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THE PROBLEM OF THE JUSTIFICATION OF A THEORY OF KNOWLEDGE

Part I: Some Historical Metamorphoses

LUCIANO FLORIDI

SUMMARY. The article concerns the meta-epistemological problem of the justification of a theory of knowledge and provides a reconstruction of the history of its formulations. In the first section, I analyse the connections between Sextus Empiricus' *diallelus*, Montaigne's *rouet* and Chisholm's "problem of criterion"; in the second section I focus on the link between the *diallelus* and the Cartesian circle; in the third section I reconstruct the origin of "Fries' trilemma"; finally, in the last section I draw some general conclusions about the issue *qua* a general problem for a theory of knowledge.

Key words: *Diallelus*, Foundationalism, Justification, Meta-epistemological, *Petitio Principii*, Scepticism

"Sed Quis custodiet ipsos custodes?"

Juvenal, *The Satires*, VI

1. INTRODUCTION

1. Epistemology investigates the nature of knowledge with the aim, amongst other things, of giving an answer to the most radical doubts cast on its validity. However, since any theory of knowledge develops as *part of*, not *apart from* the body of human knowledge itself, any final account of the nature of knowledge is threatened by the problem of its own *justification*. The necessity of providing its own metatheoretical validation puts a theory of knowledge in an apparently inevitable quandary, since we seem to be forced to admit at least one of the following alternatives: either the fundamental premisses of the theory cannot be further justified, and so they must be merely assumed or hypothesized without any supplementary warrant; or they can be justified because they presuppose an antecedent premiss, but in the latter case also, either we are back to the mere assumption of such an anterior premiss, or its justification is provided by the theory itself in a circular way; or finally it gives rise to an endless chain of reasons in which the justification of each premiss presupposes the justification of the previous premiss and this of still another and so on *ad infinitum*. The sceptic is ready to take advantage of the difficulty resulting from the requirement that a theory of knowledge should justify its own validity: he will consider the previous alternatives as so many fallacies which undermine the validity of any epistemological project. Despite the fact that

he may accept that there are certain mental, psychological and perceptual phenomena which we discuss in order to establish their epistemic status, and that some of these phenomena (or their effects) could amount or give rise to real instances of knowledge, the sceptic maintains that in any case there is no way we can produce a theory which could enable us to assess their epistemic validity without already presupposing an unjustified answer to the original question about the nature of knowledge. We could have knowledge, but we are unable to say whether we have knowledge or not without already begging the question about what knowledge is.

2. The question that has just been sketched is such a manifest and momentous problem that, though in different forms and in different contexts, its formulation, the discussion of its nature, and the attempts made to solve it constitute a continuous thread in the history of epistemology. My purpose in this article is to contribute to the *histoire globale* of the problem by presenting a critical reconstruction of the theoretical map of its formulations. More specifically, I mean to show that Sextus Empiricus' *diallelus*, Montaigne's *rouet*, Chisholm's *Problem of the Criterion*, the *Cartesian Circle*, Hegel's "Scholasticus' absurd resolution", Fries' *Trilemma* and Albert's *Münchhausen's trilemma* can all be interpreted as interrelated metamorphoses of what I shall henceforth refer to as the *meta-epistemological problem*.

3. In order to delimit the historical reconstruction, I shall proceed by individuating three "maps" – the sceptical, the Cartesian and the Kantian – and by tracing within each map the principal path followed by the formulation of the problem (*variationes*). We shall see, in the course of this article, how much "philologically" the identity of the problem throughout the "possible worlds" of the various theories of knowledge has to be intended.

4. One final specification is essential before embarking on the historical investigation. The general and intuitive formulation of the meta-epistemological problem given in [1] provides us with a flexible, heuristic basis on which we may identify several issues in the history of epistemology as contextualized articulations of the same fundamental problem. Because of its generality, however, [1] cannot grant at the same time a full appreciation of the specific features of the problem at stake. I have provided a more detailed analysis of the logical structure of the problem elsewhere,¹ but it may be worth summarizing here the result of that analysis. The fundamental difficulty, which seems to undermine any attempt to provide a justification of the premisses of a theory of knowledge, can be reduced to that of a *petitio principii* of a metatheoretical nature: The meta-epistemological problem does not jeopardise *directly* the validity of human knowledge – either in the sense of specific sciences or in the sense of the ordinary linguistico-doxastic activities and achievements of an individual

– but that of a theory of knowledge; and as a *petitio principii* the meta-epistemological problem does not render the justification of a theory of knowledge logically self-contradictory, but it does deprive the theory of its convincing power with respect to the sceptical attack. These features of the problem will become clearer in the course of the historical reconstruction.

2. THE SCEPTICAL REGION

A. Sextus Empiricus' *Diallelus*

5. In an often-quoted passage of the *Outlines of Pyrrhonism* Sextus Empiricus provides the first, highly influential formulation of the meta-epistemological problem in its history:

[...] in order to decide the dispute which has arisen about the criterion, we must possess an accepted criterion by which we shall be able to judge the dispute; and in order to possess an accepted criterion, the dispute about the criterion must first be decided. And when the argument thus reduces itself to a form of circular reasoning the discovery of the criterion becomes impracticable, since we do not allow them [the dogmatics] to adopt a criterion by assumption, while if they offer to judge the criterion by a criterion we force them to a regress *ad infinitum*. And furthermore, since demonstration requires a demonstrated criterion, while the criterion requires an approved demonstration, they are forced in circular reasoning [*eis ton diallelon ekballontai tropon*].²

6. The argument occurs after a long discussion of Aenesidemus' ten tropes – which together with Agrippa's first and third trope raise doubts, in terms of its fallibility and relativity, on the capacity of human knowledge to catch the intrinsic nature of reality in itself (*upokeimena*) – and before a more detailed discussion of the nature of the criterion. It is a combination of Agrippa's second, fourth and fifth tropes,³ i.e. *regressus*, *hypothesis* and *diallelus*, but for the sake of simplicity I shall refer to it more briefly as the *diallelus*. The synecdoche is justified by the fact that Sextus employs Agrippa's second and fourth tropes as secondary attacks on alternative attempts to solve the more fundamental problem of circularity.

7. Sextus was well aware of the importance of the argument: The difficulty it introduces is said to be “sufficient to expose the rashness of the Dogmatists with respect of the doctrine of the Criterion.”⁴ Sextus' reference to “the doctrine of the Criterion” is significant. The discussion over the nature of the criterion was a central theme in Hellenistic theories of knowledge,⁵ and as a historiographic label “the problem of the criterion” refers both to “Stoic and Epicurean accounts of the natural means at our disposal for making utterly secure discriminations between truth and falsehood”,⁶ that is between mere beliefs and proper instances of knowledge, and to the relative sceptical doubts cast on such an epistemological enterprise. A brief incursion into the debate concerning the nature of the criterion

is unavoidable if we want to understand the nature of the *diallelus*.

8. Since Hellenistic philosophers and doxographers ended by organizing the whole field of epistemological discussions under the heading of “the problem of the criterion”,⁷ by the time Sextus Empiricus was writing the term “kriterion” had acquired several meanings,⁸ and it is understandable that the proper analysis of the family of issues which goes under that general label may still represent an open field for philosophical and scholarly research.⁹ In this context, however, two general observations will be sufficient in order to locate the importance of the *diallelus*.

9. First, according to the literature that has reached us, we know that at least since the time of Epicurus and the Stoics, philosophers started being increasingly more concerned with the task of justifying the possibility, and hence the validity, of our knowledge of the world, rather than with the investigation of its nature. Of course this might have been very much a matter of gradual change in interests rather than an “epistemological revolution” and, as Anthony Long has suggested,¹⁰ the change should also be interpreted as both a cause and a consequence of the historical development of ancient scepticism. Secondly, the validity of human knowledge was investigated by focusing on the reliability of *the criterion as a means both whereby and according to which* such knowledge of the intrinsic nature of the world could be gained. This means that for Epicurus and the Stoics, there was, to the unique question “Is knowledge possible?”, a unique set of answers in terms of individuation of a *criterion whereby* knowledge was both attainable *and* justifiable. For instance, sense-impressions, preconceptions and feelings might count as three criteria of knowledge both in the sense that they are sources of knowledge (i.e. *criteria whereby* we obtain knowledge) and in the sense that they are principles which can justify knowledge and thus, we may think, an epistemology (i.e. *criteria according to which* we justify certain premisses on which a theory of knowledge bases the possibility of discriminating among beliefs).

10. The observations made in [9] should remind us of a point which will reveal itself as being of some importance in the following paragraphs: historically, the “problem of the criterion” concerns a combination of interwoven questions on the nature of knowledge and on the possibility of establishing its nature without begging the question, thus it cannot simply be equated to but rather includes the *diallelus*. On the other hand, the same observations suggest that the twofold nature of the criterion – as an “instrument” through which we obtain our knowledge and as a “method” according to which we may test our knowledge and hence our epistemology – may be responsible for the fact that Sextus’ attack on the possibility of its formulation is double-layered. By contrasting the possibility of providing a proper criterion of truth or of knowledge, Sextus’ argument

combines together theoretical and metatheoretical aspects of the issue. The *diallelus* was meant as, or at least turned out to be, an argument both against the possibility of knowledge and against the possibility of a theory of knowledge or, in other words, against knowledge in all its expressions, including that of a theory of knowledge.

11. Having specified all this, however, the wider context of the problem of the criterion should not keep us from seeing that the *diallelus* challenges primarily the possibility of producing a theory of knowledge without begging the initial question, and only derivatively is it addressed against the validity of knowledge *simpliciter*.¹¹ That Sextus may be formulating a metatheoretical objection and not simply an epistemological one is not surprising if we accept, following Gisella Striker, that the discussion of the nature of the criterion had already acquired a more methodological and therefore metatheoretical nature in the passage from Epicurus to the Stoics.¹² The anti-epistemological nature of the *diallelus*, hence its metatheoretical level, may have been left implicit by Sextus, but it is undoubtable that the paragraph quoted in [5] briefly summarizes the problem and all the alternatives that the acceptance of the question of the justification of an epistemology may give rise to. As we shall see, it is in its anti-epistemological function that it will be interpreted throughout the history of epistemology. But before turning to the history of the *diallelus* it may be worth addressing another, connected question: Is the *diallelus* the right place from which to start the delineation of a map of the metamorphoses of the meta-epistemological problem?

12. There are at least three main factors which justify such a choice. To start with, it is generally recognized that neither Plato (not even in the *Theaetetus*) nor Aristotle were very concerned with sceptical problems.¹³ Even when Plato and Aristotle can be seen to be interested in proto-sceptical questions, the latter are generally¹⁴ to be characterized as objections on the nature of knowledge rather than objections on the nature of epistemology. Although Anthony Long has convincingly shown that Aristotle's epistemological work is also related, more or less explicitly, to sceptical issues, he has also presented his reconstruction of Aristotle's concern with a meta-epistemological issue retrospectively, that is from the point of view of the more articulated formulation of the sceptical problems which can be found in Sextus Empiricus.¹⁵ The question deserves our attention because it will become plain below that those philosophers who are interested in the foundationalist problem but who disregard the sceptical, metatheoretical challenge, generally refer to Aristotle's discussion of the impossibility of justifying the logical premisses of a theory as the original, historical source of the formulation of the problem. Karl Otto Apel, for example, has understood the foundationalist problem in the following Aristotelian and logically deductive terms:

[...] since Descartes, the Aristotelian comprehension of the *axioms* as *immediately apparent fundamental principles* which are neither provable nor in need of proof has been radicalized in the sense of a demanded recourse to evidence as the philosophical fundamental-grounding.¹⁶

The Aristotelian reference generally implies an emphasis on the logical nature of the process of justification – above all in terms of the dichotomy “deduction vs. induction” – and an interpretation of the essentially problematic nature of the foundationalist issue in terms of the *regressus ad infinitum* instead of the *petitio principii*. It inclines philosophers to “[...] classify all the various philosophers’ analyses or accounts of knowledge as *different reactions to the threatened regress*”¹⁷ rather than to the *diallelus*. We shall also see that, while promoting a more methodological approach to the problem, the Aristotelian perspective can more easily pave the way for a hierarchic misplacement of the problem, as if it concerned the justification of specific instances of knowledge and not the grounding of the premisses of a theory of knowledge.

Secondly, it is understandable that in order to have a meta-epistemological problem we need to have theories of knowledge at a logically lower level. It is only once Aristotelian *dogmatism* has been developed, for example, that the anti-epistemological, sceptical challenge can take place in all its force.¹⁸

Finally, and in this way we turn back to the historical importance of the *diallelus*, even though it is likely that Sextus Empiricus was referring to previous discussions of metatheoretical objections, we have lost the largest part of Sextus’ possible sources and it is Sextus Empiricus who represents for the philosophical tradition the *Summa* of the sceptical arguments, including that of the meta-epistemological. A significant example of this traditional attitude is provided by the neoscholastic philosopher Desiré Mercier. At the beginning of this century he could still refer to the Sextian *diallelus* as the *locus classicus* where the meta-epistemological problem had been stated for the first time.¹⁹ We shall now turn to Mercier in order to gain more information about the “sceptical map”.

B. Mercier’s Criteriologie

13. The role played by Mercier’s *Criteriologie Generale* in the history of the meta-epistemological problem is noteworthy both because of its function in the transmission of the issue (see [21]) and because it can be taken as an explicit juncture of at least two of the three principal paths followed by the development of the formulation of the problem: that which goes from Sextus Empiricus through Montaigne up to Roderick Chisholm and that which goes from Sextus Empiricus through Descartes and Gassendi to contemporary discussions of the Cartesian circle and Chisholm again. As for the third line of development – from Sextus Empiricus through Kant, Reinhold and Hegel, ending with Fries’ trilemma and its discussion by Karl Popper – we shall see in [31] that Mercier hints at it as well,

although more implicitly, in another passage of the *Criteriologie*. For the moment, let us follow the first route through the “sceptical” region of our map.

14. Like a Hellenistic philosopher, Mercier still equates epistemology and criteriology, the latter being “the reflex study of our certain knowledge and of the grounds upon which certitude rests.”²⁰ Therefore, he has no problems in understanding the context within which the *diallelus* must be placed. According to Mercier, criteriology should demonstrate the fallacy of two forms of scepticism: one which casts doubts on each of the acts of the human reason, and the other which casts doubts on the very capability of arriving at a knowledge of the truth.²¹ Thus, there are two principal questions faced by criteriology: Do we know the truth? Do we have “un instrument judicatoire” (as he says, adopting Montaigne’s expression) to distinguish truth from falsehood, that is a criterion of truth? The latter is a “question préjudicielle” presupposed by any study of knowledge. Mercier understands the importance of the problem of the selection of a reliable criterion, defined “le cheval du bataille du scepticisme”,²² and its nature, which he individuates in the vicious circularity of the process of justification;²³ and when he comes to its description, as I have already said, he refers to Sextus’ *diallelus*. What is new in his discussion of the issue is that he regards Montaigne’s *rouet*²⁴ as another, clever formulation of the same problem of the “cercle vicieux” in which the meta-epistemological problem consists (“Montaigne a traduit sous cette forme piquante la même [referring to the *diallelus*] objection”, *Criteriologie*, p. 58).

C. Montaigne’s *Rouet*

15. Like Sextus Empiricus in the *Outlines*, Montaigne had introduced his own version of the meta-epistemological problem in “The Apology of Raymond Sebond” by means of a discussion of the reliability of the senses. He finally formulated the problem thus:

Pour juger des apparences que nous receuons des sujets, il nous saudroit vn instrument iudicatoire; pour verifier cet instrument, il nous y faut de la demonstration; pour verifier la demonstration, vn instrument: nous voila au *rouet*. Puis que les sens ne peuuent arrester nostre dispute, estans pleins eux-mesmes d’incertitude, il faut que ce soit la raison; aucune raison ne s’establira sans vne autre raison: nous voyla à reculons iusques à l’infiny.²⁵

16. Montaigne might have gained his knowledge of the *diallelus* either from Sextus’ *Outlines* or from Diogenes Laertius’ *Life of Pyrrho*. He did not read ancient Greek very well²⁶ but both works had been translated into Latin²⁷ in a single volume by Henricus Stephanus in 1562 and again in 1569. However, since the second edition also contained the translation of *Against the Dogmatists*, and in the *Essays* there are no explicit quotations from or references to this work, the Latin translation he had read was probably

the former.²⁸ On the other hand, Montaigne could not have gained such a precise formulation of the *diallelus* from Cicero or Augustine, the other two sources for sceptical topics available at his time,²⁹ since none of the five tropes of Agrippa (that of the *diallelus* or *alternation* included), let alone their combination, was exactly discussed either in the *Academica*³⁰ or in *Contra Academicos*.

17. Montaigne's formulation of the *rouet* is so close to that of the *diallelus* both in contents and in the structure of the presentation of the issue that we are certainly faced with the same anti-epistemological argument. Indeed, the similarity is so striking and the historical evidence so compelling that one is led to subscribe to Mercier's opinion that in fact it may be a simple rewording of Sextus Empiricus' passage. The credibility of the hypothesis that Montaigne's *rouet* is both theoretically and historically a paraphrase of Sextus' *diallelus* is further reinforced once we notice that in the same way as the problem of the *diallelus* has to be contextualized within the problem of the criterion, that is "an instrument or means for judging",³¹ we have seen that Montaigne too formulates the problem of the *rouet* by means of the analogical notion of an "instrument judicatorie". The constant theme of the necessity of a "iudicandi organum" (as Henricus Stephanus interprets the Greek term in his Latin translation of Sextus' *Outlines*) will never abandon the history of the problem of knowledge: it will emerge again in all its clarity in Hegel's attack on Kant's transcendental criticism (see [39]).

18. Despite the fact that Montaigne's interests were more ethical and religious than epistemological³² – in the modern epoch the *diallelus* came to be employed also in favour of religious fideism against the "pretences" of human knowledge (see [24] and [25]) – his revival of the *diallelus* was destined to play an important role in contemporary epistemology. Thanks also to Mercier's *Criteriologie*, Montaigne's paraphrase of Sextus' *diallelus* based on the *Outlines* contributed both to the revival of the problem and, probably, to the final equating of the problem of the criterion to the specific argument of the *diallelus*. Such a "process of unification" has led contemporary epistemologists to understand by "the problem of the criterion" the meta-epistemological problem *tout court*, using the expression in a much more restricted sense³³ than that adopted by ancient philosophers and therefore by scholars of that period. Roderick Chisholm is an outstanding example of both such influences.

D. Chisholm's Problem of Criterion

19. In his important article entitled "The Problem of Criterion",³⁴ Chisholm has presented the meta-epistemological problem by paraphrasing – as he himself specifies – Montaigne's *rouet*.³⁵ Chisholm has analysed the meta-

epistemological problem as a circle emerging from the answers to two fundamental questions: (a) What is the extent of our knowledge? (What do we know?) and (b) What are the criteria of knowledge? (How are we to decide whether we know?). Despite some “ambiguities of level” in the analysis of the problem owing to Chisholm’s “Cartesian perspective”, in a later answer to criticisms moved by Robert Amico on his acceptance both of the inevitableness of the *diallelus* and of the necessity to disregard it, Chisholm has made thoroughly explicit the metatheoretical nature of the problem.³⁶ The fork between (a) and (b) constitutes the sort of circularity in which a theory of knowledge seems to be caught when it is required to justify its own presuppositions. According to Chisholm, philosophers are forced to opt for one of the two answers as prior to the other, but do not and cannot escape the fundamental circularity to which he too reduces the meta-epistemological problem and which is implicit in an endless request for justification of premisses.

20. Chisholm’s originality lies not only in the fact that he is one of the few contemporary epistemologists together with Nicholas Rescher (who has explicitly connected *diallelus* and the foundationalist problem of circularity³⁷) to have recognized “the problem of the criterion” as “one of the most important and one of the most difficult of all the problems of philosophy”,³⁸ but also in the fact that he accepts “[w]hat few philosophers have had the courage to recognize [...]: [that] we can deal with the problem only by begging the question.”³⁹ According to Chisholm the sceptical objection is so powerful that the only way to overcome it may be by an equally radical solution, that is the admission that in order to start developing any philosophy of knowledge we must presuppose either an answer to (a) or an answer to (b).

21. The insertion of Chisholm’s “problem of the criterion” within the development of the formulation of the meta-epistemological problem is scarcely questionable. Chisholm acknowledges the importance that the reading of Mercier’s *Criteriology*⁴⁰ has had on his interest in the issue and it is likely that his reference to Montaigne has been suggested by the former. There is only one puzzling aspect in Chisholm’s analysis and this is, as I have alluded to above, the use he makes of the expression “problem of the criterion”. To start with, since Chisholm distinguishes between criteria and extension of knowledge, it is not very clear why the general problem should be labelled simply “the problem of the criterion” while the choice of certain criteria represents only one side of the circularity. The second, more serious difficulty is that scholars like Jacques Brunschwig, Karel Janacek, Anthony Long and Gisella Striker have brought to light the enormous complexity of issues connected with the problem of the criterion in Sextus Empiricus.⁴¹ As I have already remarked, by the label “problem of the criterion” we may refer to a whole set of problems concerning the

nature of knowledge, its justification and reliability and the roles of the knower and the known within the process of knowing, not only to the methodological problem as this is summarized in the *diallelus*.⁴² The fact that Chisholm had already discussed elsewhere *Against the Dogmatists*⁴³ – which is the work where Sextus Empiricus gives the fuller and almost certainly the later discussion of the problem of the criterion⁴⁴ – suggests that he must have been aware that the expression “problem of criterion” covered a much wider area of issues in Sextus than it seems to in the passage from the *Outlines* quoted in [5] and paraphrased by Montaigne in [15]. This induces us to conclude that by adopting the expression “the problem of the criterion” in order to define the problem of the justification of a theory of knowledge, Chisholm might have intentionally accepted a distinction between methodological problems concerning the status of epistemology and its tasks on the one hand and theoretical problems concerning the nature of knowledge *tout court* on the other – a distinction whose sharpness, at least, was unknown to Sextus – and opted for a more restricted use of the label in order to refer only to the former problem. In so doing he might have been influenced by Coffey’s and Mercier’s Kantian approach to the issue, in terms of an analysis of the conditions which make a certain discipline possible, and perhaps implicitly by Mercier’s interpretation of Montaigne’s *rouet*. What is certain is that in Chisholm’s lucid analysis the meta-epistemological problem finally acquires a complete autonomy with respect to the epistemological problems concerning the nature of human knowledge.

3. THE CARTESIAN REGION

22. Classical scepticism had elaborated the arguments presented in the *Outlines* in order to object to Aristotelian and Stoic “foundationalist” approaches to the theory of knowledge. It is not surprising, therefore, that similar arguments, especially the *diallelus*, should be used by critics to oppose new forms of epistemological dogmatism when these appeared again in the history of philosophy. The first case to be discussed is that of Descartes.

E. Descartes’ Circle

23. On p. 82 of his *Criteria*, in relation to the *diallelus* and the *rouet*, Mercier stresses the “cercle vicieux” in which Descartes seems to be caught in his *Meditations*. “The problem of the Cartesian circle” – as James Van Cleve⁴⁵ has clearly summarized it –

arose for Descartes because [in the *Meditations*] he appeared to commit himself to each of the following propositions: (1) I can know (be certain) that (*p*) whatever I perceive clearly and distinctly is true only if I first know (am certain) that (*q*) God exists and is not a deceiver. (2) I can know (be certain) that (*q*) God exists and is not a deceiver only if I first know (am certain) that (*p*) whatever I perceive clearly and distinctly is true. Obviously, if (1) and

(2) are both true, I can never be certain of either p or q . To be certain of either I would already have to be certain of the other.

24. The accusation of circularity was brought against Descartes by some theologians through Mersenne's compilation of the second set of objections, by Arnauld (fourth set) and by Gassendi (fifth set), with various degrees of strength and lucidity, since the first edition of the *Meditations*, issued together with the *Objections* in 1641.⁴⁶ If this charge was immediately put forward, the connection between the *petitio principii* in which Descartes' foundationalism seemed to be caught and the sceptical argumentation which hinges on the *diallelus* was likewise soon to be detected.⁴⁷ It is true, for example, that Gassendi, who was an expert in sceptical literature and not adverse to a form of mitigated scepticism himself, had formulated his version of the argument in the *Obietiones* in very general terms. But when in 1644 he wrote the *Disquisitio Metaphysica*, a lengthy work opposing the Cartesian project of first philosophy, he did not have any doubt in classifying the Cartesian circle technically as a *diallelus*:⁴⁸

Then I ask whether or not you are arguing in a circle, as they say, falling into a *diallelus* [*in diallelum incidas*], and begging the question when you prove one proposition by another which cannot itself be proven except by assuming that the first one has been proven.

In the *Meditations* Descartes was in need of a first undoubtable extension of knowledge in order to be able to prove the existence of God, and of the existence of God as a metaphysical principle in order to prove that a first undoubtable extension of knowledge was possible.⁴⁹

25. Admittedly, Gassendi was led to recognize a similarity between the objection of circularity against Descartes and the charge of circularity moved by Sextus Empiricus against the dogmatist by his tendency to put together the Cartesian metaphysics with that Scholastic-Aristotelian, and to interpret Descartes as a new dogmatist against whom the sceptic should renew his attack.⁵⁰ He interpreted Descartes "justificationism" as an attempt to provide a new first philosophy that could be a point of departure for any future development of human knowledge. Hence, his more instrumental vision of human knowledge led him to attack the Cartesian certainties with the same weapons elaborated centuries before by Agrippa for very similar purposes. By adopting the *diallelus* in order to accuse of *petitio principii* Descartes' treatment of the relation between the "ego cogito" and the proof of the existence of a veridical God, not only was Gassendi influenced by Sextus Empiricus and Montaigne, he was also addressing the issue by means of two classic dichotomies – "dogmatism" vs. "scepticism" (or "criticism") and "justificationism" vs. "descriptivism" – which have been two constants throughout the historical development of the debate. All this, however, does not imply that Gassendi's identification of the Cartesian circle with the *diallelus* was merely owing to his philosophical perspective. The same

equivalence *diallelus*-Cartesian circle could also be endorsed by the “conservative” party, which opposed the Cartesian “foundationalism” by means of the same argument, and finally by the defenders of Cartesianism themselves. A clear example is the debate between Pierre-Daniel Huet and Johannes Schotanus. After a short period of “Cartesian faith”, Huet had become more sceptical towards the validity of human knowledge and began to stress its limitation in favour of the possibility of religious faith, so that he came to endorse a position similar to Gassendi’s: Descartes’ metaphysics was caught in a “*diallelimson* [sic], or as they say in the School, a *petitio principii*.”⁵¹ In his answer to Huet, Schotanus did not question the equivalence *diallelus*-Cartesian circle (he accepted that the circle would have been a “dialellimon” and an “asylloghison”), but rather the fact that Descartes had been caught in a *diallelus* at all.⁵²

26. Contemporary epistemologists have been equally convinced that the Cartesian circle is another instance of the more general, meta-epistemological problem sketched by Sextus in the *diallelus*. Kenneth R. Westphal,⁵³ for example, has implicitly endorsed Gassendi’s suggestion by referring to the same paragraph from Sextus’ *Outlines* quoted in [5] as to the original source of the Cartesian foundationalist problem. In an article on the problem of epistemic circularity, William Alston has quoted Van Cleve’s article on the Cartesian circle as a more scholarly analysis of the same problem,⁵⁴ while Van Cleve, in his turn, referred to Chisholm’s article as a more analytical version of the Cartesian circle itself,⁵⁵ and we have seen that Chisholm’s *problem of the criterion* is a paraphrase of Montaigne’s *rouet* and this, in its turn, a rewording of Sextus Empiricus’ *diallelus*.

27. Ever since the publication of the *Meditations*, the Cartesian circle and its conceivable solutions have been the subject of a vast amount of analyses and controversies. A recent survey has listed up to fifty-eight works published between 1960 and 1984 dedicated to the problem of circularity in Descartes.⁵⁶ Generally speaking, interpreters can be divided into two parties: one that, to quote A. K. Stout, is convinced that “[the] circle [was] so obvious that it could hardly have escaped the notice even of a mind far less subtle than his [Descartes’]”⁵⁷ and inclines either towards a possible solution of the circle within the Cartesian system or towards a reinterpretation of Descartes’ aims (e. g. the circle is part of an elaborate deception aiming at the implicit justification of atheism and materialism); another which believes that, to adapt Montaigne, “there is no human mind, no matter how alert, that does not sleep sometimes”⁵⁸ and which asserts that the circularity between the “ego cogito” and “the existence of God” shows all the limitation of the Cartesian foundationalism. The anti-Cartesian tradition is rich in examples of such an attitude. When, roughly after the 1670, the popularity of Cartesianism in England had begun to decline, British philosophers were ready to adopt the Cartesian circle as one of the flags of the anti-Cartesian

reaction. Ralph Cudworth, the Cambridge Platonist who contributed so much to this reversal of fortunes, employed the accusation of *petitio principii* in order to undermine the Cartesian project. He thought that the circle was “a gross oversight, which the forementioned philosopher [i.e. Descartes] seems plainly guilty of.”⁵⁹ From a different (because more sceptical position), Thomas Baker reached the same conclusion.⁶⁰ So it is understandable that in more recent times an anti-Cartesian like Peirce should be ready to accuse Descartes of *petitio principii* in the same sense.⁶¹

28. I have mentioned the previous alternatives not because I mean to enter into a detailed discussion of the solutions to the problem, but rather because I would like to conclude the survey of the Cartesian map by a general remark on the possibility of solving in principle the Cartesian circle on the basis of its nature as a general problem. The strict relation occurring between *diallelus*, “problem of the criterion” and Cartesian circle suggests that, if we accept, as I think we should, Van Cleve’s interpretation of Chisholm’s article as a more analytic treatment of the same topic, and (although this is more controversial) Chisholm’s conclusion that the problem of the criterion is an inevitable and insoluble quandary in which any epistemology will necessarily be caught, it seems that we should also conclude that the Cartesian circle, in so far as it is a specific case of a more general issue, is equally insoluble. By this I do not mean to say that the Cartesian circle, as a specific issue, may not be solved by maintaining unchallenged certain presuppositions present in the Cartesian system. Van Cleve himself, Anthony Kenny and Bernard Williams, for example, have all proposed interesting solutions to the problem by interpreting it within Descartes’ thought. Nor do I mean to say that the *diallelus* would be the same formidable obstacle for an approach different from the Cartesian combination of “justificationism” and “foundationalism”. Regarding this possibility, for example, it is worth noticing that Ralph Walker⁶² has traced back to Gassendi’s anti-dogmatism, in terms of anti-Cartesianism and anti-foundationalism, contemporary tendencies in epistemology like Quine’s naturalized epistemology which are (or should be, see what Walker says on pp. 331–2) characterized by a non-normative and purely descriptive approach to the investigation of knowledge. Although I would be reluctant to advocate this “descriptive” option – for I agree with the criticisms against it by Barry Stroud and by Chisholm himself, who has retorted the *diallelus* against a descriptive program of research à la Goldman⁶³ – philosophers may expect from this approach solutions or perhaps dissolutions of the meta-epistemological problem. What I mean to say is that, given the fact that Chisholm’s work has been commonly interpreted as the continuation of the Cartesian project for an internal foundation of knowledge, his acceptance of the insolubility of the problem puts into question the whole enterprise of providing a firm, conclusive foundation for a Cartesian-like theory of knowledge in terms of an ultimate, scepticism-proof justification of the

premisses on which that very theory should be based. At least, philosophers who would like to solve the Cartesian circle (not only for the sake of scholarly interpretations but also with an eye to the foundationalist project) should first attempt to solve Chisholm's more analytic version of the "Problem of the Criterion". For if it is to Descartes' credit that he advanced so far into the problem of the justification of knowledge as to come to face the *diallelus*, it is to Chisholm's credit that he has recognized the serious difficulties that the *diallelus* represents for Cartesian "justificationism".

4. THE KANTIAN REGION

29. After Descartes' "internal justificationism", Kant's "transcendentalism" represents the other principal attempt in modern times to provide a firm ground for the validity of human knowledge, and it is from the discussion of Kant's epistemology that we shall start our investigation of the third region of our map. So let us once more turn to Mercier.

30. Mercier alludes to the problem of the *diallelus* in Kant's philosophy on pp. 403–4 of the *Criteriologie*. Within the discussion of the vicious circularity of the idealistic formulation of the problem of internal certainty, Mercier hints at the meta-epistemological problem by remarking, with respect to the possibility of a pure investigation of the conditions which make knowledge possible, that: "[...] it is virtually impossible to judge of the capacities of the intellectual faculty [*intelligence*] without using it." This time the charge of *vicious circularity* is addressed to the project of a critique of pure reason which would implicitly presuppose the right use of the "instrument" whose reliability it is supposed to assess. Mercier refers the reader to paragraphs 23 and 24 of his work, where he had originally discussed Descartes' "foundationalism". However, it is preferable to enter the new issue by tracing the origin of Mercier's anti-transcendental objection to its Hegelian roots, for this will lead us to the contemporary, renewed interest in the meta-epistemological problem under the name of "Fries' trilemma".

F. Reinhold's Elementarphilosophie

31. One of Kant's principal aims in the first *Critique* was to examine the conditions which make human knowledge possible, in order to determine the limits within which the latter could be expected to extend as reliable, cumulative and therefore scientific. Unlike Descartes, however, Kant was urged to pursue such an investigation not so much by a straightforward, foundationalist project, and therefore by a deep concern for the sceptical challenge, as by his interest in the status of metaphysical claims and religious beliefs. As a consequence of this different orientation, in the *Critique* Kant's faith in sciences like physics and mathematics appears never to be shaken. Such disciplines represent the standards of what may count as scientific

knowledge and whilst their epistemic possibility may be in need of an explanation, their epistemological validity remains unquestioned. They provide the basis on which other possible instances of knowledge are to be assessed. The question addressed by the *Critique* is how knowledge is possible; that we know is taken as a fact.

32. Given his limited concern with scepticism, Kant had not dwelt on the following questions: What type of knowledge was to be found in the *Critique itself* (was it metaphysical or empirical or transcendental or of some other type?), whether that type of knowledge was in need of a justification, and if so, whether and how it could be justified without incurring a vicious circle. The discussion of such issues, however, was urged on Kant himself and then on the Kantian school almost immediately, and ended with the formulation of Fries' famous trilemma. The crisis was opened "internally" by an admirer of Kant's criticism, Karl Leonard Reinhold, and brought to its disruptive maturity by Hegel.

33. In 1791, only four years after the publication of the second version of the *Critique*, Reinhold had already presented a lucid analysis of the "foundationalist" problem which was threatening the *Critique*:⁶⁴

The *foundation* of the *Critique of Pure Reason* is neither *universal* enough (i.e. all-encompassing) nor *firm* enough to carry the *whole philosophical edifice* of philosophy. [...] for however *true* all that the *Critique* presupposes as *established* regarding its own groundwork may be (or all that on which it actually erects its edifice), it is equally true that none of it HAS BEEN ESTABLISHED as *true*. The concepts of the *possibility of experience* and of the *nature and actuality of synthetic a priori judgements*, which are laid down in the *Critique* as the foundation of the edifice of Kantian doctrines, are assumed in this founding function without any proof. [...] Of course, the essential characteristics of these important concepts are unfolded and demonstrated throughout the work, but only on the basis of grounds that *presuppose* the Kantian foundation of the *Critique* – hence the reality of concepts at issue (or rather, the unproven assertions, the incomplete principles, in which those concepts are laid down as foundation) is *presupposed*. The foundation of the *Critique* can only be proven from the *Critique* itself through a vicious circle.⁶⁵

34. Reinhold's criticism turned out to be a case of "friendly fire". He had raised the foundationalist issue in relation to the premisses of the *Critique* itself because he meant to defend further the validity of Kant's approach by providing an *Elementarphilosophie* which would have established what the *Critique* was *correctly* presupposing, namely a theory of representation based on the individuation of a pure fact of consciousness. In fact, the crisis opened by Reinhold could only lead either to a revival of the Cartesian project for the individuation of the self-evident, i.e. for the identification of an extension of knowledge which could justify the rest of the edifice without requiring further foundation (as this was clearly realized by the neo-Kantian Leonard Nelson years later)⁶⁶ or to the idealist attempt to get rid of the foundationalist program in terms of "justificationism". It

was the latter that in a short time prevailed as the leading “program of research”. Like the critics of Descartes, Reinhold too had to admit that, if the issue of the justification were to be pursued to its extremes, the appeal to a pure fact of consciousness would also incur a *petitio principii*.⁶⁷ He had to recognize that, once the nature of the sceptical challenge was transformed into a source of logically possible objections, his fact of consciousness (i.e. his fundamental proposition “in consciousness the representation is distinct from both subject and object, and refers to both”) could not provide a solution any less circular than the Cartesian “ego cogito”.⁶⁸ Philosophers of the time had already been forcefully reminded of this in Humean terms by Gottlob Ernst Schulze in his *Aenesidemus*.⁶⁹

35. Because of his failure, Reinhold participated in impressing an “internalist” shift to the post-Kantian philosophy: if it was not possible to provide a conclusive, Cartesian-like justification to human knowledge, the alternative left open was the idealistic one of the absolute foundation of knowledge on the noetic activity of the transcendental subject. In the *Science of Knowledge*,⁷⁰ Fichte was led by Reinhold’s objection to the *Critique* to accept both the requirement for a final, internal foundation of the Kantian system and the inevitability of the circularity of the foundation of a theory of knowledge. All he could do was to try to transform it into a virtuous circle of a (transcendentally) subjective self-foundation of knowledge.

G. Hegel’s “Scholasticus’ Absurd Resolution”

36. With Fichte the attack on the justification of the *Critique* developed its ultimate consequences within the Kantian coordinates. If Fichte could still consider himself a follower of Kant, no matter how rebellious, Hegel adopted the strategy of the objection of the vicious circle as one of the principal tools to unhinge Kant’s criticism, dispose of its epistemo-ontological dualism and the consequent limits of reason, and vindicate the systematic and constructive speculation of the latter. With Hegel the stress on the crisis of the foundation became part of the larger, external attack moved to Kant’s transcendental idealism by its rival philosophy, absolute idealism.

37. Unlike Descartes and Kant, Hegel approached the problem of knowledge more in terms of a descriptive explanation than in terms of a normative justification. For Hegel the justificatory function of the descriptive explanation was to be detected in the articulated exhaustiveness of the complete system. However, in line with the Cartesian tradition, Hegel did not share Kant’s limited conception of scepticism. This is clear since, in ‘On the Relationship of Scepticism with Philosophy’, an early review of Schulze’s *Kritik der teoretischen Philosophie* written in 1802, he discusses the *Aenesidemus*⁷¹ at length. Hegel interprets ancient scepticism, in its more positive

form, as the driving force of theoretical investigation. It is in this early work that we find the roots of the revival of the meta-epistemological problem within the German tradition.

38. Like Gassendi with respect to Descartes, Hegel moves his anti-foundationalist criticism about Kant's *Critique* according to the classic dichotomy "scepticism vs. dogmatism". While discussing Schulze's *Aenesidemus*, Hegel assimilates the *new* Scepticism to the Kantian "intellectualist" system (pp. 340–1). They are both manifestations of the philosophy of finitude, which rely especially on *physics* and *mathematics* as the typical sciences in which dichotomies and oppositions are unresolvable (p. 336). Both philosophies dissect the rational, in which being and thinking are one, into a dualist opposition of being and thought, which they then maintain steadily fixed and radically irresolvable (p. 339). As "intellectualist" philosophies both Kant's criticism and Schulze's scepticism are forms of dogmatism which can be dislodged by the dialogical questioning of the old scepticism. In particular, Hegel is convinced that "there are no better weapons against dogmatism on finite basis" (p. 335) than Agrippa's second and fourth tropes and especially the *diallelus*. According to Hegel the *diallelus* shows that, as long as there is an irreducible relation-dichotomy between finite and infinite, thought and being, absolute and limited, there is also the meta-epistemological problem of the circularity of the foundation of a philosophy of knowledge.⁷²

39. Of the various places in which Hegel reiterates his attack on Kant's criticism, the *Phenomenology of Spirit* and the *Encyclopaedia of the Philosophical Sciences* are the most interesting for our purpose.⁷³ In the former, Hegel further develops his critique of Kant by objecting to his dualist conception of knowledge as an *instrument whereby* or a *medium through which* we apprehend the world. Hegel is polemical against a vision of knowledge as a fixed relation between knower and known, and the reference to the two analogies emphasises the connection between Hegel's position and the sceptical discussion of the instrumentalist conception of the criterion.⁷⁴ In the latter work, Hegel refers explicitly to Reinhold's criticism seen in [33], and combines it to the problem of the instrumental vision of knowledge and to that of the justification of a theory of knowledge: "[...] the examination of knowledge can only be carried out by an act of knowledge. To examine this so-called instrument is the same thing as to know it. But to seek to know before we know [i.e. the Kantian project] is as absurd as the wise resolution of Scholasticus, not to venture into the water until he had learned to swim."⁷⁵ By means of this metaphor, which was to become an anti-Kantian slogan, Hegel meant to summarize the various problems faced by Kant's *Critique*: dualism, instrumentalism, dogmatism and, most important of all for our present interest, the intrinsic threat of a fundamental *petitio principii*.⁷⁶ This is what was behind Mercier's

apparently casual remark about the impossibility of assessing the reliability of the intellectual faculty without using it. However, it was not for Hegel to re-formulate the meta-epistemological problem in its more analytic form. The task was left to the Kantian party which was to answer the challenge.

H. Fries' Trilemma

40. In 1807, the same year in which Hegel's *Phenomenology* appeared, Jakob Friedrich Fries published his *Neue Kritik der Vernunft*. One of the aims of the work was to provide what has come to be described by Popper as a "psychologistic solution" to the foundationalist problem raised by Reinhold about the *Critique*.⁷⁷ The problem faced by Fries can be summarized in terms of a trilemma: the premisses of a theory of knowledge can either be dogmatically assumed, or be justified by an endless chain of statements, or be anchored to a psychological basis which is at the same time justificatory but not in need of a justification. The meta-epistemological problem was acquiring once again a central place in the history of epistemology, although the fundamental, circular nature of the problem was being left implicit.

41. Because of the deep contrast between Fries and Hegel and the force of the Idealist movement altogether, Fries' restatement of the meta-epistemological problem might not have outlived the idealistic epoch nor influenced the following German tradition if it had not been for a "Fries-Renaissance", which occurred during the first two decades of this century. Among the authors of this revival of Fries' studies there was Fries' pupil, Leonard Nelson. Deeply influenced by Fries' discussion of the meta-epistemological problem, Nelson was led to object to the entire project of an epistemology in the Cartesian, anti-sceptical and justificatory sense, in favour of a more descriptive and "psychologistic" approach.⁷⁸ Despite his negative attitude, however, he greatly contributed to the arousal once again of the interest among philosophers in the foundationalist issue. Moriz Schlick, for example, dedicated a number of pages of his *General Theory of Knowledge*⁷⁹ to the critical discussion of the question relating it to Nelson's position. Referring to Bergson, Kant, Brentano, Husserl and Nelson he maintained that "anyone who holds that the Cartesian thesis [i.e. direct perception of a fact of consciousness] constitutes knowledge will inevitably be drawn into a similar circle" (p. 86). But the more important and far-reaching effect of the revival of Fries' discussion of the foundationalist issue was that Karl Popper in *The Logic of Scientific Discovery*⁸⁰ came to discuss the problem of the nature of basic statements in scientific theory under the wider problem which he labelled "Fries' trilemma".

42. Popper had been introduced to Fries' work by Julius Kraft who was a distant relative of his and one of Nelson's pupils (he later became the

editor of Nelson's works). Although he had already reached a similar formulation of the *metatheoretical* problem independently of Fries, in the *Logic* he decided to call it "Fries' trilemma" in order to credit his predecessor.⁸¹ The problem was that

[...] if the statements of science are not to be accepted *dogmatically*, we must be able to *justify* them. If we demand justification by reasoned argument, in the logical sense, then we are committed to the view that *statements can be justified only by statements*. The demand that all statements are to be logically justified (described by Fries as a "predilection for proofs") is therefore bound to lead to an *infinite regress*. Now, if we wish to avoid the danger of dogmatism as well as an infinite regress, then it seems as if we could only have recourse to *psychologism*, i.e. the doctrine that statements can be justified not only by statements but also by perceptual experience. Faced with this *trilemma* – dogmatism vs. infinite regress vs. psychologism – Fries, and with him almost all epistemologists who wished to account for our empirical knowledge, opted for psychologism (p. 94).

43. The importance of Popper's re-formulation of the problem and of his "dynamic solution" (there is no need to consider the infinite regress as negative, for we simply leave the presuppositions of a specific science open to the possibility of further testing⁸²) could not be over-emphasized. While representing the source of some of the most important recent works on the foundationalist problem within the German tradition, it has been the origin of a deep modification in the interpretation of the meta-epistemological problem. In Fries the question of the justification of the premisses of an epistemology was still to be understood in *Kantian terms*, that is as *a problem for a theory of knowledge* which in its turn aims at the transcendental foundation of human knowledge *tout court*.⁸³ From Popper onwards, philosophers have been more inclined to understand the meta-epistemological problem as *a problem concerning the foundation of knowledge*, in particular scientific knowledge or specific sciences, and no longer the justification of a *theory of knowledge in general*, an *Erkenntnisstheorie*. The different interpretation of the nature of the problem can be connected to the ampler crisis undergone by epistemology as a philosophy of knowledge in search of an absolute foundation, a crisis which has also been favoured by the difficulty in finding a satisfactory solution to the foundationalist problem and which has turned the attention of the epistemologists to more specific issues concerning the philosophy of science.⁸⁴ By framing the discussion of the nature of basic statements within the context of "Fries' trilemma" Popper modified the original features of the issue and embodied, but at the same time also actively participated in the epistemological turn we are still witnessing. Three philosophers who have been influenced by Popper's approach, Imre Lakatos, Hans Albert and Karl Otto Apel, give us a clear picture of this new approach.

44. Following the Aristotelian tradition, Lakatos has interpreted the meta-epistemological problem in terms of infinite regress. He has inserted its discussion within the context of the debate between the inductive or deductive

foundation of mathematics.⁸⁵ In Lakatos the foundationalist problem ends by referring to a classic problem of philosophy of mathematics which may have no connection with the sceptical and epistemological origin of the issue.

45. Albert's interpretation of his "Münchhausen's trilemma"⁸⁶ is probably the most evident example of the shift undergone by the meta-epistemological problem. According to Albert the central problem in epistemology is the problem of the foundation of knowledge ("how knowledge is grounded", p. 12), but solutions which attempt to provide a justification of knowledge are bound to face the following trilemma: in order to justify a statement one must choose between an *infinite regress*, a *logical circle* or the *breaking-off of the process* by means of an appeal to allegedly self-justifying premisses which support, but do not need to be justified by, other elements of the theory. The formulation of the trilemma leaves no doubts about its historical origins⁸⁷ and it has the great merit of re-introducing the alternative of the *petitio principii* as at least one, if not the most important, aspect of the problem. It is worth noticing that from Fries onwards the Kantian tradition had tended to disregard this aspect, possibly for anti-idealistic reasons, given that the idealist program could be interpreted as an original appreciation of the circularly-systematic justification of knowledge. Unfortunately, the new context (justification vs. critical examination of specific instances of knowledge), and the Aristotelian perspective does not allow Albert to interpret his "Münchhausen's trilemma" as a problem for the justification of the premisses of a theory of knowledge – that is as a problem which would affect Fries' "principle of self-confidence of reason" as well as his own falsificationist "principle of critical examination"⁸⁸ – but only as a difficulty of the basis for our knowledge.

46. Such a "lowering" of the theoretical level at which the meta-epistemological problem is supposed to take place may also encouraged a step back to a slightly Kantian approach which supposes that sciences are in need of a transcendental grounding-explanation, not of a justificatory, Cartesian-like epistemology. Of course, in this case the radical, sceptical challenge is left implicit or thoroughly disregarded, and replaced once again by the Aristotelian problem of the justification of first axioms. This seems to be the path followed by Karl Otto Apel, a philosopher who has implicitly defended, in his "The problem of Philosophical Fundamental-Grounding in Light of a Transcendental Pragmatic of Language", a Kantian-like position by proposing a linguistico-transcendental approach to the *meta-theoretical* (yet not "meta-epistemological" in the technical sense adopted so far) problem.⁸⁹

5. CONCLUSION

47. The history of the formulations of the meta-epistemological problem ends with the reference to these contemporary authors. The reconstruction has led us through the history of epistemology and it is time to draw a conclusion on the phenomenology of the formulations of the meta-epistemological question. What I shall say refers only to prevailing traits which characterize each area of the “map”.

48. Some features which have repeatedly occurred are the analogical interpretation of knowledge as an instrument or medium and the use of several dichotomies: “dogmatism vs. scepticism (or criticism)” – a dichotomy which nowadays is obviously potentially misleading⁹⁰ – “phenomenological descriptivism vs. foundationalist justificationism” and finally “deductive vs. inductive justification”. Philosophers have been ready to adopt them in order to classify their own and others’ positions. Especially the latter, encountered in the “Popperian area” of the “Kantian map” throws light on the more methodologically-orientated interpretation of the issue within the German tradition, which is probably due to the Kantian origins of the formulation of the problem. A philosopher as theoretically “German” as Collingwood, for example, was as ready as Lakatos or as Apel to frame the meta-epistemological question within the problem of the nature of inductive and deductive processes (although, contrary to the latter, he had an understandable inclination to appreciate the circular feature of the problem and to see in it its own solution, reinforcing in this way the hypothesis that the disappearance of the *petitio principii* as the principal problem of the foundationalist program in the presentation of the issue given within the Kantian school may have had an anti-idealistic origin).⁹¹ This also explains the major interest of the Kantian tradition in the Aristotelian, logical origin of the foundationalist issue and the fact that the “neighbouring map” would certainly be represented by that, geographically Anglo-Continental, of the Wittgensteinian (especially the Wittgenstein of *On Certainty*) and anti-Cartesian tradition, which focuses on the linguistic, i.e. semantic, pragmatic and communicative, conditions or criteria which make it possible to speak of instances of knowledge and meaningful doubts. We would expect that the German-Kantian tradition could present a more evidently metatheoretical interpretation of the foundationalist problem. We have seen that this was still the case until Nelson. Lately, the crisis of epistemology, the subsequent epistemological turn which has favoured studies focusing more narrowly on the philosophy of science, the reference to the Aristotelian, logical roots of the problem and hence the interpretation of the problem as consisting essentially in a regressus *ad infinitum* are all factors which have contributed to ranking the interpretation of “Münchhausen’s trilemma” at a logical level lower than that of the *diallelus*. The foundationalist issue and the incapacity of a theory of

knowledge to find a solution to it have prompted philosophers to abandon wide, all-encompassing epistemological projects and to focus, in terms of philosophy of science, on discussion of the foundation of knowledge at the logically lower level of specific instances or types of knowledge.

49. On the Cartesian side of the map, we have seen that philosophers tend to show a major interest in an “extensionalist” approach: they are inclined to privilege the search for an unshakeable extension of knowledge. Thus the Cartesian map is more strictly connected to the other, more eminently American map, of the “problem of the given” (it may not be pure chance that studies in the philosophy of knowledge are still pursued mainly in American universities with a strongly neo-rationalistic orientation), and is more interested in the sceptical origin of the issue and presents a more evident, meta-epistemological interpretation of the problem. Less shaken by the crisis of epistemology than the Kantian tradition, the Cartesian one tends to disregard a methodological solution of the problem, e. g. in the sense of a transcendental approach, and to carry on investigations into the possibility of a theory of knowledge which are largely in agreement with a modern, out-moded outlook, despite the impressive technical apparatus provided by recent developments in formal logic and conceptual analysis.

50. If I have been able to provide a satisfactory, general history of the problem, a task left to future research would be that of providing a phenomenology of the attempted solutions of the problem. For the moment, I shall conclude this article with a quotation from Jonathan Barnes. Speaking of Agrippa’s five tropes he has said that: “[...] these forms and structure [...] have had a unique influence on the subsequent history of sceptical enquiry, and hence, more generally, on the history of epistemology or the enquiry into the nature and scope of human knowledge: the Agrippan forms lie at the heart of the western philosophical tradition.”⁹² I hope I have shown how much truth there is in this statement.⁹³

NOTES

¹ In my ‘The Problem of the Justification of a Theory of Knowledge: Morphology and Diagnosis’, forthcoming in this journal.

² Sextus Empiricus, *Outlines of Pyrrhonism*, Eng. trans. by R. G. Bury (Cambridge Mass.: Harvard U. P., 1976), II. 20. The argument is summarized by Diogenes Laertius in ‘Life of Pyrrho’, Book IX, 90–1, cf. Eng. trans. by R. D. Hick, *Lives of Eminent Philosophers* (Cambridge Mass.: Harvard U. P., 1950), pp. 501–3.

³ For a more detailed analysis of the argument see J. Barnes, *The Toils of Scepticism* (Cambridge: Cambridge U. P., 1990), especially p. 115 and ff.

⁴ Sextus Empiricus, *Outlines*, II. 21.

⁵ Cf. G. Striker, ‘The Problem of the Criterion’ in *Epistemology*, ed. by S. Everson, (Cambridge: Cambridge U. P., 1990), pp. 143–60.

⁶ Anthony A. Long, 'Ptolemy on the Criterion: an Epistemology for the Practising Scientist', in *The Criterion of Truth*, ed. by Pamela Huby and Gordon Neal, (Liverpool: Liverpool U. P., 1989), p. 156.

⁷ Long, *art. cit.*, p. 154.

⁸ About the several ways in which the word "kriterion" could be used, cf. for example Sextus Empiricus, *Against the Dogmatists*, Eng. trans. by R. G. Bury, (Cambridge Mass.: Harvard U. P. 1976), I. 29–37. Scholars unanimously recognize Gisella Striker's work, *Kriterion tes aletheias*, published in *Nachrichten der Akademie der Wissenschaften in Göttingen, Phil.-hist.* K1. (1974), pp. 47–110 as the best investigation of the history of the problem in ancient philosophy.

⁹ See for example the recent collection of essays published by P. Huby and G. Neal, *The Criterion of Truth*.

¹⁰ Long, *art. cit.*, p. 154.

¹¹ That the metatheoretical attack on the criterion is only one weapon in the sceptical arsenal is clear from the articulated analyses given by Long in his 'Sextus Empiricus on the Criterion of Truth', *Bulletin of the Institute of Classical Studies of the University of London*, 25 (1978), pp. 35–49 and by Barnes, *op. cit.*

¹² Cf. Striker, *art. cit.*, pp. 149, 151, 152 and 157.

¹³ Cf. Striker, *art. cit.*, p. 143, note 1. See also the indications given in this article to the work of Myles Burnyeat on Plato's *Theaetetus* together with his recent edition, with a revised translation and comment, of the *Theaetetus* (Cambridge, Ind.: Hackett, 1990).

¹⁴ I say "generally" because it has seemed possible to recognize in Meno's paradox a methodological interest by Plato (cf. Plato, *Meno*, 80d and ff.). But I shall disregard such an issue in this context.

¹⁵ See A. Long's interesting article, 'Aristotle and the History of Greek Scepticism', in *Studies in Aristotle*, ed. by Dominic J. O'Meara, (Washington D. C.: The Catholic University of America Press, 1981), pp. 79–106, in which he reevaluates Aristotle's position with respect to the history of Greek scepticism. Long stresses the metatheoretical nature of the problem thus: "they [Aristotle's opponents] use these strategies [the two modes *eis apeiron* and *ex hypotheseos*] in order to argue against a foundation for knowledge" (p. 87) not just against the possibility of *F*'s knowledge tout court, and continues by saying that "It is not difficult to pick holes in Aristotle's answer to his first-line opponent here: the epistemological work he assigns to *noûs*, however we interpret this, is open to the sceptical rejoinder that *noûs* needs a criterion to justify its knowing anything" (*ibid.*). This seemingly justified rejoinder seems to undermine any Aristotelian-like approach (cf. Sextus' *Against the Dogmatists*, II. 337 and ff.).

¹⁶ Cf. K. O. Apel, "The Problem of Philosophical Fundamental-Grounding in Light of a Transcendental Pragmatic of Language", *Man & World*, 8 (1975), 239–75, quotation from p. 243.

¹⁷ Cf. D. M. Armstrong, *Belief Truth and Knowledge* (Cambridge: Cambridge U. P., 1973), p. 153.

¹⁸ Cf. Sextus Empiricus, *Outlines*, I. 3.

¹⁹ D. Mercier, *Criteriologie Generale ou Theorie Generale de la Certitude* (Paris: Louvain, 1906, 5th ed.), p. 59, note 1, where Mercier refers to the *Outlines*, II. 12 and quotes Montaigne's passage given above. Mercier does not specify that the *diallelus* is only part of the argument, no matter how important.

²⁰ D. Mercier, *A Manual of Modern Scholastic Philosophy*, vol. I: *Cosmology, Psychology, Epistemology (Criteriology) General Metaphysics (Ontology)*, Eng. trans. by T. L. Parker and S. A. Parker, (London: Kegan Paul, 1917, II ed.), p. 343.

²¹ Mercier, *Manual*, p. 353.

²² Cf. Mercier, *Criteriologie*, pp. 16 and 38. It is noteworthy that on p. 38, note I Mercier distinguishes between the "*criterium propter quod* we are certain" and the "*criterium secundum quod* we are certain".

²³ Mercier, *Manual*, p. 360, where he refers to Thomas Aquinas' *circulus in demonstrationibus*.

²⁴ Cf. Mercier, *Criteriologie*, p. 58, see also note 1 and *Manual*, p. 353.

²⁵ Michel Eyquem de Montaigne, 'The Apology of Raymond Sebond', in *Les Essays*, French ed. by F. Strowski, (Bordeaux: F. Pench & C.ie, 1906–20), vol. II, pp. 12 and 365–6. According to E. Macu (cf. *Repertorie des Idees de Montaigne* [Geneve: Droz, 1965]) there are no occurrences of the nouns "diallelus" or "criterion" in Montaigne's work, and only four occurrences of "rouet". This is confirmed by E. Leake (cf. *Concordance des Essays de Montaigne* (Geneve: Droz, 1981), p. 1110) according to whom there is only one occurrence of "rouet" in the *Essays* connected to the argument of the *diallelus*, which I have quoted in the text. Montaigne hints at the problem of circularity on p. 280.

²⁶ Pierre Villey, *Les Sources et l'Evolution des Essays de Montaigne*, 2 vols. (Osnabruck: Zeller, 1976, II ed.), p. 290.

²⁷ *Sexti Empirici Pyrrhoniaronum hypotyposeon libri III, interprete Henrico Stephano, Anno 1562*. On pp. 200–17 we find *Pyrrhonis Eliensis Philosophi Vita ex Diogene Laertio*.

²⁸ See Villey, *op. cit.*, pp. 242–3. The work *Against the Dogmatists* contains various occurrences of the *diallelus* in more or less articulated way (cf. for example I. 315–340; II. 15–31; II. 340–7; II. 380–1). Perhaps the closest to the version present in the *Outlines* is given in II. 25–29.

²⁹ Cf. Charles B. Schmitt, *Cicero Scepticus: A Study of the Academia in the Renaissance* (The Hague: Martinus Nijhoff, 1972).

³⁰ Cf. *M. Tullii Ciceronis Academica*, text revised and explained by James S. Reid, (London: Macmillan, 1885). Reid gives a proper formulation of the *diallelus* on p. 63.

³¹ According to Striker the word "criterion" was relatively new to the philosophical lexicon around 300 B. C. . As she says: "The word literally means an instrument or means for judging – which tells nothing about the character or function of such an instrument" (*art. cit.*, p. 144).

³² For the importance of the problem of the criterion in religious matters, especially Biblical exegesis, see Richard H. Popkin, *The History of Scepticism from Erasmus to Spinoza*, rev. ed. (Los Angeles: University of California Press, 1979), Olof Frank, *The Criteriologic Problem* (Stockholm: Almqvist and Wiksell Int., 1988) and from a Popperian point of view William Warren Bartley III, *The Retreat to Commitment* (London: Chatto & Windus, 1964), especially chaps. 4 and 5.

³³ I am not referring to Analytic philosophers who seem to be influenced by Wittgenstein's use of the term. They employ the term "criterion" in a *different way*, generally intending that if *x* is a criterion of *y* then it is a necessary truth that *x* is evidence for *y*.

³⁴ Chisholm's principal analysis of the problem of the criterion is in 'The Problem of the Criterion', which first appeared as *The Aquinas Lecture* (Milwaukee: Marquette University Pub., 1973), and then was reprinted in *The Foundations of Knowing* (Brighton: The Harvester Press, 1982), Part III, ch. 5. More general presentations can also be found in *Perceiving – A Philosophical Study* (Ithaca-New York: Cornell U. P., 1957), Part I ch. 3 ('The Problem of the Criterion') and in the three editions of *Theory of Knowledge* (Englewood Cliffs, N. J.: Prentice-Hall Internationals Editions, 1977). All my references are to the first text.

³⁵ Chisholm, *op. cit.*, p. 62, and note 3.

³⁶ Cf. Robert P. Amico, 'Roderick Chisholm and the Problem of the Criterion', R. Chisholm, 'Reply to Amico on the Problem of the Criterion' and R. P. Amico, 'Reply to Chisholm on the Problem of the Criterion' all in *Philosophical Papers* 17 (1988), 217–29, 231–4 and 235–6 respectively. Chisholm's metatheoretical interpretation is on p. 232. I shall mention here that Amico in an unpublished paper, 'Skepticism and the Problem of the Criterion', presented to the 1991 Pacific Division Meeting, has attempted not a descriptive but what I take to be a "transcendental" dissolution of the problem, cf. also his Ph. D. thesis 'The Problem of the Criterion' (The University of Rochester, 1986). I feel very sympathetic towards this sort of analysis, cf. my 'Il Problema della Giustificazione di una Teoria della Conoscenza', *La Rivista di Filosofia*, 81. 2 (1991), 319–35.

³⁷ Cf. N. Rescher, *Methodological Pragmatism* (New York: New York U. P., 1977), chap. 2. On pp. 17–8 note 6, Rescher mentions Chisholm's paper on the problem of the criterion and Mercier's eighth edition of the *Criteriaologie*, specifying that "notwithstanding its intrinsic significance, this line of reasoning [i.e. the problem of the justification of a theory of knowledge] has lain dormant in modern philosophy until D. J. Mercier's *Criteriaologie*". Like Mercier, he refers to Montaigne's *rouet*, i.e. Sextus Empiricus' complex argument, by means of the label *diallelus*. See also *Scepticism* (Oxford: Blackwell, 1980), where Rescher discusses the problem of the *diallelus* (chap. 1) and that of the foundation (chap. 9).

³⁸ Chisholm, 'The Problem of the Criterion', p. 61.

³⁹ *Ibid.*, p. 75.

⁴⁰ *Ibid.*, p. 61, note 2. Chisholm refers to the 8th edition. Unfortunately, I have been unable to locate this edition. As specified above, my remarks are based on the 5th edition. Chisholm, and with him Rescher, also refers to P. Coffey, *Epistemology or the Theory of Knowledge, An Introduction to General Metaphysics* (2 vols. first published in New York in 1917 and then in London by Longmans in 1938). Probably influenced by Mercier, Coffey identifies *diallelus* and *rouet* as the same problem, cf. vol. I, pp. 140–4 and vol. II, pp. 273–4. As for the connection between Chisholm and the German tradition through Nelson, see R. Chisholm, 'Socratic Method and the Theory of Knowledge' and the more general paper by Rudolf Haller, 'Über die Möglichkeit der Erkenntnistheorie', in *Vernunft Erkenntnis Sittlichkeit, Int. Phil. Symp. Goettingen 27–29 Okt. 1974 aus Anlass des 50 Todestages von L. Nelson*, her. von Peter Schroeder (Hamburg: Felix Meiner V., 1979), pp. 37–54 and pp. 55–68 respectively.

⁴¹ For a philological analysis of the epistemic lexicon and of the more vast and complex problem of the criterion in Sextus Empiricus, cf. K. Janacek, *Sextus Empiricus' Sceptical Methods* (Praha: Univesita Karlova, 1972), especially chap. 9. More philosophical aspects of the text are discussed by Long in his 'Sextus Empiricus on the Criterion of Truth' and by J. Brunschwig in 'Sextus Empiricus on the Kriterion: The Skeptic as Conceptual Legatee', in *The Question of 'Eclecticism' in Later Greek Philosophy*, ed. by John M. Dillon and A. A. Long (Berkeley and Los Angeles: University of California Press, 1988), chap. 6.

⁴² See Sextus' *Against the Dogmatists* VII. 27–446 and *Outlines*, II. 13–79.

⁴³ See R. Chisholm, 'Sextus Empiricus and Modern Epistemology', *Philosophy of Science* 8 (1941), 376–84. The paper contains no reference to the problem of the criterion or to the *diallelus*.

⁴⁴ See Long, 'Sextus Empiricus on the Criterion of Truth', especially p. 35.

⁴⁵ J. Van Cleve, 'Foundationalism, Epistemic Principles, and the Cartesian Circle', *Philosophical Review*, 88 (1979), 55–91, especially 55–6.

⁴⁶ Cf. *Meditationes de Prima Philosophia*, vol. VII of *Oeuvres de Descartes*, ed. by C. Adam and P. Tannery, (Paris: L. Cerf, 1904), henceforth referred to as 'AT', respectively, pp. 124²⁹ and ff, 214^{7–10} and 326^{16–19}. It is worth noting that Pantaleo Carabellese attempted a diversification of what seemed to him three versions of the same objections in 'Il circolo vizioso di Cartesio', *Rendiconti della Classe di Scienze Morali, Storiche e Filologiche della Reale Accademia dei Lincei*, Sez. VI, Vol. 13, fasc. 11–12 (1939), pp. 471–532.

⁴⁷ From a lexical point of view, in the *Meditations* and the *Objections* the problem is always discussed in terms of a *circulus*, cf. Arnauld's objection and Descartes' answer to the fourth set of objections in AT, VII, pp. 245²⁵–246⁹ and also 210.

⁴⁸ Cf. P. Gassendi, *Disquisitio Metaphysica seu Dubitationes et Instantiae adversus Renati Cartesii Metaphysicam et Responsa*, ed. by B. Rochot, (Paris: Vrin, 1962), Contra Med. IV, Doute IV, Inst. II, p. 465. The work has been reprinted in *Opera Omnia*, Faksimile-Neudruck der Ausgabe von Lyon 1658 in 6 Bänden mit einer Einleitung von Tullio Gregory (Stuttgart-Bad Cannstatt: Frommann, 1964), vol. III. The Eng. trans. is from *The Selected Works of Pierre Gassendi*, ed. and trans. by Craig B. Brush, (New York: Johnson Rep. Corp., 1972), p. 242. Oddly enough the index of this collection does not register this occurrence of the noun "diallelus" (but see next footnote).

⁴⁹ Gassendi knew very well the technical meaning of the term as this is attested in his *Syntagmatis Philosophici Pars Prima quae est Logica*, vol. I of *Opera Omnia*, where the *diallelus* is defined on p. 75^b, and used as a technical term e. g. on pp. 75–86, especially p. 85^b. See also *The Selected Works of Pierre Gassendi*, pp. 312 and 345.

⁵⁰ Cf. Tullio Gregory, *Scetticismo ed Empirismo, Studio su Gassendi* (Roma-Bari: Laterza, 1961), pp. 82–118.

⁵¹ Petri Danielis Huetii Episcopi Suessionensis Designati *Censura Philosophiae Cartesianae*, Paris 1689, pp. 134–5.

⁵² Johannis Schotani *Discussio Censurae Huetianae. Qua scilicet Illustrissimus ille praesul Pet. Daniel Huetius [...] Philosophiam, quam vocat, Cartesianam inique vexavit, editio altera [...] cum Prefatione Jacobi Roman*, Amsterdam 1702, see pp. 305–7. For more information on this Dutch Cartesian philosopher [1643–1699], see A. J. Van der AA, *Biographisch Woordenboek der Nederlanden* (Harlem: J. J. van Brederode, 1874), vol. 17, pp. 439–40. The date of the first edition of the *Discussio* reported on p. 440 of this work, namely 1591, is obviously wrong, and should be interpreted as standing for 1691.

⁵³ K. R. Westphal, ‘Sextus Empiricus contra Descartes’, *Philosophy Research Archives* 13 (1987/8), 91–128. Westphal lists five different forms of circularity in Descartes’ *Meditations*. See also Christopher Hookway, *Scepticism* (London: Routledge, 1990), pp. 66–7.

⁵⁴ W. P. Alston, ‘Epistemic Circularity’, *Philosophy and Phenomenological Research*, 47 (1986), 1–30, see note 16, p. 13 and above all his quotation (p. 148) of Sextus Empiricus *diallelus* (*Outlines*, II. 20) in ‘Level-Confusions in Epistemology’, in *Studies in Epistemology* (Mineapolis, Midwest Studies, 1980), pp. 135–50.

⁵⁵ Van Cleve, *art. cit.*, p. 56, note 2.

⁵⁶ *Twenty-five Years of Descartes Scholarship 1960–84*, ed. by V. Chappell and W. Doney (New York: Garland, 1987) (note, however, that not all the works listed under the topic “circularity” are strictly relevant to the problem of the Cartesian circle). Doney has published a collection of some important essays on the Cartesian circle in *Eternal Truths and the Cartesian Circle* (New York & London: Garland Pub. Co., 1987).

⁵⁷ A. K. Stout, ‘The alleged “petitio principii” in Descartes’ appeal to the veracity of God’, *Proceedings of the IX Congres International de Philosophie*, Paris 1937, vol. I, pp. 125–31. The point could be reinforced by the fact that according to Richard Popkin Descartes was able to adopt a very similar strategy against Herbert of Cherbury accusing him of vicious circularity in a letter to Mersenne cf. *The History of Scepticism from Erasmus to Spinoza*, p. 160, especially note 35.

⁵⁸ Montaigne, *Apology*, p. 285.

⁵⁹ Cf. R. Cudworth, *The True Intellectual System of the Universe*, first edited in 1678, London. The quotation is from p. 31, vol. 3 of the 1845 edition, London. It is interesting to note that this edition originates from the Latin edition prepared by John Laurence Mosheim in 1733. Mosheim had added numerous notes and an appendix. In his fifth note to the text quoted above he agrees with Cudworth’s judgement about the Cartesian circle. He refers to Gassendi’s *Disquisitio Metaphysica* as to the clearest place where the objection is first formulated and to Pierre de Villemandy’s *Scepticismus Debellatus*, Lugduni Batavorum 1697. The latter reference is to chap. II, especially p. 9, but the Cartesian circle can be found discussed more at length in chap. VI where De Villemandy in his turn refers to Huet’s *Censura* – but interestingly not to Schotanus’ counter-attack on Huet – and to Gassendi.

⁶⁰ Cf. his *Reflections upon Learning, wherein is shown the insufficiency thereof in its several Particulars. In order to evince the Usefulness and Necessity of Revelation*, London, 1699, pp. 59–60. The work, which was a classic combination of scepticism and fideism, was so successful as to deserve several editions (the eighth and last, contained in the Bodleian Library, Oxford, is dated 1756).

⁶¹ Cf. C. S. Peirce, *Collected Papers of C. S. Peirce*, 8 vols., ed. by A. W. Burks, (Cambridge: Harvard U. P., 1958), 2. 28.

⁶² R. Walker, ‘Gassendi and Skepticism’, in *The Skeptical Tradition*, ed. by M. Burnyeat

(Berkeley, Los Angeles, London: University of California Press, 1983), pp. 319–36.

⁶³ Cf. B. Stroud in “The Significance of Naturalized Epistemology”, in *Midwest Studies in Philosophy*, VI: *The Foundations of Analytic Philosophy*, ed. by P. A. French et al., (Minneapolis: The University of Minnesota Press, 1981), pp. 455–71 and revised in *The Significance of Philosophical Scepticism* (Oxford: Clarendon, 1984); and Chisholm, *Theory of Knowledge* (2nd ed.), p. 123. See also Sextus Empiricus, *Outlines*, II. 48–56 and *Against the Dogmatists*, I. 426–430.

⁶⁴ Cf. K. L. Reinhold, *Ueber das Fundament des philosophischen Wissens*, Jena 1791. Page numbers are from the Eng. trans. *The Foundation of Philosophical Knowledge*, a substantial excerpt published in *Between Kant and Hegel, Texts in the Development of Post-Kantian Idealism* ed. by G. Di Giovanni and H. S. Harris (New York: Suny Press, 1985), pp. 54–103. Note that the date of publication reported on p. 53 is 1794 but should be 1791 as stated on p. 52 and in the bibliography.

⁶⁵ Reinhold, *op. cit.*, pp. 92–3. Only the square brackets are mine, capitals and italics are in the text.

⁶⁶ Leonard Nelson, *Progress and Regress in Philosophy, From Hume and Kant to Hegel and Fries*, ed. by Julius Kraft, Eng. trans. by Humphrey Palmer, (Oxford: Blackwell, 1971), vol. II, p. 41 and ff. Despite his attempts, Nelson’s approach to the problem – the *Critique* is the place where the facts of consciousness are presented as, not allegedly justified in terms of, psychological certainty – did not free himself of the subjectivist if not psychologistic tendency implicit in the “Cartesian twist” impressed by Reinhold to the problem of the foundation. In particular, the notion of immediate knowledge not requiring justification – which he takes from Fries – leaves unanswered the metatheoretical question about the justification of its assumption. The problem is not, given that there is immediate knowledge, how we can justify the rest of our knowledge, but rather whether or not we are justified in assuming that there is immediate knowledge.

⁶⁷ Cf. Reinhold, *op. cit.*, pp. 66–7.

⁶⁸ Cf. Nelson, *op. cit.*, vol. II, p. 52.

⁶⁹ Cf. his *Aenesidemus, oder ueber die Fundamente der von dem Herrn Prof. Reinhold in Jena gelieferten Elementarphilosophie, nebst einer Verteidigung gegen die Anmaassungen der Vernunftkritik*, 1792, partially translated in Di Giovanni and Harris, *op. cit.*, pp. 104–35, especially pp. 111 and 128–9.

⁷⁰ Cf. Fichte, *The Science of Knowledge* (Cambridge: Cambridge U. P., 1982), p. 93 and ff.

⁷¹ G. W. F. Hegel, ‘On the Relationship of Scepticism with Philosophy’, in *Sämtliche Werke*, ed. by H. Glockner, (Stuttgart: 1927–40), vol. I, pp. 215–75. Eng. trans. in *Between Kant and Hegel, op. cit.*, pp. 311–62. Page numbers in the text refer to the English translation.

⁷² It is interesting to note that Kenneth R. Westphal begins his ‘Hegel’s Solution to the Dilemma of the Criterion’, *History of Philosophy Quarterly* 5 (1988), 173–88, by quoting the Sextian passage given in [5].

⁷³ For Hegel’s criticism of Kant’s epistemology, see Graham Bird, ‘Hegel’s Account of Kant’s Epistemology in *Lectures on the History of Philosophy*’ and W. H. Walsh, ‘The Idea of a Critique of Pure Reason: Kant and Hegel’ (especially p. 71), both in *Hegel’s Critique of Kant*, ed. by S. Priest (Oxford: Clarendon Press, 1987), chaps. 2 and 6. Hegel elaborates his discussion on new and modern scepticism in a more dialectical fashion in the *Lectures on the History of Philosophy*, Eng. trans. in three vols. by E. S. Haldane and F. H. Simson (London: Routledge and Kegan Paul, 1968), vol. II, pp. 328–73, see especially pp. 357–63. Nicolao Merker in his Introduction to the Italian edition of the *Rapporto dello Scetticismo con la Filosofia* (Roma-Bari: Laterza, 1984) has supported the hypothesis of a consistent continuity of perspective between the early article and the *Lectures*. On the contrary, Westphal (cf. ‘Hegel’s Solution to the Dilemma of the Criterion’, p. 174, note 2) has suggested that the article “[...] is not a reliable guide to Hegel’s use of Sextus’ dilemma in the *Phenomenology*, for two years later (in 1804) Hegel radically re-assessed his adherence to Schelling’s philosophy and, with that, the problem of question-begging.” Here I am inclined to see a certain continuity

in Hegel's position at least as far as the impossibility of a Cartesian-like foundation of a dogmatic philosophy is concerned.

⁷⁴ Cf. G. W. F. Hegel, *The Phenomenology of Mind*, Eng. trans. by A. V. Miller (Oxford: Oxford U. P., 1976 [first pub. 1807]), Introduction.

⁷⁵ G. W. F. Hegel, *Encyclopaedia of the Philosophical Sciences: The Science of Logic*, par. 10, Eng. trans. by W. Wallace with the title *Hegel's Logic* (Oxford: Clarendon Press, 1975), p. 14.

⁷⁶ Cf. Michael N. Forster, *Hegel and Scepticism* (Cambridge Mass.: Harvard U. P., 1989), pp. 110–11.

⁷⁷ Cf. Bruno Bianco, *J. F. Fries, Rassegna Storica degli Studi (1803–1978)* (Napoli: Bibliopolis, 1980). See also his article 'Criticismo e Psicologismo. Note sul problema "kantiano-friesiano"' in *Kant a Due Secoli dalla "Critica"*, ed. by Giuseppe Micheli and Giovanni Santinello (Brescia: La Scuola, 1984), pp. 195–208 where the complex issue of the accusation of psychologism regarding the *Friesschen Schule* is clearly analysed.

⁷⁸ Cf. Leonard Nelson, 'The Impossibility of the "Theory of Knowledge"', Eng. trans. in *Socratic Method and Critical Philosophy, Selected Essays*, trans. by Thomas K. Brown III, foreword by Brand Blanshard, introduction by Julius Kraft (New York: Dover, 1965 [first pub. in 1912]), pp. 185–205. See also 'Über das sogenannte Erkenntnisproblem', *Abhandlungen der Friesschen Schule* (Neue Folge Bd., 1930), pp. 444–6.

⁷⁹ Cf. M. Schlick, *General Theory of Knowledge*, Eng. trans. by A. E. Blumberg, (Wien, New York: Springer-Verlag, 1974), pp. 79–94. Schlick mentioned Nelson (p. 87, note 33, and especially p. 90 in which "Fries' trilemma" is sketched), Hegel, Herbart and Lotze (p. 90) as philosophers who had previously dealt with the foundationalist issue.

⁸⁰ K. Popper, *The Logic of Scientific Discovery* (London: Hutchinson, 1959 [first pub. 1934]), chap. 5, especially pp. 93–105.

⁸¹ I owe much of this information to a kind letter of Sir Karl Popper in which he has briefly outlined the origin of his discussion of 'Fries' trilemma' in the *Logic*. See also K. R. Popper, 'Die beiden Grundprobleme der Erkenntnistheorie', publ. by J. C. B. Mohr, (Tübingen, 1979), chap. 5. See also Graciela F. de Maliandi "Popper, Nelson and Kant", *Manuscripto XIV* (1991), 19–40 for more information on the relation between Popper's philosophy and Neokantism.

⁸² David Lamb (cf. *Hegel – From Foundation to System* (Dordrecht: Martinus Nijhoff Publishers, 1980), pp. 13–5) has conjectured an analogy between Reinhold's later "dynamic foundationalism" and Popper's approach. The analogy may be controversial and perhaps it is suggested by a Hegelian interpretation of Reinhold. In any case, I believe Lamb is right in connecting the two philosophers in so far as we have seen that Popper discussed a problem which emerged from Reinhold's criticism.

⁸³ Cf. Popper, 'Die beiden Grundprobleme der Erkenntnistheorie', p. 106 and ff.

⁸⁴ Cf. Jürgen Habermas, *Knowledge and Human Interests*, Eng. trans. by J. Shapiro, (London: Heinemann, 1972), chap. 1.

⁸⁵ Cf. I. Lakatos, 'Infinite Regress and Foundations of Mathematics', in *Philosophical Papers II*, ed. by J. Worrall and G. Currie (Cambridge: Cambridge U. P., 1978), pp. 3–23; there is an explicit reference to Fries' trilemma and to Popper's discussion of it on p. 5 and p. 18, note 2. On Lakatos' insistence about the dichotomy "deduction vs. induction", cf. Stephen E. Toulmin, 'History, Praxis and the Third World' in *Boston Studies in the Philosophy of Science*, vol. 39 (1976), pp. 655–75.

⁸⁶ H. Albert, *Treatise on Critical Reason* (Princeton U. P.: Princeton N. J., 1985). For Albert the Fries-Nelson School of Kantism embodies a mere psychologistic dogmatism (cf. p. 20, note 9); Lakatos's article is quoted on p. 59, note 29; there is no reference to Fries' trilemma or to the *diallelus*.

⁸⁷ The trilemma is formulated on p. 18 of the *Treatise on Critical Reason*. On p. 19, note 7 Albert says: "Incidentally, even earlier [than Dingler's work] the question of the justification of knowledge had produced analyses in which the trilemma emerged in a more or less clear form; cf. Richard H. Popkin, *The History of Scepticism from Erasmus to Descartes* (rev. ed. Assen, 1964), pp. 3, 52, 137 and *passim*."

⁸⁸ Albert seems to raise the issue of the justification of his own falsificationist approach and opt for a moral “justification” of it, see *op. cit.*, p. 48 and ff, especially pp. 52–3.

⁸⁹ Apel has been influenced by Popper indirectly. He frames his discussion of ‘The Problem of Philosophical Fundamental-Grounding in Light of a Transcendental Pragmatic of Language’ within Albert’s “Münchhausen’s trilemma”. For his reference to Aristotle see *art. cit.*, p. 243, note 12.

⁹⁰ See Albert, *op. cit.*, p. 19.

⁹¹ R. G. Collingwood, *An Essay on Philosophical Method* (Oxford: Clarendon Press, 1933), pp. 160–5.

⁹² Barnes, *op. cit.*, p. ix.

⁹³ I would like to acknowledge the kind help, comments, suggestions and encouragements of Robert Amico, Jonathan Barnes, Bruno Bianco, Francesca Cappelletti, Tullio Gregory, Susan Haack, Iris Jones, Gert König, Dirk Koppelberg, Paolo Mancosu, Giuseppe Micheli, Sir Karl Popper, Gaetano Sabatini and John Yolton.

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