Handout for "*Epagōgē* and *syllogismos* in *Posterior Analytics* I.1 (and beyond)"

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T1: Simultaneous learning in *Post. An.* I.1

Ἔστι δὲ γνωρίζειν τὰ μὲν πρότερον γνωρίσαντα, τῶν δὲ καὶ ἅμα λαμβάνοντα τὴν γνῶσιν, οἷον ὅσα τυγχάνει ὄντα ὑπὸ τὸ καθόλου οὗ ἔχει τὴν γνῶσιν. ὅτι μὲν γὰρ πᾶν τρίγωνον ἔχει δυσὶν ὀρθαῖς ἴσας, προῄδει· ὅτι δὲ τόδε τὸ ἐν τῷ ἡμικυκλίῳ τρίγωνόν ἐστιν, ἅμα ἐπαγόμενος ἐγνώρισεν. (ἐνίων γὰρ τοῦτον τὸν τρόπον ἡ μάθησίς ἐστι, καὶ οὐ διὰ τοῦ μέσου τὸ ἔσχατον γνωρίζεται, ὅσα ἤδη τῶν καθ' ἕκαστα τυγχάνει ὄντα καὶ μὴ καθ' ὑποκειμένου τινός.) **πρὶν δ' ἐπαχθῆναι ἢ λαβεῖν συλλογισμὸν** τρόπον μέν τινα ἴσως φατέον ἐπίστασθαι, τρόπον δ' ἄλλον οὔ. ὃ γὰρ μὴ ᾔδει εἰ ἔστιν ἁπλῶς, τοῦτο πῶς ᾔδει ὅτι δύο ὀρθὰς ἔχει ἁπλῶς; ἀλλὰ δῆλον ὡς ὡδὶ μὲν ἐπίσταται, ὅτι καθόλου ἐπίσταται, ἁπλῶς δ' οὐκ ἐπίσταται. εἰ δὲ μή, τὸ ἐν τῷ Μένωνι ἀπόρημα συμβήσεται· ἢ γὰρ οὐδὲν μαθήσεται ἢ ἃ οἶδεν.

It is possible to acquire knowledge when you have acquired knowledge of some items earlier and get knowledge of the others at the very same time (e.g. items which in fact fall under a universal of which you possess knowledge). Thus you already knew that every triangle has angles equal to two right angles; but you got to know that this figure in the semicircle is a triangle at the same time as you were performing *epagōgē* (ἐπαγόμενος). (In some cases learning occurs in this way, and the last term does not become known through the middle term - this occurs when the items are in fact particulars and are not said of any underlying subject) **Before you are led to the conclusion (ἐπαχθῆναι), i.e. before you are given a deduction (λαβεῖν συλλογισμὸν)**, you should perhaps be said to understand it in one way—but in another way not. If you did not know whether there was such-and-such a thing *simpliciter*, how could you have known that it had two right angles *simpliciter*? Yet it is plain that you do understand it in this sense: you understand it universally—but you do not understand it *simpliciter*. (Otherwise the puzzle in the *Meno* will arise: you will learn either nothing or what you already know) (71a.17–30).[1]

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[1] Translation modified from Barnes (1993).

Supplementary texts

T2 Simultaneous learning in *Pr. An.* II.21

ὁμοίως δὲ καὶ ὁ ἐν τῷ Μένωνι λόγος, ὅτι ἡ μάθησις ἀνάμνησις. οὐδαμοῦ γὰρ συμβαίνει προεπίστασθαι τὸ καθ᾽ ἕκαστον, ἀλλ᾽ ἅμα τῇ ἐπαγωγῇ λαμβάνειν τὴν τῶν κατὰ μέρος ἐπιστήμην ὥσπερ ἀναγνωρίζοντας. ἔνια γὰρ εὐθὺς ἴσμεν, οἷον ὅτι δύο ὀρθαῖς, ἐὰν ἴδωμεν ὅτι τρίγωνον.

And the argument in the *Meno* that learning is being reminded is also similar: for it never results that people know the particular in advance, but rather they get the knowledge of the particulars at the same time, by means of *epagōgē*, as though they were recollecting something. For there are some things which we know right away (for example, we know that something has 2R whenever we see that it is a triangle) (67a.21–24).[2]

T3: Learning by *syllogismos* and by *epagōgē*

ὁμοίως δὲ καὶ περὶ τοὺς λόγους οἵ τε διὰ συλλογισμῶν καὶ οἱ δι᾽ ἐπαγωγῆς· ἀμφότεροι γὰρ διὰ προγινωσκομένων ποιοῦνται τὴν διδασκαλίαν, οἱ μὲν λαμβάνοντες ὡς παρὰ ξυνιέντων, οἱ δὲ δεικνύντες τὸ καθόλου διὰ τοῦ δῆλον εἶναι τὸ καθ᾽ ἕκαστον.

Similarly with arguments, both deductive and inductive: they bring about their teaching through what we already know, the former taking as from among those things which we grasp, the latter showing something universal by way of the the particular being clear (71a.5–9).[3]

T4: The definition of *syllogismos* in the *Pr. An.*

λόγος ἐν ᾧ τεθέντων τινῶν ἕτερόν τι τῶν κειμένων ἐξ ἀνάγκης συμβαίνει τῷ ταῦτα εἶναι.

an argument in which, some things having been posited, something different from the things supposed results of necessity by their being so (24b.18–20).[4]

T5: *Epagōgē* in the *Topics*

ἐπαγωγὴ δὲ ἡ ἀπὸ τῶν καθ᾽ ἕκαστα ἐπὶ τὸ καθόλου ἔφοδος· οἷον εἰ ἔστι κυβερνήτης ὁ ἐπιστάμενος κράτιστος, καὶ ἡνίοχος, καὶ ὅλως ἐστὶν ὁ ἐπιστάμενος περὶ ἕκαστον ἄριστος.

Induction, however, is proceeding from particulars up to a universal. For instance, if the pilot who has knowledge is the best pilot, and so with a charioteer, then generally the person who has knowledge about anything is the best (105a.13–16).[5]

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[2]Translation modified from Smith (1989, 96).
[3]Translation modified from Barnes (1993, 1).
[4]The translation here is mine, based on Smith (1989), 2.
[5]Translation from Smith (1997, 11).

T6: The "syllogism from *epagōgē*"

Ἐπαγωγὴ μὲν οὖν ἐστι καὶ ὁ ἐξ ἐπαγωγῆς συλλογισμὸς τὸ διὰ τοῦ ἑτέρου θάτερον ἄκρον τῷ μέσῳ συλλογίσασθαι, οἷον εἰ τῶν Α Γ μέσον τὸ Β, διὰ τοῦ Γ δεῖξαι τὸ Α τῷ Β ὑπάρχον· οὕτω γὰρ ποιούμεθα τὰς ἐπαγωγάς.

Induction, then – that is, a deduction from induction – is deducing one extreme to belong to the middle through the other extreme, for example, if B is the middle for A and C, proving A to belong to B by means of C (*Pr. An.* II.23, 68b.15–18).[6]

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[6]Translation from Smith (1989).

Logical and temporal representations

Passage	Temporal representation: Argument through *epagōgē* (ὁ λόγος δι' ἐπαγωγῆς)	Logical representation: Syllogism from *epagōgē* (ὁ ἐξ ἐπαγωγῆς συλλογισμὸς)
Meno	This is a square with double side-length (premise) This is a square with quadruple area (premise) All squares with double side-length have quadruple area (conclusion)	All squares with double side-length have quadruple area (premise) This is a square with double side-length (premise) This is a square with quadruple area (conclusion)
Pr. An. 2.23	The horse is long-lived (premise) The horse has no bile (premise) Everything not possessing bile is long-lived (conclusion)	Everything not possessing bile is long-lived (premise) The horse has no bile (premise) The horse is long-lived (conclusion)
Post. An. 1.1	All triangles have 2R (premise) This is a triangle (conclusion) This has 2R (conclusion)	All triangles have 2R (premise) This is a triangle (premise) This has 2R (conclusion)

References

Barnes, Jonathan. 1993. *Aristotle. Posterior Analytics*. Second edition. Oxford: Clarendon Press.

Smith, Robin. 1989. *Aristotle. Prior Analytics*. Indianapolis: Hackett Publishing Company.

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