III.—THE ANALYSIS OF ΕΠΙΣΤΗΜΗ IN PLATO'S SEVENTH EPISTLE.

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THE question as to the genuineness of the seventh of the thirteen letters contained in our Plato manuscripts is one of considerable importance for the History of Philosophy. If the letter is really the work of Plato, it throws a flood of light on the philosopher's early life, particularly on the nature of his relations with Socrates and the causes by which Plato was led to abandon the career of public life as an Athenian statesman, which would have been normal in a man of his birth and endowments, for the vocation of a φιλόσοφος. It is further, on the hypothesis of genuineness, of great value as giving us an authoritative version of the reasons by which Plato was led in later life to attempt an active intervention in the affairs of Sicily, and his grounds for holding that the death of Dion was no fatal defeat for his "cause". Hence a discussion bearing on the question seems not altogether outside the province of a distinctly philosophical review like *MIND*. It is not, however, my object at present to examine the whole literary problem created by the *Epistles* in general, or by our letter in particular. In view of the present state of the controversy, I feel justified in assuming that the evidence, both from style and from historical allusions, is overwhelmingly in favour of the view that the seventh *Epistle* is, as it purports to be, a document belonging to the years immediately after the assassination of Dion by Callippus, and presumably, therefore, a genuine letter of Plato. There remains, however, a difficulty which is neither historical nor literary but philosophical, and it is this difficulty which I propose to discuss, and, if possible, to remove. The most remarkable passage in the letter (342 a, 344 d), a digression which professes to give the justification for the well-known Platonic view that "philosophy" cannot profitably be communicated by books, but only by the direct and long-continued personal intercourse of mind with mind in the common pursuit of truth, has given great offence to students who have pro-

fessed themselves unable to perceive its drift, or to feel sure that what meaning it has is genuinely Platonic. I therefore propose, to the best of my ability, to argue that the whole section has a definite purpose, that its leading contentions are in principle sound, and that good Platonic authority can be adduced for them. An examination of the passage is the more indispensable that Constantin Ritter, who strongly defends the genuineness of the letter as a whole, regards this passage as a later interpolation,¹ and that Mr. H. Richards, in his recent *Platonica*, not only speaks of its presence as possibly an "insuperable difficulty" for those who ascribe the letter to Plato, but loads the digression itself with terms of disparagement, such as "rigmareole," "skimble-skamble stuff," and the like.

I will divide my treatment of the subject into two main parts. First I shall urge briefly, against the theory of later interpolation, that the digression is strictly relevant, and indeed necessary, in the connexion in which it stands, and next, in answer to the charge of unintelligibility, I will translate and interpret the passage in question as carefully as I can, adducing such parallels from the Platonic dialogues as suggest themselves to me.

I. *Relevancy.* That a statement showing why it is futile to convey the deepest truths by means of written hand-books (*τέχναι*), is relevant to the matter in hand is clear from what has been said immediately before. The object is to prove that the reprehensible proceedings of Dionysius are no legitimate fruit of the Academic philosophy. For Dionysius had by no means heard the whole Platonic doctrine from its author in the days of their friendly intercourse. Indeed, he had not even asked for a full exposition, for "he professed that he already knew for himself and was sufficiently master of many things in it, and those the most important".² Since then Plato has heard that Dionysius has actually written a hand-book (*τέχνη*) on the subjects of their conversation, in which he has gravely misrepresented its purport (*γεγραφέναι αὐτὸν περὶ ὧν τότε ἤκουσε, συνθέντα ὡς αὐτοῦ τέχνην, οὐδὲν τῶν αὐτῶν ὧν ἀκούοι*). That is, he wrote the hand-book on his own initiative, took the credit for its contents to himself and totally misrepresented Plato's views on the matters which had been discussed). The writer of the letter does not know whether this report is true, though he knows of others who have

¹ See his *Neue Untersuchungen über Platon*, Essay 7, *Platon*, i, p. 8.

² 341 b, πολλὰ γὰρ αὐτὸς καὶ τὰ μέγιστα εἶδέναι τε καὶ ἱκανῶς ἔχειν προσποιεῖτο διὰ τὴν ὑπὸ τῶν ἄλλων παρακοάς, *sc.* from the imperfect accounts he had received from friends of Plato before Plato's own arrival.

done the same thing, οἷτινες δὲ οὐδ' αὐτοὶ αὐτούς; that is, I suppose, the authors in question had not enough genuine self-knowledge to be aware of their own unfitness for such a task. He will only remark that all past and future writers of books "who profess knowledge of the matters to which I devote myself (περὶ ὧν σπουδάζω), cannot possibly, in my opinion, understand one whit of the business. There is not, and God forbid there should ever be, any work of my own on the subject,¹ for it cannot be expounded (ῥητὸν γὰρ οὐδαμῶς ἐστίν,—a play on the mathematical meaning of ῥητόν, 'exponible') like other branches of learning (μαθημάτων). It is only from long-continued personal association in the business, and a common life² (ἐκ πολλῆς συνουσίας γιγνομένης περὶ τὸ πρᾶγμα αὐτὸ καὶ τὸ συζῆν), that suddenly, as it were, the fire bursts forth from one soul and enkindles (sc. in the other) a spiritual flame which thenceforth feeds itself" (341 c). Consequently, the letter goes on, if it were really possible to put the "essence of Platonism" into a written book, the proper person to write the book would be Plato himself, the very man who would feel most distress if the work were ill done. Hence "if I had thought these matters could be adequately written about for the general public, and were exponible³ to it, what nobler task could I have had in life than to write things of so much service to mankind and bring Nature to light for all to look upon?" (341 c). But the author's opinion is that there are very few men who can be benefited by being urged to study such subjects, and they are just those who can be trusted to discover truth for themselves with a little preliminary guidance (διὰ σμικρᾶς ἐνδείξεως). In most men the reading of philosophical works either leads to an undeserved contempt for what they find above their intelligence or to idle vanity about their attainments. Thus far the introductory page on which the much-decried bit of analysis follows. The writer then goes on to make a special application of his general thesis to the case of Dionysius. He remarks that the most appropriate test of capacity for philosophy in a "prince" is to give him some initiation into the

¹ Cf. Ep. II. 314 c, οὐδ' ἴσθιν σύγγραμμα Πλάτωνος οὐδὲν οὐδ' ἴσται. If these are not, as I believe them to be, the actual words of Plato, they must be regarded as copied from the present passage, which, in that case, must have been regarded as genuine by the—admittedly fourth-century—writer of Ep. II.

² That is, from the effort to lead the βίος φιλόσοφος is common.

³ For the repeated play on the word ῥητόν cf. Rep., 346 b; here the word has primarily its literal sense, but there is a pretty clear allusion to the specially mathematical sense to which magnitudes commensurable with a "proposed" standard are said to be ῥητά (Euclid, *Elements*, x., def. 3).

subject and then observe the effect, and discover into which of the three classes just enumerated he falls. Such a *πείρα* he says he applied to Dionysius. He had one philosophic conversation with him, and found that the young king asked for no more, but claimed to be henceforth qualified to "philosophise" on his own account, and is even reported to have composed a written work on *φύσις*.¹ This gives the opportunity for a long restatement of the familiar Platonic view that written works are an inadequate vehicle of philosophical education. The central part of this restatement is taken up by an attempt to show that the doctrine in question necessarily follows from the nature of the problems of *ἐπιστήμη* on the one side, and the character of written and spoken language on the other. It is this passage (342 a-344 d) to which Mr. Richards takes special exception (though all the time regarding it apparently as an integral part of the letter). The writer then returns to the subject of Dionysius and his book (344 d), and tells us, in effect, the final verdict to which the application of his *πείρα* to Dionysius has led him. This is, as we should expect, highly unfavourable (344 c-345 c). Now it seems to me that the whole passage from the end of 341 a, where we first hear of the application of the *πείρα* to Dionysius, down to 345 c is so closely coherent that it would be impossible to excise any minor part of it and yet retain the rest. We cannot, for instance, hold that the letter as a whole is genuine, and only the particular digression about *ἐπιστήμη* and language, to which Mr. Richards so strongly objects, spurious. For where, in that case, are we to look for the close of the interpolation? It cannot be placed *before* the return to the case of Dionysius and his book at 344 d, because the allusions in 344 b to the *ὀνόματα*, *λόγοι*, and *ὄψεις* which serve as intermediaries of communication of knowledge are hardly intelligible apart from the full account of what is meant which was given on pages 342, 343, and further because the metaphor of the kindling of the flame of *φρόνησις* and *νοῦς* by the personal intercourse of questioner and answerer in that section is a conscious reversion to the exactly similar metaphor of 341 c. Nor can we reasonably regard the interpolation as ending at 344 d 2, where the letter reverts to the

¹ It would probably be wrong to take the reiterated allusions to *φύσις* as the topic of the conversation with Dionysius and of the alleged *τέχνη* as concerned specially with *φύσις* in the Aristotelian sense. *φύσις* throughout the passage apparently represents the subject-matter of *φιλοσοφία* or *ἐπιστήμη* in general; that is, it means *τὸ ὄν* or *τὰ ὄντα*. So when we read in *Theaetetus*, 173 c, of the mind as *πάντα πάντα φύσιν ἐρευνομένη τῶν ὄντων ἐκάστου ὅλου*, the context shows that this includes ethical reflexion as well as the astronomy and geometry which have just been mentioned.

subject of Dionysius, because, when the long digression has been removed, the words with which the next paragraph opens, *τούτῳ δὴ τῷ μύθῳ τε καὶ πλάνῳ ὁ συνεπισπόμενος εὖ εἴσεται κ.τ.λ.* have nothing left to which they can refer. It is the digression itself (342 c-344 d 2) which is the *μῦθος* and *πλάνος* in question. Consequently Mr. Richards' view that the digression on *ἐπιστήμη* is senseless cannot be held by any one who regards the seventh letter in the main as genuine, unless he is prepared to excise not only the piece of analysis contained in 342-343 but the whole of the pages which deal with the interview in which Plato applied the *πείρα* to Dionysius and the results which he obtained.

Thus I think we may fairly say that if there is an interpolation at all it must extend to the whole of the pages which Ritter wishes to excise; every allusion to the supposed "book" of Dionysius must go out. Let us see then what the result of so considerable an excision would be. The genuine Platonic letter will run as follows, if we epitomise its argument from the beginning of 340, where Plato is explaining that in coming to Syracuse for the third time he was sacrificing his own judgment to that of Dion and Archytas who thought well of the "philosophical" qualifications of Dionysius (339 c): "I undertook the journey with grave secret misgivings. When I reached Syracuse I thought it my first duty to find out whether Dionysius had really been 'set on fire' by philosophy, as was reported, or not.¹ The most becoming way of ascertaining this in the case of a prince (*ὄντως τυράννοις πρέπων*, 340 b) is to make it quite clear to him that philosophy is a big thing and only to be acquired by great labour of the mind (*ὅτι ἔστι πᾶν τὸ πρᾶγμα οἷόν τε καὶ δι' ὅσων πραγμάτων καὶ ὅσον πόνον ἔχει*, *ibid.*). Such discourse, in fact, acts as a spur to the noble mind and incites it to learn how to walk alone without a guide. The true votary is led on to mould his *life* in accord with philosophy in all the affairs of business, and to order his daily conduct in the way which will make him quick to learn, slow to forget, able to reason soberly for himself (340 d). But those who are not true 'lovers of wisdom' at heart, but cherish a mere skin-deep interest in 'points of view' (*δόξαι*, 340 d), will soon grow weary of the prolonged course of study and the daily discipline of the 'affections and lusts,' and give up the quest. Some of them will try to persuade themselves that they are already masters and need pursue no further (*ὡς ἰκανῶς*

¹ *I.e.*, whether what he had learned from Plato on his former visit had kindled a genuine desire to know more. Cf. 338 d ff. *φιλοσοφία* throughout the letter means virtually the theory and practice of the Academy.

ἀκηκοότες εἰσὶν τὸ ὅλον, καὶ οὐδὲν ἔτι δέονται τινων πραγμάτων, 341 a). The proposed test, applied to those who have not the diligence to follow the path to its goal, brings out the difference between the man who blames his teacher for his failure to make progress and him who rightly lays the blame on his own inability to *live* as a philosopher must (πάντα τὰ πρόσφορα ἐπιτηδεύειν τῷ πράγματι, *ibid.*). It was in this spirit that I spoke as I did then to Dionysius." Hereupon, according to Ritter, follows immediately (345 c ff.) the account of the growing unfriendliness of Dionysius to Dion, on which Plato remarks that it enabled him "to see accurately how much Dionysius cared about philosophy, and gave him the right to feel indignant," and the narrative then runs straight on with an account of Plato's desire to be allowed to go home and the reluctance of Dionysius to part with him.

Now is it not clear that, as thus restored (?), the continuity of the letter is violated? The elaborate account of the kind of "test" (πείρα) appropriate to the case of a prince has led nowhither. We are neither told whether it was actually applied, nor, if it was, how it resulted. We have been led to expect information as to whether Dionysius confessed his inability to live up to the standard demanded of the philosopher, or tried to lay the blame for his failure on Plato, or finally posed as having already learned all that Plato had to teach, and being therefore free from the obligation to live any longer *subdisciplina*. This information we get in the letter as it stands, but not in the mutilated form which Ritter regards as original. Indeed, in Ritter's version, Plato is made to ascribe his discovery of the uselessness of further attempts to make a "philosopher" out of Dionysius not to the application of the carefully described πείρα, but solely to the prince's unworthy treatment of Dion.

This incoherence is so glaring that I venture to say that if the letter had come down to us without the whole passage which Ritter excises, critics would have declared with some reason that there must be a considerable lacuna in the text at the very point where Ritter begins his excision. Some account of the application of the πείρα to Dionysius would have been rightly felt to be indispensable. But when once so much as this is granted, we have to allow that the coherency of the whole "interpolation" with itself, and particularly the intimate connexion of its beginning and end with what immediately precedes and follows, forbid our resorting to any theory of a minor "interpolation" covering only the two pages 342-343. There is no reasonable way of dealing with the text by excision short of cutting out the whole of what

Ritter regards as "interpolated," and the whole, as we have just seen, cannot be removed without making the letter hopelessly incoherent. Either then the whole letter is spurious, a view which Ritter himself in my opinion properly rejects, or the whole is genuine, and Plato must take the blame for any unintelligibility there may be in the pages which deal with *ἐπιστήμη* and the reasons which make written books unsatisfactory as instruments for imparting it. This brings me to my second point, the careful consideration of the incriminated passage, and the exposition of its real meaning. I proceed then to offer a translation of the whole passage 341 b-345 c, with such interspersed comments, marked in the text by square brackets, as seem requisite. I will only premise that the reader remembers that the studies which, according to Plato, are particularly effective in producing the intellectual and moral elevation requisite for philosophy are mathematics and dialectic, the former, as commonly taught, being a propædæutic for the latter, and that it was precisely by a course of geometry that, according to ancient tradition, the training of Dionysius for the work of kingship was begun. Consequently we shall not be surprised to find that the account of the difficulties attending the attainment and communication of *ἐπιστήμη* is specially concerned with the philosophy of the mathematical sciences, though allusion is also made to ethical inquiries. If we bear this in mind, we shall discover that many of the alleged obscurities of the passage vanish of themselves.

II. *Interpretation.* "To be sure, I did not give a *complete* exposition, nor did Dionysius ask for one. He professed, in fact, to know and be adequately possessed of many, and those the most important, matters for himself by reason of what he had imperfectly heard from others. I hear that since then he has even written a work about what he heard at the time, in the form of a Hand-book to Philosophy (*τέχνη*) by himself, which differs utterly from what he then heard. About this I have no certain knowledge, but I know for certain that others have composed writings on the same topics, though who they are is more than they know themselves.¹ Yet I can state this much of all writers in the past or future who profess knowledge of the matters to which I devote myself, whether on the ground of having learned them from me or

¹ We cannot expect to know who the persons thus referred to are, except that they seem to be pupils with whose performances Plato was not wholly satisfied. Readers with a sense of humour would naturally like to think of Aristotle, but to identify the culprits at all is to be wise above what is written.

others, or as a discovery of their own. It is, in my opinion, impossible that they should understand one whit of the business. At least, there is not, and God forbid there should ever be, any written work of my own about it. [Plato in the main kept his word. We learn a little about the topics described here as *περὶ ὧν σπουδάζω* from the *Timaeus*, *Philebus* and *Laws*, but for the most part we are dependent on the reports of Aristotle.] For the matter is not 'exponible' in speech, like other branches of study. It is only after long fellowship in the business itself [*sc.* the pursuit of the philosophic life; the reiterated *τὸ πρᾶγμα* seems to mean something like 'the grand concern'] and in life together that, so to say, a light is kindled in one soul by the fire bursting forth from the other,¹ and, once kindled, thereafter sustains itself. [The meaning is that there are *μαθήματα*—the rules of composition as taught by Isocrates would be a case in point, and so would 'geometry and the kindred *τέχναι*,' as taught in our school-books with avoidance of all reference to the philosophical problems they suggest—which can be learned from a manual or *τέχνη*. Philosophy, being a 'way of life,' or 'habit of mind,' cannot be compressed into any such spoken or written summary of rules and results. It is only by living daily the life the Master lives, and by lying long open to the influence of his personality that, sooner or later, the soul of the pupil 'takes fire'. After that moment the sacred fire, which required at first to be fed by the example and precept of another, 'feeds' itself. The philosopher is thus not a 'crammer' but a trainer of men. *Cf.* the well-known views on the relation between teacher and taught, and the necessity for intimate first-hand intercourse between the riper and less ripe mind in *Rep.*, 518 b; *Phaedrus*, 274-276; *Theaetetus*, 149-151.]

"And yet I am sure of one thing, that if these matters were to be expressed in spoken or written discourse, it had been best done by myself, and further that I should feel more distress than another if the written exposition were a bad one. Had I thought them 'exponible' and adequately communicable in writing for the public, to what nobler work could I have given my life than that of writing what would be so serviceable to mankind, and of throwing the light of

¹ 341 c, *εξαίφνης, οἷον ἀπὸ πυρὸς πηδήσαντος εξαφθίν φῶς, ἐν τῇ ψυχῇ γνόμενον αὐτὸ ταυτὸ ἤδη τρέφει*. The context, I think, shows that the *ψυχῇ* is that of the disciple which catches fire from the soul of the Master. One might indeed suppose that only one soul is referred to and the meaning is that in *either* soul a smouldering fire suddenly bursts into flame, but I feel that this would be Neoplatonic rather than Platonic.

day on Nature for all men? [This sounds arrogant, but the arrogance is only in the sound. It is Plato's apology for giving the public of his time only 'discourses of Socrates,' and not an exposition of his own philosophy. If the Platonic philosophy could have been imparted to the world at large in a book, Plato was obviously neglecting his duty in not writing that book.] But I do not regard the so-called dialectical exposition of these matters¹ as good for any but the few who are capable of discovering them for themselves with the help of a little guidance. As for the rest of mankind, it would fill some of them out of all measure with a mistaken contempt and others with a vain and empty conceit of the sublimity of what they had learned." [I.e. some would not understand a written work on φύσις and would despise it as jargon, others, who mistakenly thought they understood it all, would plume themselves on their fancied intellectual penetration and forget that as yet they were only beginners and not proficient. Readers of Herbert Spencer among ourselves illustrate the point. Some of them are led to despise all philosophy as high-sounding jargon; others give themselves airs of superiority on the strength of the supposed intellectual power shown in professing to understand what "the general" are baffled by.]

[The upshot so far, then, is that the result of the *πειρα* was unsatisfactory. Dionysius, by his boasts of his knowledge, had shown himself to belong to the class of men whose philosophy is only skin-deep, inasmuch as he insisted that he had already reached a point at which he had nothing more to learn from Plato, and had even, if reports could be trusted, attempted to expound a philosophy of his own in a book.]

"It has occurred to me to say something more at length about these matters [*αὐτῶν* I take to be neuter as in the preceding *τὴν ἐπιχείρησιν περὶ αὐτῶν λεγομένην* and the following *λεχθέντων αὐτῶν*, though it might conceivably be masculine, referring to the persons just spoken of, for whom the study of philosophy is not desirable]. There is a truth adverse to the pretensions of those who would commit any such matter to writing, a truth which I have often uttered before, but must, as it seems, repeat again now."

[Now follows Mr. Richards' 'rignarole,' about which I would make one preliminary remark. In the author of the *Laws* and *Philebus*, who, as he says himself in the *Theaetetus*,

¹ For the meaning here given to *τὴν ἐπιχείρησιν περὶ αὐτῶν λεγομένην* compare *Sophistes*, 239 c. *Laws*, 631 a, 722 d: Aristotle, *Torics*, 111 b, 16, 139 b, 10, and the regular technical sense of *ἐπιχείρημα* in the *Torics*. The full expression is *ἐπιχείρησις τοῦ λόγου*, as *α. u.*, in *Ep.* VII., 352 e.

172 d, regarded it as a mark of the 'liberal' character of philosophical discourses that the speaker is not controlled by a brief, or hampered by a time-limit, but can digress at any moment and to any length he regards as desirable, the passage must not be condemned simply because it is a digression, and to our taste a lengthy one, but only if its contents can be proved unworthy of their alleged author.]

"For everything that is [ἐκάστω τῶν ὄντων, i.e. for every concept which is an object of scientific contemplation] there are three intermediaries by which the knowledge of it must be imparted [the notion of 'imparting' is suggested by the παρα in παραγίγνεσθαι], and we may reckon the knowledge itself as a fourth thing, the object of it, which is the Knowable or Real Being, being counted as fifth; thus, (1) a name; (2) a discourse [λόγος, the example below will show that he is thinking more particularly of the λόγος τῆς οὐσίας or definition, the 'discourse' which tells you what the thing called by the name is]; (3) an image (εἶδωλον); (4) a knowledge. If you wish to understand what I am saying, you may take one example and conceive all the rest analogously. There is something which we call a circle. Its *name* is the very word we have just uttered. Next comes its 'discourse' [or definition, λόγος], a complex of names and verbal forms [ῥήματα].¹ E.g., the 'discourse' of the thing which has the names 'round,' 'circle' is 'that which has its boundary in every direction equidistant from its middle point'. Third is what we draw and rub out, fashion on the lathe and destroy again. These affections do not belong to the 'circle itself' with reference to which all these operations are performed, clearly because it is something different from what is thus constructed.² Fourth, there are knowledge and understanding (νοῦς) and true judgment (δόξα ἀληθής) about all this. These must again all be reckoned as one condition which inheres neither in sounds, nor in the shapes or colours of bodies, but in minds [ψυχαῖς ἐνόν. I.e., knowledge and belief inhere neither in the visible diagrams and models, nor in the spoken words of discourse; they are states of *mind*]. Hence it is manifest that this condition is something different both from the real circle [αὐτοῦ τοῦ κύκλου τῆς φύσεως, where I may be pardoned for remarking that κύκλου depends on

¹ I have rendered ῥήματα here 'verbal forms' on the authority of *Sophistes*, 262 b, where βαδίζει, τρέχει, καθεύδει, and τὰλλα ὅσα πρᾶξις σημαίνει are said to be ῥήματα, but it is, of course, possible that the sense is more general, and that we should translate 'predicative phrases,' so as to include adjectives used predicatively.

² Cf. *Rep.*, 510 b, e, for the point of the distinction between a mathematical diagram or model, and the concept which it is meant to illustrate.

φύσεως, not *vice versa*, αὐτὸς ὁ κύκλος, ὁ ἐν τῇ φύσει κύκλος, ἢ τοῦ κύκλου φύσις are all synonymous in Platonic language], and from the afore-mentioned three things. [That is, the 'circle itself,' which is the object of the geometer's knowledge, is neither a name, nor corporeal thing, nor a physical thing or 'state of mind'; it is strictly what the scholastics call a *universale ante rem*, like all the Platonic εἶδη.]

"But of all the rest understanding (νοῦς) approximates most closely to the fifth [real being, the object of scientific thought], in affinity and likeness; the others stand at a further remove. We must hold the same view of straight and curved figure, of colour, of the good, beautiful, and right, of every body artificially made or naturally generated, of fire and water and their likes [*sc.* not only of bodies but of the popularly recognised στοιχεῖα of bodies, which are, of course, *not* στοιχεῖα at all for Plato], of all organisms and all tempers of the soul, as well as with reference to all action and passion; in all these cases, unless one in some sort acquires the first four, he will never partake fully of the knowledge of the fifth."

[The application of all this to the problem of the communication of knowledge is obvious. To communicate knowledge about an object of thought, you have (1) to use a name for it, (2) to explain what the name means by stating its equivalence to a certain 'discourse' or 'definition,' (3) to illustrate your 'discourse' by actual appeal to diagrams or models,—or, we may add, to the memory-images of them, which like the diagrams and models themselves fall under the general head of εἶδωλα. It is only by these intermediaries that you succeed at last in producing in another a genuine knowledge about the purely conceptual objects of genuine scientific knowledge, and we are to see directly that every stage of the process is attended by grave sources of error.]

"Furthermore, all these processes, thanks to the imperfection of language (διὰ τὸ τῶν λόγων ἀσθενές), are used no less in showing what the object is *like* than in showing what it is (τὸ ποῖόν τι περὶ ἑκάστου—τὸ ὃν ἐκάστου). Hence no man of understanding will ever venture to put his concepts into language (εἰς αὐτὸ = εἰς τὸ τῶν λόγων ἀσθενές), least of all into language which cannot be altered, as is the case with writings."

[So far the sense is quite free from difficulty, and wholly Platonic. The point is that it is a hard and barely possible thing to communicate profound mathematical and 'dialectical' truth by a written text-book illustrated with diagrams. That Plato distrusted these last we know independently from *Phaedo*, 92 d; *Cratylus*, 436 d; *Rep.*, 510. And for

this very reason he requires in the passage of the *Republic* that 'dialectic' shall be devoid of the help of diagrams (511 b, *αἰσθητῶ παντάπασιν οὐδενὶ προσχρώμενος*), much as the philosophical mathematicians of our own day demand a "geometry without diagrams".¹ This throws light upon the one apparent obscurity of the present passage. What, it may be said, has the alleged ultimate source of all difficulties, the inadequacy of language, τὸ τῶν λόγων ἀσθενές, to do with the danger of reliance on diagrams? That there is such a danger we know very well. A diagram is always imperfect, and often suggestive of error, and moreover a diagram can never exhibit a problem or construction in its generality. Thus, to take the simplest examples, Euclid never proves a point which is vital in his very first proposition, viz., that the two circles described from the end-points of his given straight line have a point of intersection not lying on the given line.

¹ It may be thought that I am here forgetting that it is not 'geometry and the kindred *ρίχναι*,' but dialectic which the *Republic* forbids to employ diagrams. But the fact is that the "philosophy of mathematics," and the treatment of mathematical problems in the light of such a philosophy form a most important part of what Plato calls 'dialectic'. It is not in its subject-matter, but in its method and its success in reaching certain first principles, as contrasted with positions merely assumed for the purpose of argument, that dialectic is discriminated from the other μαθήματα, and it is the business of dialectic to justify by deduction from ἀνυπόθετα ἀρχαί the unproved assumptions which the ordinary mathematician uses simply as—to employ a technical term which the evidence of Proclus proves to be as old as the first generation of the Academy—αἰτήματα, assumptions which are not self-evident, but merely demanded for the sake of argument. Cf. Proclus, *Comment. in Euclid.* 188, 8, τὸ γὰρ αἴτημα κατ' ἐκείνους (sc. Aristotle) δεῖται ἀποδείξεως τινός; *ibid.*, 76, οὐκ ἐστὶ ταῦτο ἀξίωμα καὶ αἴτημα . . . ὥς ποῦ φησὶν ὁ δαιμόνιος Ἀριστοτέλης, ἀλλ' ὅταν μὲν καὶ τῷ μαθάνοντι γινώσκον ἢ καὶ καθ' αὐτὸ πιστὸν τὸ παραλαμβάνομενον εἰς ἀρχῆς τάξιν . . . ἀξίωμα τὸ τοιαῦτόν ἐστιν . . . ὅταν δὲ αὐ καὶ ἄγνωστον ἢ τὸ λεγόμενον καὶ μὴ συγχωροῦντος τοῦ μαθάνοντος ὅμως λαμβάνηται, τῆνικαὶτα φησὶν, αἴτημα τοῦτο καλοῦμεν. The reference is to *Analytica Posteriora*, I., 76 b, 23-34.

To avoid misconception about the character of 'dialectic' it is worth while to note that the biological researches of Speusippus known as the *ὁμοια* or *Homologies* appear, as has well been brought out by P. Lang (*de Speusippi Academici Scriptis*, 1911) to have been intended in the first instance as a contribution to 'dialectic' (because they subserve the process of classification), and again that the theory of surd magnitudes in Euclid, X., in the same way aims at making a classification of types of surds (see *op. cit.*, Prop. 111, Corollary, which was very probably, as Heiberg suggests, the original conclusion of the book). The work is therefore primarily a piece of dialectic as described in the *Philebus*, as is only natural when we remember that it completes and embodies the researches of the Academicians Theaetetus, Socrates and Eudoxus (see Plato, *Theaetetus*, 147 d. [Aristotle] *de Lineis Inseparabilibus*, 988 b 16 ff., Proclus, *op. cit.*, 66-68 on these mathematical pioneers. The passage of the *Theaetetus* itself represents the study of surds as from the first a problem in classification'.

He is apparently contented to take this for granted on the strength of the diagram, though it can be, and ought to be, proved. In I., 2, his figure only illustrates one of several possible "cases" of the general problem, and so again in I., 47, the proposition would be equally true of squares constructed on the inner sides of the straight lines which compose the triangle, but the diagram does not represent this case. But what connexion have these considerations with the "inadequacy of discourses"? Simply, as I suppose this, it is the inadequacy of *ψηλοὶ λόγοι* to render mathematical reasoning generally intelligible which drives the mathematician to eke out his "discourse" by appeals to always imperfect and often misleading diagrams and models. The ordinary man will not take in what is meant by the statement, nor be able to fix his attention on the steps of the reasoning, without some such helps for his imagination. So, again, the propositions of Euclid V. hold good of all ratios between magnitudes of any kind, those of Euclid X. for any surd magnitudes of the types discussed, but as aids to the imagination the writer regularly employs two special kinds of magnitudes, lengths and areas. And in X. we see that this habit has reacted on his thought and language; he constantly speaks of surd "lines" and "rectangles" as though the propositions he is enunciating held exclusively of lines and areas.¹ The same considerations account for the allusion to the distinction between the *δύναμις* and the *ποῖόν τι* and the stress which our passage goes on to lay on the confusion between them as a source of fallacy. The way in which the distinction appears in geometry is well illustrated by some remarks made by Proclus in connexion with the classification of Euclid's propositions as "theorems" and "problems". The distinction between the two, he tells

¹ This may be illustrated by the distinction kept up throughout the book between the surd expressions called respectively *μέση* and *μέσον*. The *μέση* (the full expression is *μέση εὐθεία*) is defined at X., 21, as the straight line whose square is equal to the rectangle under two straight lines which are only *δυνάμει σύμμετροι*. Thus, e.g. $\sqrt{a}\sqrt{b}$ would be a *μέση* since (if a and b are integers, and b not a square number), a and $\sqrt{b}$ are *δυνάμει μόνον σύμμετροι*. The *μέσον* (full expression *μέσον χωρίον*) is the rectangle under two *μέσαι* which are *σύμμετροι* whether *μήκει* or only *δυνάμει* (X., 24). Hence $\sqrt{ab}\sqrt{cd}$ satisfies the definition of a *μέση* if you regard it as the square root of $ab\sqrt{cd}$; it satisfies that of a *μέσον* if you regard it as the product of $\sqrt{a}\sqrt{c}$ and $\sqrt{b}\sqrt{d}$ (premising, as before, that c and d are not square numbers). The apparently hard and fast distinction between the type *μέση* and the type *μέσον* really depends only on the arbitrary selection of a straight line or a rectangle to symbolise a surd magnitude. The irrelevancy of the *εἰδωλον* is here the source of a confusion of thought.

us, had not originally been universally admitted in the Academy. Speusippus had regarded all geometry as composed exclusively of "theorems," Menæchmus had held that all propositions of geometry are "problems" (*Comment. in Euclid.* 77-78).

Thus the dispute, since Speusippus had taken sides in it, may not unreasonably be held to go back to the life-time of Plato himself, as Speusippus only survived his uncle by a few years, and was already an elderly man when he became head of the Academy.

Proclus goes on to trace the effect of it upon the views of later thinkers, and tells us that "Posidonius and his school defined the one as a proposition in respect of which it is asked whether something exists or not, the other as a proposition in which it is asked 'what is it?' or 'of what sort is it?'" (*op. cit.*, p. 80), a view which exactly corresponds to the modern doctrine that "problems" are existence-theorems.¹ It is in accord with this view that when Proclus comes to comment on Euclid's first "theorem," Prop. I, 4, he justifies the arrangement by which the proposition is preceded by the familiar "problems" I, 1-3, in the following way. "How was Euclid to instruct us about the *συμβεβηκότα καθ' αὐτό* of the triangles, and the equality of their angles and sides without first constructing the triangles and providing for their genesis? Or how could he have assumed sides equal to sides and straight lines equal to other straight lines if he had not already considered this by way of problems and achieved the finding of the equal straight lines? For suppose him to say, before constructing them (i.e. before showing how a triangle or a straight line equal to a given straight line can be constructed), 'If two triangles have the following property (*σύμπτωμα*), they will also in all cases have such-and-such a second property'; would it not be easy for any one to retort on him, 'But do we know whether a triangle can be constructed at all?' Or suppose him to go on, 'If the two triangles have two sides of the one equal to two sides of the other'—might not one raise the question, 'But is it possible that there should be two equal straight lines?' . . . It is to

¹ Friedlein's text makes Proclus say that it was the *problem* which Posidonius regarded as investigating "what the thing is" (*op. cit.*, p. 80, l. 22, *τὸ δὲ πρόβλημα πρότασιν ἐν ᾗ ζητεῖται τί ἐστιν ἢ ποῖόν τι*). As this contradicts not only Proclus's previous statement that the doctrine of Posidonius was derived from "Zenodotus who belonged to the succession of *Ἐνοπιδεύς*" and taught that "a theorem asks what is the *σύμπτωμα* predicated of the matter under consideration," but also his further account of the views of Posidonius himself, I can only suppose the word *πρόβλημα* to be a mistaken gloss on *τὸ δέ*.

anticipate such objections that the author of the *Elements* has furnished the construction of triangles (sc. in I., 1)—for his procedure is equally applicable to all three kinds of triangle—and the genesis of equal straight lines. This last he has achieved in a double form. He both constructs such a line in general (I., 2), and constructs it by cutting off a segment from an unequal line (I., 3). Thus he reasonably makes the theorem follow on these constructions" (*op. cit.*, 234-235). In the light of Proclus's account of the antiquity of the question about the distinction between theorems and problems, it seems natural to me to suppose that it is to this that the language of our passage alludes. The sense then will be simply that the effects of the inadequacy of language are felt in problems and theorems alike.]

"I must, however, repeat the lesson I am now giving. Every one of the circles which are drawn or fashioned on the lathe by actual manual operation (*ἐν ταῖς πρῶξεσι*) is full of the opposite of the Fifth, I mean, it is everywhere in touch with the Straight. But 'the circle itself,' so we say, has neither more nor less in it of the nature of its opposite. [*I.e.* no actually described physical disc is ever absolutely circular. At any point you please you can make it coincide throughout a finite distance with a physical 'straight' line. So, one might also say, in the diagrams of our Euclids, the so-called circle and tangent can always be seen by any one to coincide throughout a perceptible distance. But 'the circle itself,' the 'mathematical' circle of which Euclid is speaking only coincides with the tangent at a 'mathematical' point.] So we say that none of them [*viz.*, the 'physical' figures referred to] has a fixed name. There is no reason why those we actually call round should not have been called straight; yes, and the straight ones round. The names would be just as fixed if we interchanged them. [*E.g.* to revert to the example I have just given, we may imagine a diagram in which the so-called tangent coincides throughout a visible interval with the so-called circle. Then, the so-called tangent is not *really* straight, nor the so-called circular arc *really* circular. So if you were to cut out this bit of the diagram and consider it by itself, it would not matter which of the visible lines you called the arc, and which the tangent.]¹

"Further the same must be said of the 'discourse,' since it is made up of names and verbal forms (*ῥήματα*). There is

¹ Or is it simply meant that we might—since names are a matter of "convention"—have used the word "straight" to mean what we actually call "curved"? This is true, but I do not see how it can be regarded as giving rise to any difficulty.

no sufficiently fixed fixity in it. [*μηδὲν ἱκανῶς βεβαίως εἶναι βέβαιον*. This is an obvious consequence. If a mathematical term gives rise to ambiguity owing to the possibility of its being taken as standing for something we can see and draw, *a fortiori* the same must be said of a definition or other proposition containing many terms.] And there is no end to be said (*μυρίος δὲ λόγος*) in the same way (*αὐ*) of the ambiguity (*ἄσαφές*) of each of the four [*sc. ὀνόματα, λόγοι, εἰδωλα, δόξαι*]. But the principal point is that we mentioned just now. The *ὄν* and the *ποιόν τι* are two different things. But when the soul is trying to know the *What* (*τί*), not the *ποιόν τι*, each of the four presents it, in word or in fact [*λόγῳ τε καὶ κατ' ἔργα*, where *κατ' ἔργα* refers to the construction of the sensible diagram or model] with that after which it is not seeking,¹ and thus renders what is being stated and demonstrated open to refutation by the senses, and so fills everyone, speaking roughly, with confusion and perplexity. Accordingly in matters as to which, from our evil upbringing, we have not so much as learned the habit of seeking for truth, but are satisfied by any image of it which presents itself, we do not make one another ridiculous in the process of question and answer, by our ability to tear in pieces and refute the four; but in cases in which we are obliged to answer about the fifth and point it-out, any one who has the will and the ability is equal to overthrowing <his antagonist> and can make the exponent <of a truth> in speech or writing or answers to questions [*i.e.*, dialectical inquiry] appear to most of his hearers to know nothing about the

¹ These are perhaps the most difficult words in the whole of the passage. What are we to understand by this substitution of the irrelevant question for the relevant? I think we may explain the matter as follows. The mind is said to be inquiring into the "what" of something, and the reference to a diagram or model as the source of the confusion, shows that the something is a mathematical line or figure of some kind. Its *τί* or "what" will therefore be its defining characteristic, and to "inquire into" this *τί* will presumably mean to "construct" the curve or figure or what not, to establish its "existence". You will be committing the inconsequence spoken of if you attempt to demonstrate the *συμπτώματα* of the line, curve, figure, before showing how to construct it, *i.e.*, before proving that it is one of the objects contained in the geometer's universe of discourse. Thus Proclus's already-quoted observations about the reason for placing Euclid I., 4, after I., 1-3, amount to urging that Euclid would have committed the fault in question if he had investigated certain *συμπτώματα* of triangles in which two sides and the included angle of the one are equal to two sides and the included angle of the other, without having proved by implication (as Proclus assumes he has done), that a pair of such triangles can exist.

A more modern illustration would be attempting to establish some theorem about the tangent to a given curve at any point before you have ascertained that the curve has a tangent at any point.

matter on which he is undertaking to write or speak, since the audience often forget that it is not the mind ($\psiυχῇ$) of the writer or speaker which is being refuted, but only one or other of the four, thanks to its ill constitution.¹ It is the process through them all, the transition forwards and backwards in the case of each, that at last hardly gives birth to knowledge of the well-constituted in a well-constituted < mind >. But if < the mind's > constitution be ill (and this is most men's case both with respect to acquiring knowledge and with respect to acquiring what is called character), and in part also corrupted, Lynceus himself could not make such men see."

[We may, I think, illustrate the whole passage in the following way: Let us suppose a mathematician to be dealing with a branch of his study which owes its fundamental principles to the researches of the Academy, the Geometry of the Conic Sections. Let us further suppose that he is aiming at proving the existence-theorem that there are three such curves and no more; a task which, of course, involves the establishment of a correct definition of each of the three by reference to some exclusive property—an answer to the question $\tau\iota\ \epsilon\sigma\tau\iota$. It is at once obvious that any ambiguity of language may introduce great difficulties into the communication of his investigations on such points to others. But the same thing is equally true of the diagrams by which he attempts to remedy the imperfections of language, and make his meaning definite for his hearers. Thus, for example, if we formed our notions of the ellipse from the diagrams of the text-books, we should probably be struck by the inequality of the two

¹ I.e. the man who is attempting to express a true proposition may employ ill-selected terms, or a badly expressed or otherwise imperfect definition, or may attempt to illustrate his meaning by a diagram which does not represent the relations with which he is dealing adequately. You may then make it appear that he is uttering a paradox or that what he says is at variance with what can be seen in the diagram. But you have not in this way proved that what he meant to assert is false. Thus, for example, Aristotle's "refutations" of the Platonic views about the $\epsilon\iota\delta\eta\tau\alpha\iota\ \alpha\phi' \epsilon\theta\mu\omega\iota$ turn in effect on denying that a surd expression such as $\sqrt{2}$ is a number. ("All number is composed of ones," etc.) This, however, is no criticism of Plato's meaning, but only of his terminology. So, again, it is no disproof of the existence of "transfinite" numbers to say that the arithmetic of "transfinites" contradicts the axiom that "the whole is greater than the part". The contradiction merely shows that the axiom only holds good of collections with a finite number of terms, and is, therefore, as it stands, badly expressed. Or, finally, you do not refute a proof that a given curve has no tangent at a given point (say the "origin") by drawing a diagram in which it looks as if there were a tangent at that point. You only show that the diagram does not represent what it stands for correctly.

axes of the curve, which the diagrams usually make prominent, and we might be led to think this inequality a universal characteristic of ellipses. This would lead to entire misconception of the relation of the ellipse to the circle, since we should fail to see that the circle is only one special case of an ellipse, in which the eccentricity of the curve is $= 0$, a mistake which was actually committed by Herbert Spencer when he contrasted circular orbits as "homogeneous" with elliptic orbits as "heterogeneous". Or, again, the teacher might wish to prefix to his treatment of the separate 'conics' a general account of the properties of the 'general conic'. For the benefit of his readers or hearers, he would probably illustrate his propositions by diagrams. But in any one diagram the figure will not be a 'general conic,' but definitely either parabolic, elliptical, or hyperbolic, and this may lead the beginner to confuse the properties of conics as such with those of the special conic figured in the diagram. Or, yet again, and this illustrates the remarks about the ease with which a smart *ἀντιλογικὸς* can make the mathematician look ridiculous, the lines which in a figure represent the asymptotes to an hyperbola can be seen to be such as would soon meet the line which stands for the curve, if both were produced, and the side and diagonal of the "square," measured by our rough appliances, will seem to have a common measure. Hence an *ἀντιλογικὸς* who insists on regarding the figure as the actual object of which a proposition is enunciated can readily make it seem that the geometer is uttering paradoxes which an appeal to the senses will explode. It is *à propos* to remember that the subtle arguments of Zeno were for centuries supposed to be idle though ingenious sophisms which might be set aside by such an appeal, though in fact they go down to the roots of mathematical philosophy. Thus we can understand what the writer means when he says that the whole series of intermediaries by which knowledge is imparted, name, definition, diagram or model, belief as to the teacher's meaning, is attended at every stage by possibility of misapprehension, and that it is only by a repeated dwelling on each of the four and comparison of it with the rest (e.g. repeated transition from written text to diagram, and back again from diagram to text), that the truth which the teacher is struggling to express at last dawns on his pupil's mind. For this reason alone, it would follow that, as has been already maintained, long personal association in the pursuit of truth is necessary if one philosopher-mathematician is to train up another. The same difficulty would meet us, as the writer says, in the attempt to impart knowledge of any kind but for

the fact that in our daily life we are commonly content with some thing far short of the ideal. We think it enough that those to whom we communicate our ideas should form a mere rough-and-ready approximation to our meaning. This is *e.g.* all that is commonly arrived at when a man makes a speech on a social or political topic. He does not expect his audience to take in all that he means, or to frame very precise notions of the "liberty," "order," "progress," and so forth of which he speaks. He is satisfied if they catch his meaning "there or thereabouts". But it is the great merit of the *μαθήματα* as a mental discipline that a "there or thereabouts" standard of comprehension is not tolerated in "geometry and the kindred arts".

So much for the sense of the passage. A word on the reference to Lynceus the sharp-sighted with which it ends. Mr. Richards finds this nonsensical, and asks whether Lynceus was supposed to be able to infect others with his gift of vision. I think this a serious misunderstanding of a phrase which in itself is simple enough. Every one knows that if *e.g.* you take a country walk with a keen-sighted friend, he is likely to call your attention to all sorts of minute or distant objects which you can see well enough for yourself after your attention has been directed to them, but would otherwise have passed by unnoticed. It is in this sense that Lynceus is spoken of as able to make other men see things. And it is in this same ability to call a pupil's attention to what he would otherwise have overlooked that a good teacher may properly enough be compared with a keen-sighted companion whose range of vision is longer than one's own.]

"In a word, if there is no affinity¹ between a man's mind

¹ For the thought that Philosophy demands kinship between the Reality known and the mind that knows it, see *Republic*, 490 b, οὐδ' ἀπολήγει τοῦ ἔρωτος, πρὶν αὐτοῦ δ' ἔστιν ἑκάστου τῆς φύσεως ἀφασθαι φ' προσήκει ψυχῆς ἐφάπτεσθαι τοῦ τοιούτου—προσῆκει δὲ συγγενεῖ κ.τ.λ. As the *Republic* passage shows that the thought is closely coloured by the imagery of the *ὑπὸς γάμος*, the allusion in *συγγενής* may not impossibly be to the Attic Law of the heiress, by which the hand of the orphan *ἐπικληρος* fell of right to the next-of-kin. In any case, the meaning is that mere quickness in learning and good memory will never make a philosopher. A special elevation of soul and a peculiar gift of insight is indispensable. Historically we can trace back the thought that the highest intelligence is *akin* in a special way to the worthiest objects of knowledge to the Orphic belief that while the body to which a soul is temporarily assigned consists of materials drawn from its physical surroundings, the soul itself, being a divinity, comes from "heaven". Cf. Xenophon, *Cyropaedia*, viii., 7, 20 (in the course of an argument for immortality manifestly drawn for the most part from the *Phaedo*), διαλυομένου δὲ ἀνθρώπου δηλὰ ἔστιν ἑκάστα ἀπὸντα πρὸς τὸ ὁμόφυλον πλὴν τῆς ψυχῆς (earth to earth, etc.). αὕτη δὲ μὴν ὅτε παροῦσα ὅτε ἀπύουσα ὁρᾶται, where the suggestion plainly is that the soul also departs at death, πρὸς τὸ

and our study (τὸ πρᾶγμα) mere quick receptivity or good memory will never create such an affinity [with οὐκ ἂν ποιήσειεν we have clearly to understand συγγενή, so that the construction is τὸν μὴ συγγενή οὔτε εὐμαθία οὔτε μνήμη ποιήσειεν ἂν συγγενή]. For it absolutely refuses to make its appearance except in a kindred soul. Hence neither those who have no natural attachment and affinity to righteousness and whatsoever else is fair, though they may be quick to learn and steadfast to retain other knowledge of various kinds, nor yet those who have this natural affinity but are slow to learn and forgetful,—none of these, I say, will ever fully master the truth about virtue and vice.¹ (< I say 'virtue and vice' > because both must be learned together, and similarly truth and falsehood about Real Being as a whole have to be learned together, and this, as I said at first, demands much time and practice (τριβή)). It is only in consequence of a reciprocal friction of them all, names, discourses, visual, and other perceptions, with one another and the testing of them by kindly examination and question and answer practised in no spirit of vain-glory (ἄνευ φθόνων), that the light of sound judgment (φρονήσις) and understanding (νοῦς) flashes out on the various problems with all the intensity permitted to human nature.²

ὁμόφυλον, to its cognate gods; Aristophanes, *Clouds*, 229, εἰ μὴ κρεμάσας τὸ νόημα καὶ τὴν φροντίδα λεπτὴν καταμείξας ἐς τὸν ὅμοιον ἀέρα (where the allusion is to the theory of Diogenes of Apollonia—also mentioned in the *Phædo* as one which had interested Socrates,—that air is, as we should now say, the vehicle of intelligence); cf. also the lines of the Orphic plate from Petelia, εἰπεῖν ὅτις παῖς εἰμι καὶ Οὐρανοῦ ἀστερόεντος, αὐτὰρ ἐμοὶ γένος οὐράνιον κ.τ.λ., and those found at Thurii, καὶ γὰρ ἐγὼν ἱμῶν γένος ἄλκιον εὐχομαι εἶναι κ.τ.λ. The humorous parallel of Plato's *Timæus* between the shape of the human head and the shape of the οὐρανός is a fanciful expression of the same central idea.

¹ εὐμαθία and μνήμη are similarly demanded as qualifications of the philosopher at *Republic*, 486 c-d, but there, as here, they form only a very small part of Plato's requirements. He also demands a *passion* for 'truth' or 'reality,' indifference to the satisfactions of appetite, "high-mindedness" and freedom from all pettiness of soul (ἀνελευθερία) and from all unworthy fear, and various other qualities which are here aptly summed up in the requirement of a "natural affinity" to the object of philosophical study.

² The metaphor of the sudden breaking out of the flame forms, of course, a link with 341 c-d, but it is ingeniously prepared for by an almost untranslatable play on words. It has just been said that much τριβή 'practice' will be required for the acquisition of philosophy. The writer then echoes the word τριβή in the τριβόμενα of the next sentence, where he speaks of the process of repeated alternations of attention between the words and λόγοι of a demonstration and the diagrams to which illustrate it, as one of "friction". This leads naturally to the image of the insight which results from the process as a light kindled by "friction". This gradual preparation through an apparently scarcely conscious figurative use of a common word for a full-blown metaphor has always seemed

"Wherefore every worthy man (*πᾶς ἀνὴρ σπουδαῖος*) will beware with all caution of bringing worthy matters into the range of human rivalry and perplexity by writing of them. In one word, one must learn from what has been said that when one sees written compositions by an author, whether laws written by a legislator, or writings of any other kind soever, these were not the matters the writer deemed worthiest, if indeed he is himself a man of worth; such things [*sc.* the things the writer deemed *σπουδαιότατα*] are laid up the fairest place the man possesses.¹ If he indeed committed them to writing as things of greatest worth and moment, 'why then, thereafter,' not gods but men 'bereft him of his wits'.

"Well then, he who has followed this discursive tale will know full well that whether Dionysius, or any other man, greater or less, wrote down any of the highest and primary truths of Nature, he must have had no sound instruction nor understanding of anything of which he wrote, at least not according to my conviction. Else he would have had the same awe of these themes as I have, and not have exposed them to the eyes of discord and uncomeliness.² He could not have been impelled to write them as memoranda for his private use (there is no danger that one whose mind has once compassed the truth should forget it, for it is contained in the briefest words). It must have been done, if it were done at all, from an unseemly vanity, whether the purpose was to claim the knowledge as his own, or to prove his participation in an education of which he was unworthy if he was greedy of the reputation of having participated.

to me characteristically Platonic. The point of the remark that the philosopher has to learn *at once* τὸ ἀληθές and τὸ ψεῦδος is, of course, that in the use of dialectic it is precisely by seeing where unsatisfactory hypotheses are false that we are led on to a truer one.

¹ *κεῖται δὲ πού ἐν χώρᾳ τῇ καλλίστῃ τῶν τούτου*, that is, *ἐν τῇ ψυχῇ*, or more precisely *ἐν τῷ νῷ*; the truths which are of most moment in the opinion of a good and wise man are written on the "fleshy tables of the heart," not on tablets of wax or sheets of parchment. He bears them about with him and does not need to store them in a library.

² *εἰς ἀναρροστίαν καὶ ἀπρίπειαν ἐκβάλλειν*. If Dionysius had really any understanding of philosophic truth, he would have avoided casting it before swine. He would not have exposed it, by circulating his *σύγγραμμα*, to the disordered and lewd minds of his court circle. Or is it merely the symbols of language and diagram which are judged, for the reasons already given, too "ill-fitted together" and too "mean" to express high truths? I think the former interpretation right, since it is conceded that the writing of the *σύγγραμμα* would have been allowable if the principles of Platonism were so many and required such lengthy statement that a man might need a written record to assist him in remembering them. The offence was thus not so much the writing as the publication of it.

"Now if Dionysius was affected thus by our only interview (perhaps it might be so, though *how* it happened 'Goodness only knows,' to use the Theban phrase, for I went over the subject in the way I have described, and that once only, and on no second occasion¹), he who would learn how the effect fell out as it did, must ask himself why we did not go over matters a second and third time, and yet oftener. Does Dionysius after a single hearing fancy that he has knowledge, and has he really sufficient knowledge, whether from discoveries of his own or from previous instruction by others? Or does he think my exposition worthless (*φαῦλα τὰ λεχθέντα*)? Or, for this is the third possibility, does he think the subject beyond him and admit that he has not the ability to live in the practice of wisdom and virtue? If he thinks the exposition worthless, he will find himself in disagreement with numerous witnesses whose judgment in such matters is of much greater weight than that of a Dionysius.

¹ In this difficult sentence I would punctuate thus: *εἰ μὲν οὖν ἐκ τῆς μίας συνουσίας Διονυσίου τοῦτο γέγονεν, — τάχ' ἂν εἴη, γέγονεν δ' οὖν ὅπως ἴππε Ζεὺς,*" φησὶν ὁ Θεβαῖος· διαξήλθον μὲν γὰρ ὡς εἶπον τε ἐγὼ καὶ ἀπαξ μόνον, ὑστέρον δὲ ὑπώποτε ἴτι—έννοοῖν δὴ δεῖ. . . τίνι ποτ' αἰτία τὸ δεύτερον καὶ τὸ τρίτον πλεονάκεις τε οὐ διαξῆμεν. That is I take, *εἰ μὲν οὖν—γέγονεν* as a protasis to which *έννοοῖν δὴ δεῖ* κ.τ.λ. forms the apodosis. The general meaning is "I only spoke with him once; hence the question arises why we did not go over the ground again and again". The three possible explanations of Dionysius's conduct in not asking for a second interview, viz., that he thought himself after the first conversation competent to carry on his studies by himself, that he thought what he had heard disappointing, that he felt unequal to the demands of philosophy on his intellect and character, correspond to the three possible results of the *πειρα* suitable to a prince enumerated on p. 340.

As for points of detail, I assume with some hesitation that *γέγονεν δ' οὖν ὅπως ἴππε Ζεὺς* stands for *ἴππε Ζεὺς ὅπως γέγονεν*, "we may leave it to Zeus to know how it happened," i.e. "only God can say how it came about". Hence I have removed Burnet's comma after *ὅπως*. In the apodosis I would also remove the comma after *τὸ τρίτον*, since Plato is insisting that there was only *one* interview, and the *οὐ* must therefore negative the whole clause *τὸ δεύτερον καὶ τὸ τρίτον πλεονάκεις τε*. The only point now left obscure is the meaning of the *τοῦτο* of 345 a 1. What is it that might be supposed to have happened, God knows best how, to Dionysius after his interview with Plato? Apparently the *τοῦτο* means the "compassing of the truth" referred to in the previous sentence (*ὅαν ἀπαξ τῇ ψυχῇ περιλάβῃ*), so that the whole sense is, "if Dionysius really understood that part of the subject which I put before him at our only interview.—perhaps he did, though God knows how he could,—why did he not seek further instruction?" Two explanations, viz., that what, on the supposition, he already knew was enough to qualify him to philosophise for himself in future. or that he was disappointed in what Plato had to say, are then examined and dismissed, and the implied, though unexpressed conclusion is that the only remaining alternative, viz., that he felt his unfitness for the vocation of a philosopher, must be the true one. (I should say that I owe this explanation of the reference of *τοῦτο* to a suggestion of Prof. Burnet.)

If he holds that he has discovered the truth or been instructed in it, and that it is at any rate worthy of a liberally-educated mind, how could he ever have been so ready to affront one who had been his master and guide in these studies, unless he is a very singular fellow? The nature of the affront I can explain from personal experience."

The concluding paragraphs of our passage from 344 a 1 on do not seem to me to require any particular explanation or elucidation. They merely restate for us the view which had long before been expressed in the *Phaedrus* of the one reasonable ground on which *written* works on *φιλοσοφία* may be defended, *viz.*, that they serve to refresh a man's fading memories of the actual converse in which two minds have followed up the trail of truth, and urge that that ground is not pleadable on behalf of the work ascribed to Dionysius. Either his character or his judgment is proved to be bad by his seeking no second interview with Plato, and his boasts of his own proficiency,—and Plato inclines strongly to the view that the defect is not merely one of judgment. I have therefore to confess that if my interpretation of the two pages against which Mr. Richards' strictures are specially directed is substantially accurate, I see nothing either in the matter or in the manner of the whole digression which interferes with the ascription of the letter as we have it to Plato. And I think I have already shown that (a) the whole passage as I have rendered it is too much of a unity for one-half of it to be excised without the excision of the remainder, and (b) that if the whole is excised the result is immediately a sensible gap in the continuity of the letter. Whence I conclude that for those of us who lack the face to condemn the whole letter on the flimsy grounds which have been urged against it, apart from the objection to this particular section, the only alternative is to recognise the whole as from the hand of Plato. We may feel that Plato's hand has lost something of its cunning; there are unnecessary repetitions in the narrative, and the grammatical construction is sometimes loose, though both charges may be made with equal truth against *e.g.* *Laws*, vii.-ix. But these are no remarkable faults in a man well over seventy, and most of us, even in our prime, do not carry out in correspondence, and should not employ even in a published pamphlet to which we had purposely given the form of a personal letter, the same strict rules of composition as in a formal treatise or essay.

I will add only one further remark, which seems to me of some weight. The seventh epistle, whether by Plato or not,

bears every mark of being a genuine document of the date at which it purports to have been written. We have only to compare the Greek of it with that of the *Axiochus*, a dialogue composed, as Immisch has convincingly shown, by a member of the Academy, at the time when Epicurus was just coming into notice at Athens as a philosopher (i.e. within half a century or less of Plato's death), to judge whether so long a work, so exactly in a style which was rapidly becoming a lost art as early as 300 B.C. is likely to be a successful forgery. If a contemporary of Crantor and Polemon, familiar with the works of Plato, could not attempt a "dialogue of Socrates" without betraying himself in well-nigh every sentence, is it likely that some other Academic, even as early as the writer of the *Axiochus*, could have composed a letter of such length in a Greek which is, to us at least, indistinguishable from that of the *Laws*? The *Epinomis*, indeed, has been quoted as an example of such imitation, but the argument is worthless until some better evidence than that of a *φασιν* in Laertius Diogenes has been produced against the Platonic authorship of the *Epinomis*. Moreover, even those who think the *Epinomis* an imitation at least account for its exact correspondence with the style of Plato by assigning it to an immediate intimate and personal companion of the master. If we are to ascribe the seventh letter to another than Plato, I do not see how we can avoid a similar view of its origin. It will have to be regarded as a manifesto in the name of the Academy, produced at the latest within a very short time after Plato's death. Indeed, I think, we may go further. Such a manifesto could hardly have been written after the direction of Sicilian affairs had been put into the hands of Timoleon in 344, and it is scarcely more likely to have been later than the horrible catastrophe which ended the tyranny of Dionysius in Locri (346). Thus we are driven to date the supposedly spurious letter before Plato's death, and to assume that, even if he did not actually write it, it was composed in his name and with his approval. It follows that if the philosophical digression which we have been examining is "rubbish," it was rubbish which imposed on Plato and was taken by him for an expression of his own theories. I, for one, cannot believe in such a theory. The only rational view of the matter, to my mind, is that a letter which purports to have been written by Plato shortly after the death of Dion in 353, cannot have been written later than 346, and is indistinguishable in style from Plato's latest work, really was written by Plato, and that its philosophical part is therefore very unlikely to be "rubbish" and very likely to be excellent sense.