Scepticism and the Search for Knowledge: a Peirceish Answer to a Kantian Doubt

"Human kind cannot bear
very much reality"
T.S. Eliot
"Burnt Norton",
Four Quarters

1. Introduction

In a recent article Barry Stroud has reminded us that a traditional and crucial issue in epistemology is represented by "the possibility that the world is completely different in general from the way our sensory impacts and our internal makeup lead us to think of".[1] In order to give some initial credence to such a doubt, we need to give some credence to three hypotheses: first, that there is something like an independent external reality; second, that the epistemic relationship occurring between this reality and the knowing subject is somehow such as to not allow the latter to know the intrinsic nature of the former; and finally, that the human knower has a spontaneous desire to know what the intrinsic nature of external reality is. It is only the last condition which makes it possible to consider the state of affairs described by the former two as problematic.

Solutions of what I shall call henceforth the sceptical *Traumatic Doubt* have been attempted by approaching it either from the on-

tological or from the epistemical side. In what follows, it is my intention to argue that, if the doubt is understood in Kantian terms, as pointing to the gulf that may exist between phenomena and noumena, a re-interpretation of the "anthropological component" can also represent a successful strategy. The hypothesis I shall advocate relies on three presuppositions. The desire for knowledge for its own sake is in fact a ***conditio sine qua non*** for the Traumatic Doubt. By eliminating the assumption of such a desire, the incapacity or impossibility to grasp the intrinsic nature of external reality no longer appears as a failure. And finally, the desire for knowledge can indeed be replaced by a better explanation of the genesis of the search for knowledge. Philosophers commonly refer to the desire to know as if it were the necessary and sufficient reason why, at a certain stage, the human subject activates his cognitive processes in order to know external reality. Peirce has conjectured a different explanation, and I shall argue that a *Peirceish*[2] interpretation of the genesis of the search for knowledge can provide a winning strategy with respect to the sceptical problem.

II. "All men by nature desire to know"

Aristotle provided the most influential answer to the question "what is the origin of man's search for knowledge?" in the famous *incipit* of the *Metaphysics*: "all men ***by nature (phusei) desire (oregontai)*** to know [*eidenai*]".[3] Although he acknowledged that man's search for knowledge is to escape from his ***nescience***,[4] he maintained that the state of wonder and puzzlement that man feels with respect to its absence is a mere secondary effect due to the lack of something not yet possessed, what we might call nowadays a background condition. No matter how urgent this negative uneasiness may be, the principal reason why man searches for knowledge is his natural and original impulse to achieve the full actualization of his intellectual potentiality in the state of perfect knowledge.[5]

In more elitist and mythological terms, Plato[6] had already endorsed a similar position,[7] the main difference being that in the

absence of a metaphysics of potentiality, he had been forced to accentuate the hypostatization of the desire to know.[8] Probably for the same reason, he had also tended to stress, more than Aristotle, the strict connection between desire and feeling of want. As he says: "no god is a philosopher or a seeker after wisdom, for he is wise already; nor does any man who is wise seek after wisdom. Neither do the ignorant seek after wisdom; for herein is the evil of ignorance, that he who is neither a man of honour nor wise is nevertheless satisfied with himself: there is no desire when there is no feeling of want."[9] In Plato, the search for knowledge is based on a natural desire for a lost condition. It can be justified by eschatological reasons but not grounded in intellectually heteronomous needs. The search for knowledge remains a value in itself.

Given Plato's and Aristotle's positions, it is easy to see why explaining the search for knowledge in terms of "self-motivated" cultivation of a purely intellectual pleasure has been always so popular among philosophers. Whether we agree with Whitehead's famous remark on Western philosophy being a series of comments on Plato, or with Peirce, who believed that Western philosophy was simply an articulation of Aristotle's thought,[10] throughout the history of philosophy the idea that knowledge is sought just for its own sake has been assumed as un-controversial. Together with the visual metaphors, the idea that man has a spontaneous and inborn desire to know just for the sake of knowledge is one of the more deeply rooted legacies of Greek philosophy in the history of epistemology.[11]

By saying that a Platonic understanding of the "desire to know" tends to a more radical hypostatization of such desire, I had not meant to say that the Aristotelian approach is free from such a reification. Within Aristotelianism, the "desire to know" turns out to be interpreted as an actual driving force. So much so that in order to comment on Aristotle's explanation for the search for knowledge, Thomas Aquinas introduced the neologism ***vis cognoscitiva***.[12] Like other types of ***vis***, the ***vis cognoscitiva*** was the outcome of the Aristotelian subordination of the genetic principle of the process of

knowing to the metaphysics of potentiality and actualization.[13] The "physicalization" of the epistemic drive was already implicit in Aristotle's use of *orego*, a term that conveys the idea of a metaphorical tension towards the object of the desire and thus of a journey of the subject towards the object of his knowledge.[14] There is no space here to point out how this interpretation was in accordance with the Aristotelian physics both of natural and of violent movements, so let me just stress that, if the search for knowledge is a process interpretable in terms of movement towards reality, then—according to the Aristotelian maxim ***omne quod movetur ab alio movetur***—there must be a motive power for such movement and this is the desire to know, a dynamic force intrinsic in man's nature. At the same time, if the search for knowledge is a movement towards something, it could be the metaphorical movement of man towards his natural place, represented by the enjoyment of full intellectual knowledge. It would be easy to show that the Neoplatonic tradition is also committed to similar dynamic metaphors, where the search for knowledge is interpreted as a movement (this time more "vertical ascension" than a "horizontal grasping") towards the kingdom of a-temporal, immutable truths or a divine entity.[15]

In his *Comment on the Metaphysics*, Albert the Great made explicit his interpretation of the nature of the "pure desire to know" by giving to the fourth chapter concerning Aristotle's dictum the title "De primo principio generativo scientiae ex parte nostra, quod est naturale sciendi desiderium".[16] His tenet was that the human desire represents the subjective ***ratio essendi*** of the genesis of the process of knowing. In adding the indicative specification "ex parte nostra" ("from our side") Albert the Great was probably thinking about the other ***conditio sine qua non*** for the production of knowledge, namely the presence of intelligible external reality. He would not take the mere presence of an external object as a necessary condition for the activation of the process of knowing, claiming perhaps instead the necessity of some sort of ontic contribution as the additional ***ratio essendi*** of the genesis of the process of knowing. It is

precisely this presupposition of an "ontic participation"—however we may interpret it, say in terms of some activity of external reality on the senses (the process of *informatio*) or as an ontic disposition of reality to be known by the subject—that gradually disappears from the horizon of modern philosophy, when the "desire to know" becomes a tendency that could in fact no longer be related to the general status of the rest of the universe. This is one of the two principal problems faced by the explanation of the demand for knowledge in terms of a spontaneous epistemic longing, and it stems from the Cartesian turn and the consequent introduction of methodological scepticism in epistemology. By saying "*phusei*" in *Metaphysics* I.I,908a 21, Aristotle was implying that to the human desire to know the world corresponded, on the ontological side, the intrinsically knowable nature of the world itself. The expression "by nature" was to be interpreted as meaning "according to the intrinsic, harmonious features of an intelligible universe".[17] This had at least two enormous consequences. First, "by nature" conveyed the idea that "to be a knowledge-seeker" was a property which went together with that of "being a human being". And secondly, "by nature" indicated that such a property was just the denoting characteristic of an element of the universe which therefore must be compatible with the rest of it. As Jonathan Lear has explained: "man is by nature a questioner of the world: he seeks to understand why the world is the way it is, the world for its part reciprocates: it "answers" man's question."[18] It is because of the "*phusei/naturaliter*" clause that Aristotle and his Medieval commentators could disregard the problematicity of the notion of *vis cognoscitiva*. The fundamental tenet was that "the natural desire to know cannot be fruitless (*vanum*)".[19] However, the "*phusei*-clause" developed into the post-Cartesian "spontaneous-clause" *via* the Latin *naturaliter*[20], and from Descartes onward the spontaneous desire to know the intrinsic nature of reality may have no correspondence on the ontological side. The intrinsic nature of reality may be unknowable despite our spontaneous desire to know it, a dualism inconceivable for an advocate of the "*phusei*-clause". Such a trans-

formation requires further attention.

At the beginning of "The Search for Truth by means of the Natural Light" Descartes wrote:

> "Polyander: [. . .] I shall regret my ignorance for the rest of my life if I do not learn anything through my association with you.
> Epistemon: The best thing I can tell you on this topic is that the desire for knowledge, which is common to all men, is an illness which cannot be cured, for curiosity grows with learning. [. . .].
> Eudoxus [i.e. Descartes]: Is it possible, Epistemon, that you, with all your learning are persuaded that nature can contain a malady so universal without also providing a remedy for it? For my part, just as I think that each land has enough fruits and rivers to satisfy the hunger and thirst of all its inhabitants, so too I think that enough truth can be known in each subject to satisfy amply the curiosity of orderly souls."[21]

The parallel between the desire to know and hunger, and how nature has provided all the means to satisfy both of them fully, is only a ploy adopted by Descartes in order to introduce the *cogito* as a means of justifying knowledge by internal criteria of clarity and certainty, that is as "the food" which will satisfy any "epistemologically hungry soul". But the purpose and the development of this introduction is not what interests us here. The central point is that this short passage shows what Descartes' attitude towards the desire to know was. The epistemic inclination of the knower must be supposed to go together with the possibility of knowing external reality. Although Descartes meant to save the harmony between the two elements, it is indicative that in the dialogue we encounter the possibility of a more problematic relation between the epistemic desire and the possibility of fulfilling it. It is as if Descartes was pondering the possibility of assuming the desire to know without the metaphysical implication of an intrinsically intelligible world and

in the end decided not to accept the independence of the former from the natural tendency of the latter to satisfy it. We know that more generally Descartes hesitates on the edge of his dualism between *ordo rerum* and *ordo idearum* but still resolves it by means of an appeal to God, who will not deceive us. As in the Scholastic tradition, it is God who ensures that the desire to know is satisfiable by the nature of external reality. And yet, Descartes prepares the field for the bankrupting of what has been called afterwards the anthropocentric conception of the universe. Although not yet in Descartes himself, it is with Descartes that the Traumatic Doubt begins to appear as the vital challenge for modern epistemology. As Ernst Cassirer has put it: "[in Descartes] Reason, as the system of clear and distinct ideas, and the world, as the totality of created being, can nowhere fail to harmonize; for they merely represent different versions or different expressions of the same essence. The 'archetypal intellect' of God thus becomes the bond between thinking and being, between truth and reality in the philosophy of Descartes. [. . .] In the development beyond Descartes all immediate connection between reality and the human mind, between thinking substance and extended substance is denied and completely broken off. There is no union between soul and body, between our ideas and reality, except that which is given or produced by the being of God."[22] When the "theological glue" melts under the light of the "Enlightenment", the dualism between *vis cognoscitiva* and knowability of external reality is carried to its extreme consequences.[23] Thus, although the modern epistemological dualism is characterized as Cartesian, insofar as the relation between desire to know and intelligibility of the world is concerned, Descartes is still echoing the Classic tradition, especially Aristotle. What makes Descartes' position different from those classic and medieval is that his harmony between knower and known is assumed *a posteriori*, is first challenged and then critically accepted as problematic. It makes all the difference to assume that there is a strict harmony between desire to know and intelligibility of the universe because there is no real distinction between the two—

because there is not even a clear distinction, let alone an opposition, between subject and object—and to say that on the one side there is a *vis cognoscitiva* that moves the human knowing subject, that on the other side there is a world which is the target of that *vis* and to say further that in the middle there is a harmoniser God who conciliates the former with the latter and *vice versa*, granting the possibility of knowledge. This second position, obtained after the application of the methodological doubt, has in itself its own end. It implies an internal tension which will split the harmonic monism into a dualism between knowledge and reality, the reality as we take it and the reality as it is in itself.

No wonder then that Descartes is the main polemic reference of a Neoscholastic author like Jacques Maritain: "With this theory of representational ideas the claims of Cartesian reason to independence of external objects reach their highest point: *thought breaks with Being*. [. . .] Here again *Kant finishes Descartes' work*. If the intelligence when it thinks, reaches immediately only its own thought, or its representations, the thing hidden behind these representations remains for ever unknowable."[24] Descartes eventually opens the way to the Kantian dualism between reality in itself and phenomenal reality, thereby frustrating the desire to know how things really are in themselves. All through the modern age the process will be slow but continuous. Precisely the force which has brought epistemology to the level of *philosophia prima*, viz. the methodological doubt, will also determine, through radical Humian scepticism, the end of the harmonious state between *vis cognoscitiva* and intelligibility of external reality. When, with Kant, epistemology gives up any attempt to defend the full knowability of *noumena*, the harmony between *vis cognoscitiva* and the full intelligibility of nature finally collapses. In Kant, the desire to know remains a human tendency towards an impossible knowledge of noumenal reality. After a tradition of more than two thousand years in which man has been supposed to be a satisfiable knowledge-seeker, Kant is forced to reinterpret the desire to know the intrinsic nature of external reality no longer in terms of an ontologically justified desire for

knowledge but epistemologically, in terms of a regulative use of the ideas of reason. Such a shift opens a completely different chapter in the history of philosophy.[25] As Sloterdijk has colourfully summarized: "at the end of the great will to knowledge there is of necessity always 'theoretical despair'. The thinker's heart burns when he realizes that we cannot know what we 'really' want to know. Faust is basically a desperate Kantian who tries to escape the compulsion to self-limitation through a magical backdoor. The urge to go beyond the limit remains stronger than the insight into the limitedness of our knowledge."[26]

Lacking the reassuring assumption of a world intelligible in itself and which collaborates with the epistemic enterprise, the ***vis cognoscitiva*** ends by contributing to the formulation of the Traumatic Doubt: "it is only because the world offers a course along which man's inquiries can run that his desire to know has any hope of being satisfied. [. . .] Imagine how frustrating it would be to be born with the desire to understand in a world which did not cooperate!"[27]

The second kind of problem faced by the assumption of the ***vis cognoscitiva*** is much older, being recognized by Aristotle himself, and concerns our ordinary evidence. Generally speaking, the majority of men do not seem to be overpreoccupied with the search for knowledge, or at least not as much as the assumption of a common ***vis cognoscitiva*** would make us believe. The postulate requires elaborate explanations of why, despite their ***vis cognoscitiva***, most men actually do not search for knowledge. Echoing both Aristotle and Thomas Aquinas, Boethius of Dacia summarized the problem thus: "although all men naturally desire to know, yet very few of them, and this is a pity, dedicate themselves to the search for wisdom [highest standard of knowledge], all the others being prevented from such a great good by their disordered desires".[28] His position was not new. In antiquity Galen had already expressed his own doubts about a longing for the truth which very few exhibited.[29] Centuries later Locke expressed a not very different opinion: "There is no body in the

Commonwealth of Learning, who does not profess himself a lover of Truth: and there is not a rational Creature that would not take it amiss to be thought otherwise of. And yet for all this one may truly say, there are very few lovers of Truth for Truth's sake, even amongst those who persuade themselves that they are so. How a Man may know whether he be so in earnest is worth enquiry [. . .]".[30] It is not necessary to articulate further these problems in order to understand how deeply they tend to undermine the validity of the notion of *vis cognoscitiva*. The explanation of the search for knowledge in terms of a natural desire turns out to be too intellectualist.

3. The Aristotelian Postulate

I have dwelled on some significant phases of the development of the notion of *vis cognoscitiva* and it is now necessary to explain more precisely what philosophers mean by this "desire to know". There are three possible ways of understanding the expression, and only the third seems to be philosophically relevant.

First, the desire for knowledge can be understood biologically, as animal instinctive interest in knowledge, i.e. as a vital interest in a certain amount of empirical information necessary to survive in a hostile environment. However, such an instinctive interest in knowing goes only as far as the needs for a more secure life require. It can never promote pure research for the sake of knowledge. To give a circular example, it can never promote philosophical investigation.

Second, the desire for knowledge and curiosity are often treated as the same psychological phenomenon.[31] This may be because, as in Hume[32], we are ascribing to curiosity the same meaning as to *vis cognoscitiva*, i.e. loosely, "pure desire to know just for the sake of knowledge". In this case we are still in need of a clearer understanding of the original notion. In other cases, it may happen that the philosophical *vis cogniscitiva* is simply confused with the phenomenon of psychological curiosity. The fact that in psy-

chology the phenomenon of curiosity is studied by means of experiments with rats indicates clearly enough that there is a difference between this notion and that philosophical one of *vis cognoscitiva*, at least in terms of degree.

By way of comparison with the phenomenon of psychological curiosity, we finally arrive at the third way of understanding the notion of *vis cognoscitiva*. Even admitting that there is no firm distinction between curiosity and the philosophical desire to know, it is certainly possible to understand the latter as a particular kind of curiosity. Suppose we define such a philosophical curiosity "epistemophilia".[33] By mere curiosity we may then understand the superficial impulse to know novel or interesting material, in so far as this does not require a long, tiring, mental activity but rather a certain amusement. It is the kind of uncritical inquisitiveness so well described by Plutarch in his *Magna Moralia*.[34] Such curiosity has more to do with the enjoyable, passive reception of information than with the active elaboration of new knowledge, although its roots can be easily connected to the biological interest in knowledge. On the other hand, by "epistemophilia" we may refer to the (alleged) phenomenon of spontaneous and inborn impulse to pursue knowledge for its own sake, without premeditation or reflection, independently of any other external cause and even despite personal, psychological and social costs or difficulties. This is the philosophical *vis cognoscitiva*. The distinction is not new—a similar contrast was already drawn for example by Diderot and D'Alambert[35]—and it is worth noticing that in German it is even fixed lexically by means of the two different nouns *Neugier* (curiosity) and *Wissbegier* (desire to know).

On the basis of the previous remarks we can now re-interpret *Metaphysics* I.I,908a 21 in the following post-Cartesian terms: All men have a spontaneous, inborn, epistemophilic impulse (*vis cognoscitiva*) that drives them towards the acquisition of knowledge of the intrinsic nature of external reality just for the sake of knowledge itself. I shall call this the *Aristotelian Postulate* (henceforth AP).

4. Towards a Peirceish Approach

Despite the great popularity of the AP both in its pre- and post-Cartesian understandings, some historical indications for the elaboration of an attack on the ***vis cognoscitiva*** can be found disseminated in Ancient Pyrrhonism, in Spinoza and in Locke. As before, the amplitude of the topic forces me to a somewhat schematic presentation.

Ancient Pyrrhonism is the principal source for a vision of man who is "ethically" justified in virtue of the peace of mind enjoyed, unconcerned with pursuit of knowledge for its own sake. According to Pyrrhonism, the most natural and basic tendency of the human mind is towards a physical and ***mental tranquillity*** (***ataraxia***), not towards the actualization of intellectual potentialities. Unfortunately, one of the principal limits of the Pyrrhonist rejection of the notion of ***vis cognoscitiva*** lies in the conviction that man can actually do without knowledge. The point can be anchored to Hume's conclusions contained in the *Treatise*.[36] It is not clear why the elimination of epistemic certainties should induce man into a state of ***epoche*** and then of tranquillity instead of one of acute anxiety.[37] The Pyrrhonist has to show us first that the procedure of putting the epistemic beliefs in mutual contrast is really effective, and secondly that even if it is effective and sometimes can lead a person to acquire her desired ***ataraxia***, it does it more easily, quickly and commonly than the process of searching for a belief that may convince the same person. We do not seem to be at liberty to live out the complete scepticism required in practice. Instead, the best way of attaining mental peace, the one actually followed by the human mind, is by means of the acquisition of strong beliefs or prejudices, hardly to be shaken by any counter-argument. Although a nescient ataraxia is the regulative goal of any human mind, this has to be gained by acquiring some kind of knowledge. Such acquisition of knowledge stops the painful process of investigation while gradually decreasing the degree of nescience still defensible, until the whole process reaches a homoeostatic[38] equilibrium.

Experience told Hume that the Pyrrhonist cannot live his scepticism. We shall see that experience told Peirce that in pursuit of peace of mind man follows the strategy of adhering to beliefs as long and as strongly as possible.[39]

Spinoza is the philosopher who, more than any other, developed the notion of *conatus*.[40] According to his analysis, the mind is governed by an inertial tendency to remain in its own state. This should have led Spinoza to conclude that there is no such thing as a spontaneous interest in knowledge if it were not that, for Spinoza, in opposition to the Pyrrhonist tenet the initial state of the mind is not one of "nescient rest" but one of "active movement towards knowledge", so that the highest aspiration of mind's natural cognitive activity is still the fulfillment of its desire for knowing. The inertial *conatus* of the mind is applied to a state of "cognitive dynamics" and it gives rise to what Spinoza calls the *cupiditas cognoscendi*, and this despite the fact that the nature of mind is recognized as being intrinsically conservative.

Finally, Locke is the first epistemologist who emphasizes the role of uneasiness in the search for knowledge, in this way anticipating some aspects of Peirce's theory of doubt and belief.[41] In order to pursue something, the recognition of that something as worthy of being pursued is not sufficient. In addition, what is required is a fundamental unease together with a need to calm it. Developing what we have seen is already a Platonic suggestion, Locke believes that from a mere descriptive point of view it is understandable that people may value the search for knowledge while not in fact participating themselves in that search. Thus, in the *Essay* Locke presents us with the anti-intellectualist idea that unless man feels mentally uncomfortable in his state of nescience he will persist in that state.[42] However, far from being sympathetic to man's normal appreciation of his state of nescience, Locke still considers the desire for the acquisition of intellectual knowledge the precise duty of any man who can afford to study.[43] If the majority of men do not see knowledge as a *desideratum*, on ethical grounds they ought to be ashamed of feeling comfortable in a state of nescience and should

still consider it a ***desiderandum***. The AP maintains its strong ethical characterization and the search for knowledge is still linked to the original prescription implicit in the AP. There is no mention of any external pressure on the human mind that forces it to acquire knowledge, nor of any sort of search for knowledge as a reaction to such pressure.

5. A Peirceish Approach

Locke's vaguely ethical justification was grounded on a metaphysical vision of man which was still classic and medieval. With the disappearance of Greek metaphysics and scholastic theology, it seems that there are no longer good reasons to maintain an explanation of the search for knowledge in terms of ***vis cognoscitiva***. If the AP must follow the same destiny of the philosophical contexts which produced it, the inversion of perspective we need to operate with respect to such an acritical legacy of Greek epistemology is more radical than the one endorsed by Locke. Our explanation of the genesis of knowledge must rely on a more inertial (Spinoza) and static (Pyrrhonism) description of the initial state of mind. According to the anti-AP, man is still driven by a fundamental ***conatus***, but the latter has to be interpreted as a mental tendency to persevere in his own state of intellectual nescience for as long as possible. At the beginning, there occurs a static, mental state of nescience which also implies at least a pleasant state of absence of uneasiness or anxiety, if not more positively one of full tranquillity. This complex state of nescient ataraxia is conservative. It entails a spontaneous, inborn and inertial ***conatus*** to persist in that state, unless some external force or pressure (lack of meaning, new problems, loss of certainty) compels a change. If the mind is forced into an unnatural state of uneasiness, the process of knowing is activated in order to restore as much as possible of its original state. This process is carried on in the most effective way, e.g. by means of the simple assumption of mere prejudices, or by means of the elaboration of scientific hypotheses. The "secretion" of further

knowledge is a "reaction" to the imbalance produced by a state of uneasiness, and its aim is the restoration of a state of mental peace at a higher level of homoeostatic equilibrium between pressure and correspondent epistemic answer. When the equilibrium is restored, the advancement of knowledge stops. The search for knowledge is reactivated whenever the external pressure increases, overcoming the protection the mind has already accumulated in terms of established knowledge. It follows that if man were left alone, deprived of any external compulsory force, he would immediately stop inquiring just for the sake of knowledge. From the point of view of the anti-AP, human knowledge is a by-product of man's reaction against external reality. Like a pearl, despite its great beauty, it has to be considered the end result of a disturbance provoked by an external factor in the context of animal's life. The three phases in which the genesis of the process of knowing is understood—the static state, the inertial tendency and the restoration of the static state—give rise to a sort of endless dialectic of the search for knowledge according to which—and contrary to what happens if we accept the AP—the mind plays a reactive role, one of response. To external reality is left the role of initiating the whole process.

Peirce's pragmatism provides the most favourable "environment" within which the anti-AP can be understood and developed. This is because of the particular position enjoyed by Peirce within the history of philosophy. The great majority of philosophers who have been interested in studying the nature of human knowledge have also been convinced, at least implicitly, of the virtues of the AP. Those few philosophers who have been more "sceptical" about the epistemophilic nature of man, have also tended to disregard epistemological issues and thus are also the philosophers from whom we cannot expect very much by way of discussion of the AP. Nietzsche is a good example.[44] As a consequence, we can find some suggestions on the nature of an anti-Aristotelian position only in a philosopher with a strong interest in a pragmatic, realistic, almost cynical understanding of intellectual knowledge. Peirce is such a philosopher. He shares the interest of Pyrrhonism in questioning

the intellectualist picture of man as spontaneously and irresistibility driven towards knowledge (Peirce's anti-intellectualism is of a piece with his anti-Cartesianism, see for example 5.264-5), while he does not share the same negative conception about the value of human knowledge and the possibilities of its realization.

Peirce combines a strong ontological realism with a pragmatic interpretation of the role of knowledge. External, brute reality opposes the mind and the mind employs knowledge to defend itself from the non-mind, or from what is dead-mind.[45] Throughout Peirce's work we find that reality forces itself upon the human mind almost violently,[46] and the mind is forced to acknowledge external reality as a hard fact.[47] It is the "hardness of reality" that compels man to admit the existence of the world as brute force.[48] The borderline where brute fact and the mind clash is the sphere of perception and experience.[49] Perception represents two objects reacting upon one another.[50] In the perceptual stage of knowledge brute reality enters the mind, and in having experience the mind reacts to perceptions.[51] It is in the passage from doubt to belief that the mental uneasiness, brought about by experience, is contrasted. Although Peirce is not sure about the dynamic characterization of the opposition between reality and mind,[32] he believes that "the important point [is] that the sense of externality in perception consists in a sense of powerlessness before the overwhelming force of perception. Now the only way in which any force can be learned is by something like trying to oppose it. That we do something like this is shown by the shock we receive from any unexpected experience. *It is the inertia of mind, which tends to remain in the state in which it is* [my italics] [. . .]."[53] If the mind deals with reality by means of knowledge, it does so only on the basis of a "reactive conservatism" which contrasts that "sense of externality, of the presence of a non-ego, which accompanies perception."[54] Thus, man is engaged in the process of inquiry precisely in order to eradicate the feeling of doubt that is at the origin of the inquiry itself.[55] As a result, Peirce can conclude that "facts are hard things which do not consist in my thinking so and so, but stand unmoved by what-

ever you or I or any man or generations of men may opine about them. [. . .] I wish to reason in such way that the facts shall not, and cannot, disappoint the promises of my reasoning. ***Whether such reasoning is agreeable to my intellectual impulses is a matter of no sort of consequence. I do reason not for the sake of my delight in reasoning, but solely to avoid disappointment and surprise.***" [my italics].[56] According to this position, man searches for knowledge in order to settle his doubts "[. . .] and ***when doubt finally ceases, no matter how, the end of reasoning is attained*** [my italics]."[57] If man could resolve never to change his existing opinions there would be no motive for reasoning and it would be absurd for him to do so.

Peirce's theory of doubt and belief[58] represents a theoretical context generally favourable to the elaboration of the anti-AP sketched above. But is it possible to reformulate the anti-AP as a "Peircean Postulate"? Although I believe that what has been said so far provides strong evidence in favour of the claim that the anti-AP is somewhat Peircean, on closer analysis it is also possible to ascertain a residue of an Aristotelian element in Peirce's epistemology, such that its presence allows one to speak only of the possibility of a *Peirceish* Postulate.

In "The Fixation of Belief" Peirce lists four ways of obtaining the cessation of doubt, the settlement of opinion and hence the acquisition of a state of mental ataraxia: tenacity, authority, a priority and scientific inquiry. According to Peirce, the first three methods inevitably fail in the long run to keep the human mind safe from unwanted surprises. Only when he has reached the scientific method can man cope with reality in the best way. At this point, an aspect of Peirce's theory of knowledge turns out to be controversial, for I believe that Peirce is either too optimistic on the open-mindness of our human knower, or too sceptical about the potentialities of the three first methods, especially tenacity and authority.[59] There may be two reasons why Peirce is so confident in the fact that tenacity and authority quickly fail to resist the test of life. First, the type of knowledge he has in mind is timeless knowledge that is, ideally speaking, the final picture of the world

that all human knowing subjects will agree on. So far I believe Peirce is right when he says that, in the long term, non-scientific methods will certainly be replaced by the scientific, for the simple reason that the latter provide the best "reaction" to reality and no other "defence" could be more effective against the "non-ego" than one obtained by means of a scientific method (why this is so is a metaphysical question I shall leave open in this context). Yet, the very fact that it is an ideal picture of the development of human knowledge makes his position somewhat suspect. At times Peirce still exhibits a residual version of the AP in describing the nature of the scientific investigation.[60] This may be the second reason why he is so confident about the development of the scientific method. In his faith in an epistemophilic impulse (cf. his notion of *Gnostic Instinct* in 7.58), Peirce seems to oppose the idea that man could be ethically justified in disregarding the scientific method, and enjoy a happy life in this world despite his nescience. Note that, according to Peirce, there is no dichotomy between empirical and scientific knowledge, and therefore that the dialectic doubt/belief applies to the former as well as to the latter.[61] The scientific "defence" of man against reality represents the best answer to genuine doubts. Yet, notwithstanding the homoeostatic picture of science, in the background of Peirce's epistemology there is still a perceptible vision of man as spontaneously tending toward the acquisition of knowledge just for its own sake. Like Locke, when Peirce comes to speak of the nature of the scientific inquiry he can hardly resist the ethical appeal of the notion of epistemophilia. This explains why we find Aristotle's dictum "all men by nature desire to know" quoted in Greek and translated in English in one of his manuscripts[62], in connection with the description of the pure desire for scientific knowledge for its own sake.[63]

The fact that Peirce still exhibits a residual notion of the *vis cognoscitiva* with respect to scientific knowledge casts a clear light on an important aspect of his thought. We know that Peirce's pragmatism represents a radical break from the Cartesian tradition. He probably reacted against the Cartesian epistemological turn also

because he was well aware of a more medieval image of the process of knowing, as a mutual relation between knower and known.[64] In this sense, Peirce's pragmatism is also a break from the notion of a Cartesian *vis cognoscitiva* that is emptied of its ontological correspondence (the "phusei" clause). Although in large part Peirce does not simply turn back to a pre-Cartesian approach, there are without any doubt medieval influences at work in his philosophy, at least insofar as they provide a means to escape the Cartesian picture of knowledge. In re-acquiring a notion of knowledge as the result of an interplay between man and reality[65] Peirce goes beyond Descartes, for his theory of doubt and belief is not a revival of medieval epistemology, and yet we may see that Peirce's notion of a *Gnostic Instinct* and his ethical conception of the desire for knowledge represent the price he had to pay for having implicitly used medieval philosophy in his attempt to refute Descartes' epistemology.

If I am correct, the Aristotelian residue in Peirce's theory of knowledge can be eliminated. Man pursues knowledge only for the sake of his own mental peace. Science can be considered only a more effective instrument to achieve such a target, all other considerations like vital needs, curiosity, social position, wealth etc., being equal. As Peirce himself says "hence the sole object of inquiry is the settlement of opinion. We may fancy that this is not enough for us, and that we seek, not merely an opinion, but a true opinion. But put this fancy to the test, and it proves groundless; for as soon as a firm belief is reached we are entirely satisfied, whether the belief be true or false."[66] We do not search for knowledge just for its own sake, "on the contrary, we cling tenaciously, not merely to believing, but to believing just what we do believe".[67]

According to this "purified" *Peirceish* perspective, a post-Cartesian version of the anti-AP holds that: (PP) man has a spontaneous, inborn and inertial, mental *conatus* that makes him persevere in his own static state of nescient *ataraxia*, unless he is compelled to change that state by some external force impressed upon his mind. Such a *conatus* is the conservative force that ac-

tivates the search for knowledge. It makes the human mind react against the ontic pressure resulting from the contrasting presence of external reality. Its goal is the restoration of a homoeostatic, peaceful state of *ataraxia*, by means of the production of knowledge.

The PP is still incomplete since the Aristotelian residue has an important function within Peirce's epistemology. It is the background condition whereby Peirce can eventually disregard, as non-problematic, questions about the few cases in which man really seems to be pursuing knowledge for its own sake, e.g. in the case of philosophical research. By eliminating any Aristotelian residue, the PP faces the crucial problem of how one is to account for such few cases. The solution of the problem lies in the fact that the PP as it stands refers to the simple relation occurring between the human mind and reality. In this way it misses a final and important distinction between what may count as external reality for the human mind in general and what may count as external reality for a specific human mind. In the former case, the human mind faces the physical world as what is not-mind or dead-mind; in the latter case, an individual human mind is confronted by whatever is different from itself, either the physical world or all the previous products of other human minds, including history and culture. The PP speaks of intellectual knowledge as a reaction of the mind against reality interpreting the latter in terms of the physical world, but in order to understand how cultural phenomena like philosophy may occur, we need to focus on the notion of intellectual knowledge as the reaction of a single mind against anything that could count as external and extraneous, from a desk to a painting, from a scientific theory to a poem, from superstitions to all the instances of knowledge stored in a library.[68] The introduction of this final distinction covers the explanatory role that in Peirce's epistemology is played by the Aristotelian residue. By means of it the PP can also explain what it is that intellectuals, philosophers and scientists are doing when they seem to be pursuing knowledge for its own sake. They are reacting not only against the external physical world but also

against the external world of human mental products. According to this last specification, a new post-Cartesian version of the PP turns out to hold that: (PP*) each single mind has a spontaneous, inborn and inertial mental *conatus* that makes it persevere in its own static state of nescient ataraxia, unless it is compelled to change that state by some external force impressed upon it. Such a *conatus* is the conservative force that activates the search for knowledge. It makes a human mind react against the pressure resulting from the contrasting presence of physical and historical realities. Its goal is the homoeostatic restoration of a peaceful state of ataraxia, by means of the production of knowledge.

"Human kind cannot bear very much reality", including historical reality, the kind of which he is both the maker and master. When there is something resembling a desire for knowledge, this is a sign that such empirical or historical disturbances are in action. Analogously, the acquisition of knowledge can be interpreted as a "cognitive therapy"[69] against nature and history. The single mind searches for knowledge not for its own sake, but as relief against external disturbances, doubts, absurdities and lack of meaning.

6. A Peirceish Solution of the Traumatic Doubt

If now we replace the AP with the PP*—that is if we interpret the principle governing the search for knowledge in terms of the effect of a conservative *conatus* for peace of mind rather than in terms of the action of a desire for knowledge for its own sake—the doubt that "reality may be completely different from what we take it to be" turns out to be no longer traumatic. On the contrary, it may represent a possibility which the human knowing subject might welcome. The limits of human knowledge—that the AP interpreted as the walls of a prison for the mind—according to the PP* are to be interpreted as a defence or a protection that the mind creates in order to save itself from the pressure coming from the external world. It is not merely that it does not matter if, in establishing his reign over reality, man unfortunately loses the possibility of know-

ing its intrinsic nature. Rather, the hypothesis is that the scope of knowledge is that of neutralizing the object of knowledge, of transforming what it is in itself into something which is what it is only because of the mind. External reality exercises an alienating pressure on the human subject that would be successful if it were not for the cognitive reaction of the latter. Mental life becomes possible only if reality is subjugated and ordered by means of epistemic schemes. The mind emerges only by withstanding reality and it does so only by interpreting it. The purpose of the process of knowing is therefore that of producing a dichotomy between subject and object which allows the mind to develop itself. There may be more or less effective ways to cope with this task, and we may call the most efficacious the scientific, but the result does not change. It is only in the struggle for positing such a gap between brute facts and their interpretation that the mind emerges in its full connotations. By maintaining such a hiatus it manages to survive. The scope of the process of knowing does not lie in a mystical identification or confusion of the knower with the known (in a lethal risk of an "ontic over-exposure" of the mind to being), but in letting reality intrude into the internal world as peacefully as possible. Visually, in the development of knowledge the mind does not "go towards" external reality, but it is rather *vice versa*, so that we may invert the Baconian metaphor by saying that it is the mind that attempts a cognitive defence against the intrusion of external reality into its internal world, not nature that has to defend itself against the scientific aggression of the human mind.

If we find this hypothesis acceptable, we may also discover some irony in what I called the Traumatic Doubt. If the purpose of the process of knowing is that of re-establishing mental tranquillity, the fact that in this process the intrinsic nature of external reality may remain forever undiscovered is no longer a traumatic hypothesis. According to the PP*, seeing a human knowing subject as being tormented by the doubt that reality in itself may be completely different from what he takes it to be is equivalent to misunderstanding the purpose of the search for knowledge. Let me clarify

the point further by answering two possible critiques.

First objection: the assumption of the PP* does not solve the real issue that is at stake in advancing the doubt that reality in itself may be completely different from what we take it to be. For, if only implicitly, such a doubt is in fact the possibility that in the future reality may turn out to be completely different from what I take it to be now. It would be this Goodman's paradox that actually represents the traumatic aspect of the doubt.

Answer: as I premised at the outset of this paper, I am assuming that the Traumatic Doubt I am discussing is not due to a pre-epistemological, methodological challenge à la Descartes, but is actually the one provoked by a Kantian-like distinction between *Ding an sich* and reality as we know it, which in turn results from an interpretation of knowledge in terms of the transcendental conditions that constitute the world for what it is. This is why I said above "if the doubt is understood in Kantian terms". If the doubt is stating that phenomena are different from noumenal reality because they are noumenal reality which has undergone an inescapable mental elaboration, then the constancy of the nature of the phenomena is also linked to the constancy of their transcendental elaboration, and what I am wondering is not whether what is blue now will be green tomorrow, but whether what is blue now is now intrinsically blue or not. In other words, what I am wondering is whether what is now blue and may turn out to be green in the future in fact has such an intrinsic nature, that of changing colour after some time. Thus, I acknowledge that if the doubt were of a different nature it is possible that the assumption of the PP* would be insufficient for its solution. In fact, the assumption of the PP* as a sufficient device for the "dissolution" of the problematic aspect of the doubt presupposes a Kantian reading of the doubt, while it also implicitly supports a Kantian analysis of knowledge of reality as being determined also by the mental, i.e. it implicitly supports the possibility of interpreting knowledge transcendentally, as a manipulation of a noumenal input, the possibility of which is residing in the mental.

Second objection: by hypothesizing a desire for a homoeostatic mental tranquillity the PP* is incapable of explaining the fact that the human search for knowledge is never-ending. If we assume that the individual mind dedicates itself to activities other than the search for knowledge as soon as it can, this seems to vitiate the possibility of explaining the development of knowledge.

Answer: according to the PP* the boundaries of human knowledge are always advancing because of the endless dialectic between reactive conservatism and desire for a mental peace free of pressure, both ontological and cultural. In the course of the process of appropriation of the right protection against reality, some individuals may respond to new problems arising both from the natural and from the historical-cultural environment. The fact that man keeps on trying to settle his doubts once and for all leads to the production of new knowledge, which in turn creates the condition for further reaction and production. Past knowledge "solidifies", becoming part of the external world, and future minds have to react, too, against the previous "reactions" by producing new knowledge, which in turn will represent another piece of external reality for the still future minds. Human minds are forced to keep the defending process in action also because of the pressure of the same armour built by previous minds. Only on this dialectic described by the PP* can there be a proper understanding of "cultural tradition". Thus, in a developed culture a philosopher can reach such a point of forgetfulness as to believe that the wall of knowledge between the mind and reality is a prison for the former, not a defence against the latter. In a cognitively protected environment the pressure coming from external reality can decrease to such an extent as to induce some people to believe that the search for knowledge is a pleasure pursued by every man just for the sake of knowledge. But according to the PP* the original search for knowledge is not to be misinterpreted as an enjoyment. It is rather the outcome of the individual's onerous duty to conquer his or her own mental freedom by defending him or herself both against reality and against human cultural acquiescence. Locke was right both in being tolerant with

men who are not interested in acquiring knowledge for its own sake and in praising those who seek it. He was only wrong in explaining the origin of the latter in the necessity of a free, epistemophilic impulse instead of a rational duty of a Kantian character. Thomas Jefferson wrote as follows "[. . .] the diffusion of knowledge among the people. No other sure foundation can be devised, for the preservation of freedom and happiness";[70] I would like to add now that if man were moved by the spontaneous and pure desire to develop and diffuse knowledge it would not be necessary to remind him not to place obstacles to inquiry.[71]

Wolfson College, University of Oxford

NOTES

1. B. Stroud, "The Significance of Naturalized Epistemology" in P.A. French, T.E. Uehling and H.K. Wettstein (eds.), *Midwest Studies in Philosophy*, VI, *The Foundations of Analytic Philosophy* (The University of Minnesota Press, 1981), pp. 455-471. The quotation is from p. 457. Cf. also W.V.O. Quine, "Reply to Stroud", *ibidem*, pp. 473-475.

2. This adjective was introduced by W. Sellars in his *Science and Metaphysics* (London: Routledge and Kegan Paul, 1968), p. 140, instead of "Peircean", in order to mean "Peircean-like".

3. Aristotle, *Metaphysics* I.I, 908a 21. That a large part of Ancient Greek philosophy before Aristotle was strongly orientated towards a vision of man as internally moved by an interest for knowing has been well argued by R. Mondolfo, *La Comprensione del Soggetto Umano nell'Antichita ` Classica*, (Firenze: La Nuova Italia Editrice, 1958), vol. II, esp. chap. 2.

4. The distinction between *nescience* and *ignorance* is clearly drawn in Scholastic philosophy, which defines the former as "simple negation or absence of knowledge" (*simplex negatio seu absentia scientiae*) and the latter as "privation of knowledge" (*privatio scientiae*), cf. Thomas Aquinas, *Summa Theologica*, I-II, q.76, a.2.. In this context I am inter-

preting the Aristotelian "agnoia" as not necessarily carrying with it the strong evaluative sense which is nowadays implicit in "ignorance".

5. In this sense Jonathan Lear's interpretation of the passage may seem somewhat too "Peircean", cf. his *Aristotle, The Desire to Understand*, (Cambridge: Cambridge U.P., 1988), p. 3.

6. It is sufficient to recall what effect Socrates' investigation of his fellow citizens' desire to know had. See Plato, *Apology*, 21b-d, 22d, 23b.

7. Cf. Plato, *Republic* V, 475d-e.

8. Cf. Plato's characterization of Love as a minor God or "daimon" in *Symposium*, 203e.

9. Plato, *Symposium*, 204a.

10. Cf. P. Weiss, C. Hartshorne, A.W. Burks (eds.), *Collected Papers of C.S. Peirce*, 8 vols. (Cambridge: Harvard U.P., 1931-1958): 1.1. As usual references are given by number of volume and paragraph.

11. For a contemporary re-assertion of the Aristotelian Postulate, cf. H.G. Gadamer, *Vernunft im Zeitalter der Wissenschaft* (Frankfurt/M: Suhrkamp Verlag, 1976).

12. See, for example, Thomas Aquinas, *In Metaphysicam Aristotelis Commentaris* I,I, 6; *Summa Theologiae* I, 81 1 and 2, and I,II,40-8. The adjective "*cognoscitivus*" is unknown to Classic Latin (cf. the *Oxford Latin Dictionary*) and it is not very common in medieval Latin either. It is not listed in J.F. Niermeyer (ed.), *Mediae Latinitatis Lexicon Minus* (Leiden: Brill, 1976). According to R.E. Latham (ed.), *Revised Medieval Latin Word-List from British and Irish Sources* (London: Oxford U.P., 1965), it starts being used only in the XIII century in order to mean "concerned with knowledge, cognitive". Latham reports that the term occurs for the first time in Robert Grossteste [1235-53] and then in Roger Bacon. According to A. Blaise (ed.), the *Corpus Christianorum Continuatio Medievalis Lexico Latinitatis Medii Aevi* (Turnholti: Brepols, 1975), "*virtus* or *facultas cognoscitiva*" is first used by Thomas Aquinas. So, although Thomas Aquinas [1225?-1274] used the expression *vis cognoscitiva* quite commonly, he was adapting classic Latin to his purposes, giving rise to a neologism. English translators render it by the expression "cognitive power".

13. So Thomas Aquinas states that "vis cognoscitiva est motiva" (*Summa Theologiae* I, 81 1 and 2) and that "vis cognoscitiva movet appetitivam representando ei suum objectum" (*Summa Theologiae* I,II,40-8).

14. Cf. Aristotle, *Nichomachean Ethics*, 111 3a 12.

15. Cf. Augustinus, *De Vera Religione, 39.*

16. Albert the Great, *Metaphysica Libri Quinque Priores*: I, I, chap. 4.

17. This is, for example, the way Dante understands Aristotle through Thomas Aquinas in his *Divina Commedia, Inferno*, XXVI, 118-120 and in *Il Convivio*, I,1.

18. Lear, *op. cit.*, p. 26. See also pp. 2, 3, 7 and 41.

19. Thomas Aquinas, *In Metaphysicam Aristotelis Commentaris*, I,I,4. The same position, almost *verbatim*, is already present in Albert the Great, *Metaphysica*: I,I,4, 20-25.

20. Cf. Albert the Great, *Metaphysica Libri Quinque Priores*, Lib.I, Tract. I chaps. 4 and 5 and Thomas Aquinas, *In Metaphysicam Aristotelis Commentaris*, I,I, 6; *Summa Theologiae*, I, 81, 1 and 2; I,II,40-8.

21. J. Cottingham, R. Stoothoff and D. Murcoch (eds.), *The Philosophical Writings of Descartes* (Cambridge: Cambridge U.P., 1984), vol. II, pp. 400-420, quotation from p. 402. The unpublished manuscript was first edited in 1701 and many conjectures have been made about the date of its composition. Since it has been dated any time from the earlier to the later years of Descartes' life, it can be inferred that the contents of the dialogue represent a position which is not peculiar to a particular time in the development of Descartes' thought, but rather one that he held all through his life. For more information about the dialogue see the Translator's preface, p. 400. As it is said there, "Eudoxus [. . .] is the mouthpiece of Descartes' own views".

22. E. Cassirer, *The Philosophy of Enlightenment* (Princeton N.J.: Princeton U.P., 1951, first published in 1932), p. 97; cf. also his *The Individual and the Cosmos in Renaissance Philosophy*, (Philadelphia: Univ. of Pennsylvania Press, 1963), chap. 4, "The Subject-Object Problem in the Philosophy of Renaissance".

23. Cf. H. Caton, *The Origin of Subjectivity: An Essay on Descartes*, (New Haven and London: Yale U.P., 1973), esp. p. 201.

24. J. Maritain, *Three Reformers* (London: Sheed and Ward, 1928), p. 78.

25. From the prospective of the dissolution of the harmony between knower and known, it is the Kantian revolution that makes possible a new form of philosophy unknown to Greek or medieval philosophers, namely German idealism.

26. P. Sloterdijk, *Critique of Cynical Reason*, Eng. tr. by M. Elaren (London: Verso, 1988), pp. 178-179.

27. Lear, *op. cit.*, pp. 3 and 7.

28. Cf. *Boethii Daci Opera*, Vol. VI, Pars II, *Opuscola*, "De Summo Bono", (Hauniae: Det Danske Sprog Og Litteraturselskab, 1976): 373, lines 110-112.

29. Galen, *Const. Art. Med.* I 243-4 K, quoted by Jonathan Barnes in *The Toils of Scepticism* (Cambridge: Cambridge U.P., 1990), p. 4.

30. J. Locke, *An Essay Concerning Human Understanding*, P.H. Nidditch (ed.) (Oxford: Clarendon Press, 1985), book IV. chap. XIX, par. 1, 4-10.

31. A general survey of the psychological theories about the nature of curiosity is given by H.G. Voss and H. Keller in *Curiosity and Exploration, Theories and Results* (London: Academic Press, 1983, but first published in German in 1976).

32. Cf. D. Hume, *A Treatise on Human Nature*, P.H. Nidditch (ed.) (Oxford: Clarendon Press, 1978), Book II, Part III, section 10 entitled "Of curiosity, or the love of truth".

33. This is Lear's terminological suggestion, cf. *op. cit.*, pp. 3 and 7.

34. Cf. Plutarch, "De Curiositate", Eng. tr. by W.C. Helmbold with the title "On being a Busybody", *Magna Moralia* (Cambridge Mass.: Harvard U.P., first ed. 1939), vol. VI.

35. M. Diderot and M. D'Alembert (eds.) *Enciclopedie ou Dictionnaire Raisonne ` des Sciences des Artes and des Metiers* (Stuttgart: F. Frommann Verlag, 1966), vol. IV, pp. 577-578. See also W. James' con-

cept of *scientific curiosity* (our *vis cognoscitiva*) in his *The Principles of Psychology*, (Cambridge, Mass.: Harvard University Press, 1981), vol. II, p. 1046.

36. Cf. Hume, *Treatise*, chap. XII, p. 128, and M.F. Burnyeat, "Can the Sceptic Live his Scepticism?" in M. Schofield, M.F. Burnyeat and J. Barnes (eds.), *Doubt and Dogmatism: Studies in Hellenistic Epistemology* (Oxford: Clarendon Press, 1980), p. 20. In a non-trivial sense Burnyeat agrees with Hume's criticism.

37. Burnyeat, *art. cit.*, p. 51.

38. A homoeostatic model assumes that "all people are motivated by the need to maintain or restore their optimal level of environmental, interpersonal and psychological stimulation. Insufficient or excessive stimulation automatically causes tension and sets in motion the motive and usually the behaviour required to achieve equilibrium", R.M. Goldenson (ed.), *Dictionary of Psychology and Psychiatry* (New York and London: Longman, 1984).

39. I have provided a more detailed analysis of the differences between the dogmatic and the sceptical interpretation of "man's desire for knowledge" in "*Cupiditas Veri Videndi:* Pierre de Villemandy's dogmatic vs. Cicero's Sceptical Interpretation of "Man's Desire to Know", forthcoming in the *British Journal for the History of Philosophy.*

40. Spinoza discusses the doctrine of the *conatus* in propositions VI/IX of his *Ethics*, cf. *The Chief Works of B.S.*, Eng. tr. and int. by R.H.M. Elwes (New York: Dover, 1951), vol. II, pp. 136-137.

41. Locke, *op. cit.*, book II. chap. XXI, pars. 1/34.

42. *Ibidem*, par. 43.

43. Locke, *op. cit.*, book IV, chap. XX, par.6.

44. Nietzsche, *Beyond Good and Evil, Prelude to a Philosophy of the Future*, ed. and tr. by W. Kaufmann (New York: Vintage Books, 1966), the section entitled "On the Prejudices of Philosophers". See what T. Sorell says about Hobbes in his *Hobbes*, (London: Routledge and Kegan Paul, 1986), p. 29, but also Hobbes' description of the "delightful appetite of knowledge" in *The English Works of Thomas Hobbes*, 11 vols., (Aalen Germany: Scientia Verlag, 1940), vol. III (*Leviathan*), pp.44, 67, 87, 92; vol. IV (*Three Discourses*), p.50, and (*Answer to Sir William Davenant's*

Preface before "Gondibert"), p.453.

45. See the concepts of external dead thing, of action, passion and process, and their relation with mechanics in Peirce, 1.359-61. For the partiality of my interpretation cf. Peirce, 6.102-8.

46. Peirce, 1.325. Cf. also 1.320 and 1.431.

47. Peirce, 1.358. Cf. also 1.324 and 2.22.

48. Peirce, 2.84.

49. Peirce, 7.437-43.

50. Peirce, 5.56. Cf. also 2.138-39.

51. Peirce, 1.335-6, cf. also 1.175. For Peirce's theory of perception cf. 7.615-636 and 7.642-681.

52. Cf. also Peirce, 1.334 and 5.46.

53. Peirce, 1.334. See also M. Fisch, "Alexander Bain and the Geneaology of Pragmatism", in K.L. Ketner and C. Kloesel (eds.) *Peirce, Semeiotic and Pragmatism* (Bloomington, Ind.: Indiana University Press, 1986): pp. 79-119, especially p.89.

54. Peirce, 1.332.

55. Peirce, 1.392.

56. Peirce, 2.173.

57. Peirce, 7.324, see also 5.372. Same discourse is valid for the absence of moral consciousness, cf. 8.45.

58. "The Fixation of Belief" (1877) (5.358-387), "How to Make our Ideas Clear" (1878) (5.388-410) and "The Logic of 1873" (editorial title; 7.313-361). Peirce revised these three works in 1909-1910 planning to make a book out of them (for more information, cf. vol.7, p.194, editorial note 1). See also the relation between curiosity and doubt in 8.270.

59. Cf. for example Peirce, 2.655.

60. Cf. Peirce, 1.43-5; 1.55; 1.235; 1.636-648; 3.34; 6.428. The topic is discussed by F.E. Reilly in *Charles Peirce's Theory of Scientific Method*, (New York: Fordham University Press, 1970), chap. II entitled "The Scientist's Concern: Knowledge for its Own Sake".

61. Compare for example Peirce, 6.452-493—where Peirce argues that scientific knowledge is more than a mere quest for mental satisfaction—and 2.754, where Peirce accepts a continuity of knowledge

from animal instinct to scientific theories.

62. This is "A Practical Treatise on Logic and Methodology", winter 1869-70, MS 165 published in *Writings of C.S. Peirce* (Bloomington: Indiana University Press, 1986-), vol. II, p. 350 and ff. Peirce must have had the Aristotelian dictum in mind also when he wrote 7.579.

63. Peirce knew Aristotle very well, as this is adequately testified by his scholarly work, for example in 1.325, 7.233-255, and 7.249-50. He thought of himself as an Aristotelian (cf. 1.618, and 5.77, footnote).

64. Cf. for example Peirce, 1.351; 4.551, n.2; 5.493; and 5.591; 6.417; 6.66.

65. Cf. Peirce, 5.46 and 1.334.

66. Peirce, 5.375.

67. Peirce, 5.372.

68. For a very beautiful illustration of this process see the first pages of Georg Simmel, *Der Begriff und die Tragödie der Kultur*, first edited in *Logos. Internationale Zeitschrift für Philosophie der Kultur* 2 (1911/12), pp. 1-25.

69. Cf. E. Curley, *Behind the Geometrical Method: A Reading of Spinoza's Ethics*, (Princeton N.J.: Princeton U.P., 1988), p. 130 and ff..

70. Thomas Jefferson in a letter of August 13, 1786 to George Wythe, quoted by Fritz Machlup, *Knowledge: Its Creation, Distribution and Economic Significance* (Princeton: Princeton U.P., 1980), vol. I, p. 12.

71. This article is a summary of some topics I discussed in my Ph.D. thesis entitled *The Search for Knowledge: from Desire to Defence* and submitted to the University of Warwick, Great Britain in the academic year 1990/91. I wish to acknowledge the useful comments on previous drafts of this paper by Norman Armstrong, Ciril Barret, Francesca Cappelletti, Maria J. Frapolli, Christopher Hookway, Greg Hunt, Jim Tiles, Richard Van der Lagemaat, Michael Mainwaring, Richard Robin and especially Susan Haack.