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Anamnesis in the Meno: Part One: The Data of the Theory

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Part One: The Data of the Theory

In the Meno we have a chance, rare in Greek philosophy, to compare a philosophical theory with the data which make up its ostensible evidence. Meno asks if there is any way Socrates can show him that "learning" is recollecting. Socrates offers to produce the proof on the spot. Meno will see the slave-boy learning, and this will show that he was recollecting. I wish to make the most of this opportunity to examine the presented data before considering the theory. To this I will devote the first and somewhat longer part of the paper, where I will seek by controversial argument to establish the right interpretation of the text.2 While doing this, it will be convenient to use "recollection" in quotes, suspending judgment upon its philosophical implications and even withholding attention from its dictionary meaning. Plato says the boy is "recollecting" and so shall I of this and all other situations which are equivalent to it in a sense which I shall make clear. When a decision has been reached on what exactly is taking place when people are "recollecting" in this purely nominative sense, it will be time to examine Plato's thesis that this "recollecting" is recollecting.

¹ μανθάνειν, which is being used in this context in the restricted sense of coming to have propositional knowledge. The acquisition of inarticulate skills, though well within the scope of the word in ordinary usage, is tacitly excluded.

² My interpretation has much in common with those offered by the following:

F. M. Cornford, Principium Sapientiae (Cambridge, 1952), Ch. IV, "Anamnesis."

W. K. C. Guthrie, Plato: Protagoras and Meno (London, 1956), 107-114.

R. S. Bluck, Plato's Meno (Cambridge, 1961), 8-17.

N. Gulley, Plato's Theory of Knowledge (London, 1962), Ch. I, "The Theory of Recollection."

I. M. Crombie, An Examination of Plato's Doctrines, Vol. II (London, 1963), 50-52, 136-41.

To each of these works I shall refer hereafter merely by the author's name.

In Plato's Theory of Ideas (Oxford, 1951) Sir David Ross remarks (p. 18):

... the method by which the slave-boy is got to discover what square has twice the area of that of a given square is a purely empirical one; it is on the evidence of his eyesight and not of any clearly apprehended relation between universals that he admits that the square on the diagonal of a given square is twice the size of the given square. He admits that certain triangles have areas equal, each of them, to half of the given square, and that the figure which they make up is itself a square, not because he sees that these things must be so, but because to the eye they look as if they were. (My italics)

I dare say that few of those who have read our text will agree with this construction of it—the "empirical" one, I shall call it for convenience. But why precisely are we entitled to disagree? Not, surely, because "no mention at all is made of sense-experience either in the dialogue with the slave or in the subsequent discussion of its significance" (N. Gulley, 11-12) This is true, but settles nothing. For it is open to the retort that Plato does not have to mention sense-experience in order to direct attention to it. Is he not doing as much, and more, by dramatic means when he keeps Socrates so busy tracing figures in the sand? Can a process of discovery which leans so heavily on seeing—not in a sublimated sense, but in the literal one—be anything but an empirical process? This is the gist of the argument by which the empirical view would be defended.

In casting about for a reply, one's first impulse is to take a leaf out of the Divided Line. There Plato says quite distinctly that when mathematicians

use visible figures and make their arguments about them, they are not reasoning about them, but about those things which these visible figures resemble . . .; they use these [figures] as images, seeking to see those very things which cannot be seen except by the understanding (Rep. 510D-E).

I do think this would be relevant, since Plato is talking here about the common run of mathematicians, not about those enlightened by his philosophy. And since one of his main objects

in this passage is to point up the theoretical crudities of these people, we may be reasonably sure that the quoted passage is not Platonic largesse but a straightforward account of the general attitude toward diagrams among practising mathematicians.³ And if the same attitude could be imputed to Meno's slave, we could safely exonerate him from the charge of getting the answer to a geometrical problem by looking instead of reasoning. But the "if" in this sentence marks the weakness of this whole argument for the purpose in hand: our opponent could very well say that the subject of the interrogation is no mathematician, but a household slave; the sophisticated use of diagrams by experts in geometry is no index to its probable use by an ignorant boy.

Let us then try an entirely different tack. Since the empirical interpretation rests wholly on the use of the diagrams in the "recollecting" process, let us ask whether or not they are really indispensable for this purpose. I wish to argue that they are not. Plato could have exhibited this process just as well by using illustrations in which diagrams would have no place—an arithmetical one, for example: The boy, let us suppose, freshly imported from darkest Thrace, has had to be taught even arithmetic, and from the bottom up. His lessons have just started and have only taught him so far to add two numbers at a time and numbers no greater than 10. Socrates now asks him to add 13 to 7, which goes beyond the boy's lessons, and Meno is invited to watch him "recollect" the answer:

^{&#}x27;You can add 10 to 3, can't you?'—'Yes. that is 13.'

^{&#}x27;So 13 = 10 + 3?'—'Yes.'

^{&#}x27;So instead of asking you how much is 13 + 7, I might as well have asked you how much is 10 + 3 + 7?'—'But what use would that be? I can only add two numbers at a time.'

³ Though Greek mathematicians were occasionally misled by their diagrams to assume some proposition not listed in their axiom-set (e.g. a continuity postulate, needed for the proof of I, 1, etc. in Euclid: cf. T. L. Heath, The Thirteen Books of Euclid's Elements, I² [Oxford, 1925], 235 and 243), they would not dream of citing the sensible properties of a diagram as a reason in a proof. One cannot imagine a sentence like, "This must be true because that is the way it looks (or, measures) in the diagram," in a Greek mathematical text.

'That will be enough. How much is 3 + 7?'—'10, of course.'

'So instead of saying '3 + 7,' we can always say '10'?'—'Certainly.' Then instead of asking you how much is 10 + 3 + 7, I might have asked you how much is 10 + 10?'—'Yes, indeed, and the answer to that I know: 20"

'And we did say that to ask how much is 13 + 7 is the same as asking how much is 10 + 3 + 7. You haven't forgotten that?'—'Of course not. And since 20 is the sum of 10 + 3 + 7, it is also the sum of 13 + 7.'

I submit that this dialogue, retouched in Plato's style, but unaltered in logical content, could have replaced the interrogation of the boy in the *Meno* for the purpose of Plato's argument. This can be proved by a scissors-and-paste experiment on Plato's text: cut out the whole interrogation from 82B 9 to 85B 7, paste in the above dialogue in its place, and consider whether any material change will have to be made in what comes before and after. You will find that none will; that the same Platonic theses would be illustrated, and that they would be substantiated to the same degree, so that the meaning and truth-value of the conclusions Socrates draws from the dialogue at the end will be unaffected. In this fairly stringent sense my arithmetical dialogue could be said to be equivalent to the geometrical one in the *Meno*; and in this appeal to sensible objects has been dropped.

I anticipate the following objection: The slave-boy has been learning arithmetic by counting pebbles, it may be said, and has been convinced that, say, 3 + 7 = 10, not because he has seen "that these things are so, but because to the eye they look as if they were;" so the boy, who has not mastered a formal proof for the addition of natural integers, must be relying on the evidence

⁴ The *only* required changes would be the substitution of "figuring" and "arithmetic" for "doing geometry" and "geometry" at 85E.

⁵ Apart from being so much drier than Plato's example, the main loss resulting from the substitution would be the boy's mistakes; but we could easily make room for these, e.g. by having him make a wrong guess to begin with and then find out by the same method that (and why) his guess was wrong. A graver defect in my example is that it would not show nearly as well as Plato's the gap that may exist between discovery and proof; finding out that 13 + 7 = 20 by the above method would bring one much closer to seeing why this must be so than the slave could have come to seeing the why of the theorem at the end of the interrogation.

of his senses, merely transferring what his senses taught him this morning to the solution of the new question Socrates puts to him in the afternoon. I believe that this objection is wholly misconceived. For even if we were to grant that each of the propositions material to the above result

$$(13 = 10 + 3; 3 + 7 = 10; 10 + 10 = 20)$$

were severally established by the purely empirical method of putting x pebbles together with y pebbles and learning the sum of x + y by merely counting out the number of the resulting group, the fact would still remain that the answer to the question, 'What is 13 + 7?, was not obtained by running back for pebbles to find out by counting. Had the boy done anything of this sort, the objection would have had force. But this is precisely what he has not done in my example. What happens there has absolutely nothing to do with looking at pebbles or handling them or hearing them dropped clink-clink on a stone nor, be it noted, with remembering results of previous lookings and handlings, nor imagining the results of imagined lookings and handlings: the boy would need to do none of these things to pass from the three propositions I just enumerated to the new proposition that 13 + 7 = 20. All he would need to do would be to make inferences from these propositions, using nothing but the rule that equals may be substituted for equals and the associative law for arithmetic.6

Should the objector remain unsatisfied, the simplest way to proceed would be to shift to still another illustration, fully equivalent in the sense defined to the one in the *Meno*, but so constructed as to block further back the imputation of even indirect reliance on the senses: Let Socrates recite in suitably metrical Greek the familiar conundrum by which a man replies when asked what is his relation to the subject of a portrait:

Brothers and sisters have I none;

But this man's father is my father's son.

⁶ That a + (b + c) = (a + b) + c was used, without being mentioned, in the example.

Let the slave-boy fail to hit on the solution, as sometimes happens even among the socially elect, and then "recollect" it under Socrates' prodding. Since this would be to solve the puzzle, all that is needed for the "recollecting" is what is needed for the solution. This calls for no more than just these operations: Noting that "my father's son" in the second premise of the cryptic jingle must refer to either the speaker himself or to one of his brothers: eliminating the second alternative by the first premise; hence being left with the statement that "this man's father" must be the speaker himself. In all this there is no recourse to anything other than the logical relations of the concepts father, brother, and son, and the use of the rules of inference. Here there is no occasion for consulting the evidence of the senses or for recalling previous use of such evidence. Had Plato used an example of this sort in the Meno no one would have even dreamed of saying that the "recollecting" process gets results by relying on the evidence of the senses. Even the much weaker claim made earlier by A. E. Taylor that the "recollecting" discussed in the Meno consists of "the following up by personal effort of the suggestions of senseexperience," would have been ruled out by this kind of example. There is nothing in the process of discovering the answer to the conundrum which can be called, with any plausibility, "following up the suggestions of sense-experience." If one tried seeing or imagining fathers and sons, or pictures of them, to get "suggestions" for the solution, he would be wasting his time.

This is as far as this line of argument will take us. It proceeds on the premise, which could scarcely be questioned, that the "recollecting" Plato has in mind is in no way restricted to geometry, least of all the sort of geometry done by a tyro, but could be exemplified as well by other cases where sense-experience would be demonstrably immaterial and irrelevant. From this it concludes that reliance on the evidence of the senses is not a *general* feature of

⁷ A. E. Taylor, *Plato*, the Man and his Work⁴ (London, 1937) [hereafter "Taylor"], 137. Taylor then refers to "the suggestions provided by Socrates' diagrams and *questions*" (my italics), apparently failing to realize that the logical status of suggestions provided by questions is entirely different from that provided by sense-experience. In the Meno Plato speaks of recollected opinions as suggested ("awakened") by questions (86A 6; cf. *Phaedo* 73A 7), not by sense-experience; the latter point is first made in the *Phaedo* (73C 6 ff.).

the "recollecting" envisaged by Plato but is, at most, a special feature of the example of it he happened to use in the Meno. I say, "at most," for I am not conceding that the empirical view is true of even the example in the Meno. Such a concession would be no small matter. For since we have no other clue to what Plato was thinking of as bona fide "recollection" at this time except what he put into his text, it could be argued that those features of the process which are material to its instantiation in the Meno were thought by Plato essential for the process itself, even if in fact they are not. This is a reasonable argument, and must be met on its own ground.

Let us then move directly into the text and pick out for inspection a passage where the empirical view should appear to best advantage;

Now does this line going from corner to corner cut each of these squares in half (84E-85A)?

Since Socrates does not proceed to offer proof for the proposition that the diagonal bisects a square or to give any reason whatever, but expects the boy to "recollect" the answer upon hearing his words and looking at the diagram, would it not follow that, when the boy assents instantly to the equality of the triangles, he does so not because he sees that they are equal but "because to the eye they look as if they were"? This does not follow. To see that it does not, let us construct a case where it would, and see what that would be like. Let Socrates draw an isosceles rightangle triangle and then, without any description of what he is doing or any other comment, let him draw a similar figure of the same dimensions in some relatively distant part of the drawing area; and let him then ask the boy to say whether or not the two figures are equal. Here the boy would have to rely on the evidence of his eyesight. What else does he have to go by? His only source of information is the sensible figure, and he can only get it by looking. How vastly different is the task which Socrates sets him: The two triangles have not been presented as two independent and undescribed constructions. They are produced by drawing a diagonal across a figure which is known to be a square, and is said

to be so. Knowing that squares have equal sides and equal angles.8 the boy could infer that two sides and the included angle of one triangle equal the corresponding items in the other. So he has plenty of clues to the equality of the two figures other than the fact that they look equal. If he followed out those clues, he would see (e.g., by the rudiments of a congruence proof by superposition) that the triangles have to be equal, even if to the eye they looked unequal, as they easily might if the figure were badly drawn.9 Yet neither does it follow that the boy would make the judgment by merely drawing inferences in total disregard of what he sees. He might have done the latter, had he been gifted mathematically and given the proper instructions. Alternatively, he might have done the very opposite, had his instructions been to go by the look of the figures to the exclusion of any other consideration. The fact is that neither set of instructions has been given him. But looking over the whole course of the interrogation, we see that while it is never even implied that he should decide anything by merely looking, there are several times when it is definitely implied that he should judge merely by thinking—e.g., when asked arithmetical questions ("And how many feet is twice two? Figure it out and tell me," 82D). 10 That the over-all effect of the question-

⁸ The equality of the sides was mentioned at the start (82C), that of the angles was not, but would have been admitted right off by the boy: the concept, equality of angle, would have been familiar, and Socrates would have had no difficulty in getting the boy to say that all 4 angles of a square must be equal.

⁹ It is not unreasonable to assume with Guthrie (110) that the figure would be only "roughly" drawn, so that the two triangles would be visibly unequal. But nothing is made of this in the interrogation. Socrates has other ways of getting across the idea that the properties of the squares, triangles, etc., he is talking about are those that a figure would have if it instantiated the concept, square. See next note.

¹⁰ Subtler suggestions to the same effect are conveyed by the form in which the questions are put almost from the very start: "Now could not such a figure be either larger or smaller?" (82C 2-3) puts the inquiry in the domain of possibility, where it is kept by the next question, "Now if this side were 2 ft. long and that [side] the same, how many feet would the whole be?," which puts the specification of size in the hypothetical mode and asks what would happen if this were the case. The same modalities are signalled by the syntactical form of the sequel: optative with $\tilde{a}v$ ("indefinite supposition") in the apodosis at 82C 5-6, and imperfect indicative with $\tilde{a}v$ (suppositio irrealis) at C 3 (Cf. E. S. Thompson, The Meno of Plato [London, 1901], ad loc.). In the next question (D 1-2) the $\gamma(\gamma v \in \tau av)$ expresses a logical consequence (this is

ing is to set the boy thinking is clear from the boy's mistakes. His two blunders are *miscalculations*, slips of the mind, not of the eye, faulty inferences, not wrong observations: that the desired square must have double the area *if* it has double the sides; that its side must equal 3 *because* it has to be larger than 2 and smaller than 4.

So the boy is reasoning at least as much as looking. Why not then say that his "recollecting" is a mixture of both, and leave it at that? Because this compromise formula would evade the vital question of the relative importance of the two factors. We could, of course, agree that observation and inference are both occurring, without haggling over the question whether there is more of the one than of the other, if what specially interested us here were the behavior of just this boy in just this case. But then the relative incidence of the two factors, revealed by our inquiry, would be of no logical consequence; it would have only informed us of the psychological abilities and habits of this particular subject. What does affect the logic of our problem is the relative dispensability of either factor to the "recollecting process," for only so can we determine which of the two factors is logically intrinsic to it. Once we do put the question in this way the answer is clear: The boy's sensory powers may be cut down drastically without impairing "recollecting" in the least, provided only we suppose his reasoning ability inversely heightened. If, on the other hand,

what would result "because [on the hypothesis] it is 2 ft. long that way too.") The interrogation continues on the hypothetical plane until the second break at 84D: the question remains what would have to be the case to satisfy the conditions laid down at 82E 1-2 and what would follow if we were to suppose with the slave that the required line is 3 or 4 feet long. After the break the syntax is again well stocked with optatives with dv to re-establish a framework of inference (exploration of logical consequences) rather than factual observation. -The English reader should remember that the modalities and logical connectives do not always come through even in excellent translations. Thus 82B 10 - C 3 becomes in Guthrie, "It has all these 4 sides equal? . . . And these lines which go through the middle of it are also equal?" Here the οὖν ("in inferences, then, therefore," Liddell and Scott, Lexicon, s. v. III) has dropped out in the first question; in the second one would miss the fact that a participial form (ξχον) so links it with the preceding question as to keep it wthin the field of force of the our. A more literal translation would be: "Is inot a square, then, a figure having all these four sides equal? ... And having these lines that go through the middle equal also?"

we endowed him with the best hunter's eye imaginable, but deficient in the perception of logical relationships, he would be totally unfitted for "recollecting." For the best he could accomplish by superior sensory acuteness would be to collect data of superior accuracy; but unless he could arrange and re-arrange these data in the required logical patterns, they would be of no use, but a burden, for the purpose of answering Socrates' questions. Conversely, the heightening of his intellectual powers would be of the greatest use to him for this purpose, and could so far compensate for sensory defects that he could go through this whole interrogation and in fewer steps even if, for example, he were blind, but had the mathematical talent of a young Pascal; and to think of him as blind is to think of the factor of sensory observation reduced in these circumstances to zero.

But would Plato have been aware of this when he wrote the Meno?—I think he would. The evidence is indirect, but strong. At the end of the interrogation, when the boy has found the answer to the problem Socrates had set him, we are told that this is as yet no more than a true belief in his mind;11 but that if "one were to ask him many times the very same [sort of] questions in many [different] ways ... he would end up at last with knowledge of such matters no less exact than that possessed by any other person," 85C 10-D 1. The subject-matter here is geometry. 12 To reach knowledge of it that would be no worse than that of any other person would be to master this science as the purely deductive discipline it had already become. In that second stage of his inquiry, then, the one that would take the boy from true belief to knowledge, the evidence of his eyesight would be absolutely excluded as a reason for any of his assertions. But there is no suggestion that this would involve the slightest change of method.

¹¹ So it would be obviously wrong to say that the lad "began by not knowing something and *ended by knowing it*" (Taylor, 138, my italics), rather than that he would have ended by knowing it.

¹² And cf. 85E 1-2: the slave-boy "will do the same thing [as he has done in the preceding interrogation] in the case of the whole of geometry and of all other sciences" ("the same thing," ταὐτὰ ταῦτα, here has the same reference as the same expression at C 10-11, where the reference is clearly to his performance in answering Socrates' questions).

¹⁸ Cf. n. 3 above.

Quite the contrary, it is implied that his method would be the same; for if it were going to be different he would have to be subjected to a different sort of question, while, as we have just seen, he would be asked "the very same [sort of] questions." In having Socrates say this Plato makes it clear that he thinks of the method of discovery (that of the first stage) and the method of proof (that of the second) to be in principle the same. And this is confirmed in two further remarks: "To recover knowledge oneself [from] within oneself," says Socrates shortly after (85D 6-7), "is recollection." Later on, near the end of the dialogue, in a crucial passage where Socrates says that true beliefs become knowledge only when "bound fast by the calculation of the reason" (airias λογισμῶ), 15 he adds at once: "And this, my dear Meno, is recol-

¹⁴ The received translations, down to Guthrie's ("And the spontaneous recovery of knowledge that is in him is recollection, isn't it?"), put Plato in the position of saying that the subject already has the knowledge he recollects, thus flatly contradicting his earlier assurances that the boy did not know, and still does not know, the theorem he has discovered, but has only a true belief of it (85C 2-10). Surely all we can get from the wording in 85D 6 is that the "recollected" knowledge is being "recovered" from inside a person's own mind-not that it is already there as knowledge. The commentators frequently represent Plato as holding that what we come to know by "recollecting" is already present in us in the form of latent knowledge. But Plato never uses this expression (or variants of it, like "potential") in the context of the theory of recollection. He does not picture our souls as being always in a state of "virtual" omniscience, but as having once "learned" everything (86A 8, where τον ἀεὶ χρόνον μεμαθηκυΐα έσται ή ψυχή αὐτοῦ does not mean "has been for ever in a state of knowledge" [Guthrie], but "has been for ever in the condition of having [once] acquired knowledge": cf. μεμαθυκυίας της ψυχης, 81D 1), and then lost this knowledge (95C 6-7; 86B 2-3; and cf. especially Phdo 76B 5-C 3), while retaining the ability to recover it. By "the truth of things being always in the soul" (Meno 86B 1-2) and "knowledge and right reason being in" us (Phdo 73A 9-10, αὐτοῖς ἐπιδτήμη ἐνοῦδα καὶ ὀρθὸς λόγος) Plato can only mean that all men have (i) some (not, all) knowledge, (ii) the ability to make correct judgments (= to perceive logical relations) and, therefore, (iii) the ability to extend their knowledge (by persevering in inquiry) without any preassigned limit (81D 2-4).

¹⁶ ἔως ἄν τις αὐτὰς δήση αἰτίας λογισμῷ: "until you tether them by working out the reason" (Guthrie). "Cause" for aitia here (Jowett, Meridier, Bluck) is misleading, since modern philosophical usage reserves the term for relations which instantiate laws of nature, never for purely logical conditions. Thus to speak of the premises of a syllogism as the aἰτία of the conclusion (Aristotle, Post. An. 71B 22) would be the crudest sort of category-mistake if Aristotle's

lection, as we agreed earlier" (89A 3-8). In neither of these passages does Socrates say that "recollection" occurs only at the second stage of the inquiry. This would have been quite absurd in view of the fact that the first stage—the one the boy traverses in our text—had been laid on specially so Meno could see the boy recollecting. Plato's reason for speaking only of the second stage when he comes to explain what "recollection" is, could only be that he takes it for granted that the essential components of the "recollection"-process as a method of inquiry would be the same at both stages, though they would be so much clearer in the second that it would be sufficient for his purposes to refer only to that. What then are these components?

The language used in the second citation—the "binding" of true belief by the αἰτίας λογισμός—gives us a good indication of what he thinks they are. The primary sense of λογισμός is arithmetical reckoning. It is used with this sense in the interrogation, ¹⁸ as we saw a moment ago. Elsewhere in his works Plato uses it for rational arithmetic, *i.e.* for number theory, and, still more broadly, for rational thought in contrast to sense-perception and for knowledge reached and justified by formal inference and analysis in emphatic contrast to sensory cognition. ¹⁹ The other part of his expression, "bound fast," would tell the same tale to anyone familiar with the philosophical literature. In Parmenides the "bonds" and "fetters" which "powerful Ananke" imposes on

term did mean what we understand by "cause." In some contexts, as in Aristotle's "four causes," the canonical mistranslation will no doubt have to be perpetuated. But readers of Plato, at least, can be spared some confusion if the mistranslation is avoided when avoidable, as it is certainly in the *Meno*. To tolerate "chain of causal reasoning" for alτlas λογισμόs, and illustrate by a mathematical diorismos (Gulley, 14-15) which involves no causal reasoning whatever, is disconcerting.

¹⁶ Ct. Bluck ad loc.: "No mention has been made earlier, at least in so many words, of an αἰτίαs λογισμός, but this reference is clearly to 85C 9-D 1."

¹⁷ And cf. 82E 12-13.

¹⁸ In the reference to λογισάμενος είπέ, 82D 4.

¹⁹ Examples in F. Ast, Lexicon Platonicum, s. v. λογίζομαι, λογισμός, λογιστικός. When the Theory of Ideas is introduced λογίζομαι, λογισμός (along with διανοοῦμαι, διάνοια) stand for the mode of their apprehension in sharp opposition to sense-perception: Phdo 65C 2-3, 79A 3, Phdr. 249B, Parm. 130A, Soph. 248A 11.

Being are the constraints of logical necessity.²⁰ In Zeno²¹ and Melissus²² ananke is the signature of a deductive inference and it is used quasi-adverbially in lieu of 'it follows necessarily that ...' In the Socratic dialogues too ananke occurs with the same force,23 and the "binding fast" metaphor caps the long demonstration in the Gorgias when Callicles is told that the conclusion that defeats him is "held fast and bound by arguments of iron and adamant," 508E. Thus to say that knowledge is true belief "bound" by the αἰτίας λογισμός is to imply that a statement becomes known when it is seen to follow logically from premises sufficient for this purpose: to "recollect" it, then, would be to see that these premises entail it. But what of the premises? They too could be "recollected" in the same manner. But how long could this go on? The geometrical model²⁴ would assure Plato, as it did Aristotle after him, that there must be logically primitive propositions, whose "binding" could no longer be derived by entailment from yet others, but must lie wholly within themselves. Thus there would be no question of trying to prove that things equal to the same thing are equal to one another. The mathematician's way with this type of proposition would be to list it as a logical primitive in his axiom-set and leave it at that. Plato presumably would go a step further, but only by showing how this and other "Common Notions" are presupposed in our "knowledge of Equality," i.e. in our having, using and understanding the concept of equa-

²⁰ H. Diels and W. Kranz, *Die Fragmente der Vorsokratiker*⁵ (Berlin, 1934-37), Frag. B 8, 30-31. (All subsequent references to Presocratic fragments will be to this work.) The same metaphor in lines 14 and 37 of the fragment, with *Dike* and *Moira* taking the place of *Ananke*, symbolizing the rational appropriateness of the bond, while *Ananke* stands for its inexorable necessity.

²¹ Frag. Bt (twice), B3.

²² Frag. B7 (twice).

²³ Examples in Ast, op. cit.

²⁴ i.e. of an axiomatized science. Though great progress in axiomatization was made in Plato's own life-time, (cf. the references to Leo and Theudius in Proclus, *Comment. in Eucl.* [G. Friedlein], 66, 19-22 and 67, 12-16), there is no reason to think there had been no earlier work along the same lines. The distinction between primitive and derivative propositions in geometry would certainly have been well established by the end of the fifth century.

lity.²⁵ Nor would there be any question of proving the definitions²⁶ of this, or any other, concept. We know how prominently these figure among the objects of Socratic search. But though Plato has said so far all too little of the methodology of the 'What is X?' question, it is clear from what he says in the Meno itself, that he does not think that the true answer, when found, could be proved by deduction from other premises,²⁷ or that it needs such proof. Thus if the boy understood what is meant by square and also understood what is meant by equilateral, right-angled, and quadrilateral, he would see that the conjunction of the last three concepts is logically equivalent to the first. If he did not, he would be revealing that he had not understood the meaning of one or more of the concepts mentioned in the formula; what would be needed then would be to elicit this understanding in his mind.

Reduced to its simplest terms, then, what Plato means by "recollection" in the Meno is any enlargement of our knowledge which

²⁵ I am extrapolating from the line of argument followed by Socrates in the *Phaedo* (74B 4 ff.: from certain judgments we have been making since our childhood it is inferred that ἀναγκαῖον . . . ἡμᾶς προειδέναι τὸ ἴσον, 74 E 9).

²⁶ 'Real,' not 'nominal,' definitions, which are the prime object of Socratic inquiry in many dialogues, including the *Meno*, where Socrates starts by diverting Meno from 'Is virtue teachable?,' to 'What is virtue?,' as the logically prior one and insists repeatedly that we cannot know any of virtue's properties όποῖον ἔστι οτ ποῖον ἔστι until we have come to know its essence (τί ἐστιν): 71B 3-8; 86D 2-E 1; 100B 4-6. Cf. R. Robinson, *Plato's Earlier Dialectic*² (Oxford, 1953), 50-51, where the same point is made strongly and backed with a plethora of additional references.

²⁷ When someone proposes a false definition there are two ways of *disproving* it in the Socratic dialogues:

⁽¹⁾ Find cases which, as he admits, instantiate the definiens, but not the definiendum, or the latter, but not the former.

⁽²⁾ Find propositions known to him which contradict the definition. Socrates could not hope to demonstrate the true definition by the same, or analogous, methods:

⁽¹⁾ He could not go through all the cases of the definiens to show they all exemplify the definiendum.

⁽²⁾ A statement of what X is could not be proved by entailment from other statements about X which are known to be true, since Socrates holds (cf. the preceding note) that if the essence of X is not known nothing else can be known about X (though, of course, there could be many true beliefs about it). Hence, though Plato does not say so, it would follow that, while argument can disprove incorrect answers to the 'What is X?' question, it cannot prove the correct one.

results from the perception of logical relationships. When these are inter-propositional to "recollect" a previously unknown proposition is to come to know it by seeing that it is entailed by others already known. Or if the relations are intra-propositional, as in the case of the true answer to the 'What is X?' question, then to "recollect" is to gain insight into the logical structure of a concept, so that when faced with its correct definition one will see that the concepts mentioned are analytically connected. In either case, we are as far from the empirical discovery and certification of knowledge as we could possibly be. Sensory observation is not excluded in the first stage of incomplete "recollection" which discovers the looked-for truth, but does not yet know that (or why) it is the truth. But even at that stage the use of the senses is only a contingent factor, wholly unusable in some cases of bona fide "recollection" and in others used only as a crutch to the imagination which must be dropped at the next stage of inquiry in which "recollection" is brought to full completion.²⁸

²⁸ If one rereads the interrogation in our text in the light of these two paragraphs, one will see how deductive inference and analytic insight into concepts are called into play just as far as they can within the practical limitations of the occasion (dealing with a boy utterly ignorant of the vocabulary and method of geometry, and getting results with a speed consistent with the dramatic tempo of the dialogue). Thus the correction of the two mistakes 83A-E is for all practical purposes a proof that the two erroneous propositions (that the side is 4 feet or that it is 3 feet) are inconsistent with the theorem that the area of a square with side x feet long must be x^2 square feet. Given more time Socrates could surely have got the boy to grasp a formal proof of this theorem of a sufficiently rigorous sort to pass contemporary mathematical standards. So far from giving this proof, Socrates does not even give a general statement of the theorem, and for the simple reason that even to get the boy to understand such a statement would take longer than the dramatic time-budget allows. For the same reason he does not take time to dot the i's and cross the t's of items which are matters of conceptual insight. Thus the only feature of a square mentioned at the start is the equality of its sides, this being enough to get the boy's mind moving in the right direction toward the major objective, i.e. to come in view of the concept of superficial (in contradistinction to linear) magnitude, since everything in the sequel will depend on the boy's ability to see the difference between the size of an area, with its two parameters of length and breadth, and that of one-dimensional magnitudes. The boy cannot even understand Socrates' question, let alone get into position to attempt its solution, until he gets some inkling of this difference. When the question is first put to him at 82C 5-6, "Now look at it this way: If this line were 2 feet long and that

Part Two: The Theory

The nearest Plato comes to telling us why the process we have been describing is recollection (without quotation marks) is in the two statements that

- (a) had the boy continued the "recollecting" process to the finish he would have "himself recovered knowledge [from] within himself," 85D 4, and
- (b) the "recovering by oneself knowledge that is within oneself is recollection," 85D 6-7.

These two statements make clear the middle term Plato is offering us between the data and the theory: given, on one hand, the indisputable fact that we do acquire knowledge and, on the other hand, the proposed theory that this takes place because the truths we come to know are recollected, the whole burden of convincing us of this "because" falls on the contention that these truths come from "within" us. What can be meant by this contention?

Plato talks as though its meaning and truth will be obvious once it is seen that the truths learned by the boy have not been taught him by Socrates or by anyone else. Here "teaching" is being used, with typical Socratic effrontery, in a wholly untypical way. How very special is this sense becomes clear when we notice that even telling the boy the true answer is not allowed to count as teaching it to him! To put a question to someone who has never heard the right answer, and then, noting that he has no inkling of it, to proceed and lay it out before him, saying, 'this is the right answer, isn't it?,' is not supposed to be "teaching." Why not?—Because if Socrates, having said, 'p is true, isn't it?,' says no more, the judgment that p is true must be made on the boy's own responsibility. He cannot shift the responsibility on Socrates because he cannot cite Socrates' attitude toward p as evidence for its truth. Socrates

line also 2 feet, how big would be the whole [square, i.e. its area]?," he is stumped.

²⁹ Untypical not only for common usage (as is obvious), but also for Plato's own: so far from thinking "teaching" (rightly understood, as dialectic) incompatible with "learning," he distinguishes (Gorg. 454E) rhetoric from "teaching" (διδασκαλικής, 455A 1) as producing respectively "belief" (πίστις) and "knowledge" (ἐπιστήμη) and, conversely (Tm 51 E) nous from true belief as produced respectively by "teaching" (διδαχής) and "persuasion."

makes sure of this both by instructing him, "Answer just what you think," 83D 2, and also by the more painful method of laying booby-traps for him along the way which teach him that he cannot rely on Socrates to make the right suggestions to him: he cannot adopt toward Socrates the attitude an inexperienced mountainclimber can and does adopt toward an experienced guide. If the climber sees or guesses that his guide wants him to take a certain path, he is entitled to use this as good evidence of its being the right path. By misleading him badly a couple of times, Socrates makes the boy realize that he is not entitled to the same assumption. Thus one avenue along which he might have looked for evidence—that open to the pupil who is only told truths by his teacher and is therefore always in a position to say on empirical grounds, 'this is likely to be true because teacher said so'-is decisively blocked by Socrates' tactics. The reason for any of the propositions cannot, therefore, be sought in the teacher.

Where then is it to be sought?—"Within oneself," says Plato. Why so?—Because "in" one are the already known propositions from which one can derive knowledge of others, hitherto unknown, merely by seeing that they are entailed; and "in" one are the familiar concepts whose logical structure one need only understand more clearly in order to come to know axiomatic truths and correct definitions. This not only brings full lucidity to the mock-darkness of the claim that Socrates is not "teaching" but also lets in some light to the real darkness of the saving that what the boy is learning "he himself recovers from within himself." For "learning" here is not just a matter of increasing his stock of true beliefs, but of acquiring knowledge, that is to say, true beliefs logically bound to the reasons for their truth.30 Hence the dark saying has at least the following sense: new beliefs become knowledge for him when he comes to see what is implied by propositions and concepts which were already in his mind. 31

³⁰ Cf. A. E. Taylor's comment on Tm 51D 3 in Commentary to Plato's Timaeus (Oxford, 1928), 338-39.

³¹ Cf. Leibniz's use of expressions like "prendre de chez soi," "tirer de son propre fonds," for our coming to know necessary truths, and of the mind (or the understanding) as the "source" of these truths: Nouveaux essais sur l'entendement humain, Book I, Chapter I, Section 5.

I say, "at least" this sense, for to suggest that Plato means no more than this would be a travesty on his text. But this more can wait a moment longer while we explore more fully the minimum sense now before us.

The expression "within oneself," i.e. in one's mind, is significant in this context only because of the implied contrast with what is outside one's mind. Well, what is "outside" the boy's mind? Socrates, for one thing: if he got knowledge from Socrates, this would refute the claim that he recovered knowledge from "within" himself. But Socrates is a small, if energetic, part of this "outside." and learning from Socrates only a local and ephemeral instance of getting knowledge from "external" sources, if such there were, For the vast majority of men who have never even heard of Socrates and for the boy himself through most of his life the only thing seriously worth discussing as a likely source of knowledge "outside" the mind would be the whole of the physical universe as apprehended by the senses. Though the expression, "the external world," had not yet been invented, philosophers had talked and thought in similar terms. Thus Empedocles, when he spoke of sight, hearing, and taste as "duct(s) for understanding" ($\pi \acute{o} \rho o s \ldots$ νοησαι, B 3, 12), was evidently thinking of the sensible world as a reservoir of information outside us, whence knowledge might flow into us through the senses. With this we may compare the saying of Democritus that "for all of us belief is inflowing," (ἐπιρυσμίη ἐκάστοισιν ἡ δόξις B 7) and his talk of sensory stimuli as "coming upon us" (ἐπεισιόντων, Β q) and Plato's talk of sensory impulses "borne from the outside and falling upon" the soul (ἔξωθεν αἰσθήσεις φερόμεναι . . . προσπεσοῦσαι, Tm 44A). With this conception of sense-experience as a one-way traffic from the world into the soul familiar to Plato³² and incorporated, through the assimilation of its metaphors, into his own thought and speech, his assertion that to acquire knowledge is only to recover what is already "in" us could not but have the force of an implicit denial that knowledge can be acquired by sense-experience, 33 And so far as the

³² Cf. the empiricist theory of the origin of knowledge which is mentioned as a part of the teaching of the natural philosophers in the *Phaedo* (96B).

³³ This is precisely what Leibniz takes to be the point of the expressions in n. 31 above, alluding specifically to Platonic anamnesis: "... on doit dire que

acquisition of knowledge here is the securing of evidence for propositions, the implicit part of the minimal sense of Plato's formula is equivalent to the denial that sense-experience can, or need, provide the slightest evidence for propositions known in the special way in which knowledge is here construed: demonstrative knowledge. Thus in this very dialogue and, so far as we can tell from our sources, for the first time in Western thought, deductive knowledge, broadly conceived so as to include all of mathematics and much more besides, is freed completely from evidential dependence on sense-experience.

In saying that this happens for the first time we need not be unmindful of its antecedents nor belittle the achievements of Plato's predecessors in order to exalt his. We need only point out that, while others had prepared the way for Plato's discovery, no one had fully anticipated it. The Greek mathematicians had learned how to construct deductive proofs by the fifth century at the latest, and Plato himself gives them credit, as we saw above, for not counting the sensible properties of their figures evidence for their theorems. But it is one thing to achieve such a working method, quite another to reflect upon it so as to state its rationale and show what this has in common with formal inferences whose subject matter is as different as are the concepts of father and son, justice and virtue, from lines and numbers. A philosophical declaration of independence of rational thought from senseexperience had been made, and in the strongest terms, a hundred years before Plato by Parmenides. But he and his disciples paid a fantastic price for this emancipation. They won it by consigning to illusion not only the whole of the physical universe, but also the whole domain of mathematics³⁴—a consequence seldom realized by historians of philosophy who, with unwitting irony, have often cast Zeno in the role of the purifier or even savior of

toute l'arithmétique et toute la géométrie sont innées et sont en nous d'une manière virtuelle, en sorte qu'on les y peut trouver en considérant attentivement et rangeant ce qu'on a déjà dans l'esprit, sans se servir d'aucune vérité apprise par l'expérience ou par la tradition d'autrui, comme Platon l'a montré [in the interrogation of the slave-boy in the Meno]," loc. cit., my italics.

³⁴ This would follow, regardless of their other doctrines, from their denial of plurality.

Greek mathematics.³⁵ There still remain the Pythagoreans. But before we can say that they anticipated Plato in this doctrine we must have evidence that, at the very least, they held it themselves. And there is no such evidence. Moreover if they had really made such an important discovery it could not have remained unknown to Aristotle who, given his penchant for making historical linkages and comparisons, would have left us some indication, however slight, that Plato borrowed from them the doctrine that learning is recollection. But though he is well acquainted with this doctrine, and turns aside to refute it, he ascribes it to no one but to Plato, and to him directly, referring by title to the Meno.³⁶ So those historians³⁷ who tell us that Plato derived this doctrine from the Pythagoreans are making excursions into historical romance.

What the Pythagoreans did hold, and not only they but Pythagoras, is the doctrine of transmigration. But the connection of this with Plato's doctrine of recollection is so loose that one can believe in transmigration without believing in anything which includes that minimal sense of recollection I have just been discussing, indeed without having the slightest inkling of it. A doctrine of recollection was a prominent feature of the Pythagorean belief

³⁵ E.g. Paul Tannery, Pour l'histoire de la science grecque (Paris, 1877), 254; La Géométrie grecque (Paris, 1877), 124; H.-G. Zeuthen, "Sur les livres arithmétiques des Éléments d'Euclide," Oversigt det Kongelike Danske Videnskabernes Selskabs, Forhandlinger, 1910, 395 ff. at 432-34; F. M. Cornford, Plato and Parmenides (London, 1939), 58-61; H. Hasse and H. Scholz, "Die Grundlagenkrisis der griechischen Mathematik," Quellenhandbücher der Philosophie (Berlin, 1928). Contra: B. L. van der Waerden, "Zenon und die Grundlagenkrisis der griechischen Mathematik," Math. Annallen 117 (1940-41), 141 ff.; G.E.L. Owen, "Zeno and the Mathematicians," Proc. Arist. Soc., 1958, 199 ff. 36 Pr. Anal. 67A 21-22; cf. also Post. Anal. 71A 1-B 8: 99B 25-34. Cf. H. Cherniss, Aristotle's Criticism of Plato and the Academy (Baltimore, 1944), 69 ff. and notes.

³⁷ According to A. E. Taylor it had been "the mathematician-saint Pythagoras" himself who had converted the theological doctrine of the transmigration of the soul "into a theory of the a priori character of mathematics," Plato, 186, n. 2. For a sane discussion of the historical question see L. Robin, "Sur la doctrine de la reminiscence," Rev. des Études Grecques 32 (1919), 451-61; but Robin is confused on the point to which I called attention in n. 11 above: he says that Plato "suppose que nous naissons avec des connaissances toutes faites... les seules qui soient dignes de ce nom," 460.

in transmigration, at least to the extent of crediting Pythagoras himself with the power to recover knowledge acquired in previous incarnations. (See Xenophanes B 7; Empedocles B 129). And if claimed for Pythagoras it might well have also been claimed for other charismatic figures. It is reasonable to assume that Plato knew all this and hence to say that he borrowed a doctrine of recollection. But what would this borrowing come to? That some great souls had the marvellous power to recollect what they had learned in former incarnations. Let us magnify this borrowing beyond anything warranted by the evidence and all it still would come to would be this: that every soul had such powers. And this would not even approach Plato's doctrine, unless we were to add that these powers were connected with learning in the here and now, and so connected that the acquisition of all new knowledge is recollecting. This doctrine, the only one that would deserve mention in a history of the theory of knowledge, let alone mention as a milestone in this theory, is the product of Plato's genius and of his alone.38

In this encounter with Pythagoreanism I have already gone beyond what I have been calling the "minimal sense" of the Platonic doctrine. To reckon with this doctrine as a whole let me simply itemize the main essential points:

(I) The full-strength doctrine carries not only the implication that non-empirical knowledge can exist but also, unfortunately, that empirical knowledge can not exist. This latter thesis could be sugar-coated with the plea that since Plato is willing to admit what we call "empirical knowledge" under the name of "true belief," nothing is changed except the name. But we should give Plato credit for engaging in more serious business than the reallocation of verbal labels. In refusing the term "knowledge" to propositions of ordinary experience and of the observational sciences Plato is downgrading quite deliberately those truth-seeking and truth-grounding procedures which cannot be assimilated to deductive reasoning and cannot yield formal certainty; and this has enormous implications, theoretical, and also practical ones, as can be seen in the exclusion of disciplines like medicine,

³⁸ Cf. Gulley, 18.

biology, and history from the curriculum of higher learning in the *Republic*.

- (2) Where p, hitherto not known, becomes known through the perception of its entailment by q, the full-strength doctrine of recollection holds not only that q is known (ex hypothesi), but also that p is similarly "recovered from within" the soul. This is indeed the whole point of saving that p is recollected (without quotation-marks). And having said this, Plato does not cast about for some way of unsaying it. He does not qualify his claim, as would Leibniz, by making p only virtually known at this earlier time. Nor does he try to pass it off by saying, as a modern analytical philosopher might in such a fix, that all he is pleading for is an extension to more complex and involved entailments of the admission, common enough for simple and direct entailments from q to p, that he who knows q can also be said after a fashion to also know b (as e.g., if I admit that I know that Lucy is Mary's mother, I would have a hard time convincing a jury I did not know that Lucy is older than Mary). Plato gives no sign of such backing-away tactics. He is excited, not frightened, by the strange landscape to which his imagination has transported him and is more anxious to explore it further than to keep close to escaperoutes back to the safety of the old world.
- (3) The exploration of the consequences of the full-strength theory of recollection is so closely related to the creation of the Theory of Ideas that it can even be said to determine the main features of this theory. The first question Plato would have to put to himself when he finished writing the *Meno* is the very one raised by Leibniz:³⁹ to say that we acquire knowledge by recovering knowledge we acquired at some earlier period or periods, no matter how remote, is simply to raise all over again the problem how this earlier knowledge itself was gained. That Plato thinks of the Theory of Ideas as the answer to this question we know from later dialogues, *e.g.* the *Phaedrus* (247C-E; 249B-C). And we know of no other answer that occurred to him, or that would have been likely to occur to him at this historical stage of philosophical

³⁹ Nouveaux essais sur l'entendement humain, Book I, Chapter I, Paragraph 5.

reflection. Had he emancipated himself completely from the tendency to assimilate understanding to the pattern fixed by the model of sense-perception, and to think of general truths reaching the mind by vision (though purely intellectual and intuitive) of objects (though purely incorporeal, beyond time and space), he would have assayed other alternatives. But that emancipation was not won even by Aristotle after him, or even by Epicurus. Without it, it seemed a reasonable solution to the problem of the primordial education of the soul to construct suitable objects for the inspection of a discarnate mind. The Platonic Form is built to the specifications of this project. Then, faced with the fact that knowledge thus gained beyond the Cave is so useful when recollected within it that one who has recovered it will be able to "see a thousand times better" (Rep. 520C) in the Cave, once he has got used to its darkness, than those who never left it. Plato solves this problem by postulating, so very reasonably it would seem, that the world seen by the eye is an "image" of the world seen by the mind, inexact to a degree, but faithful enough to vield physical applications of ideal truths. Thus the requirements of the doctrine of recollection, once satisfied in the Theory of Forms, suggest the broad design of the Platonic cosmology; they do the same for Plato's moral theory and for his interpretation of the experience of love and of the sense of beauty in ways which will suggest themselves to those familiar with the Republic, the Symposium, and the Phaedrus.

- (4) What made this whole doctrine possible for Plato is obviously the belief in reincarnation. Plato marks this as a religious faith on first announcing it in the *Meno* by saying he heard it from "priests and priestesses who make it their business to be able to give reason for the rites they perform" (81A). Though this does not preclude the possibility that he heard it also from Pythagorean philosophers, it makes clear that reincarnation is not for Plato a theoretical speculation. He chooses to relate it to rites of worship and invests it with that intense religious feeling that is to pulse through the myth of the *Phaedrus*. Of this faith, just three things:
- (a) It is faith, not dogma, using myth as its favorite vehicle, and feeling free to create and re-create its own myth.

- (b) It is a personal faith, maintained in all probability without affiliation with any organized cult, at any rate in Athens.
- (c) While derivative at the core it is in important ways a new faith, differing from surviving samples of its source in ways which would affect profoundly the substance of its piety. It is wholly free, for instance, of the sensationalism and magic of popular Orphic practices which are denounced in the Republic (364B). It appears to good advantage even when compared with the most exalted surviving transcript of the faith in reincarnation, the Purifications of Empedocles. The commission of a horrible crime by a god-like soul to start off the cycle of rebirth, hence the conception of human existence as expiation for the delinquency of a prehuman being and the recovery of its supernatural powers—all this is lacking in Plato. Man is created man in the beginning, and is akin to god not in magical power but in his specifically human attributes, his knowledge, his moral sense, his love of beauty.

The theory of recollection in the Meno is the work of a profoundly religious spirit united with a powerful philosophical mind. Those who come to our text without sympathy for its religious inspiration are apt to look at this union with annoyance and to think that Plato might have been a great philosopher or, at any rate, a good one, had it not been for his religion. The results of this paper, they may then think, fully confirm this feeling. For do they not come to this: that when the data of the theory are analyzed as they have been here, they exhibit a process of inference and insight which can be described very well by Plato's theory, provided only it be stripped of just those features of it which are directly assignable to its religious provenance? But before we settle on this conclusion, might we not ask ourselves this question: Is there any good reason to think that, without the special perspective of the belief in transmigration, Plato would ever have looked at those data in the particular way which issued in his epochal discovery: that of knowledge which needs no confirmation from sense-experience and admits of no refutation from it? The point is not so much that others, fully familiar with such data, had failed to make this discovery, but that Plato himself had not come within sight of it, though he had been thinking philos-

ophy and writing it for a decade or more by this time according to the received chronology. The faith in reincarnation is not mentioned, or even alluded to, in any dialogue before the *Meno*. If, as seems likely, it is at or near this time that Plato came by this faith, can we reckon it a pure coincidence that the philosophical discovery is presented in the same dialogue and that the form in which it is cast is the doctrine of recollection—the full-strength doctrine of the *Meno*?⁴⁰

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