11-12-2015

The licensing function of Galenic anatomical procedures, text and practice

Luis Alejandro Salas
Washington University in St Louis

Follow this and additional works at: http://digitalcommons.wustl.edu/historyofmedicine_presentations

Recommended Citation
http://digitalcommons.wustl.edu/historyofmedicine_presentations/4

This Presentation is brought to you for free and open access by the Center for History Of Medicine at Digital Commons@Becker. It has been accepted for inclusion in Presentations by an authorized administrator of Digital Commons@Becker. For more information, please contact engeszer@wustl.edu.
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

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 (ἐπιδεικνύωμεν), 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 follow 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 (ἐπιδεικνύωμεν) 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..."

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 (ἀγωνα) 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 (ἀγροικοπυρρωνείους). 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


[Thus] 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, ei δ’ αναγνώσεις μόνη θαρρόθεσες, ἀνευ τοῦ προειθήσητα τῇ θέα τῶν πληθείων ὄστόν, οὐχ ἄν όντε κατανοήσας ἀκροβας ἀνθρώποι σκελετῶν ἑξαίφνης ἠδικ., οὔτε μνημονεύσαις. ἡ γὰρ τοῦ αισθήτων πραγμάτων μνήμη συνεχούς ὁμίλες δειται· καὶ διὰ τούτο καὶ αὐτῶν τῶν ἀνθρώπων ἐκείνους τάχιστα γνωρίζουμεν, οἷς πολλαίς συνεγενήθηκα, τὸν δ’ ἀπαξ ἢ δις ὀφθέντα διὰ χρόνον πλείονος θεασάμενον πάλιν παρερμόθεια, μήτε γνωρίζοντες ὀλιγος, μήτε ἀναμνησκόμενοι τῆς ἐμπερθέσθαι θέας... ὀραθεία γὰρ χρὴ πρότερον ἐπὶ πολλῆς σχολῆς ἐκαστὸν τῶν μορίων, ἢ ἐξαίφνης ὀφθέν γνωρισθῇ, μάλιστα μὲν ἄν ἀνθρώπων αὐτῶν· εἰ δὲ μη, ἀλλ’ ἐπὶ ζῴων παραπληρῶν ἀνθρώπῳ.

2. Galen, AA II 669, ταυτὸ μὲν οὖν σοι πράττειν ἐξεστι, χάνω μόνος ἐπὶ σωτεῖν ποτ’ ἐξετάζεις, ὅποιον τι πάσχει τῷ ζῴῳ ἐπὶ τῶν νεύρων ὑπὸ διαληθεύουσιν. ἐπιδεικνύομεν δὲ βέλτιον ἔστιν αὐτῷ παρεσκευάσασθα τοῖς νεύροις ἄραι Λύνων ὑποβεβλημένον ἀνευ τοῦ δεδεόμεθα· κέχραγε γὰρ οὕτω πασίμενον, εἰτ’ ἐξαίφνης ἀφοῦν γινόμενον ἐπὶ τῷ σφυγχθῇ τοῖς λίνοις...

3. Galen, AA II 669-70,... τοὺς θεατὰς ἐκλήπτει· θαυμαστὸν γὰρ εἶναι δοξεῖ, νεύρων μιθρὸν κατὰ τὸ μετάφρασιν προσώπων, ἀπόλυσας τὴν φωνήν. ἔστωσαν δὲ πλείονες οἱ ὑπηρετούμενοι οἱ κατὰ τὰς τοιαύτας ἐπιδείξεις, ἵνα ταχέως ἀπασί τοῖς νεύρωσι οἱ βρόχοι περιβληθοῦσιν. έαν μὲν οὖν μηκέτι λίγους εὐθέλως αὐτοῖς, ὡσπο ἢ οὐκ εὖν, οὕτως ὄργεται. βουλωμένος δὲ εὐθέως λύσαι, καὶ δείξεις φιλιόν αὐτὸς τῷ ζῷῳ, (οὗτος γὰρ μάλλον οἱ θεατα θαυμάζουσι,) ἀγκύλας τε κατὰ τοὺς βρόχους ἐπίβαλλε καὶ μετρίως φέργε... πρὸς δὲ τὸ φωνήσα τὸ ζῷον αὐτήν τὸ μετρώ εὐφύγχθα, τὰ γὰρ οὐδοδοτερον ὑπὸ τῶν περιβληθέντων βρόχων σφυγχθέντα νεύρα...

4. Galen, AA II 690, ἐφ’ ύσον δὲ μάλιστα πάντα τὰ τοιαύτα δεικνύναι μὲ ἐθέασασθε πολλάς ἡδία τε καὶ δημοσία, διά τὸ μήτε πλέον ἔχει τι πύθηκαν ἐν ταῖς τοιαύταις ἀνατομαῖς, εἰδεχθές τ’ εἶναι τὸ θέαμα.

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


7. Galen, Purg.Med.Fac. XI 332, παραχρήμα μὲν οὖν ἐδοξέ τοῖς θιασώτας οὐ τιούτως εὐ λέγειν καὶ πάντες ἐπέβουν αὐτῷ καὶ δρόμῳ πολλῷ καταλητῶν ἑδίκη απιλλάσσετε γνώσεων, οἶμαι, βεβαιῶς, ὃτι μένον ἐξελεγχθῆσαι, δοθέντος μὲν τητα τὴν υστεροιαν υρ’ ἡμῖον τοῖς χορευτῖς αὐτοῦ βιβλίων τινός, ἐν ὧν οὕτως ἐξαίφνης ἁπτοτελημένουν ἢ ἐλεγχος, οὐκέτ’ οὐδέποτ’ αὐτοῖς ἐκείνος ἐθ’ ὁμίοις ἡ πνεανας ἀποφοινίν διαλύσασθαι τὰ προβεβλημέναι. ταὐτ’ γὰρ ἐνεγχέραστο το βιβλίῳ χρῆς μὲν ἄπεδρος τῶν λόγων ὁμιῶν τι ποιήσας ἁγιονιστὶ τὸν στεφάνον ἀγάπασαι καὶ φινογετὶ πρὸς ἀγιονισασθαί, τήμερον δ’ οὐκ ἔκφεβειν τὸν ἐλεγχον ἀκολουθήσει γάρ οὐτοι τοὺ το βιβλίῳ εἰς τὰς χειρὰς ἐμπέσων τῶν ἁμοί σε χορευτῖν οὐδὲ γάρ ἂντ’ τι πρὸς ἐκείνους ὁ λόγος ἐστίν ἣ 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.


14. Galen, *Nat. Fac. II 34-5*, ...οὕτως ἢρα δυσαπότρυπτον τι κακὸν ἐστιν ἡ περὶ τὰς αἰρέσεις φιλοτιμία καὶ δυσεύκουστον ἐν τοῖς μάλιστα καὶ ψωφάς ἀπάσης δυσικτότερον. τῶν γοῦν καθ’ ἡμᾶς τὰς σοφιστὰς τὰ τ’ ἄλλα καὶ περὶ τοὺς ἐρευκοὺς λόγους ἱσανός συγκεκριμένος καὶ δεινὸς εἰπέν, εὔπερ τοῖς ἄλλοις, ἀφικόμενος ἐμοὶ ποθ’ ὑπὲρ τοῖς νεόσις εἰς λόγους, ...ἐναργῇ γὰρ ὁσμῆρα τοιοῦτον τὰς κύστεις ἄπασας, εἰ τὰς αὐτὰς ἐμπλήσαν ὡδας ἢ ἄρος, εἰτο δής τὸν τράχηλον πιέζοι πανταχὼδεν, οὐδαμῶς μεθείσας οὐδὲν, ἀλλ’ ἀκριβῶς ἀπαν ἐντὸς ἐαυτῶν στεγοῦσας. καὶ τοῖς π’ εἰπάς ἢν τινὲς ἐκ τῶν νεφρῶν εἰς αὐτὰς ἤρκες ἀισθητοὶ καὶ μεγάλα πόριν, πάντως ἢ, ὡς μὲν εἰς τὸ ψυχρον εἰς αὐτὰς, ὡσε τοῦ ἡμίλυτον ἐξερήνητο. ταῦτα καὶ τὰ τοιαύτ’ εἰπόν ξέαφνης ἀπαίτωσι καὶ σαφεὶ τοῦ στόματι τελευτῶν ἀναπηδήσας ἀπήη...
Bibliography


--------. (1992) 'Healers in the medical market place: towards a social history of Graeco-Roman medicine' in *Wear* (1992)

--------. (1999) *Galen On My Own Opinions: CMG V 3.2* (Berlin)


Taub, L. and A. Doody (eds.) (2009) *Authorial Voices in Greco-Roman Technical Writing* (Trier)