Laval théologique et philosophique

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Volume 26, numéro 1, 1970

URI : https://id.erudit.org/iderudit/1020150ar
DOI : https://doi.org/10.7202/1020150ar

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Éditeur(s)

Laval théologique et philosophique, Université Laval

ISSN

0023-9054 (imprimé)
1703-8804 (numérique)

Découvrir la revue

Citer cet article

Thomas, J. E. (1970). A Re-examination of the Slave-boy Interview. *Laval théologique et philosophique*, *26*(1), 17–27. https://doi.org/10.7202/1020150ar

A RE-EXAMINATION OF THE SLAVE-BOY INTERVIEW [1]

J. E. THOMAS

"Tell me," said Faraday to Tyndall, who was about to show him an experiment, "tell me what am I to look for?"

When a writer submits an article to a journal on a theme as well-worn as the slave-boy interview in the *Meno*, the reader has a right to be informed at the outset what burning questions prompted the writer to take pen in hand to make yet another contribution to the ever growing Platonic corpus. I shall try to oblige in the hope that the reader shares my worries. If not, he can be spared the effort of reading this paper and promptly proceed to the next article.

Despite the excellent contributions to the understanding of *Meno* 80c-85b that have appeared in recent years,[2] I still find myself puzzled by the following questions: (1) "Exactly what question was Plato trying to answer in the conversation with the slave-boy?", (2) "Can the interview be regarded as unity?" and (3) "If the conversation is a unity, how does one account for the abrupt shift from preoccupation with the length of the side of the eight-foot square to the introduction of the diagonal?"

So much for the questions which prompted this paper. I must mention also that the recent appearance of M. S. Brown's prize-winning essay entitled "Socrates Disapproves of the Slave-Boy's Answer"[3] provided the final inspiration for this present paper. My admiration for the ingenious view developed by Mr. Brown

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[1] I wish to acknowledge the helpful criticism of Professor Francis Sparshott of Victoria College, Toronto and of my colleague Professor Constantine Georgiadis of an earlier draft of this paper.

[2] R. E. ALLEN, "Anamnesis in Plato's Meno and Phaedo", *Review of Metaphysics*, Vol. XXI, 1967; R. S. BLUCK, *Plato's Meno*, Cambridge University Press, 1961; N. GULLEY, "Plato's Theory of Recollection", *Classical Quarterly*, Vol. IV, 1954; R. M. HARE, "Philosophical Discoveries" in A. SESONSKE's and N. FLEMING's *Plato's Meno*, California, Wadsworth Publishing Co.; J. KLEIN, *A Commentary on Plato's Meno*, Chapel Hill, 1965, pp. 88-90; and J. E. RAVEN, *Plato's Thought in the Making*, Cambridge University Press, 1965.

is only surpassed by my conviction that he is wrong. In Mr. Brown's article it is argued that the conversation with the slave-boy is not a unity, indeed Plato is really concerned with two distinct questions. The first question is a substantive one, namely, "How to double the square of a side of two units?", and the second question is a procedural one, "How, if at all, can an answer be found by one who does not know it?"[4] In the slave-boy interview two attempts are made to answer this substantive (or so-called substantive) question. The first attempt, arithmetical in orientation, peters out with the boy's failure accurately to calculate the length of the side of the double square. This failure marks the impossibility of giving a τί-answer to the substantive question. The abrupt shift to geometrical considerations at 84a1 constitutes a transition to a ποῖον-answer. According to Mr. Brown, arithmetic is a model of a rigorous science while, by contrast, "geometry models a near science, a science still insecure on its foundations."[5]

In the pages that follow, while I shall refer to Mr. Brown's paper from time to time, I do not intend to undertake a systematic refutation of his position. I propose, rather, to examine the line of argument in the slave-boy interview and on the basis of internal evidence, show that it is a unity. Clearly, if this attempt is successful, Mr. Brown's major thesis is false. My remarks will be developed around the three questions cited above. If one can make some headway with (1) one is well on the way to answering (2). In the case of (3) I merely offer an alternative account of this break. A preoccupation with Plato's method at the expense of other important issues will be apparent to the reader. Indeed, in this regard I echo Mr. Brown's understatement... "The lesson is far from an unqualified failure ... it contains an important message about method."

I

The point of departure for the conversation with the slave-boy is the puzzle posed by Meno at 80d. When an *impasse* is reached in Meno's quest for an adequate definition of virtue, Socrates admits that he, like Meno, does not know what virtue is, but nevertheless professes a willingness to inquire along with him into its nature. Meno expresses surprise at Socrates' proposal:

> "And how will you inquire, Socrates, into that which you do not know? What will you put forth as the subject of inquiry? And if you find what you want, how will you ever know that this is the thing which you did not know? "

Recognizing the far reaching consequences of Meno's questions, Socrates recasts the puzzle in the form of a dilemma:

[3] M. S. Brown, "Plato Disapproves of the Slave-Boy's Answer", *Review of Metaphysics*, Vol. XXI, 1967.

[4] *Ibid*, p. 57.

[5] *Ibid*, p. 58.

(1) If a man has knowledge, then inquiry is superfluous, *and* if a man does not have knowledge, then inquiry is impossible.

(2) A man either has or does not have knowledge.

(3) Either inquiry is superfluous or it is impossible.

On examining Meno's original puzzle, one is struck by the direct link between it and the second conjunct of (1) in the above dilemma. It is also clear if one were to discover a counter-example to the second conjunct of (1), then in one "fell swoop" scepticism would be averted and the dilemma rebutted. If I understand correctly what is going on in the conversation with the slave-boy, then this is a critical tactical move in the dialectical refutation of Meno's position. The most important lesson of the slave-boy interview is that it is possible for one to seek for what one does not know.[6]

II

I begin with the distinction drawn by Mr. Brown referred to above. The slave-boy interview, he informs his readers, is concerned with two questions, a substantive question:

(1) How to double the square of a side of two units? and a procedural question:

(2) How, if at all, can the answer be found by one who does not know it?[7]

Mr. Brown then goes on to point out . . . "the lesson is far from an unqualified failure, since despite its lack of substantive result, it contains an important message about method."[8] Since I concur with the view that the slave-boy interview "contains an important message about method", I shall concern myself here with the first question.

In the first place, contrary to Mr. Brown, (1) does not seem to be a substantive question even in terms of his own acknowledged criterion. It does *not* conform to the *ti esti* form. Secondly, I experience some difficulty also in pinpointing the substantive question in Mr. Brown's article. There seems to be at least two candidates, (1) above and

(3) What is the length of the side of a square double the area of a square with a side of two units?

It is true that Plato did not answer (3); that is to say, he does not state the *exact* length of the side of the double square. From this admission, however, it does not follow that (1) is a substantive question or that failure to answer (3) is tantamount to a failure to answer (1). Furthermore, (3) itself barely qualifies as

[6] I am concerned only with Socrates' attempt to show that it is possible to search for, and find, the unknown object, not with *how* it is possible, whether recollection, inference or what have you. It should be made clear, however, that depending on the view adopted, a distinction will have to be drawn between implicit and explicit knowledge or between implication and inference. If one opts for recollection as an answer to the "how" question, (i.e. "How is it possible to seek for what one does not know?") the locution "seek for what one does not know" will have to be understood to mean "seek to make explicit knowledge which is implicit".

[7] *Ibid.*, p. 57.

[8] *Ibid.*

a *τί*-question. It certainly expresses none of Plato's concern with the essence or nature of things. To avoid falling prey to the ambiguity of (1) I advocate unpacking its meaning in terms of (3) and

(4) How does one construct a square double the area of a square with a side of two units?

If by (1) Brown means (4) I agree that Plato did try to answer *this* question but deny that it is a substantive question. The connection between (3) and (1) will be dealt with later. I shall concentrate here on trying to show that Plato was trying to answer a question of the form "How to. . . " rather than "What is. . . ". If, as I believe, (4) is the question Socrates poses in the slave-boy interview, then the unknown object of search is the piece of information to which the boy is finally led — A square double the area of a square with a side of two units is constructed on the diagonal of the square (with a side of two units). This way of expressing the matter, though somewhat cumbersome, is clear. Socrates could just as easily have asked "How to double a square x?", were it not for the fact that the assignment of a unit length to the side of the original square plays another more important role than that of merely distinguishing the original (four-foot) square from the double (eight-foot) square. While it is true Socrates did not announce at the beginning of the interview that the boy and he were going to seek the answer to (4) this omission is in keeping with his method. The question and the answer tend to emerge together. Indeed, one of the morals of the lesson is that a well-formulated specific question is well on the way to being answered.

If (4) is the crucial problem of the interview, what answer could be more natural than "One doubles the square of a side of two units by constructing a square on the diagonal of that square (with a side of two units)"? Since the diagonal figures in the final answer to (4), the reader must be on the alert for its introduction as a subsidiary object of search in the section 82d-84d. Concomitant with the introduction of the diagonal one also witnesses the emergence of a question which is subsidiary, though related, to (4). The question is — "From what line is the double figure (i.e. the eight-foot square) constructed?" It becomes apparent that the object sought is a line. Socrates' procedure is interesting here. The diagonal is introduced *via* the more generic concept of a line (*γραμμή*) in such a way that the boy becomes progressively aware of the fact that he is looking for a line of some sort. Attention is first focussed on the line when Socrates asks of the side of the eight-foot square at 82d 8-9, "How long will the side of that figure be?" (*πηλίκη τις ἔσται ἐκείνου ἡ γραμμὴ ἑκάστη*). The line sought is not identified as the diagonal until 85b 5-6. Between 82d and 84d, however, there are repeated references to confirm that the unknown object of search is a line (cf. 83e 5-6, 82e 14-83a 1, 83a 3-4, 83a 6-8, 83b 8-c 1, 83c 5-6, 83c 7-8). It is clear from these references that *ἡ γραμμή* is the grammatical subject of this part of the conversation.[9]

[9] I do not mean to imply that we can be clear about Socrates' procedures without the aid of the diagrams he draws. The descriptive account complements rather than conflicts with the use of diagrams. From time to time Socrates attempts to tie down his remarks to the diagrams he draws in the sand.e.g. *γιγνώσκεις τετράγωνον χωρίον ὅτι τοιοῦτόν ἐστιν*; (82b 10), *τὰς γραμμὰς ταύτας* (82c 1), *ἀπὸ ταύτης* (85b 2).

Special mention needs to be made of the references to the line at 83e 9ff. It is readily admitted that the occurrences of ὁποία and ποία up to this point are primarily concerned with the length of the side of the double-square, that is to say, when Socrates asks "What line?" up to this point he is asking "What length of line?" This point is confirmed by Socrates' demands: "Try to tell us accurately" (πειρῶ ἡμῖν εἰπεῖν ἀκριβῶς) and "if you do not wish to calculate [it]" (εἰ μὴ βούλει ἀριθμεῖν). Nevertheless, even though the first occurrence of ποίας at 83e 11 is concerned with the length of the side of the double square, the second occurrence at 84a 1 is not. The injunction "indicate from what [line we get the eight-foot square]" (ἀλλὰ δεῖξον ἀπὸ ποίας) would be nonsense if the side of the eight-foot square were intended. This passage marks the transition from preoccupation with the line introduced at 82d 8-9 (the length of which is incalculable) to another line which, as I shall try to show later, has something in common with it.

This, however, is not the whole story. The boy is not only made aware that the object of search is a line of some sort, he is also led to see that the line sought is one on the basis of which he can construct (γίγνεσθαι) the double square. For confirmation of this point see especially the texts cited above in support of the view that the object sought is a line. The reader should be on the alert for contexts in which γίγνεσθαι is omitted but nevertheless understood. This stress on a line from which the double square *is constructed* confirms that Plato was concerned with a question of the form "How to . . ." rather than "What is . . .", and this in turn lends support to the view that (4) rather than (3) comes closer to articulating the crucial problem of the slave-boy interview.

The question "From what [line do we get the eight-foot figure]?" marks the shift to the final stage in the interview in which the unknown object of search (ἡ διάμετρος) is, as it were, finally unveiled. That the shift is abrupt cannot be gainsaid. This is so even when the restrictions imposed by ἀκριβῶς and ἀριθμεῖν are dropped and the demand reformulated to read . . . "at least *indicate* from what [line we get the eight-foot square]" and also despite the rather skillful way in which the diagonal is first described, then pointed out, and finally labelled. The diagonal is:

(a) *described* — at 84e 5 and 85b 3 as the "line cutting/stretching from corner to corner" (γραμμὴ ἐκ γωνίας εἰς γωνίαν τέμνουσα/τείνουσα).

(b) *pointed out*. The ego-centric phrase ἀπὸ ταύτης at 85b 2 is presumably accompanied by a gesture. This constitutes a direct response to δεῖξον at 84a 1.

(c) *labelled*. "The experts call it the diagonal" (Καλοῦσιν δέ γε ταύτην διάμετρον οἱ σοφισταί) This is the closest Socrates comes to imparting knowledge in the style of the Sophists. It should be noted, however, that the label is introduced subsequently to the identification of the line by description and by pointing — 85b 4.

III

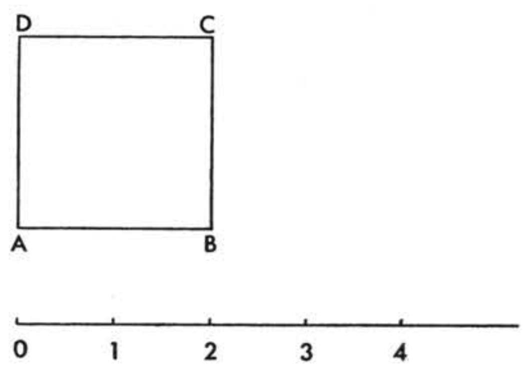
The abruptness of the shift from engrossment with the length of the side of the double-square to the introduction of the diagonal has been acknowledged. Indeed, the crucial text at 84a 1 εἰ μὴ βούλει ἀριθμεῖν ἀλλὰ δεῖξον ἀπὸ ποίας [γραμμῆς] which marks the shift, constitutes the keystone of Mr. Brown's division of the interview into the two distinct excerpts, each concerned with a separate question.

Certainly the text cited embodies a curious break in the argument. This admission indicates the extent of my agreement with Mr. Brown. I offer, however, a different account of the break. After painstakingly leading the boy to the knowledge that the length of the side of the double square cannot be computed,[10] no use is made of this piece of information in solving the original problem expressed in (4). What one finds surprising is Plato's failure to capitalize on the factor common to both the double (eight-foot) square and the original (four-foot) square, namely, that the side of the former and the diagonal of the latter cannot be computed.

A smoother transition from *καὶ εἰ μὴ βούλει ἀριθμεῖν* to *ἀλλὰ δεῖξον ἀπὸ ποίας* (84a 1) could have been effected if Plato had only capitalized on the boy's recognition that the length of the side of the double square could not be computed. This could have been done by simply expanding the dialogue between 84d 3 and 84d 4 in the following way:

Socrates: ". . . and be on the watch to see if at any point you find me teaching him or expounding to him, instead of questioning him on his opinions." [84d 3].

"Now, boy, consider our original two-foot square again. Let us place it alongside a measured line as follows:



Boy: "All right, Socrates."

Socrates: "We saw that the four-foot line did not yield the eight-foot square, did we not?"

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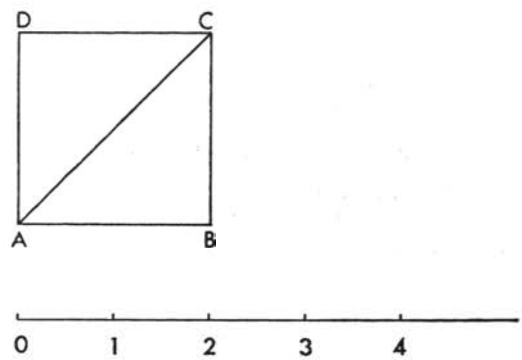
[10] I realize that this is a debatable point. It could be argued that all the boy knows is that the number he is after is more than two, less than four, but not three. I suspect, however, his perplexity goes deeper than that. The moves open to him in terms of rational numbers have been completely eliminated. It is his utter inability to envisage any other moves that constitutes the source of his perplexity. This is not of course to impute to the boy an awareness of the incommensurability of the side of the double square. The boy's inability to compute the length of the side of the double square falls between the extremes of attributing to him only negative bits of knowledge (the length is not four, not two, not three), on the one hand, and the full blown claim on the other that he was aware of its incommensurability. Indeed, recognizing the boy's perplexity at 84a 1, Socrates relaxes the demand from compute (*ἀριθμεῖν*) to indicate (*δεῖξον*). It would be difficult to explain this relaxation if the boy were not, in fact, trying to compute the length of the line.

Boy: "We did."

Socrates: "We also saw that the three-foot line failed to yield the eight-foot square."

Boy: "True."

Socrates: "Let us now return to Figure 1 and draw a line stretched from corner to corner (A to C) as follows:

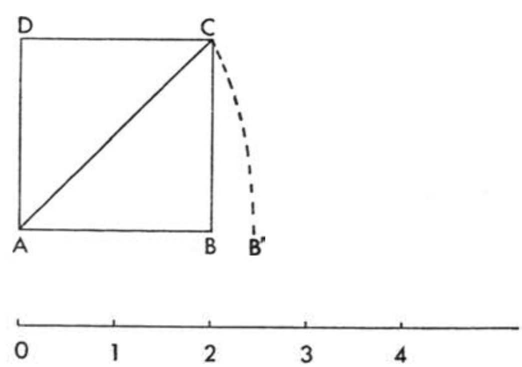


Boy: "What purpose does *that* serve?"

Socrates: "Be patient. Let us now cut a stick exactly the length of A – C."

Boy: "I haven't the faintest idea where all this is leading."

Socrates: "You will in a moment. Now let us place the stick along the line A – C and then holding the end of the stick steady at A move the other end at C to the following position [B′]:



Boy: "Very interesting. But what does that show?"

Socrates: "You can see, can't you, that this point [B′] falls between 2 and 3?"

Boy: "I do."

Socrates: "Doesn't that suggest anything to you?"

Boy: "It doesn't."

Socrates: "By our previous agreements would you not agree that the length of the side of the double-square falls somewhere between 2 and 3?"

Boy: "I do not understand."

Socrates: "Well, you remember that a side of two feet yields a four-foot square."

Boy: "I do."

Socrates: "And a side three feet in length yields a nine-foot square."

Boy: "True."

Socrates: "Then the side of the eight-foot square must fall somewhere between 2 and 3 (since eight is less than nine and more than four)."

Boy: "I see what you are getting at, Socrates. I agree."

Socrates: "So the length of the side of the eight-foot square and the line I have just introduced [the line from A – C] have this property in common, they fall somewhere between 2 and 3 feet in length."

Boy: "That is true."

Socrates: "So unless it is a coincidence that both of these lines fall between 2 and 3, then it is possible that the line I have just introduced is the line that will yield the double-square."

Boy: "It is possible, but I would like to be convinced that this is so."

Socrates: "And convinced you shall be. Tell me, boy: here we have a square of four feet, have we not? You understand?... [Continue conversation at 84d 4].

The slave-boy interview can now be reconstructed as follows: Socrates begins

(a) by introducing the side of the double-square;
(b) shows that its length falls somewhere between two and three feet — i.e. is incalculable in terms of rational numbers;
(c) suggests that there is another line which will yield the double-square;
(d) introduces the boy (and the reader) to the diagonal, the length of which, like the side of the double-square, falls between two and three feet. This prepares the boy for the final identification of the diagonal (a line which falls between two and three feet will do the job);
(e) the final identification of ἡ διάμετρος;
(f) the identification of the square on the diagonal as an eight-foot square removes the boy's doubt that the diagonal, the length of which falls between two and three, is the same length as the side of the eight-foot square.

An objection to step (d) arises. Only on the basis of a faulty inference could the boy infer because the length of the side of the double-square and the length of the diagonal fall between two and three feet that they are of equal length. Two considerations are relevant to this objection: (i) The reconstructed portion of the dialogue was undertaken, among other things, in the interests of pedagogical smoothness. By psychological association the boy would be led, whether consciously or unconsciously, to identify the two lines. (ii) In the present context, even if the inferential leap is made, no error occurs because the lines are identical in length.

Even if the boy jumps to the conclusion that the diagonal and the side of the double-square are of equal length, the inference will lead to a true proposition. Furthermore, (f) provides an effective check on the initial conjecture that x is the same length as y. Later, when one undertakes to lead the boy from true opinion to knowledge [the sort of thing hinted at at 97dff.] one could point out that although the inferential leap yielded a *bona fide* conclusion in the present experiment, there are other cases in which such reasoning would lead to falsehood.

IV

The objective of the present section is to show why Plato allotted a unit length to the side of the original square drawn by Socrates in the sand. Mr. Brown restricts the relevance of the unit length to the question, "What is the length of the side of the double-square?"

> "At the end of the lesson, the boy decides (with Socrates' help) that the given square is doubled by the square on its diagonal. That the given square has a side length of two units is irrelevant to this conclusion. The number of units in the side is relevant only to the arithmetical part of the lesson."[11]

That the assignment of a unit length to the side of the original square is relevant to the so-called arithmetical part of the conversation cannot be gainsaid. When one couples this move with the division of the square by means of transversals, the way is paved for the boy to arrive at the area of the square by the simple operation of counting (λογίζεσθαι). By the same method of counting, the area of the double (eight-foot) square is also determined. The area of the double-square (eight-foot) now furnishes a criterion by which false answers to the question "What is the length of the side of the double-square?" are eliminated. The length cannot be four feet unless $16 = 8$ nor can it be three feet unless $9 = 8$. When the boy is unable to answer this question in terms of rational numbers he is reduced to a state of *aporia*.

I wish to contest the claim, however, that the assignment of a unit length to the original square is not relevant to the final solution — the given square is doubled by the square on its diagonal. Indeed, at the conclusion of the interview, the figure of eight-feet constitutes the criterion by which the boy is able to judge the correctness of the final answer. After bisecting each of the four-foot squares (composing the sixteen-foot square) and encouraging the boy to do a little elementary arithmetic, Socrates inquires of the square on the diagonal "How many feet is this space?" (*τόδε οὖν ποσάπουν γίγνεται*) to which the boy answers "Eight" (*ὀκτώπουν*). It is only when the boy is convinced that the square on the diagonal is an eight-foot square (a square the size of the original double-square in the so-called arithmetical part of the conversation) that the success of the experiment is confirmed. It is not an accident when Socrates starts on a new tack at 84d 3-4 that he begins by drawing another four-foot square as in the first part of the lesson at 82b 9ff.

[11] Brown, *op. cit.*, p. 59, f.n. 3.

Twice I have referred to the "so-called" arithmetical part of the slave-boy conversation. The qualification "so-called" is based on the conviction that a numerical answer to the question "What is the length of the side of the double-square?" was never a serious object of Socrates' quest. If it appears that Socrates is pressing the boy for an answer to the "arithmetical" question, the pressure he exerts along these lines serves a subsidiary purpose. I view it as providing a rapid method for reducing the boy to a state of *aporia.* At least three reasons can be given for Plato's eagerness to produce a state of *aporia.* First, it serves an artistic purpose by matching Meno's "torpedo shock" at 80a. Secondly, Plato may at the time have regarded *aporia* a necessary stage in the process of recollection (ἀνάμνησις). Thirdly, it removes the boy's conceit of knowledge and furnishes an incentive to search for what he does not know.

Furthermore, the terminology used up to 84a 1 does not tend to support the view that Plato was looking for a precise answer to the question "What is the length of the side of the double-square?" It is noteworthy that Socrates does not ask πόση or ποσαπλασία ἐστί the side of the eight-foot square but πηλίκη. With regard to the line (γραμμή) in question, the boy is represented as failing to grasp that πηλίκη "hints at the non-numerical character of the expected answer"![12] Where numerical answers are possible it is interesting to note the terms used by Socrates. Notice, for example, the occurrences of πόσα at 85a 6 and 86a 7 to which precise numerical answers are given. The same is true of ποσαπλάσιον at 83b 7. Klein also points out that "the words 'τοσαύτης' (83c 8) and 'τοσησδί' (d 1) indicate that the length of these lines (i.e. the three-and four-foot lines) is countable".[13]

V

We have tried to show that one of Socrates' major concerns in the slave-boy interview is to show that it is possible to inquire after what one does not know. Unlike Faraday, Meno does not demand of Socrates at the outset of the experiment: "Tell me what am I to look for." Such an astute question might well have changed the whole character of the conversation. This does not prevent us from asking the question, however, nor from organizing the material in terms of what we consider to be Plato's objective. What Plato seems to be doing is to make the object of search progressively clearer as the conversation continues. At the conclusion of the interview the boy is in possession of a piece of information he did not possess at the beginning — a confirmation of the success of the demonstration. The identification of the diagonal as the unknown (if subsidiary) object of search tends to corroborate the view that the slave-boy interview is a unity. The reasons for assigning a unit length to the side of the original square also emerge during the course of the conversation. The final (and perhaps most important) reason for this assign-

[12] See J. KLEIN, *A Commentary on Plato's Meno*, (Chapel Hill: The University of North Carolina Press, 1965), p. 100.

[13] *Ibid.* p. 101.

ment does not become clear until the end of the interview. Clearly this would not be the case if the reasons for the assignment were exhausted in the so-called arithmetical part of the dialogue (ending at 84a 1).

The interpretation, offered in the preceding pages, also throws light on another facet of Meno's puzzle, namely, "And if you find what you are looking for, how will you recognize it as the thing which you did not know?" The boy is able to recognize the diagonal as the "unknown object" of search because Socrates, by judicious questions (in a manner roughly analogous to "twenty questions"), descriptively narrowed down the field of search. The boy is made aware that he is looking for a line of some sort, and (even more importantly) one which will yield (γίγνεσθαι) the double-square. Unless great care is exercised, the device of assigning a unit length to the side of the original square can lead to a *pis aller*. I have tried to show that Socrates was not seriously concerned with the precise numerical length of the side of the double-square. This fancy footwork in which Plato engages here ought not to blind the reader to the importance of the fact that the side of the eight-foot square cannot be computed — a characteristic it shares in common with the diagonal. But even if Plato fails to exploit this point for what it is worth, the fact that the assignment of a numerical length to the side of the original square provides the means by which the criterion for testing the truth of the final answer is determined, should convince the reader of the connection between the so-called geometrical and arithmetical parts of the dialogue — a telling point in favour of the unity of the conversation.