ταχέως ἢπα τοῖς νεύοισι οἱ βρόχοι περιβλήθησαν. ένας μὲν οὖν μηκέτι λέειν εὐθέλης αὐτοῦς, ὥσποι ἂν ἢ σοι φίλον, οὕτως φέργει. βουλμένος δὲ εἰθέςος λύσα, καὶ δείχνει τοῦ φωνοῦντος τοῦ ἱδίου, (οὕτω γὰρ μάλλον οἱ θεατα θαυμάζουσι,) ἀγκύλας δε ταῦτα τοὺς βρόχους ἐπίβαλλε καὶ μετρώς σφίγγε... πρὸς δὲ τὸ φωνήσαι τὸ ζῶν αὐτίκα τὸ μετρίως εὐφρήχθη τά γὰρ σφιγγότερον ὑπὸ τῶν περιβλήθνην βρόχων σφίγγεντα νεύρα...

4. Galen, AA II 690, ἐφ’ ύστερον δὲ μάλιστα πάντα τά τοιαύτα δεικνύναι μὲ εὐθείανος τολαίας ἵδια τε καὶ δημοσία, διὰ τὸ μήτε πλέον ἔχειν τι πάθηκον ἐν ταῖς τοιαύταις ἀνατομαῖς, εἰδεχθὲς τ’ εἶναι τὸ θέαμα.

5. Galen, Anatomical Procedures (AA IX.11.18)²


7. Galen, Purg.Med.Fac. XI 332, παραχρῆμα μὲν οὖν ἐδοξέ τοῖς θειαόταις ὁ τοιουτός εὐ λέγειν καὶ πάντες ἐπέβουλαν αὐτῷ καὶ ὁδώρου πολλοὶ καταλποῖ ημᾶς ἀπηλλάττετο γνωσίς τῶν, όμως, βεβαίως, ὅτι μένου εξελεγχθήσεται, δοθέντος μέντοι κατὰ τὴν ύπερταίαν ύπ’ ἤμων τοῖς χορευταῖς αὐτοῦ βιβλίου τινός, ἐν ὑ τοῦ οὕτως ἑξαίφνης ἀποτελημένον ἢ εὐλίγχος, οὐκέτ’ οὐδέποτ’ αὐτοῖς ἑκείνοις ἐξοῦς ὁμοίως ἢν πιθανὸς ἀποριῶν διαλύσασθαι τὰ προβελημένα. ταυτ’ γὰρ ἐνεγκράτω τῷ βιβλίῳ χρήσει μὲν ἄπερας τὸν λόγον ὄμοιον τοι ποιήσας ἄγωνοις τῇ στέφανον ἀράσαντι καὶ φυγόνι πρὸς ἀγωνίασσαι, τίμμερον δ’ οὕτω ἐκφεύγῃ τὸν ἐλέγγχον ἀκολουθήσαι γὰρ οὐ τούτῳ τὸ βιβλίον εἰς τέλειος ἐμπιστόν τὸν ἀμφί σε χορευτοῦν οὐδὲ γὰρ ἤττον τι πρὸς ἐκείνους ὁ λόγος ἐστὶν ἢ πρὸς σε...

² The later books of Anatomical Procedures survive only in Arabic. I include the reference but do not include the Arabic for this text and the others on the handout.


11. Galen, *Praen. XIV 626*, τὸν δὲ κατὰ τὸν πρὸς τοὺς Στωϊκοὺς τε καὶ Περὶπατητικοὺς ἁγώνα παρόντων καὶ ἄλλων τινῶν ἧμ’ αὐτοὺς ἱατρὸν τε καὶ φιλοσόφον, ἀναμνήσας σε πρότερον ὅθεν ἥξει τοιοῦτος διελθὼν ἵνα καὶ τινῶν τῶν ἁγίων κοινωνίας τοιούτων λόγων ἐβεβλήσαι μεταδούναι τούτο τὸ γράφμα, τὴν ἀκολουθίαν ἀπανοῦν ἵνα τῶν γενομένων· καὶ μὴ διὰ παντὸς ἀσχολίας ἔχως αὐτός διηγομένους ὅσα διὰ τὸν έργων τῆς ἱατρικῆς τέχνης ἀνατομῶν τε καὶ τῶν ἐπ’ αὐτάς λόγων ἐπιράγηθι μοι τοὺς φθονοφόρους ἱατροὺς τε καὶ φιλοσόφους ἔλεγχοντι.


14. Galen, *Nat.Fac. II 34-5*, ...οὕτως ἄρα δυσαπότριττον τι κακὸν ἦστιν ἡ περὶ τᾶς αἱρέσεις φιλοτιμία καὶ δυσέκειντον ἐν τοῖς μάλιστα καὶ ψυχὰς ἀπάσεις δυσαποτέτον. τῶν γοῦν καθ’ ἢμᾶς τῶν σοφιωτῶν τα τ’ ἄλλα καὶ περὶ τοὺς ἐρωτικοὺς λόγους ἰαναίως συγκεκριμένον καὶ δεινὸς εἰπεὶ, εἴπερ τὶς ἄλλος, αἱρόμενος ἕμοι πολθ’ ὑπὲρ τοίτων εἰς λόγους... ἐναρκός γὰρ ὁσιόλαθα συνειρθήσατε τὰς κύστεις ἀπάσεις, εἰ τὰ αὐτὰς ἐμπλήσασιν ὦδης οὗ ἄρος, εἰτα δήσας τὸν τράχηλον πιέζοι πανθεράθειν, οὐδαμὸν μεθειάσως οὐδεν, ἀλλ’ ἁρμίζοις ἅπαν ἐντὸς ἑαυτῶν στεγοῦσας, κατοί g’ εἴπερ ἦσαν τινες ἐκ τῶν νεφρῶν εἰς αὐτὰς ἠρκυνες αἰσθητοί καὶ μεγάλων πόρων, πάντως ἄν, ἔφη, δι’ ἑκείνων, ώσπερ εἰσῆλθε τὸ ύγρόν εἰς αὐτάς, οὕτω καὶ θυμόντων ἔξεχοντες. ταῦτα καὶ τὰ τοιαύτ’ εἰπὼν ἐξαιρίνθην ἀπαταίσθε καὶ σαφεῖ τῷ στόματι τελευτών ἀναπηδήσας ἀπῆλε...
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