

From:

Plato's dialogue *Meno*.

Characters:

*Meno*

*Socrates*

*Meno's Boy, Anytus*

can teach you, when I say there is no such thing as teaching, only recollection. Evidently you want to catch me contradicting myself straight away.

MENO. No, honestly, Socrates, I wasn't thinking of that. It was just habit. If you can in any way make clear to me that what you say is true, please do.

SOCRATES. It isn't an easy thing, but still I should like to do what I can since you ask me. I see you have a large number of retainers here. Call one of them, anyone you like, and I will use him to demonstrate it to you.

MENO. Certainly. (*To a slave-boy.*) Come here.

SOCRATES. He is a Greek and speaks our language?

MENO. Indeed yes – born and bred in the house.

SOCRATES. Listen carefully then, and see whether it seems to you that he is learning from me or simply being reminded.

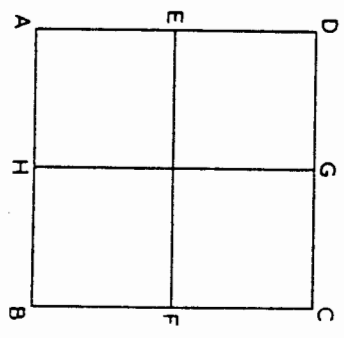
MENO. I will.

SOCRATES. Now boy, you know that a square is a figure like this?

(*Socrates begins to draw figures in the sand at his feet. He points to the square ABCD.*)

BOY. Yes.

SOCRATES. It has all these four sides equal?



BOY. Yes.

SOCRATES. And these lines which go through the middle of it are also equal? (*The lines EF, GH.*)

BOY. Yes.

SOCRATES. Such a figure could be either larger or smaller, could it not?

BOY. Yes.

SOCRATES. Now if this side is two feet long, and this side the same, how many feet will the whole be? Put it this way. If it were two feet in this

MENO. What do you mean when you say that we don't learn anything, but that what we call learning is recollection? Can you teach me that it is so?

SOCRATES. I have just said that you're a rascal, and now you ask me if I

direction and only one in that, must not the area be two feet taken once?

BOY. Yes.

SOCRATES. But since it is two feet this way also, does it not become twice two feet?

BOY. Yes.

SOCRATES. And how many feet is twice two? Work it out and tell me.

BOY. Four.

SOCRATES. Now could one draw another figure double the size of this, but similar, that is, with all its sides equal like this one?

BOY. Yes.

SOCRATES. How many feet will its area be?

BOY. Eight.

SOCRATES. Now then, try to tell me how long each of its sides will be. The present figure has a side of two feet. What will be the side of the double-sized one?

BOY. It will be double, Socrates, obviously.

SOCRATES. You see, Meno, that I am not teaching him anything, only asking. Now he thinks he knows the length of the side of the eight-foot square.

MENO. Yes.

SOCRATES. But does he?

MENO. Certainly not.

SOCRATES. He thinks it is twice the length of the other.

MENO. Yes.

SOCRATES. Now watch how he recollects things in order — the proper way to recollect.

You say that the side of double length produces the double-sized figure? Like this I mean, not long this way and short that. It must be equal on all sides like the first figure, only twice its size, that is eight feet. Think a moment whether you still expect to get it from doubling the side.

BOY. Yes, I do.

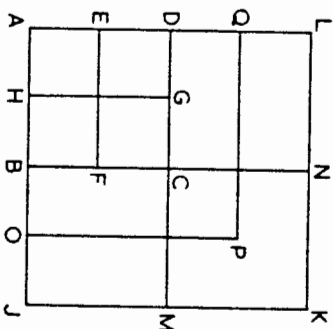
SOCRATES. Well now, shall we have a line double the length of this (AB) if we add another the same length at this end (BJ)?

BOY. Yes.

SOCRATES. It is on this line then, according to you, that we shall make the eight-foot square, by taking four of the same length?

BOY. Yes.

SOCRATES. Let us draw in four equal lines (*i.e.* counting AJ, and adding JK, KL, and LA made complete by drawing in its second half LD), using the first as a base. Does this not give us what you call the eight-foot figure?



BOY. Certainly.

SOCRATES. But does it contain these four squares, each equal to the original four-foot one?

(Socrates has drawn in the lines CM, CN to complete the squares that he wishes to point out.)

BOY. Yes.

SOCRATES. How big is it then? Won't it be four times as big?

BOY. Of course.

SOCRATES. And is four times the same as twice?

BOY. Of course not.

SOCRATES. So doubling the side has given us not a double but a four-fold figure?

BOY. True.

SOCRATES. And four times four are sixteen, are they not?

BOY. Yes.

SOCRATES. Then how big is the side of the eight-foot figure? This one has given us four times the original area, hasn't it?

BOY. Yes.

SOCRATES. And a side half the length gave us a square of four feet?

BOY. Yes.

SOCRATES. Good. And isn't a square of eight feet double this one and half that?

BOY. Yes.

SOCRATES. Will it not have a side greater than this one but less than that?

BOY. I think it will.

SOCRATES. Right. Always answer what you think. Now tell me: was not this side two feet long, and this one four?

BOY. Yes.

SOCRATES. Then the side of the eight-foot figure must be longer than two feet but shorter than four?

BOY. It must.

SOCRATES. Try to say how long you think it is.

BOY. Three feet.

SOCRATES. If so, shall we add half of this bit (BO, *half of B*) and make it three feet? Here are two, and this is one, and on this side similarly we have two plus one; and here is the figure you want.

(*Socrates completes the square AOPQ.*)

BOY. Yes.

SOCRATES. If it is three feet this way and three that, will the whole area be three times three feet?

BOY. It looks like it.

SOCRATES. And that is how many?

BOY. Nine.

SOCRATES. Whereas the square double our first square had to be how many?

BOY. Eight.

SOCRATES. But we haven't yet got the square of eight feet even from a three-foot side?

BOY. No.

SOCRATES. Then what length will give it? Try to tell us exactly. If you don't want to count it up, just show us on the diagram.

BOY. It's no use, Socrates, I just don't know.

SOCRATES. Observe, Meno, the stage he has reached on the path of recollection. At the beginning he did not know the side of the square of eight feet. Nor indeed does he know it now, but then he thought he knew it and answered boldly, as was appropriate — he felt no perplexity. Now however he does feel perplexed. Not only does he not know the answer; he doesn't even think he knows.

MENO. Quite true.

SOCRATES. Isn't he in a better position now in relation to what he didn't know?

MENO. I admit that too.

SOCRATES. So in perplexing him and numbing him like the sting-ray, have we done him any harm?

MENO. I think not.

SOCRATES. In fact we have helped him to some extent towards finding out the right answer, for now not only is he ignorant of it but he will be quite glad to look for it. Up to now, he thought he could speak well and fluently, on many occasions and before large audiences, on the subject of a square double the size of a given square, maintaining that it must have a side of double the length.

MENO. No doubt.

SOCRATES. Do you suppose then that he would have attempted to look

for, or learn, what he thought he knew (though he did not), before he was thrown into perplexity, became aware of his ignorance, and felt a desire to know?

MENO. No.

SOCRATES. Then the numbing process was good for him?

MENO. I agree.

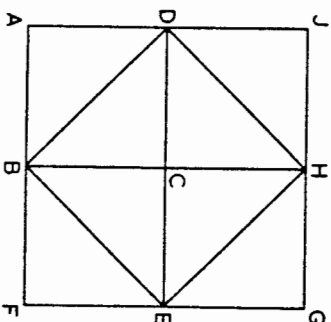
SOCRATES. Now notice what, starting from this state of perplexity, he will discover by seeking the truth in company with me, though I simply ask him questions without teaching him. Be ready to catch me if I give him any instruction or explanation instead of simply interrogating him on his own opinions.

(*Socrates here rubs out the previous figures and starts again.*)

Tell me, boy, is not this our square of four feet? (ABCD.) You understand?

BOY. Yes.

SOCRATES. Now we can add another equal to it like this? (BCEF.)



BOY. Yes.

SOCRATES. And a third here, equal to each of the others? (CEGH.)

BOY. Yes.

SOCRATES. And then we can fill in this one in the corner? (DCHJ.)

BOY. Yes.

SOCRATES. Then here we have four equal squares?

BOY. Yes.

SOCRATES. And how many times the size of the first square is the whole?

BOY. Four times.

SOCRATES. And we want one double the size. You remember?

BOY. Yes.

SOCRATES. Now does this line going from corner to corner cut each of these squares in half?

- BOY. Yes.
- SOCRATES. And these are four equal lines enclosing this area? (BEHD.)
- BOY. They are.
- SOCRATES. Now think. How big is this area?
- BOY. I don't understand.
- SOCRATES. Here are four squares. Has not each line cut off the inner half of each of them?
- BOY. Yes.
- SOCRATES. And how many such halves are there in this figure? (BEHD.)
- BOY. Four.
- SOCRATES. And how many in this one? (ABCD.)
- BOY. Two.
- SOCRATES. And what is the relation of four to two?
- BOY. Double.
- SOCRATES. How big is this figure then?
- BOY. Eight feet.
- SOCRATES. On what base?
- BOY. This one.
- SOCRATES. The line which goes from corner to corner of the square of four feet?
- BOY. Yes.
- SOCRATES. The technical name for it is 'diagonal'; so if we use that name, it is your personal opinion that the square on the diagonal of the original square is double its area.
- BOY. That is so, Socrates.
- SOCRATES. What do you think, Meno? Has he answered with any opinions that were not his own?
- MENO. No, they were all his.
- SOCRATES. Yet he did not know, as we agreed a few minutes ago.
- MENO. True.
- SOCRATES. But these opinions were somewhere in him, were they not?
- MENO. Yes.
- SOCRATES. So a man who does not know has in himself true opinions on a subject without having knowledge.
- MENO. It would appear so.
- SOCRATES. At present these opinions, being newly aroused, have a dream-like quality. But if the same questions are put to him on many occasions and in different ways, you can see that in the end he will have a knowledge on the subject as accurate as anybody's.

- MENO. Probably.
- SOCRATES. This knowledge will not come from teaching but from questioning. He will recover it for himself.
- MENO. Yes.
- SOCRATES. And the spontaneous recovery of knowledge that is in him is recollection, isn't it?
- MENO. Yes.
- SOCRATES. Either then he has at some time acquired the knowledge which he now has, or he has always possessed it. If he always possessed it, he must always have known; if on the other hand he acquired it at some previous time, it cannot have been in this life, unless somebody has taught him geometry. He will behave in the same way with all geometrical knowledge, and every other subject. Has anyone taught him all these? You ought to know, especially as he has been brought up in your household.
- MENO. Yes, I know that no one ever taught him.
- SOCRATES. And has he these opinions, or hasn't he?
- MENO. It seems we can't deny it.
- SOCRATES. Then if he did not acquire them in this life, isn't it immediately clear that he possessed and had learned them during some other period?
- MENO. It seems so.
- SOCRATES. When he was not in human shape?
- MENO. Yes.
- SOCRATES. If then there are going to exist in him, both while he is and while he is not a man, true opinions which can be aroused by questioning and turned into knowledge, may we say that his soul has been for ever in a state of knowledge? Clearly he always either is or is not a man.
- MENO. Clearly.
- SOCRATES. And if the truth about reality is always in our soul, the soul must be immortal, and one must take courage and try to discover — that is, to recollect — what one doesn't happen to know, or (more correctly) remember, at the moment.
- MENO. Somehow or other I believe you are right.
- SOCRATES. I think I am. I shouldn't like to take my oath on the whole story, but one thing I am ready to fight for as long as I can, in word and act: that is, that we shall be better, braver and more active men if we believe it right to look for what we don't know than if we believe there is no point in looking because what we don't know we can never discover.
- MENO. There too I am sure you are right.