

A Question of Begging

DILIP K. BASU

University of Burdwan

There are two accounts of the *petitio* in Aristotle. One is in the *Prior Analytics* which is justly celebrated for containing Aristotle's syllogistic; the other is in the *Topics* whose business it is to discuss dialectical and sophistic refutations. The former, according to Aristotle, is the true account, an account valid for scientific arguments, while the latter is an account of the matter on the level of general opinion (*Topics* 162^b31-3) i.e. opinion accepted by all, or by the majority, or by the most notable of them, the philosophers (*Topics* 100^b21-3). Richard Robinson suggests that the two accounts are incompatible and that the *Analytics* account, far from being the true account, is a failure, having no application in most of science.[1] The *Topics* account, he argues, is relevant only to the Academic game of elenchus, a game no longer played. Robinson therefore thinks that begging the question, as the *petitio* is usually called in English, is something of a muddle. In this paper we shall try to find out if this is really the case.

I. Setting the scene

Any scientific activity, in Aristotle's opinion, requires at least two participants, a questioner and an answerer in a relationship, we might say, of aiding and abetting. There are four situations to consider. First, we have the master and the pupil, the master offering his fare to his pupil in the form of arguments developed from the basic principles of his science. This is a dialogue by courtesy, for the pupil is no more than a sleeping partner in the enterprise with the argument developing in complete

disregard of his beliefs and reactions which are not so much as sought. Secondly, there is the typically Greek situation in which two men are locked in a dialectical argument on the level of general opinion. A third pair consists of a questioner and an answerer who upholds a thesis and claims to back it with facts bearing on the subject. Such an argument is the very serious business of the testing of a thesis. The sophist and his interlocutor make up the fourth pair, the argument here proceeding validly or invalidly from premisses that appear to be generally accepted but are not so. The result is an exhibition of professional sophistry. We have thus four classes of arguments in dialogue form: didactic, dialectical, examination-arguments, and contentious arguments (*Topics* 165^a38-9). Didactic arguments are the concern of the *Analytics*, the remainder that of the *Topics*.

What the scientific tutor does by employing his didactic arguments is to *demonstrate* to his pupil the conclusions he has already reached by means inductive as proceeding syllogistically from the basic principles of his science. The first or basic principles of the science are not themselves demonstrated. As Aristotle tells us, we know the first principles naturally through themselves. They are, in other words, self-evident. The fact that the first principles are regarded as self-evident does not, however, mean that we do not have to search for them or that they strike us in the face with their self-evidence. Of course we have to look for them and find out by employing such resources as induction. But when teaching the scientific tutor ought to present his findings in the form of a

demonstration proceeding from a set of truths not themselves demonstrated, but discovered, in the first place, in the same arduous way as the conclusions demonstrated. So the first principles are first among equals. Jonathan Barnes has correctly argued that Aristotle's theory of demonstration was never meant to guide scientific research, but to offer 'a formal model of how teachers should present and impart knowledge.' [2] The very first line of the *Posterior Analytics* leaves no one in doubt about its didactic orientation: 'All instruction given or received by way of argument proceeds from pre-existent knowledge.' The scientific tutor thus has a job that is quite different from the practising scientist's; the latter searches for the truths of his science by inductive methods and keeps the tutor well supplied who then goes on to exhibit the causal interconnexions among them, and he proceeds to do this by taking truths of the form 'A belongs to B' and 'A belongs to no B' as basic for which he has been unable to find middles that mediate between A and B. These truths he regards as immediate, uncaused or self-evident, but only relative to the demonstration or the development of the science in question. Should later investigations reveal a middle C intervening between A and B, the truths would have to lose their pride of place and get accustomed to taking a back seat. This relativistic interpretation of first principles is not something I am forcing on Aristotle who himself suggests it. In the immediate premiss there is no interval between the subject and the predicate which become indivisible or one, and there we reach our unit in demonstration (*Post. An.* 84^b34-5). But this unit is not something which is final. Aristotle goes on to explain:

And as in other spheres the basic element is simple but not identical in all—in a system of weight it is the mina, in a music quartertone, and so on—so in syllogism the unit is an immediate premiss, and **in the knowledge that demonstration gives it is an intuition** (*noûs*) (*Post. An.* 84^b37-85^a1, my emphasis).

Just as there can be different systems of weight or music with different units, there can be different demonstrations with different first principles as units. There is nothing final about such units, which are purely relative to the systems they are units of. What is an immediate premiss or an intuition is so only in relation to a demonstration which in turn is relative to the state of the development of the science in question. When the first principles are regarded as necessary they are being viewed as propositions relating to the essences of things but under the proviso that our empirical methods made no mistake about the essences. So we hold on to them until further notice. Kripke's idea that necessary propositions might be contingently known is not therefore stunningly new. Whether a proposition is regarded as necessary or not depends on the state of the investigation. Thus the proposition 'All men are animals' might be necessary for some, accidental for others (*Post. An.* 89^a33-39). We need not therefore look askance, as Robinson does, at Aristotle's notion of self-evidence or intuition. They are relativistic notions correlative to the relativistic notion of the immediate premiss.

The field scientist thus keeps the scientific tutor supplied with his propositions from amongst which he separates some as basic premisses from which he works his way to the rest by means of syllogistic arguments. The tutor begins a particular piece of demonstration by saying of a particular proposition that that is the proposition he wants to prove. Thus he begins with the conclusion, a practice that Euclid so consistently follows. As Johnson says, this is also usually the case with the actual course of our thought; we first entertain the conclusion and then go on to search for the premisses that yield the conclusion. This practice of beginning with the conclusion is also in the best of Indian logical tradition. Aristotle's word '*to en archie aiteisthai*' means 'asking or begging for the beginning proposition'. This sense is rightly caught in the Latin '*petitio principii*' but not very illuminatingly in the English 'begging the

question' which is to be understood as meaning 'begging for the conclusion', the conclusion being the question-at-issue, the proposition to begin with.

The most common understanding of the *petitio* is that it consists in assuming the very conclusion to be proved, and it comes down to us from Aristotle. He refers to the *petitio* as the fallacy 'which depends upon assuming the original conclusion' (*De Sophisticis Elenchis*, 166^b26). If we have an argument such as

P
Therefore P

the argument is obviously valid, for the premiss entails the conclusion. Any number of steps might intervene between the premiss P and the conclusion P, each step entailing the next, and the argument would be valid all right. So what is the trouble, if any, with such arguments?

There are two ways to view the matter. One is to regard the argument as proceeding from the premiss P, already established, to the conclusion P and therefore committing what the Indian logicians call 'the fallacy of establishing the established' (*siddhasadhana*). We start from an established premiss only to be driven back to it in an exercise of futility. We go full circle, and the geometrical notion suggests itself as a way of representing the situation:



We shall say that in such a case the argument is guilty of circularity (but not of vicious circularity) as an alternative way of saying that it is guilty of *siddhasadhana*. But there is no *petitio* here, which needs to be distinguished from circularity.

The other approach to the matter is to view the argument 'P, therefore P' from the side of the conclusion, the proposition we begin with as requiring to be established. To have P as a premiss when P cries out to be established is simply to assume the conclusion. The argument in such a case 'depends upon

assuming the original conclusion' and is thus guilty of the *petitio*. As Aristotle puts it, in the case of the *petitio* 'the mistake lies in regard to the conclusion for it is by a glance at the conclusion that we tell that the original question has been begged' (*Topics* 163^a25-6). In the same vein we might say that the mistake in the case of circularity lies in the premiss, for it is by a glance at the premiss that we say that circularity has been committed.

To have a circular proof is not necessarily to be guilty of circularity. If we have an argument such as

P Q
Therefore Q Therefore P

we have a circular proof on hand, for a circular proof, as Aristotle tells us, is proof by means of the conclusion (*Pr. An.* 57^b18-9). Whether this argument is guilty of circularity in the sense of *siddhasadhana* depends on whether we start off from P (or Q) as established to get back to P (or Q). This is generally not the case with the circular proof. For if we had drawn Q (or P) from P (or Q) already established, the matter would end there without further ado. A circular proof is generally under way when the premiss which we use to establish the conclusion itself needs establishing, when, in other words, we have two assumptions each seeking to be established by the other. The trouble here is the *petitio*, for what is to be proved is assumed as a premiss, whether it is the proposition P or the proposition Q in the above schema, both of which remain assumptions all the way. When we have a circular proof guilty of the *petitio* we have the familiar vicious circle, the notion of the circle being invoked again to represent the situation:



We are said to be moving in a circle and the fact that P and Q are both assumptions fails to stop the movement

at any stage. Hence the accusation of viciousness. Since when we are arguing in a vicious circle we are guilty of the *petitio*, there is a tendency to identify the two. For Aristotle arguing in a vicious circle is just one of the ways to beget the *petitio*.

Since the metaphor of the circle has been used to represent our attempt to establish an already established proposition as well as the one to prove by means of the conclusion to be established, it is necessary to note the differences. In the former case the metaphor suggests no more than one's coming back to one's starting point, that one's starting point is again one's terminal. In the latter case it is suggested that one is caught in a vicious movement with no terminal to get off. It is good to travel hopefully but it is also necessary to arrive and in a vicious circle you don't.

2. The account of the *petitio* in the Prior Analytics

In the *Prior Analytics* Aristotle brands the *petitio* a defect of syllogism, 'a failure to demonstrate the problem proposed.' And a syllogism is 'discourse in which certain thing being stated, something other than what is stated follows of necessity from their being so' (Pr. An. 24^b19-20). Aristotle of course goes on to put more flesh into this spare statement so that we know what it is to have a syllogism. The stipulation that the conclusion has to be something other than what is stated, Kapp says, [3] is a prohibition on the *petitio*, and proceeds from dialectical rather than epistemological or psychological considerations. For the syllogism in its application to science is not, in Kapp's opinion, a principle of intellectual advance but of intellectual retreat. There is a lot sensible in what Kapp says, but it seems to me that if the syllogism is employed as a principle of intellectual advance, the stipulation might be viewed as a prohibition on circularity, i.e. *siddhasadhana*. Now the structure of the syllogism is such that the conclusion we want to prove

cannot itself figure as a premiss. How, then, is it possible for us to beg for or assume the conclusion in the premisses of a syllogism?

The subject of analytics is demonstration and demonstration in any science proceeds from its first principles, which, as we have already noted, Aristotle regards as self-evident and indemonstrable relative to a demonstration. The propositions that need demonstrating are not to be self-evident, and 'whenever a man tries to prove what is not self-evident by means of itself, then he begs the original question' (Pr. An. 64^b37-8).

From what has been said above in Section I it should be clear that this account of the *petitio* is not in any way besmirched by Aristotle's appeal to the notion of self-evidence which is not allowed to function in any inscrutable or objectionable manner. The *petitio* is danger to beware of in a situation that might be stated less picturesquely thus: the scientific tutor wants to prove certain propositions to his pupil as proceeding from certain propositions not to be proved. All the propositions involved here, the ones to be proved and the ones not to be, are the fruits of painstaking scientific investigations already undertaken. The *petitio*, then, consists in proving a proposition, that needs proving, by means of itself. And the propositions that need proving are the ones that can be shown to be subordinate to others, while the first principles cannot be subordinated.

How do we prove a proposition by means of itself? According to Aristotle, one way to do it is to assume 'what is in question at once', as we do in 'P, therefore, P' to prove P; the premiss might be phrased differently to conceal the deceit. Another way is to argue in a circle. This is all very well, but how do we commit the *petitio* in a syllogistic argument? We turn to Aristotle for help:

If then it is uncertain whether A belongs to C, and also whether A belongs to B, and if one should assume that A does belong to B, it is not yet clear he begs the original question, but it is evident

that he is not demonstrating: for what is as uncertain as the question to be answered cannot be a principle of demonstration. If however B is so related to C that they are identical, or if they are plainly convertible, or the one belongs to the other, the original question is begged (**Pr. An.** 65^a10-15).

Hamblin finds this text puzzling, as do Woods and Walton.[4, 5] For the latter the 'worrisome question' is why the argument

A belongs to C
B is identical with C
therefore, A belongs to B

should be a *petitio*. Hamblin thinks that Aristotle's account does fine as long as the relation between B and C is one of identity, not one of mutual convertibility, i.e. coextensiveness without identity of meaning. Hamblin's argument is that

because of the trivial satisfaction of one of the premisses, the other premiss and the conclusion are each as good or as bad as the other, so that the argument from the one to the other is nugatory; and that this is so is shown, among other things, by the fact that the premiss will, in this case, be as uncertain as the conclusion.[6]

Hamblin's argument seems to be that if the second premiss is a trivial enough identity then the first premiss and the conclusion are close enough to be logically equivalent, if not identical, and an accusation of *petitio* would seem to be in order. But Hamblin himself has a different interpretation up his sleeve:

If it is uncertain whether all Bs are As, and equally uncertain whether all Cs are As, we cannot use one to prove the other, since premisses must always be more certain—more immediately known—than their conclusions. If Bs and Cs are the same things whether because the concepts are identical or merely because the terms are convertible, 'all Cs are As' seems to be inferable from 'All Bs are As', but also vice versa; but there cannot be genuine inferences both ways, or there could be argument in a circle. Hence the apparent inference is really fallacious.[7]

Hamblin here is arguing that if B and C are identical or mutually convertible then we have a right to use 'All Bs are Cs' as well as 'All Cs are Bs', and we have the makings of a circular proof to run as follows:

| | |
|---------------|---------------|
| All Bs are As | All Cs are As |
| All Cs are Bs | All Bs are Cs |
| therefore | therefore |
| All Cs are As | All Bs are As |

Hamblin thus holds the argument cited by Aristotle fallacious because someone might make a circular proof, involving the *petitio*, out of it. Woods and Walton (*op. cit.*) rightly reject this view failing as it does to show that the argument as it stands involves the *petitio*. Their view of the matter is that the relation between B and C of identity, or convertibility, or mutual implication, transparently establishes 'the first premiss as a near-equivalent of the conclusion to make the argument a *petitio*.' I am afraid we must reject this interpretation too.

Hamblin's view that the argument cited by Aristotle commits the *petitio* in the case where the terms B and C are identical would not work for cases where the terms are convertible or are such that one belongs to the other, and thus fails to take full measure of the problem. Hamblin therefore goes on to offer a more general explanation, but it would work only if a circular argument were in question, which however is not the case. He is of the opinion that 'there cannot be genuine inferences both ways', but the question here is whether there can be a genuine argument even one way. In his explanations Hamblin is implicitly guided by the insight that if one of the premisses is an assumption, it has got something to do with a *petitio* being there, but he did not figure out what it was. Woods and Walton thus wonder why the argument

A belongs to C
B is identical to C
therefore A belongs to B

should be held by Hamblin to be a

petitio, when 'A belongs to C' is uncertain. (Fidelity to Aristotle's text *Pr. An.* 65^a 10-15 demands that the major premiss and the conclusion in the above statement change places.) It is a pity Hamblin does not let his insight come into its own. The interpretation by Woods and Walton is recognized by themselves to be inadequate. It relies on a notion of near-equivalence which is vague, and fails to establish the argument as an overt *petitio*.

Let us have a fresh look at the argument Aristotle cites. We want to prove 'A belongs to C'. We know for certain that B and C are so related that they are identical or mutually convertible or belong to one another. That is to say, we are entitled to the use of 'B belongs to C' as premiss (and also of 'C belongs to B' if need be). If we are a little permissive in our selection of premisses so as to use 'A belongs to B' although we are uncertain about it, we have the following argument going:

A belongs to B
B belongs to C
therefore, A belongs to C

The trouble with this argument is this. Since we are uncertain about 'A belongs to B', we are *begging for* it when we use it as a premiss, and in begging for it we are also begging for everything that it, along with other things that we accept, entails. So we are begging for 'A belongs to C' in order to prove 'A belongs to C' and are thus guilty of the *petitio*. There are as many ways to commit the *petitio* as there are ways to beg for the conclusion to be proved; within the confines of the syllogistic it may be committed in the way just indicated or in the way of a circular proof.

3. The account of the *petitio* in the Topics

The demands on dialectical arguments, arguments in which 'we are able to reason from opinions generally

accepted', are less exacting than on scientific demonstrations, making for a little bit of variety in the way of arguments. Here we are permitted resources other than the syllogism. There is on the one hand Induction, permitting a passage from individuals to universals, on the other Reasoning (*Topics* 105^a12). And reasoning is 'an argument in which, certain things being laid down, something other than these necessarily comes about through them' (*Topics* 100^a25-6). In a dialectical situation forms of reasoning other than syllogising, such as what nowadays we call adjunction, are admissible. Since the arguments here are more various, the *petitio* also has greater possibilities. There are, in fact, five different ways to commit the *petitio*, says Aristotle (*Topics* 162^b35-163^a12).

I) The first way is to directly beg for the actual point to shown, as when we assume P to prove P. The assumption may be couched in different terms but meaning the same thing as the point to be proved.

II) 'A second way occurs whenever anyone begs universally something which he has to demonstrate in a particular case.' How is the *petitio* involved here? As we have already said, in assuming a proposition one is assuming everything that the proposition, in conjunction with other accepted propositions, is used to support. The universal *assumption* combined with other accepted propositions yields the particular proposition which remains an assumption all the way. In this case one is assuming the very point to be proved and is thus guilty of the *petitio*. As Aristotle himself explains, a person in such a case 'is generally thought to be begging, along with a number of other things, that which he ought to have shown by itself.'

III) A third way to commit the *petitio* is to beg in particular cases what is to be shown universally. Woods and Walton (*op. cit.*) wonder why there should be a fallacy in trying 'to prove that everything in some domain has property F by successively showing

that for individuals a, b, c, ... in the domain, a has F, and b has F, and c has F, and so forth' (my emphasis). I am afraid they missed Aristotle's point altogether. There would be a fallacy, not if one *showed*, but *assumed*, that a has F, and b has F, and so on, and Aristotle is considering the latter contingency. To get back to Woods and Walton:

Arguing for a universal statement on the basis of its instances has well-known inductive shortcomings, but it is hard to see exactly why the *petitio* must be one of them...it is possible that the wrong that it commits on is that the evidence for each of the particular propositions that is put forward as a premiss is somehow dependent on the universal conclusion to be demonstrated (*op. cit.*).

There is not much evidence in Aristotle to suggest that this is the way to look at the matter. Since inductive reasoning is one form of dialectical argument, one might justifiably use it to establish a universal conclusion. There is a *petitio* when one assumes or begs for the particular cases which one should have taken the trouble of establishing on their own. In assuming the particular cases we are also assuming the universal proposition arrived at on the strength of the particular cases. We are thus landed in a situation in which we establish a universal proposition by assuming it.

IV) Another way to beg the question is to beg for the conclusion 'piecemeal,' as when we establish a conjunction by assuming each conjunct. Since the conjuncts P, Q, are assumptions, P&Q being derived from them fares no better, and we end up establishing P&Q by assuming it.

V) Finally, we commit the *petitio* when we 'beg the one or the other of a pair of statements that necessarily involve one another.' For example, we are to show that the diagonal is incommensurable with the side, and we do so by begging that the side is incommensurable with the diagonal. But where is the *petitio* that it is accused of? Woods and Walton (*op. cit.*) find

the specification obscure and wonder whether case (I) at all differs from case (V). It does, as we hope to show. Two propositions, P and Q, mutually imply one another; we want to prove Q (or P), and we do so by begging for P (or Q). Since P (or Q) is an assumption, Q (or P) also remains one having been derived from the former. Hence our attempt to prove Q (or P) is an attempt to prove Q (or P) on the assumption Q (or P), and is therefore guilty of the *petitio*. In (I) we try to prove a proposition by assuming it at once so that there is no transition necessary from what is assumed to the conclusion, whereas in (V) such transition is essential.

4. Concluding remarks

From the foregoing discussion Aristotle comes out as having only one notion of the *petitio*, namely, as the procedure of assuming the very conclusion to be proved, but displaying a variety of ways to beget it. The particular way in which the *petitio* is committed depends on the type of argument employed, but whatever the context, the nature of the defect is the same. And we have Aristotle's word for it: 'Those (fallacies) that depend on the assumption of the original point to be proved, occur in the same way, and in as many ways, as it is possible to beg the original point' (*Topics* 167^a37-9).

There remains one misunderstanding to set aside, the one that the *petitio* in Aristotle survives in an epistemological interpretation rather than a dialectical one. This is the view of Hamblin, who is supported by Woods and Walton, when he holds that the clue to an understanding of Aristotle's notion of the *petitio* is 'his concern with *how we come to know things*' (*op. cit.* p. 76, emphasis Hamblin's). Hamblin is led into this view by Aristotle's reference to the notion of self-evidence in his account of the *petitio* in the *Prior Analytics*. From what we have said in the preceding Sections it should be apparent that the notion of self-evidence, or for that matter any

other notion that reeks of epistemology, forms no essential part of the notion of the *petitio* and that Aristotle's appeal to the idea of self-evidence was necessitated by the requirement to set the *petitio* in the context of scientific demonstrations. The *petitio* is a defect to guard against in scientific demonstrations as well as in dialectical contexts; in fact, it is a defect to guard against as long as we have something to establish and are looking for support. So I should not be saying that my view about Aristotle is right, because it is.

References

- [1] R. Robinson, 'Begging the Question, 1971', *Analysis*, 31.4, March 1971.
- [2] J. Barnes, 'Aristotle's Theory of Demonstration' in *Articles on Aristotle*, (eds.) J. Barnes, et al, Vol. I, Duckworth, 1975, p. 77.
- [3] E. Kapp, 'Syllogistic' in 2, p. 39.
- [4] C. L. Hamblin, *Fallacies*, Methuen, 1972.
- [5] J. Woods and D. Walton, 'The Petitio: Aristotle's Five Ways', *Canadian Journal of Philosophy*, 12.1, March 1982.
- [6] Hamblin, *op. cit.*, p. 75.
- [7] *Ibid*, p. 77.

All references to Aristotle's writings are from the Oxford translation of *The Works Of Aristotle* under the editorship of J. A. Smith and W. D. Ross.

Dilip K. Basu, P-I, Tarabag, Burdwan-4, West Bengal, India. □