

Time and Reality

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by

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This thesis is globally the result of ten years of work. I started to reflect on the themes developed in it after I took my first degree in Italy in 1985. None of the actual work done before 1990 is contained in the present thesis, though.

However, I hope the reader will forgive the still unsatisfactory treatment of some of the issues this thesis deals with.

I would also like to say that a form of the chapter named "The Paradox of Phenomenal Observation" has, in the meantime, been accepted for publication by the *Journal of the British Society for Phenomenology*.

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Finally, I want to say that working on this thesis I have come to understand why there are so many authors who acknowledge the patient help and co-operation of their wives. My work would have been much harder without the encouragement, the moral and material help I received from my husband, Keith Grimaldi.

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ABSTRACT

In my thesis I analyse the nature and the limits of phenomenal observation: the impossibility for the human mind to understand the final structure of Being or, as it is otherwise called by science, the Universe. This investigation was partly prompted, in fact, by the claims of some respectable physicists that we will one day know everything or, as they often say, God's mind.

My thesis is built around the central chapter (the third) in which I analyse the nature of our understanding of events. There I claim that when subjected to a rigorous analysis, the concept of event as happening in time and occupying a duration of time, is somehow a paradoxical concept. While on the one hand an event requires to be thought of as covering a duration, on the other hand this necessary duration means that whatever event we observe, is not what is really happening. This is because its happening consists in whatever is happening in this duration: certain subevents which when observed display the same paradoxical nature.

Therefore, whenever we single out an event occupying a stretch of time, it will consist of knowable or hypothesizable subevents. But what this means is that none of the events singled out can be a real event, or we would have, ontologically speaking, a crowd of events all happening in the same time as the original event. At this point, I argue, we need to apply Occam's razor, and this will involve denying reality (in a substantial sense) to any event phenomenally described. They will have to be either all real (as they are all of the same observational nature), or none of them will be real. They cannot be all real, as this would lead to an unacceptable redundancy in our ontology, so we have to conclude that none of them are real. We cannot even claim that each series of subevents is real at its own level, as we cannot accept that there are several levels of reality. Reality must be a fully fledged concept or it is useless, it cannot be distinguished from phenomenal appearance.

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INTRODUCTION

This thesis is a reflection on a theme that, despite the variety of its formulations, has constantly characterised western philosophy and more broadly western thought. This theme is the dialectic of identity (or unity), and plurality. The unity and identity of Being, and therefore of thought in thinking of this Being, and the plurality of human experience. The first is seen as the only truth that human mind can think with absolute necessity and the second as an essential dimension of human life deprived, though, of this same logical necessity.

Spelled out as the dialectic of identity and plurality, this problem may seem at first very alien to us, lost in the night of time, in the remote past of ancient philosophy. So why do I want to phrase it in these terms? I have a good reason. I would like, in fact, to emphasise the continuity of this theme as one of the crucial topics of our philosophical thought, and with it the persistence of a “vice” in human thinking, directly dependent on this dichotomy of the One (Being) and the Many (plurality of experience): the attitude of resolving this dichotomy with the appeal to a “bad” metaphysics. By “bad” metaphysics I intend the need, constantly displayed by the human mind since the appearance of this dichotomy, to be reassured in its cognitive practice. Once thought has abstracted from the given plurality of experience the concept of being as that of an underlying unity, it has displayed a constant subjection to this concept, an aspiration to it, sometimes a nostalgia for it, as the ultimate and only truth, towards which not only its theoretical enquiry but also its spirit should move.

This first and ultimate truth has been called various things, as we shall see, and acquired different values, but it has invariably represented the need for a legitimation of human knowledge. This “bad” metaphysics, instead of accepting the search for truth as a constant challenge inherent in our human

condition, has sought a reassuring foundation in the authority of some unfounded dogmatic principle. But such a principle will always be unfounded.

This thesis is not a detailed review of this “weakness” throughout history, however. What I am really concerned with is, first, to restate the impossibility of overcoming this dualism and, second, to unveil the persistence of this metaphysical attitude that inspires, especially, some contemporary physics.

These two projects are not distinct but are carried out simultaneously and at the same level of enquiry. I shall argue that the reason why I believe this dualism cannot be overcome is the impossibility of our mind's ever conceptualising “real” change, and so reproducing the movement from the one (which is the simple form of our thought), to the many contents of experience. That is, from the identical to the different, which is otherwise simply given in our perception and cognition, and therefore deprived of any foundation.

The possibility of understanding the “real” ultimate change and so capturing in a human theory that last structure that underlies happening everywhere and constitutes the access to the laws of nature in their ultimate essence and reality, – or as we often hear from some physicists, “the access to God’s mind”¹ –, is the aim that underlies the struggle of some physics in its attempt to provide a final theory of everything. This aim is not common to all physicists, though, but it is certainly held by some of them such as Weinberg and Hawking², as a manifesto, and, I am sure, by many other scientists and philosophers as a possibility, or a secret hope.

With my analysis of our conception of change and the impossibility of conceptualising it in intelligible terms, inherent in the constitution of our mind,

¹S. Hawking, *A Brief History of Time*, p.175.

²For an enlightening review of this manifesto, see for example S. Weinberg *Dreams of a Final Theory*, S. Hawking *A Brief History of Time*, B. Parker *Search for a Supertheory* and M. Kaku *Hyperspace*.

I intend to prove that the irreconcilable dualism of identity and plurality, discovered by Parmenides at the outset of western philosophy, is alive and well nowadays and will always be. In the light of this argument I intend to dismiss as bad metaphysics the hope that one day we could understand “change”, or whatever underlies the happening of reality. Therefore we can never give a foundation to this plurality of phenomenal experience.

The thesis divides into five chapters, of which chapter one is the most complex. In chapter one I outline some of the historical background to the crucial ‘discovery’ by Parmenides which forms the fulcrum of the whole thesis (section (a)). I then go on to explain the content of Parmenides’ claim (section (b)), and illustrate how its echoes may be found in Descartes (sections (c) - (d)) and how it forms the fundamental basis of Aristotelian logic (section (f)). I apply the Parmenidean insight to the notion of change, and I give a preliminary argument to the effect that change cannot be conceptualised (section (e)). The rest of the chapter prepares the way for the epistemological discussion of chapter 2, by introducing the notion of *skepsi* or inquiry, as the proper epistemological response to Parmenides’ challenge (section (g)). The final section (h) returns to the question of change, seen as an instance of the general ‘passage’ from one to many, from unity to plurality. The theme of change will be returned to in chapter 3.

Chapter 2 is chiefly about epistemology. In it I distinguish two fundamental epistemological approaches, the sceptical and the dogmatic, to the question of the existence of reality. I focus the discussion of these approaches on their responses to the question ‘why is there something rather than nothing?’ (sections (a) - (c)) and I favour the sceptical approach. In section (d) - (e) I examine scientific realism, as an example of the dogmatic approach, and I show how certain contemporary cosmologists and theoretical physicists are guilty of some of the deepest mistakes of dogmatism.

However, chapter 2 does not show us, by means of a rational argument, how to *choose* between scepticism and dogmatism. Can such a rational argument be given? In chapter 3 I attempt to give such an argument. This argument, which bases itself on premises which should be agreed on all sides – 'commonsense' premises about the concepts of event, time and change – attempts to show that real happening, what is really 'going on', cannot happen in time. This paradox I call the paradox of phenomenal observation. I conclude from it that our commonsense or phenomenal concepts cannot be applied to reality itself. This is tantamount to saying that we cannot know reality in itself – the dogmatic realist (and idealist) must be wrong. (The chapter also contains an extended discussion of Zeno's paradoxes).

The paradox has many ramifications. One possible response is to say that time does not require happening: there can be 'empty time'. I attack this claim in chapter 4, by attacking a well-known argument, of Sydney Shoemaker's, for the possibility or conceivability of empty time. In sections (a) - (c) I outline Shoemaker's argument, while in section (d) I offer my response. Finally ((e) - (f)) I expose some of the dogmatic assumptions behind Shoemaker's argument.

The final chapter is also concerned with time. Chapter four's argument was defensive in character: it argues that Shoemaker's argument doesn't work. But chapter five argues positively against the conception of time which detaches it from change or happening, by taking, as representative, the work of W. Newton-Smith. Time, on this conception, could only be a noumenon – it could never be a possible object of knowledge or thought.

CHAPTER ONE

BEING AND LOGOS – ONE AND MANY

a) The appearance of abstract thought in the Western world

It is generally accepted that abstract thought in the western world began in Greece³ with the socio-political transformations that brought to the end of the caste-based society whose predominant culture was still based on mythical thought. This led to the transformation of the polis from an archaic, patriarchal structure to the modern polis as state.

Between the 8th and 7th century B.C., there started in Greece a series of transformations that constituted the passage from a religious, mythical existence, that of the archaic town, to a historical existence with the advent of the modern polis, the Greek cities. These were the products of a socio-political evolution that transformed the archaic town, structured according to rigid religious criteria on the model of a patriarchal organism, into a “modern”

³In *Myth and Thought among the Greeks*. J.P. Vernant writes:

Rational thought, has, as it were, its personal credentials in order: its date and place of birth are known. It was in the sixth century BC, in the Greek cities of Asia Minor, that a new positivist type of thought about nature emerged. (p.343).

Discounting a thesis of J. Burnet according to whom philosophy is seen as a traveller without luggage as it would be futile to seek the origins of rational thought in the past for true thought could have no origin outside itself, he argues, voicing instead a theory of Cornford (Cornford, F.M. *Principium Sapientiae*.), that:

...there was no immaculate conception where reason was concerned. The emergence of philosophy was, as Cornford has shown, a historical fact with its roots in the past, growing out of the past as well as away from it. (p.365).

Vernant also interestingly indicates two features that characterise the new type of thought that developed in Greek philosophy:

First, there is the rejection of the supernatural and ‘marvellous’ in the explanations of phenomena; second, there is the break with the ambivalent character of earlier logic, and the quest for an internal coherence in speech, based on a rigorous definition of concepts, the establishment of a clear distinction among the various levels of reality, and a strict observance of the principle of identity. (p.365).

political organism in which individual and classes are finally acknowledged in their subjective wills. It is from the interaction of these wills that a State is formed and, with the State, the birth of history. It is this progressive laicization of power that must be seen, historians suggest, as the necessary condition for the advent of abstract thought. It is interesting in this respect to read a description that J.P. Vernant gives of this turbulent period of transformation:

The turning point that came when the philosopher emerged from the magus is, then, characterised by this divulging of a religious secret, this extension of a reserved privilege to an open group, and the publicising of a hitherto forbidden knowledge.....The holy idols, the old *xoana*, which had been talismans jealously guarded in the royal palace or the priest's house are now moved to the temple, a public place.....Legal decisions, the *themistes*, that used to be the privilege of the *eupatridai*, are now written down and made public. At the same time as private cults were thus diverted towards a public religion, new forms of religious groupings, centred around powerful personalities, emerged on the periphery of official city religion....The creation of religious sects.....and the establishment of brotherhoods of 'sages', such as that of Pythagoras, are all manifestations, in different conditions and circles, of the same great social movement of the expansion and popularisation of what had been an aristocratic sacred tradition.⁴

On another level we witness a similarly radical transformation. The individual that existed only as a member of a *genos* (lineage) in which he was completely integrated as he participated in the essence of his divine ancestors, becomes properly a (juridical) person, a member of a polis, an essential part of its history. To this history he will now personally participate, because, this is the relevant aspect, a citizen without genealogy can also determine the decisions of the polis. It is the passage for an individual from a natural condition, that of his position in the *genos*, to an artificial condition, that of a member of a state. In fact the "state is not a natural being, but an idea, an

⁴J.P. Vernant., *op. cit.* p.356.

abstract entity which derives its substance from the decision of all its citizens”⁵

who are, for this reason, part of its history:

...the member of the genos that partakes of his divine ancestor and is the incarnation of an atemporal essence...” and whereas “the man without a genealogy is nothing and his actions are without any importance.....the citizen through his belonging to a political organism is integrated in a profane becoming from which all of his destiny depends. It is not possible for him now to ignore that he is part of this history because the reality in which he lives manifests itself to him as an historical datum⁶.

The social dynamics that in these centuries produced the transformation of the towns, consisted mainly in the struggle of the lowest classes, the plebs, to break those ancient mechanisms that precluded them from the political power. Either with a violent insurrection or with a pacific protest or, gradually, with the enlightened legislation of a king, or even with the help of tyrants – those leaders with no religious background or functions, brought to rule by the same insurrections of the plebs – the low classes finally “forced the gates of the city where they had been forbidden to live”⁷ and could so partake of the political life of the city.

Obviously in that period particular and favourable socio-economical conditions arose to make this struggle of the plebs possible and successful. The most important of which was the creation of a new wealth. So at the beginning of this socio-political transformation, like of many others afterwards, there is money. Money is the thing that undermines the religious structure of the patriarchal society. A profound transformation of the economy from essentially agricultural to mercantile occurred as a consequence of the vast colonisation of the Mediterranean area.⁸ The creation of a new wealth which is not anymore only a result of hereditary privilege, but also a product of work and intelligence, creates from the plebs a new class, the bourgeoisie, which will

⁵F. Chatelet., *Naissance de l'histoire*, p.47.

⁶*ibid.*

⁷For a detailed analysis of this phenomenon see Fustel de Coulanges *The Ancient City* p.261-70.

⁸See J.P.Vernant., *op. cit.* ch.5.

determine this laicization of power – the end of a polis with a rigid caste structure, and the rising of a new open society whose fluidity is the direct consequence of the new fluidity of money that has finally substituted the use value with the exchange value:

Money was not subject to the same conditions as landed property, it was according to the expression of the lawyers, *res nec mancipi*, and could pass from hand to hand without any religious formality, and without difficulty could reach the plebeians. Religion, which had given its stamp to the soil, had no power over money.⁹

The coin is the symbol and the instrument of such a complex and deep transformation:

On a whole series of levels its effect was revolutionary. It accelerated the process of which it was itself an effect, that is to say, the development, in the Greek economy, of a commercial sector dealing in some of the everyday articles that were produced. It allowed a new type of wealth to be created, radically different from wealth in land or flocks and also a new class of wealthy man whose effect upon the political reorganisation of the city proved decisive.¹⁰

Furthermore Vernant wonders, quoting a thesis of Thomson, whether the introduction of the coin had a fundamental influence in the process of transformation of the Greek mentality:

Is one justified in going even further and assuming....that there is a direct link between, on the one hand, the most important concepts of philosophy, namely, being, essence, and substance, and on the other, if not money itself, then at least the abstract character of merchandise...?¹¹

But then he concludes that to suggest that:

....in the last analysis, philosophy applies a form of rational and positivist thought acquired through the use of money to the concept of imperishable and indivisible being that it took over from religion.... would be an oversimplification.¹²

⁹Fustel de Coulanges., *op. cit.* p.265.

¹⁰J.P. Vernant., *op. cit.* p.360 - 361.

¹¹*ibid.* p.361.

¹²*ibid.* p.363.

But certainly money, coinage, accelerated the development of that level of artificiality and rationality over that of the *phusis* or the natural process that would have regulated human interrelations from now on.

The individual (and the society) has ceased in fact to be strictly connected with nature, but comes out of the natural condition in which he finds himself at birth. The caste society centred on the *genos* is substituted by a political order based on the census, in which the new citizen follows criteria which are not wholly natural anymore, but rational.

Particularly interesting for us is a transformation in the Greek language as a sign of this progressive process of abstraction: a new use of the article which introduces abstract names such as attributes of quality, i.e. 'the heat', or infinitive verbs used as nouns, i.e. 'the thinking'. This introduces a strong element of abstraction in the discourse and makes possible reasoning about the functions of which those qualities or actions consist.¹³ But it is with Parmenides, rightly considered by many as the father of philosophical speculation, that the abstraction reaches its peak. In Parmenides we find, for the first time, the plural expression '*ta onta*' (until then used to mean 'all things'), substituted by '*to on*', a singular term which means 'the *whole* of the things', what we call *being*.¹⁴ Whereas not only Homer but also Hesiodus still:

talk of '*ta eonta*', the things that exist as of what exist only in the present and oppose them to '*ta essomena*' e '*ta pro eonta*', the things that will be in the future and those that have been in the past..."¹⁵ This means that "...originally the word was used only to refer to the tangible presence of things."¹⁶

¹³Bruno Snell., *Discovery of the Mind*. p.227 - 229.

¹⁴Vernant writes: "...Parmenides is the first to express being with a singular, '*to on*': it is no longer a question of particular beings, but of being in general, complete and unique. This change of vocabulary registers the emergence of a new concept of being.....as the intelligible subject of *logos*, that is, of reason, expressed through language in accordance with its own principle of noncontradiction." *op. cit.* p.363 - 364.

¹⁵Jaeger *La Teologia dei Primi Pensatori Greci*. p.18.

¹⁶*ibid.* p.53.

But already in the Milesians and in Heraclitus we can record an evolution in the language as we find *'ta onta'* as describing not only what is present now but "all that exists in nature".¹⁷ But, as I anticipated, it is with Parmenides that abstraction reaches its peak. This abstract idea to which thought had arrived of all that exists in nature is further refined in the idea of "the whole of the existents", a singular and therefore more abstract term which means that all things have been thought not only in their concrete plurality, but according to the invisible nexus, that belonging to them all, holds them together and allows us to think them as One. Things in their totality constitute a whole which is for Parmenides one and indivisible; we are not considering things in their concrete existence anymore, but the mind has abstracted from them a link, a common ground that represents the highest form of abstraction. It is not possible for us to think of anything more essential, more abstract and more fundamental than this indivisible 'whole'. As Hegel writes:

in the surviving fragments of Parmenides this is enunciated with the pure enthusiasm of thought which has for the first time apprehended itself in its absolute abstraction.¹⁸

b) The Parmenidean discovery.

In his poem *Peri' phuseos*, Parmenides is guided by a Goddess to distinguish the Way of Opinion from the Way of Truth. The first corresponds to the senses and the second to the faculty of our intellect. The goddess shows him that the knowledge given by the senses must be rejected as illusion in the light of a revelation that comes from mind which is independent of the senses.¹⁹ This distinction, between mind as a principle of order and the senses as givers of deceitful impressions, which was implicitly present already in the Pythagorean

¹⁷Jaeger *La Teologia dei Primi Pensatori Greci*. p.54.

¹⁸Hegel. *The Science of Logic.*, tr. A.V. Miller., p.83.

¹⁹"It is necessary that you shall learn all things, as well the unshaken heart of well-rounded truth as the opinions of mortals in which there is no true belief. Nevertheless you shall learn these [opinions] also, how the appearances, which pervade all things, had to be acceptable." *Parmenides* tr. L. Taran., p.9.

“number” and in the Heraclitean *logos*, becomes with Parmenides a central problem in the Greek thought and, then, in western philosophy.²⁰ The superiority of mind over sensation depends for Parmenides on the fact that only thought can know “What is”, whereas the senses offer us a constantly changing world, an inconceivable mixture of Being and non-Being. But our mind cannot think of non-Being, as this would amount, literally, to not thinking at all. Therefore non-Being does not exist. Being is the only possible object of thought, and because of this, Being and thought are the same thing.²¹ Of this changing world and its objects, in fact, Parmenides argues, we say that they are, but because they change and perish we also say they are not anymore. But what really *is* for our mind cannot cease to be. In fact, to explain this change we should conceive of non-Being, but, Parmenides argues, our mind cannot conceive of it. This is why by following the senses we say self -contradictory things: that Being is non-Being and vice versa. As if, says Parmenides, we possessed “two heads” one denying and one affirming the same thing.²²

Unlike his predecessors who sought the *arche'* (the ultimate principle of reality) in naturalistic principles such as water, air, fire etc., all changing aspects of a sensible reality, Parmenides was the first to pick out this Being, as the only unchangeable principle of reality and thought, the *to on*, to which our thought can refer, always, without fear of being proved wrong. As consequence of its immutability or identity, this Being does not come into being, because it

²⁰For a review of this problem see:

The Presocratic Philosophers. (Vol. I), J. Barnes.

The Presocratic Philosophers, K. Freeman.

The Theology of the Early Greek Philosophers, W. Jaeger.

An original and suggestive interpretation of the dichotomy of being and appearance can be found in Heidegger: “The Limitation of Being” in *An Introduction to Metaphysics* p.98-115.

²¹It is the famous:

“.....τὸ γὰρ αὐτὸ νοεῖν ἐστὶν τε καὶ εἶναι”

“.....for the same thing can be thought and can exist”

Parmenides tr. L. Taran., p.41.

²²“.....but also from this, on which mortals who know nothing wander, double-headed; for helplessness guides the wandering thought in their hearts. They are carried deaf and blind at the same time, amazed, a horde incapable of judgement, by whom to be and not to be are considered the same and yet not the same, for whom the path of all things is backward turning”. *Parmenides* tr. L. Taran., p.54.

alone exists. If it came into being, it would have to come from somewhere else. It is also homogeneous and continuous as it is everywhere the same, and because there is no non-Being to prevent it from holding together it does not divide into parts. This Being is whole and indivisible.²³

This indivisibility of the whole is very important, as we shall see, because it does not leave room for anything else to be further understood or grasped by our thought. Our thought can finally rest assured in this simple identity. Furthermore by thinking of this unity and identity of being, thought conceptualises its own identity, the necessary condition of all thinking and the only necessary truth that it can contemplate because it is the only self-evident one and so not in need of further proofs. Contemplating the identical Being, thought becomes literally at one with itself. This Being is necessary for thought because by contemplating it, it does not need any further labour to understand it. Thought is, in fact, simply contemplating its own identity. Being is one, we could say, because thought is one.

The necessary identity of thought while thinking is conceived by Parmenides as the unity and identity of Being as the only possible object of a rational thought. This is why in Parmenides, thought and Being coincide; and that is why Parmenides holds that any other knowledge which is not this pure identity, is just unfounded opinion. This 'false' knowledge is, in fact, produced by change and movement which is inconceivable as a transformation of the original identity. What is one and identical with itself, as Being must be, cannot allow any division or change, as there is no way in which our thought could imagine difference in what is originally one. And since we cannot "think" of change, this does not really exist for Parmenides. Thought and being coincide in

²³"There is a solitary word still left to say of a way: 'exists'; very many signs are on this road: that Being is ungenerated and imperishable, whole, unique, immovable, and complete. It was not once nor will it be, since it is now altogether, one, continuous. For, what origin could you search out for it? How and whence did it grow?

Nor is it divisible, since it is all alike. Nor is there somewhat more here and somewhat less there that could prevent it from holding together; but all is full of being." *Parmenides* tr. L. Taran., p.85.

so far as only what is identical can be properly thought, and what cannot be thought does not exist. (Throughout this thesis, I shall sometimes refer to this claim as 'the identity'). The form of our thought, identity with itself while thinking, becomes with Parmenides the “discovery” of an objective truth: unity and identity as the ultimate nature of Being. This will be from now on in the history of philosophy, the ultimate referent of any truth and the aim of human speculation.

In this context, I think, we have to place the origin of western thought. To understand the radicality and profundity of Parmenides’ philosophy, and the long lasting influence of his “discovery”, we need to look beyond those esoteric elements in which his speculation was certainly very much entrenched, and focus our attention on what was really central to his philosophy: the “*to on*”, that appears now for the first time in western thought as the conceptualisation of being, the idea of something common to “*ta onta*”, all the existents.²⁴ I shall claim it will never disappear from our theoretical horizon, and with more or less awareness it will constitute one of the epicentres of western culture: the problem of truth conceived as a (more or less explicit) aspiration to know this Being, or to reconcile this identical being which we can know with logical necessity, with the plurality of experience that, devoid of this same necessity, appears always unfounded.

c) Metaphysical solutions of Parmenides’ prohibition – A comparison between Descartes’ *cogito* and Parmenides.²⁵

²⁴This, I claim, displays an insuppressable need of thought to rest assured in the pure and necessary identity of its own form without any further labour. Similar genesis has the idea of Absolute or the unity and identity of God. This problem is discussed further in the concluding chapter.

²⁵G.E.L. Owen also suggests this analogy: “The comparison with Descartes’ *cogito* is inescapable: both arguments cut free of inherited premisses, both start from an assumption whose denial is peculiarly self-refuting.” in *Logic, Science and Dialectic*, p.16.

After Parmenides, to think of the link between being and human *logos* (our discourse on the world) means to become aware of its alienation from us, of the distance between this real fundamental nature of all things, and the things in their concrete existence as we meet them in our everyday experience. As Kathleen Freeman writes:

However, the challenge that all results thus obtained were merely Opinions not authorised by reason had now to be faced. Thinkers could not begin with an apologetic statement that nothing can be known for certain, and proceed to explain phenomena..... The nature of knowledge itself was soon to come up for analysis.²⁶

Also Vernant in *Myth and Thought Among the Greeks*. writes:

After Parmenides, the task of Greek philosophy was to re-establish the link between the rational universe of speech and the sensible world of nature by means of a more accurate and more sophisticated definition of the principle of contradiction.²⁷

To resolve the problem of the foundation of knowledge, in the centuries after Parmenides, has involved avoiding this chasm between the necessary truth of the identity of Being, and the plurality of human experience. I believe that all of these attempts have issued (and could only issue) in a metaphysics which has tried to overcome Parmenides' prohibition by introducing an *ad hoc*, totally dogmatic principle that should resolve this alienation of being and human *logos* by bridging the gap with fictitious metaphysical constructions.

My thesis, as I have already said, is not a historical documentation of this practice, but an attempt to bring some decisive arguments to demonstrate that Parmenides' prohibition against bridging the gap between being and *logos*, represents an unresolvable dualism, an objective limit of our knowledge, structurally inherent in our mind and for this reason trying to overcome it can only issue in a dialectical paralogism in the Kantian sense.

²⁶Kathleen Freeman. *The Presocratic Philosophers*. p.149.

²⁷J.P. Vernant., *op. cit.*, p.365.

I want nonetheless to recall briefly some of the most important moments of the reaction to this prohibition, since they have been so influential in the evolution of our scientific and philosophical thought.

These attempts at overcoming Parmenides' dualism have variously consisted of resolving the identity as the only necessary truth that our thought can contemplate, in terms of a multitude of unchangeable, eternal structures underlying the phenomenal world. In this way, thought mirrors the identity and immutability of being in the phenomenal world: with these structures our mind, according to various solutions, participates, and on this participation our knowledge is founded. This is the theme common to two principal streams of metaphysics: the Platonic and the Aristotelian one. So we see, for example, that in Aristotle our *logos* is an emanation of a superior *logos*, which is infused in all creation. In fact the active intellect of the *De Anima* and God as "Thought of thought" of *Metaphysics* are one and the same thing operating on different levels. The first representing the presence of the divine *logos* in the human mind and the second its presence in nature. They are the subjective and the objective whose relation in the epistemic experience is thus granted by a transcendental principle common to both. So in the *De Anima* we read:

Now since in all nature there is a factor that is as matter in the genus, and is potentially all that is in the genus, and something else which is as cause and agent as making everything in it (thus art is related to its material): so there must be these differences in the soul. There is that intellect, which is such as being able to become everything; and there is that which acts upon everything, as a sort of state, like light; for light too, in a way, makes potential colours actual.

And this is intellect separable, uncompounded and incapable of being acted on, a thing essentially in act. For the agent is always more excellent than the recipient, and the principle than its material.

Knowledge in act is the same as the thing itself. But what is potential has temporal priority in the individual; yet this is not true

universally, even with respect to time. Mind does not know at one time and not know at another time.

Only separated, however, is it what it really is. And this alone is immortal and perpetual.

It does not remember, because it is impassable; the passive intellect is corruptible, and the soul understands nothing apart from this latter.²⁸

This should guarantee the rationality of creation and of our thought that knows this creation. But without referring to an external principle (whose relation to our *logos* is itself unfounded) that guarantees the common rationality of being and *logos*, human knowledge remains unfounded, and dangerously on the verge of that chasm: the dualism discovered by Parmenides who forbade for this reason the rational foundation of human worldly knowledge. It is not necessary for me to elaborate here on the fact that Plato's forms express the same epistemic function of justification of the unfounded "particular" in our knowledge.²⁹ It will suffice here to remember that if the soul as it is argued mainly in the *Meno* the *Phaedrus*, the *Phaedrus* and the *Symposium*, is anterior to the body and before its fall on Earth (*Phaedrus*) dwelled in the Hyperuraneum with the other eternal ideas, it must thus know the absolute forms that cause the material objects (*Phaedrus*). Knowledge as *anamnesis* or reminiscence, where the sensuous multiplicity of experience is gradually purified of any transient element and brought back to the purity of the original ideas, is again an attempt at overcoming Parmenides' prohibition to reconcile the necessary identity and the unfounded plurality.

In fact the unity and the identity as an original possession of the soul which once knew the unchangeable ideas, is a possession that it can regain

²⁸Aristotle *De Anima* Book III, Ch. V, 430 a 10-25, (pp. 425-426).

²⁹I will argue later on that metaphysics as an attempt to bridge the necessary One and the unfounded Many, even though unjustified in its strategy, is nonetheless a natural consequence of this dialectic of the one and many, as each one of them, taken in isolation, is completely unmanageable for our mind. The other reaction would be as I will argue in the second chapter, the sceptic one, which simply acknowledges this dichotomy without trying to overcome it, but, because of it, revises the scope of our knowledge.

through a conversion towards its own essence. Knowledge, pure knowledge, is the true being of the soul, its partaking of the ideal being.

The philosopher is he who has discovered this reappropriation of the true nature of the soul that, as we can read:

...will be security for your happiness,"³⁰ and "... since neither the body, nor the union of the two [sc. body and soul], is man, it must be inferred that either man has no real existence, or that man is nothing other than – soul."³¹ Furthermore: ".....the soul is akin to the divine, and the body to the mortal. And in every point of view the soul is the image of divinity and immortality, and the body of the human and mortal. And whereas the body is liable to speedy dissolution, the soul is almost if not quite indissoluble."³²

The repossession of the ideal forms, many but unchangeable and so identical, "resolve" in this way the problem of the reconciliation of identity and plurality and so grant truth to our knowledge.

I should now like to examine the fact that many centuries afterwards, Descartes, celebrating the apotheosis of doubt, could only rationally say: '*Cogito ergo sum*'. That is, on the interpretation I will defend³³, all he could think with necessity and derive rationally with no doubt, was the identity of thought with itself, the actual being of thought. I cannot be thinking and not thinking at the same time, so it must be at least true that I am thinking and that I am while I think. To found any other necessary truth and the rationality of science after he had pushed human thought into this tight corner, he can only resort to an external principle, God, as in the "best" metaphysical tradition.³⁴ Neither did he have an alternative once he had acknowledged the dualism of identity and

³⁰Alcibiades 134e, *The Dialogues of Plato*, (tr. B. Jowett), Vol. I, p.673.

³¹Alcibiades 130c, *ibid.* p.667.

³²Phaedrus 80b, *ibid.* p.388.

³³With the following arguments I do not pretend to give any contribution to Cartesian Scholarship. My reflections about the Cartesian cogito are purely instrumental to the effect of pressing my point about Truth and Identity.

³⁴R. Descartes., Meditation III., *Descartes Selections*. (ed. R. Eaton) pp. 107-126.

plurality, of the necessary being of thought and the unfounded plurality of the *logos*.

Descartes' hyperbolic doubt was not as extreme as one may think. It expressed in the only way possible, a drastic way, a profound anxiety in philosophical thought: that the content of our experience and therefore the work of science is not true, does not correspond to anything "real". Once you start doubting the truthfulness of your sensory experience and therefore the truth of knowledge as a pre-granted correspondence between being and *logos*, you cannot actually stop at any point before you have reached the simple truth of a formal identity of thought with itself. That is you end up reducing the *logos* to one simple assertion without any content except its own identity. **I think, therefore, I think.** It is a formal truth without content, but the only one we can be *certain* of. This is how also in Descartes, as already in Parmenides, after the exercise of the hyperbolic doubt, the *logos*, divested of all its dubious knowledge, coincides with Being in one assertion: the only thing I can be certain of is my own thinking. this is because of all the dubious truths I had to give up, one only I cannot renounce because immediately self-evident: the existence of thought while thinking and, therefore, my own existence as thinking being. This existence, though, does not have any other specification than that of thinking. I exist 'in so far as I think'.

This can be understood in two ways: (i) I am a thought, (ii) I am a thing whose essential attribute is thinking. Descartes says (ii), but he is only entitled to say (i). The reason why he says (ii) is because, paying his tribute to the old metaphysics, he distinguishes the substance from its attribute: but in fact thought remains the only true being he should assert. But thought is in the Cartesian metaphysics, the "*principium individuationis*" of the *res cogitans*, the thinking substance. Because on the one hand a created substance "...cannot be first discovered merely from the fact that exists, for that fact alone is not observed by us" and on the other, because

.....nothing is possessed of no attributes, properties or qualities.... when we perceive any attribute, we therefore conclude that some existing thing or substance to which it may be attributed, is necessarily present.³⁵

And “there is always one principal property of substance which constitutes its nature and essence...”.³⁶ Thought as the “*principium individuationis*” of the thinking substance is the *conditio sine qua* it is impossible to talk of a thinking substance. The thinking substance, obviously, can never exist without thought, but because of this substance, thought itself must be **always** present to guarantee the *principium individuationis* to the substance, and this is not a logical implication of the *cogito* but of the concept of substance which implies permanence. So even if in the “Second Meditation” he stresses:

I am – I exist: that is certain. But how often? Just when I think; for it might possibly be the case if I ceased entirely to think, that I should likewise cease altogether to exist.³⁷

He nonetheless believes that I never cease to think, so long as I am a thinking substance. So it is as if the metaphysical principle overcomes the purely rational truth of the *cogito*, of thought when it thinks, doubts, feels etc... So “I think, therefore I am”, becomes “I am a thinking substance, therefore I always think”. This gratuitous extension of the *cogito*, appears very clear in Descartes’ answer to the objection moved by Gassendi to the second meditation.³⁸ Here Gassendi pointed out the difficulty arising from the identification of a man with a “...mind which has divested itself not only of the body but of the soul itself”.³⁹ He finds it hard to believe that our essence can be a mind and not, more generically, a soul, because it is impossible “...to comprehend how you can think during a lethargic sleep.” But without the attribute of thought, there is no

³⁵R. Descartes., Principle LII., *Descartes Selections*. (ed. R. Eaton) p. 276.

³⁶Principle LIII., *ibid.*, p.276

³⁷R. Descartes., *Descartes Selections*, (ed. R. Eaton), p.99.

³⁸R. Descartes., *Descartes Selections*, (ed. R. Eaton), p.224.

³⁹*ibid.*, p.225

thinking substance. Descartes' very firm answer in this respect was the following:

You have difficulty, however, you say, as to whether I think that the soul always thinks. But why should it not always think, when it is a thinking substance? Why is it strange that we do not remember the thoughts it has had when in the womb or in a stupor, when we do not even remember the most of those we know we have had when grown up, in good health and awake?⁴⁰

The concept of substance requires constantly its *principium individuationis*, this is why Descartes has to stress that our soul always thinks (*sive mens sive animus*, the identification that Gassendi disputes). But this passage from the pure presence of thought when it thinks, to a persisting substance that always thinks is a clear *petitio principii*: "Why should it not always think, when **it is** a thinking substance?", argues Descartes in the attempt to justify the permanence of thought.

This point of mine is similar to the criticism moved by Lichtenberg and reported by Parfit in *Reasons and Persons*:

Lichtenberg claimed that in what he thought to be most certain, Descartes went astray. He should not have claimed that a thinker must be a separately existing entity. His famous *cogito* did not justify this belief. He should not have claimed 'I think, therefore I am'.....Descartes could have claimed instead, 'It is thought: thinking is going on'. Or he could have claimed, 'This is a thought, therefore at least one thought is being thought....But we cannot deduce from the content of our experiences, that a thinker is a separately existing entity. And, as Lichtenberg suggests, because we are not separately existing entities, we could fully describe our experiences and the connections between them, without claiming that they are had by a subject of experiences...⁴¹

I agree with Parfit and Lichtenberg that Descartes could not draw the conclusion that he is a substance or a *sub-jectum* from the truth of the *cogito*. But it would be wrong to conclude from the epistemic situation of the *cogito* that we have no self, no 'I think'. While it is true that we don't know anymore what this self is, it is also true that thought does present itself as an 'I'. Now just as it is

⁴⁰*ibid.*, pp.250-251

⁴¹D. Parfit. *Reasons and Persons* p224-5.

gratuitous to extend the presence of this 'I' into a substance with all the constraints that this involves, it would be likewise gratuitous to assert that this 'I' is not legitimate, and deny it on the ground of some knowledge that certainly exceeds the knowledge of the *cogito*. In fact to prefer 'There is thinking going on' to 'I think', is already to deny something that the *cogito* is simply telling you as it presents itself in the form of an I without further specification.

Descartes had, in effect, already answered a similar objection in his response to Hobbes' objection to the second meditation:

I admit also quite gladly that, in order to designate that thing or substance, which I *wished to strip* (my italic) of everything that *did not belong to it*, I employed the most highly abstract terms I could; just as, on the contrary this Philosopher uses terms that are as concrete as possible,...to signify that which thinks, fearing to let it be sundered from the body.⁴²

But Descartes on the contrary *wished to strip* that which thinks from the body and everything that *did not belong to it*, in order to find a truth or a being that cannot be denied even by the most virulent doubt. And this being he found in thought, in its simple and undeniable identity with itself, so that when it thinks, it cannot deny that it is thinking.

Descartes' fault consisted in making the presence of thought depend on the permanence of the substance. He comes to know that thought *is* because in divesting his 'I' of any attribute that is not certain, including the body, he can stop only when this is reduced to the pure presence of thought so that his existence coincides with that of thought. Thanks to the indubitable truth of thought, when everything seems lost, this endangered "ego" can exalt: something is, and I (who have been deprived of any other ground for my existence), am at least this thought.

Thought appears in the form of an I and I is only this thought.

d) Identity as the self-evident truth of the Cogito.

⁴²R. Descartes., *Descartes Selections*, (ed. R. Eaton), p.197.

I agree with Kant's remark that

....just as what is referred to as the Cartesian syllogism, *cogito, ergo sum*, is really a tautology, since the *cogito (sum cogitans)* asserts my existence immediately. 'I am simple' means nothing more than that this representation, 'I', does not contain in itself the least manifoldness and that it is absolute (although merely logical) unity.⁴³

"I think", argues Kant, implies that "I am" (thinking).

There are two things that I would like to point out here though. Descartes himself denied this was a syllogism, in his answer to the objections collected by Mersenne:

He who says 'I think, hence I am, or exist,' does not deduce existence from thought by a syllogism, but, by a simple act of mental vision, recognises it as if it were a thing that is known *per se*.⁴⁴

On the other hand, Descartes certainly needed to point out the identity of the *cogito*, to find the reason of its indubitable reality before he could say "*sum cogitans*" or I am. *Cogito* and *sum* don't express different realities, but they still need to be disentangled from Descartes' point of view. He was looking for something undeniably real for thought and he found it in the "I think". But what is the reason for its indubitable reality? Kant answers that reality is in the *Cogito* because this is in fact a "*sum cogitans*". But the question is exactly this: why is *cogito* a *sum cogitans* whose reality cannot be denied, (why can I be certain that I am because I think) while this is not so for other propositions such as "I eat" or "I walk"? Why can't I be certain that I am because I eat? The reason is that the subject of the *cogito* is simply identical with itself in its presenting itself as thought, and therefore cannot deny itself without falling into a surd, a nonsense. When I want to find out if the proposition **I think** is true, all I have to do is to see if it can be coherently denied. It cannot be denied because when I think that I think, I am simply asserting an identity, whatever I do with the

⁴³I. Kant. *Critique of Pure Reason*. (tr. N.K. Smith) p.337 (A355).

⁴⁴R. Descartes., *Descartes Selections*, (ed. R. Eaton), p.186.

content of my thoughts, however I doubt it, I cannot deny that I am thinking it. But thought can deny that eating and walking are real functions of the soul:

But if it is so that I have no body it is also true that I can neither walk nor take nourishment.⁴⁵

So we need to point out the simple identity of the *cogito* as the reason for its indubitable reality in order to make of it immediately a "*sum cogitans*".

This is what Descartes does to introduce the "*sum cogitans*": he insists on the impossibility of denying that I think when I doubt, understand, affirm and so on. But if it wasn't for the impossibility of thought to deny its own identity, I could have not survived as a "*sum cogitans*", just as I didn't survive as a *sum deambulans*, for example. This is why there is a reason for the syllogism-like form with which Descartes expresses first the reality of the "*cogito*" and then that of the 'I'. Even though they are indeed the same thing: that is once we have assessed that this thought cannot deny itself, we recognise it as a "*sum cogitans*". It has reality and so I exist after all, at least as a *sum cogitans*.

The point here is that everything else being other than thought, being more than the pure identity of this self-evident presence, cannot be thought of as absolutely true. So propositions such as 'I eat' or 'I walk' don't carry the same reality as 'I think' because they are other than thought. Thought thinks them but they could be not real. That is, what thought thinks as eating or walking could be not the real thing and therefore not true in this absolute sense required by the hyperbolic doubt. Whereas when thought thinks itself, its pure presence without any content is not thinking anything outside of itself, but is purely asserting its own identity, and therefore cannot be wrong.

What is then this reality of the *cogito* expressed in the "*sum cogitans*"? When I think: "I am walking", this as a content of my thought is other than thought itself and so cannot be simply identical with what I am thinking of. My thought is, in this case, only correct in respect to its form, but as far as the "real"

⁴⁵R. Descartes., *Descartes Selections*, (ed. R. Eaton), p.99.

act of walking goes, there is no way for thought to assess if it corresponds to my thought of it. The thought of walking, could have no “identity” with the walking “in itself”. This could be nothing at all outside of my thought (the dream hypothesis and material idealism) or be something completely different from what I think of as walking (Kant’s formal idealism). In this gap between the simple identity of thought and the unfounded plurality of its contents, the demon or just a formal idealism can set in.⁴⁶

This is the very point about the foundation of truth in the human *logos*. The existence of thought is the one “content” of thought that thought cannot deny without falling into a surd. This, fundamentally, has the same speculative meaning as the Parmenidean identity of Thought and Being. In this sense walking and eating as contents of our thought (which are *ex hypothesi* other than thought), cannot be thought as being true except as a “thought of walking and eating”. So, coming back to Kant’s remark that the *Cogito* is already *sum cogitans* we have to conclude that “I think therefore I am” means that I possess an undeniable Being, a being that cannot be denied by thought because it is simply identical with thought itself. So that thought, by denying it, needs to assert it at the same time, This is why *Cogito* is “*sum cogitans*”.

We know that the way Descartes gets out of his doubt and finds the veracity of the *logos* beyond this simple identity of thought is a dogmatic move. He falls in what it has been described as a “vicious circle”: he uses God to legitimate ultimately clear and distinct ideas and the idea of causality⁴⁷ and the idea of causality to legitimate the theoretical relevance of God. This is how he tries to rebuild the credibility of human knowledge that the hyperbolic doubt

⁴⁶In the Transcendental dialectic, among other places, Kant distinguishes his formal idealism from the idealism that he calls *material*, which doubts (Descartes’ problematic idealism) or denies (Berkeley’s dogmatic idealism) the existence of an external world: “I have also, elsewhere, sometimes entitled it *formal* idealism, to distinguish it from *material* idealism, that is, from the usual type of idealism which doubts or denies the existence of outer things themselves.” I. Kant., *Critique of Pure Reason*, (tr. N.K. Smith) p.439 (A491, note a).

⁴⁷This is “...a first principle than which none clearer can be entertained.” R. Descartes., *Descartes Selections*, (ed. R. Eaton), p.181.

had systematically destroyed. But unfortunately the path from knowledge to the assertion of identity as the only truth, is a one way street; there is no way back. Nothing left to build on. This is why Leibniz reproached Descartes for having

sinned twice: for doubting too much and too easily coming out of the doubt.⁴⁸

For a metaphysician to destroy any truth of reason until the Parmenidean identity emerges, is a “sin”, a big sin, since the work of metaphysics consists, on the contrary, of painstakingly trying to fill, with its dogmatic constructions, that gap between *logos* and the identity, the only undeniable truth, that Parmenides had exposed. It is, presumably, a sin of arrogance that reason commits against itself: transcending those limits that are variously established by metaphysics which tries to bridge that gap, and beyond which there is no knowledge. This, metaphysics, of all disciplines, must know best! Only by “sinning” again against itself, reason will be able to recover from this experience. The sin is now more explicit: it consists in advocating a dogmatic non-rational principle in order to found the possibility of knowledge, a way out of this certain but tautological truth that asserts the being of thought. As a matter of fact, this reproach of Leibniz’s, is an irony in our reconstruction of the story. For thinking about it closely, Descartes had not sinned more nor less than most metaphysicians do, except that he had done it openly. This reproach should rather be for having exposed, with his doubt and the consequent recourse to a dogmatic principle, the “sins” that metaphysics itself systematically commits against reason, when it tries to traverse the path from the plurality of knowledge to the one unquestionable principle, pointed out by Parmenides, that metaphysics wants as foundation of our knowledge, so ignoring or challenging the Parmenidean prohibition to reconcile identity and plurality.⁴⁹

⁴⁸G. Leibniz, *Opere Philosophica*, p.196.

⁴⁹For further reflections on this dogmatic foundation of knowledge, see especially concluding chapter, pp.235-248.

Anyway, with Descartes' attempt to find a certain truth, we have seen that after many centuries Parmenides' discovery of the dualism that started the "metaphysical reaction" has not been fundamentally modified an inch, and his prohibition still stands undefeated. Descartes, first exposes the dichotomy and, then, like Aristotle and Plato before him, tries to close the gap by bridging it with the appeal to an external principle that grants (in a totally unsatisfactory way) unity and truth both to the created world and our discourse on it (*logos*). The frightening hole that the doubt opened up in front of man, has been closed, safely tucked away with the intervention of a rational God. What started as a commendable human and rational anxiety has been superhumanly resolved. Obviously it is not this solution which humanity treasures most in Descartes' thought. This is rather an unfortunate fall after the drastic exercise of the sceptical method that is in fact genuinely resolved in his thought by the appeal to the criterion of clarity and distinctness rather than this metaphysical sortie. This is how Descartes truly puts himself in that tradition that gave rise to modern scientific thought.

The gap between being and *logos*, then, must be kept open, it is of the essence of our knowledge to know that we are always on the edge of it and to accept this like a challenge, rather than trying to step over it. This is in fact the only way in which knowledge advances, by keeping that gap open and therefore by constantly questioning its results and their truth. A metaphysical guarantee instead, would immobilise our knowledge in the dogma of a religion – as in fact happened with the overwhelming influence of Aristotelian metaphysics canonised by the Church, from which only a revolution such as that painstakingly operated by Copernicus, Galileo and others before Descartes, could have shaken it. Descartes was notoriously a cautious being (his motto was *bene vixit qui bene latuit*); but even he in the end had to recognise the accusation of vicious circularity made to him by his contemporaries. He came to

modify his thought in this respect and wrote that we could doubt of our ideas only if

...we didn't concentrate on them, and remembered that we had perceived them in a clear and distinct way" and so "...when we turn to these truths, we cannot doubt of them anymore, even if we didn't know that God exists" but rather without these clear ideas "...we couldn't demonstrate that God exists⁵⁰

The vicious circle breaks in this way in favour of an assertion of the autonomy of human reason. Descartes had to recognise that to scientific knowledge it is not God that is fundamental but reason...whatever its limits.

The limits of our pure reason in its undefiable metaphysical pretence to know the noumenal (that is, the reality in itself beyond our pure representation of it) will be the essence of the Kantian enquiry, an enquiry that, as we all know, issues in the anathema against any attempt at gaining knowledge⁵¹ of anything other than the phenomenal. But despite the Kantian revolution the foundational attitude of metaphysics that tends to resolve this dualism by discovering the lost link between Being and *Logos*, has never died and, as I briefly mentioned in the Introduction, is very much alive even nowadays in some of the work of the most unsuspected culprit: science itself and, especially, theoretical physics.

Physics, deluded by the great success yielded in this century, ignores this prohibition or rather challenges it, dreaming the metaphysical dream again. This comes now in the form of a unified theory which could give us ultimately a deductive knowledge of reality. Again, it is thought, only by bridging the gap or by presuming that we can bridge the gap between plurality and unity, *logos* and being, can we guarantee ourselves the validity and the soundness of our current knowledge, of our theoretical efforts. There must be, in fact, a law, a

⁵⁰R. Descartes, *Opere*, Vol. II, p.710.

⁵¹Of course I intend a scientific or positive knowledge. In fact for Kant, what we can think of and know exceeds the scope of what we can positively and exactly know. See for example Kant. I., *Prolegomeni ad ogni futura metafisica*, pp.118-134; *Critique of Pure Reason*, pp.532-570.

theory that unifies our physical knowledge and to which our knowledge must aim and so become adequate knowledge of Being.

Theoretical physics has the problematic aim of discovering what kind of unified dynamic structure our universe possesses. We are obliged to assume that the universe has some kind of unified dynamic structure. If we make no such assumption, and attempt to assess theories by evidence alone, we will be overwhelmed by infinitely many ad hoc but empirically successful theories, and progress in physics will come to an instant standstill.

This writes N. Maxwell one of the most enthusiastic supporters of this program in the philosophical literature. He actually supports a theory called AOE, aim oriented empiricism, that should substitute

standard empiricism...the doctrine that in science theories must, in the end, be accepted and rejected solely on the basis of empirical success and failure, no factual assumption about the world being permanently upheld in science independently of evidence.⁵²

The aim of the following chapters will be to demonstrate with, I hope, convincing arguments, that what I call the metaphysical dream of science, is doomed to failure and that those philosophers and scientists who believe in the possibility of finding a final theory beyond which there is no more to understand⁵³, are victims of a big delusion, as they are once again stepping over

⁵²*The Comprehensibility of the Universe and the Solution to the Problem of Induction*. Text of Lecture given at a Bloomsbury Particle Physics Seminar at UCL on 24th February 1993.

⁵³The speculative attitude that I criticise can be epitomised by the following quotes:

S. Hawking, *A Brief History of Time*,

"...our goal is nothing less than a complete description of the universe we live in" (p.13),

"...we may now be near the end of the search for the ultimate laws of nature" (p.156),

"A complete, consistent, unified theory is only the first step: our goal is a complete *understanding* of the events around us, and of our own existence" (Hawking's italics, p.169),

"...if we do discover a complete theory.....it would be the ultimate triumph of human reason – for then we would know the mind of God." (p.175).

M. Kaku, *Hyperspace*,

"...the hyperspace theory may be able to unify all known laws of nature into one theory. Thus the hyperspace theory may be the crowning achievement of 2 millennia of scientific investigation: the unification of all known physical forces. It may give us the Holy Grail of physics, the "theory of everything" that eluded Einstein for so many decades." (p. ix).

S. Weinberg., *Dreams of A Final Theory*,

the limits of our knowledge and practising what I have called “bad metaphysics”. I personally don’t hold scientists responsible for this illusion, for creating false hopes that unavoidably have an effect on our everyday life, as they are, I think, simply exercising a natural aspiration of the human mind to understand everything, without the necessary awareness of the theoretical implications of this aspiration. This claim, on the other hand could upset some scientist like Weinberg who *In Dreams of a Final Theory* seems to believe himself endowed with much awareness of these theoretical implications, whereas he reproaches philosophy for not having this same awareness.⁵⁴ I believe, instead, that philosophers who boost with theoretical support such an aspiration are those really responsible for this illusion, as the nature and limits of human knowledge is a philosophical problem not a scientific one.

This is what I am to show in this thesis.

e) The impossibility of conceptualising change

“A final theory.....will bring to an end a certain sort of science, the ancient search for those principles that cannot be explained in terms of deeper principles.” (p.13),

“Once again I repeat: the aim of physics at its most fundamental level is not just to describe the world but to explain why it is the way it is.” (p.175),

“Knowing these laws, we would have in our possession the book of rules that governs stars and stones and everything else.” (p.193).

B. Parker, *Search for a Supertheory*,

“Excitement is running high in the world of high-energy physics as we close in on this goal. Particle physicists are working around the clock, stretching their imaginations to the limit in an effort to make things fit, setting up ever more complex experiments in hopes of finding the last vital pieces of the puzzle.” (p.1).

But, here, I would also like to point out that, more recently, words of moderation and disillusionment are being spoken by many. So we read in *Science*: “As physicists envisioned it 8 years ago, this finish line was made of superstrings — a single fundamental entity said to make up all of the diverse particles and forces recognised by traditional physics. By envisioning the world as made of these superstrings, scientists were going to tie up reality into one neat package. But since then they have gotten caught in several snags. ‘The equations don’t yield to our efforts’, says superstring theorist Andrew Strominger.....Now while the physicists continue to study superstrings, they’ve lowered their expectations. Bring up the term ‘theory of everything’ and you’ll see a physicist flinch.” And in the same article another physicist, Frank Wilczek, is reported saying: “I don’t like that term [theory of everything]. It’s very, very, arrogant and misleading.” (p.1518-9) F. Flam (1992), *Science*, 256:1518-1519.

⁵⁴S. Weinberg., *Dreams of A Final Theory.*, ch.7 (“Against Philosophy”), pp.132-151.

I feel it is necessary at this point to reflect more closely on the impossibility of the human mind to give a rational foundation to the plurality of phenomenal knowledge, and on why, on the other hand, identity is the only thing our mind can think with logical necessity, in the sense we have seen when discussing Parmenides' and Descartes' approach to the problem of a true being. In this section I shall explain how the Parmenidean claim is linked to the concept of *change*.

In brief, the connection is this. When Parmenides "discovered" that Being is one and identical, he also discovered that this is the only object of our thought:

.... for the same thing can be thought and can exist.⁵⁵

Thought is the criterion for Parmenides, and what it can think exists, what it cannot think, does not exist. For instance it cannot think of non-Being, as this would mean to think nothing and therefore not thinking altogether. For this same reason it cannot think of *change* because this involves that something that is *not* should come to *be*, which is, ex-hypothesi, unthinkable. In this sense, the one and identical being, as Parmenides held, is the only object of our thought, as our thought cannot think of what is changing if not, again, as an identity. This section is going to clarify the nature of this claim.

We have seen that while thought abstracts from the given "unfounded" plurality of knowledge and thinks the underlying unity of being, it discovers its own identity, the identity as its own form and as the only being or reality it can think of with absolute certainty. The *logos* shrinks to the simple self evident truth: I am thinking. But because of this necessary, formal identity of thought, we cannot really conceptualise *change*, the "original" movement from one to many or the becoming of something into another thing that we seem to see in all phenomena. Only the comprehension of change could ultimately give a

⁵⁵*Parmenides* tr. L. Taran., p.41.

foundation to our knowledge of phenomena. But in thinking of this original movement or change, thought is out of its depth.

Here I need to guard against a possible misunderstanding. To understand changes, it is not enough to know that certain changes have taken place in the empirical world. It is not enough to be able to say 'look, this has changed; therefore we know what change is'. This would be rather like saying 'here is an object; therefore we know what objects are'. No: what we need is to be able to *conceptualise* or fully understand why change occurs. And this means that we need to understand the *ground* or *basis* of change in general. But we cannot do this without conceptualising the passage from the One to the many.

However, it should now be obvious that to understand and conceptualise *change*, thought should transcend the formal identity of its structure, the identity necessary to its own thinking. It should be able to think of something while it becomes another, but not as a description of processes in which thought just describes further states or identities, for that would just start a regress in search of the original movement, of the real change. But if not as a description of processes, as what? This is the problem: we cannot find a viable alternative; as Zeno showed in his paradoxes, in trying to understand movement we are either faced with an immobility (the identity of a further position),⁵⁶ or with a *regressio ad infinitum* in the search for movement. Because of the formal identity necessary to its thinking, our thought can only rest peacefully in glaring at an identical being: the simple, self-evident truth that does not urge our mind to further analysis and descriptions in the search of this simple identity, this unquestionable "truth" where to finally rest.⁵⁷

The identical One that was pointed out by Parmenides as the only true being, an objective ontological truth, is, in fact, only the revelation of this form

⁵⁶As we shall see in the third chapter, Zeno engaged in defending Parmenides' theory from those who ridiculed it, because of its being so unmanageable in reference to everyday life. Zeno showed with his paradoxes that an acceptance of the Many (the plurality of experience) produced results just as laughable as those derived from Parmenides' principle of the One.

⁵⁷See in this respect the concluding chapter.

of our thought. It is the epistemic condition necessary for any other *episteme*. And so we could argue that this criterion of truth which has been, since then, our highest standard of truth and that has generated the foundational tradition as a bridge to reach this criterion, is only the expression of a psychological feature.⁵⁸ In this perspective we could probably conceive our thirst of knowledge and truth as a form of *adaequatio* but not of *intellectus et rei* like in Aquinas, but of *intellectus et intellectus*. Thought could cease its relentless search only if it would find a knowledge whose content could be put in the form of a simple identity that as such would not urge further analysis or need for understanding, as it would be self-evidently true. This is what a “final” theory should be like, if it were to be truly final. But this is a power that we can recognise as inherent only in a divine mind and this is in fact what those who talk of a final theory claim, that we will know God’s mind.

Nonetheless, since Parmenides, only a truth expressed in the form $A=A$ is considered as logically necessary, as it does not urge further analysis because by asserting that, our thought is simply asserting its own identity while thinking of A. The principles of non-contradiction and its supplement or correlative of the excluded middle, enunciated by Aristotle⁵⁹ in order to secure logicity and necessity to our discourse about the world, can only ensure formal correctness to our discourse on the world, but, of course, not the truth value of any particular content. It remains to be proved, and this is the problem,

⁵⁸About this claim see concluding chapter, pp.235-248. There I will define further what is my position towards Parmenides' claim. The identity, I will stress, pertains to our thought and not to Being about which we cannot predicate anything positive. This Being which, I will argue in the following chapters, can only be outside our temporal dimension, can give rise only to a negative ontology unlike the Parmenidean one. This said I would like to stress that what I deem important in Parmenides' speculation for the history of philosophy and the consequent metaphysical reaction started by Plato and Aristotle is the assertion that the only necessary truth is the identity and the prohibition to bridge being and logos, one and many. This idea which I fully share with Parmenides, is pregnant with important consequences for our epistemology as I will argue in detail in section... of the second chapter.

⁵⁹'*Metaphysica*', Bk. 3, p. 1005b and '*Metaphysica*', Bk. 7 in *The Works of Aristotle*, vol. VIII (tr. W. Ross). As G. Grote writes: "And, since the syllogistic or deductive process is applicable without exception to every variety of the *Scibile*, Aristotle considers the Axioms or Principles thereof to come under the investigation of Ontology or First Philosophy." (G.Grote, *Aristotle* Vol. II, p.141).

because depending on the experience it ultimately remains unproved, that any content of the *logos* is true, even if its form is correct.

Aristotle tries with his *epagoghé* (correct induction),⁶⁰ to bring to a convergence the 'way of opinion' and the 'way of truth' by harnessing our thought with these further principles to which every concept must conform, but the two paths stubbornly diverge. That A is B we could know for certain, with absolute self-evidence and, (what is important), without the need of further analysis, only if we had understood change, the principle of transformation of reality and, so, the passage from One (the necessary identity of thought) to Many (the "unfounded" plurality of the *logos*).

To summarise. I am at present trying to explore some of the ramifications of the Parmenidean discovery. To be able to think anything beyond the simple Parmenidean identity, we need to be able to conceptualise change – for we need to be able to think of one thing becoming something else, or becoming other than it is. But if we could do this, we would already be able to grasp the passage from One to Many – change is simply a special case of this 'passage'. And it is the aim of this chapter and the next to demonstrate that this passage can not be achieved without recourse to dogmatism (see chapter 2 for more on dogmatism).

My reason for saying this, in brief, is as follows. Our reason finds a given plurality and interacting with it tries to build its own categories on it, without ever being able, though, to understand the passage from one to many, from identity – which, as we have seen, is always the form of thought – to the given plurality. This is why it is always falsifiable or doubtful, because it does not know with necessity this passage, and so does not know with necessity the inherence of predicates to subjects that it finds in the experience. It does not know what Hume called the "secret powers",⁶¹ which I think can be interpreted

⁶⁰cfr. Top A 12, 105^a13.

⁶¹D. Hume., *Enquiries.*, IV-II-29., (ed. L.A. Selby-Bigge), p.33.

as the final cause or ultimate nature of Being, knowledge of which alone could provide us with a necessary reason for any generation and happening. Any statement about the empirical world, even the most certain and indubitable, suffers ultimately from this handicap, that is the possibility of **falsification**, because we don't know how things ultimately are in reality. In fact, as we shall see in the third chapter, where I will discuss the nature of phenomenal observation, real change or real happening is in principle beyond our reach.

f) The three Aristotelian principles express one truth

But surely, you may ask, there are other truths that can be thought with necessity? What about the laws of logic? However, I shall argue that even the general principle of logic: everything is identical with itself, if it asserts anything more than the pure identity of thought when thinks of something, does not express a necessary truth. If it is supposed to assert the possibility of a certain knowledge of an A, as identical with itself outside thought, then it is not a truth of reason anymore. It is a truth of reason only insofar as it means that while thinking of an A thought is identical with itself, but not that an A is really identical with itself for any time. About this we can't say anything that is necessary true. So, again, all that is asserted with this principle is the identity of thought, the impossibility for thought to think two contradictory things at the same time. This is the only knowledge one cannot deny or falsify, not the identity, for any length of time, of any particular entity outside thought.⁶²

So, this general principle of logic, is either empty of specific content as it asserts in general only the identity of thought while thinking, or, if it is more than that, it is a dogma. As I have mentioned before, Aristotle, aware of the *skepsi* inherent in the nature of our knowledge, rightly thought we need to harness our discourse, with the basic principles of non-contradiction and the

⁶²This is not what Aristotle thought, though, in fact, he ascribed to these principles an ontological value rather than a logical one. cfr G. Grote, *Aristotle* pp.296-7.

excluded middle, in order to defend it from a destructive scepticism. But we are going to see that these principles express a truth of reason only insofar as they depend upon the principle of identity.

The laws of “non contradiction” and of “excluded middle” are fundamentally based on the **identity** as the necessary form of thought in any correct predication. They expound or explain how the constraint of the identity works in a predication. The law of non-contradiction is, in fact, saying that “given” that A is B, the relation with B cannot be asserted meaningfully by thought in a way that would contravene the identity of a certain being while it is thought of. The being in this case is, let us suppose, a compound, the AB relation; this relation, the law of non-contradiction, says, cannot be given and not given at the same time, or it would not meet the identity necessary for being, and therefore, for being thought of. But obviously it does not say anything about the truth of the “compound”. The AB relation holds or the AB relation does not hold. Both alternatives cannot be true at the same time. This is not different from the mere law of identity; A is A. It cannot ultimately be a logically distinct law, as I am going to argue soon. Our thought cannot think of an A that is not itself, or of a being that is not. So AB is given or it is not given. Likewise the law of excluded middle, I suggest, says that AB can only be thought of as being, not as almost being or not being yet or whatever incomplete form of identification one could imagine, as this kind of predication without an identical being, cannot be thought of by thought. These two principles, are, therefore, the same law of identity expounded, in order to apply it to a given relation which to be true must always be thought of according to the identity law.

These “further” laws of logic cannot be saying something further (and therefore different) from the identity about the form of thought in the predication. This is because if identity is true of the form of thought, nothing

different from the identity can be true of it. Let's see why. If there is another law different from identity describing the form of thought, this must be outside identity. But this means that if the form of thought is, for example, identity and excluded middle and these are two different laws describing the form of thought at the same time (and it must be at the same time because identity is by assumption the universal form of thought), thought is not identical with itself. But identity is our first truth about thought and true by assumption, therefore, thought cannot be two different things at the same time, where these two things, note, are both forms of thought. To hold that they can both be true of thought even if different would not be like saying that a chair can be both self-identical and brown. It would be like saying that while it is brown all over it is at the same time a colour different from brown. But if brownness permeates the whole chair, here there must be a contradiction.⁶³

We know that what of the "syllogistic" reasoning that conforms to these first intuitive laws remains indubitable, is, again, only the formal identity of thought, whereas what is properly the content of the *logos*, this relation of A

⁶³It has been suggested in ancient and modern times that the classical laws of logic should be given up in order to resolve some difficulties that arise because of their restrictions at many levels of our understanding, from the old impasse of the Liar Paradox to some modern impasse in quantum mechanics. Regarding this M. Forster argues that:

It is a question worthy of serious consideration to what extent the equipollence method of the ancient skeptics might be successfully applied to classical logical laws. There have been many proposals in the past...to abandon one or another of these laws.... the equipollence skeptic might adduce these proposals or concoct similar arguments...and thereby induce a suspension of belief concerning them. *Hegel and Scepticism* p.195.

Without going into the details of these 'proposals', what I think needs to be said here is that, in order to build propositions of equal strength that should prompt a suspension of belief about these laws, the sceptic needs himself to conform to these laws. They are the only criteria he can follow in order to balance arguments of equal strength i.e. of equal logical rigour. And to ask us to give up these laws while fully employing them in order to prove their weakness, would be, to say the least, nonsensical. So the equipollence method or any other attempt that tries to invalidate these laws acting from within, cannot do away with them. These laws, as I will often suggest in the development of this thesis, can only be "refuted" from without, by embracing a different type of logic such as the hegelian one, for example, that does not need to account for contradictions because it starts from them (See Hegel, *Science of Logic* and *Encyclopaedia Logic*). But also in this case it does not seem one should talk of a defeat of these classical laws, as these two different logics are simply incommensurable. And it would not be wise to shift from one to the other.

and B, is not indubitable, not a self-evident truth, on which one could build the truth of our *logos*. That A is B is the first step with which thought moves away from the self-evident truth of the identity: A is A. It is a step without which no discourse on the world is ever possible; it is the step with which our mind “accepts” the inherence of predicates and subjects, without questioning the ultimate nature of their link, a link, though, that could entirely be known and, therefore, known with certainty, only if one could know the ultimate nature of change, or, which is the same, the ultimate nature of reality.

In the absence of this understanding, what any syllogism conforming to the “three laws” of natural logic can ensure, as we all know, is a reasoning only formally true, but as far as the specific factual truth of the *logos* goes, we have no guarantee. All we have guaranteed with the three basic laws of logic is the identity of thought while thinking of a certain relation⁶⁴. It is this gap, this jump from the identity to the plurality that ultimately feeds the *skepsi*, and the awareness of it should make of the *skepsi* the regulative principle of our knowledge. But not the operative one as we are going to see better.

⁶⁴In this sense there is no good reason to claim that these logical laws become inadequate in relation to our understanding of some phenomena that present us with borderline cases where it is impossible to apply a clear-cut logic. In these borderline cases which, in fact, would arise every time we tried to grasp a gradual passage – and in this sense every phenomenon could offer us a borderline case – it is our thought as self-identical, not the laws of logic, insofar as they are purely logical laws, that it is out of its depth. Whether in reality there is such a thing as a gradual change, one thing is certain: we cannot conceptualise it, at least not with a concept that has as its form the identity.

But to consider these laws ontological laws as Aristotle does, would actually mean not only that we cannot account with our thought for these borderline cases, but that they, in fact, do not exist in reality, which is something we cannot claim. To claim, on the other hand, that our understanding is impaired by these laws would mean to say that we are dissatisfied with the self-identity as the form of our thought. This is, in fact, what we have to give up if we give up the laws of excluded middle and contradiction since as formal laws, they are nothing more nor less than the self-identity of thought, as we have seen. This much has got to be budgeted for. So if one wants to abandon our ordinary concept and embrace a sort of Hegelian concept, I am, formally, happy to grant him this choice (see in this respect footnotes 63 and 91 of this chapter and p.137 of chapter 3). No one in fact, unless endorsing a sort of Hegelian logic, could say that he has an “adequate” concept of these borderline cases, that is, that he can actually grasp in some sense (a sense different from that of an ordinary concept) the being of something in the middle between two formal identities, without thinking of it, again, in the form of an identity. Borderline cases cannot be accounted for within the framework of the formal identity of thought because they allude with their vagueness to gradual change, or, more simply, to change which for its very nature cannot be understood by a thought whose form is identity.

To elaborate on this point, let's take the example of a famous syllogism. "Socrates is a man, all men are mortal, Socrates is mortal". The constraints of the non-contradiction and of the excluded middle are here brought on the relation between 'humanity' and 'mortality'. Given this relation, Socrates who is ex hypothesi a man is automatically involved in this relation which is also given ex hypothesi. Now all a syllogism can do is to ensure that this relation is not asserted and denied at the same time so that one could want to claim that Socrates who is a man, is not mortal though. The conclusion is logically derived from the premises because it is contained in them.⁶⁵ This is all a syllogism or a correct deduction can do for us. But as far as the truth value of the *logos* is concerned, it has not been proved that humanity and mortality are in necessary connection. (Not that to prove this is the concern of logic either).

g) The *skepsi* as regulative principle of human knowledge

But, then, what kind of truth can we reach in our predication, what truth value do any of our statements about the empirical world possess compared to the absolute, rational truth of the identity?

So, you observe something: humans, and you observe that they constantly die. So you find in experience humanity and death constantly joined together. Now, as we have seen, on this given relation you put the constraints of identity so that you can think of this relation in a logical way. But the factual content and specific truth of the *logos* in this case rests on the truth of the relation of 'humanity' and 'death'. Is this relation one that you can think of as absolutely certain? What does it mean an absolutely certain truth? We have seen that something is absolutely certain for our thought when it is self-evident, it does not need any further proof. And any relation gathered from experience is, strictly, always in need of further proof. Even the most tested ones. As it is

⁶⁵"Every deduction proceeds through three terms..." cfr. Aristotle, *Posterior Analytics*. tr. Jonathan Barnes, ch. 19, p.27.

commonly accepted, in science, for example, that the probability that by putting a kettle on a source of heat it will freeze, is not equal to zero.⁶⁶

Now, there are some truths gathered from experience that we commonly call evident; we would say for example that it is an evident truth that all men die. But how are we using here the word 'truth', and what does it mean: "it is **evident** that all men die" and, more, what kind of truth does the evidence provide? By saying it is evidently true that all men die, we mean that until now experience tells us that all humans who have come to live have also come to die with no exception. But this evidence does not tell us that humans shall always die with no exception, or that any human who is still alive will certainly die. And it does not do so because it does not point out a necessary link between humans and death, so one cannot conclude that one specific man will certainly die. But what is this necessary link between humans and death which, I am arguing, is not provided by the evidence of experience, and how do we find it? In order to find this link we must ask why humans die instead of not dying. We can then give many circumstantial reasons for this occurrence that have been improving as our knowledge has gradually developed. But each of these circumstantial reasons is based for its understanding, or reason for being, on another circumstantial reason and so on without ever providing us with the necessary link between human and death.

At no point in the chain of explanation can we express a necessary link between the various events and sub-events that we are observing. That is a link that would prove the relation with total self-evidence without referring us to another evidence. The causal link between certain processes and the degeneration of organs, for example, is based on evidence gathered from experience, but it is only customarily inferred, as Hume says⁶⁷. In fact, it has,

⁶⁶It is not my intention, though, to exploit this peculiar nature of our knowledge in order to support ultimately an extreme scepticism, as will appear clear very soon.

⁶⁷For example he writes "And it is certain we here advance a very intelligible proposition at least, if not a true one, when we assert that, after the constant conjunction of two objects – heat

ultimately, only the value of a “here and now” in which all the same conditions are given. But, and this is the point, since the conditions in their entirety are not specifiable,⁶⁸ the relation can never be so true that it could allow us to predict with absolute necessity that a certain man will die. Socrates will die, evidence tells us, only if all conditions that have brought humans to die are unchanged. But what are these conditions? Only if we knew them in their entirety could we see the necessary link between humans and death and the relation would always hold because it would become a self-evident truth, a truth that does not need further explanations or proofs. But we can “only” go as far as electrons and microparticles in our understanding of what happens, and these don’t carry the reason and the exact circumstances of their own behaviour. At any time, as far as our knowledge goes, something could change, and this I cannot predict or exclude in anyway, as I don’t know the ultimate circumstances of “what exists”.

We can at least conceive *a change in the course of nature*; which sufficiently proves, that such a change is not absolutely impossible.⁶⁹ (Italics of Lindh, see below).

Some have tried an empirical solution of Hume’s concern, arguing that it is understandable if one considers when Hume lived.

His *Treatise* was written in 1737, just 50 years after the publication of Newton’s *Principia Mathematica*.....it seems extremely unlikely that Hume could have realised that we would some day be able to compute back from the current position of the Sun, Moon and Earth to historical accounts of eclipses, as a test of the stability in time of the laws of gravity.....Similarly, the ratio of hydrogen to helium in the Universe has been used to estimate that the value of G (Newton’s gravitational constant) was within 20 per cent of its current value during the first

and flame, for instance, weight and solidity – we are determined by custom alone to expect the one from the appearance of the other.”, D. Hume., *op. cit.*, Sec. V-I-36., (p.43).

⁶⁸As Max Born writes: “...no observation or experiment, however extended, can give more than a finite number of repetitions, and the statement of a law – B depends on A – always transcends the experience” M. Born., *Natural Philosophy of Cause and Chance* p.6. Even a coin tossing experiment that yields 1,000 heads in a row does not prove that the coin is two headed, nor does it ensure that the next toss will result in a head; it only makes obtaining a head on the next tossing highly probable.

⁶⁹Hume D. *A Treatise of Human Nature*, 1-3-6., p.91 (Vol. I).

second after the Big Bang.....So the first half of Hume's problem – the question of the stability in the past of the physical laws and constants – has been transformed into an *empirical question* (my italics)....⁷⁰

The reason for my reporting this view is that it seems to me typical of a certain optimistic (not to say naive) attitude of scientists when they approach philosophical problems. Hume comes out of it looking almost as if he has missed his true vocation as a dogmatic realist because of lack of knowledge. If Hume or another famous sceptic of the past was going to be impressed by the amount of evidence of today, he could have been satisfied by the knowledge of his own time. But, in general, it is a total misinterpretation of the sceptical spirit that inspires Hume's concern about the possibility of a change in nature, to think that more information could defy this spirit. Scepticism – and I would prefer to say, at this point, *Skepsi* in its proper meaning of "enquiry"⁷¹ – cannot be empirically resolved as its doubt about human knowledge is not concerned with the little amount of knowledge that human beings actually possess at any specific time, but with the possibility of falsification that knowledge always carries with itself because of its peculiar nature.⁷²

It is highly probable that the *sun will rise tomorrow*, but the opposite belief, Hume argues, is perfectly intelligible because it implies no contradiction and cannot be excluded by any demonstrative argument or abstract reasoning *a priori*. Hume's sceptical doubt must be seen in contrast with dogmatism as an assessment of the status of human understanding, which for its falsifiability in principle, cannot exclude a change in the laws of nature. And it is falsifiable in the first place *because* it cannot exclude such a change, that is, because we do not have knowledge of the "ultimate springs and principles" which "...are totally

⁷⁰Allan Goddard Lindh., "Did Popper Solve Hume's Problem?"; *Nature*. (1993), Vol. 366., pp.105-106.

⁷¹In its etymological meaning of "questioning" and "inquiring". As H. Tarrant writes: "It is natural to assume that because *skepsi* (*qua* 'inquiry') always led the pyrrhonist to counterbalancing arguments, the word came to be applied to the practice of balancing arguments itself..." *Scepticism or Platonism ?* p 25.

⁷²"...since it implies no contradiction that the course of nature may change..." D. Hume., *Enquiries.*, IV-II-30, p.35.

shut up from human curiosity and enquiry"⁷³, the ultimate nature of reality which only could give us rationally justified beliefs and predictions. This is what nurtures Hume's scepticism: the awareness of the impossibility of our knowledge reaching the first principles which only could allow us to make rational predictions and to believe that the perspective of science mirrors "reality". But Hume himself defends the status of the sceptical doubt from those who put their faith in the regularity of human experience, when he writes:

My practice, you say, refutes my doubts. But you mistake the purport of my question. As an agent, I am quite satisfied in the point; but as a philosopher, who has some share of curiosity, I will not say scepticism, I want to learn the foundation of this inference.⁷⁴

So Hume, within the empirical framework, draws a line between scientific practice and philosophical speculation, between an operative and a purely regulative principle such as it is the sceptical one.

What I have been trying to argue in the preceding paragraph is that the Humean speculation in its truly sceptical form is not very different from a Parmenidean, purely logical, assessment of what is absolutely true and what is not. Hume's frequent reminders to us that we cannot know the "secret powers", "the ultimate springs and principles" of nature (or being) that alone could free us from the impasse of the ultimately equipollent nature of our knowledge of what exists, (e.g. the belief that 'the sun will rise and the belief that it will not rise are both intelligible beliefs), is essentially of this nature. So the Humean argument that we lack evidence for causal connection finds its legitimate presupposition only in an argument truly Parmenidean in nature: that we cannot know anything certain about the world because we don't know the passage from the necessary identity of being to the plurality of the logos, which

⁷³D. Hume., *Enquiries.*, IV-II-23. p.30.

⁷⁴D. Hume., *Enquiries.*, IV-II-32. p.38.

in Hume becomes the impossibility of a deductive knowledge from the secret powers or first principle of nature.

True, Hume does not tell us why we don't know and will never know these secret powers, why we could not possess, under any condition, this deductive knowledge which could consequently give us rational foundation to our idea of causal connection, an idea which is, he claims, based only on experience and sense impression. He does not point out the identity of thought as the only possible truth; his arguments do not have the logical depth of Parmenides and this is why his scepticism remains substantially dogmatic, generally associated as it is with the "belief" that every idea originates from an antecedent impression which, as M. Forster points out in *Hegel and Scepticism* is a belief dogmatic in nature.⁷⁵ He quotes what Hegel writes regarding this in the *Encyclopaedia*:

The scepticism of Humeshould be clearly marked off from Greek scepticism. Hume assumes the truth of the empirical element, feeling and sensation, and proceeds to challenge universal principles and laws, because they have no warranty from sense-perception. So far was ancient scepticism from making feeling and sensation the canon of truth, that it turned against the deliverances of sense first of all.⁷⁶

This said, I want to stress that all these extreme statements such as that one about the *probability* that the sun will rise tomorrow, are chosen just to stress (in a very emblematic way) the nature and "limits" of human knowledge, even though they do not themselves represent the object of a reasonable doubt. This, I claim, is the difference between a *skepsi* as regulative principle that assesses the general nature of human knowledge and an extreme scepticism that would want to take seriously the doubt about these specific statements. But someone could think that here I am trying to compromise what cannot be compromised. For, if asked what do I ultimately think of this statements, if they

⁷⁵Forster. M., *Hegel and Scepticism*, pp. 28-30.

⁷⁶*ibid.* p.188.

are “true” or not, I will have to admit that they are not “true”, and so my position in substance is not different from that of extreme scepticism. But this would be correct if I had accepted that there is no alternative to the rational truth of dogmatism and the “ignorance” of extreme scepticism. As matter of fact I believe that a healthy *skepsi* can refuse both of them as irrelevant to the conditions of our *episteme*. These statements are not “true” in the sense of an absolute, rational truth: the standard set by the identity. Only if one maintains that the paradigm of our knowledge is a rational truth, would our doubt be extreme.

But I believe that the *skepsi* rectifies the nature of truth so that our “doubt” about these statements is not extreme scepticism. It would be such if it refused to build a fruitful systematic knowledge on these “incriminated” statements. But a scepticism that denies the positive value of knowledge, really, somehow, coincides with dogmatism, as it does not simply deny the possibility of a rational truth, but behaves as if that was the only truth worthy of being pursued in a systematic knowledge and a theory of reality, just like dogmatism thinks.

As I will argue also in the second chapter, it is only a scepticism as a critical doctrine of knowledge refined in a form of idealism that I want to endorse. What I am interested in, is not defying the truthfulness and fruitfulness of human knowledge, but understanding the legitimate nature of this truthfulness and fruitfulness. My intent is constructive insofar as I believe that it is this high, unrealistic standard of rational truth that generates that extreme scepticism in which as Kant says:

...reason goes so much against herself that it could have never appeared but in a complete despair of reason herself...⁷⁷.

This high standard is a complete misunderstanding and illusion of what the scope of reason’s truth should be. Scepticism as a negative doctrine, I want to

⁷⁷Kant. I., *Prolegomeni ad ogni futura metafisica*, p.26.

stress, is itself dogmatic, not for the well known paradoxes in which it falls because of its unavoidable assertoric nature, but in a more substantial and relevant sense: because it plays the game of dogmatism as it opposes this high, unrealistic truth with ignorance. In his book *Ignorance* P. Unger argues that “Truth is the property of being in agreement with the whole truth about the world”⁷⁸, and that given that there is no such thing as the whole truth about the world, truth is impossible, and knowledge with it.

I just want to say briefly in this respect that I do not accept either of these two theses. First that “truth is agreement with the whole truth”, expresses that idea of truth as identity that was first clearly formulated by Parmenides (who anyway denied it to knowledge) and that has lingered on especially in metaphysical accounts of reality and certainly constitutes one of the meanings of truth, certainly the most valued one also by science. It will be one of the tasks of my thesis to unmask the groundless and misleading nature of this idea of truth. But I don’t think that (as I will argue) this is, in fact, the main concept of truth to which we appeal and should appeal in our cognitive practice, so that given its impossibility we should declare “ignorance”. This presupposes that the idea of truth is legitimated only in a dogmatic framework, that only a dogmatic framework could justify the appearing of such an idea. I believe, instead, that it is more likely, appealing to the same genetic method used by Unger, that our ancestors attached to this concept a pragmatic and instrumental meaning, at least as well as the other one. I can hardly imagine our ancestors while engaged in tasks vital for survival, judging the truth or falsity of a certain state of affairs on the basis of its eventual agreement with the whole truth about the world. Truth and knowledge, I want to stress, do not belong “naturally” to a dogmatic paradigm as scepticism tends to believe. If it may appear so, it is only because in western thought, this slavery to the idea of truth has been

⁷⁸P. Unger, *Ignorance*, p.284.

perpetuated as worthwhile only insofar as it is informed ultimately to the identity.

In Unger's kind of scepticism the true nature of the *skepsi* as an enquiry into knowledge, by some bizarre deviation, ceases to be at the service of knowledge, but in a bout of self-destruction goes against knowledge itself. In extreme scepticism knowledge is "seduced" by dogmatism and for this becomes dissatisfied with its own nature that sees as a limitation, rather than a positive constitutive feature, that of *skepsi*. There should really never be any question of what knowledge "lacks", if not to contrast the unrealistic standard of dogmatism. Just like it isn't a limitation that my eyes are black and not blue, whereas it may appear so to someone with an aesthetic prejudice. This prejudice is the slavery to identity as the highest standard and really the only standard of truth, common to this extreme scepticism as much as to dogmatism. It is this misunderstanding,⁷⁹ the high standard of knowledge portrayed by dogmatism, that generates the opposite feeling of ignorance. It is the mistaken, maybe unconscious belief that this kind of truth is or could ever be relevant to human knowledge that causes this deviation of the *skepsi* into extreme scepticism.

But the *skepsi* that is truly a critical doctrine of knowledge, does not have any of these destructive or negative qualities of scepticism for, simply, it does not acknowledge anything to destroy. For this *skepsi*, it is an established fact that knowledge or truth does not germinate in a dogmatic context or in the way defined by dogmatism, so there is nothing to destroy. This *skepsi* is just constructive critique of knowledge and it is in this sense that "scepticism" as enquiry, as refusal of common sense beliefs is, in the words of Hegel, "the first step towards philosophy".⁸⁰

⁷⁹In the concluding chapter I will describe in more details the genesis of this misunderstanding.

⁸⁰Hegel., *Rapporto dello scetticismo con la filosofia.*, p.92.

The purpose of this digression into the true purpose of the *skepsi* was to demonstrate what we can claim to rationally know in a logical argument, such as a syllogism. The example I was discussing was the proposition that all humans are mortal. So to return to our humanity and mortality relation, in the light of what we have just said, it is even more justified to argue that we cannot even claim meaningfully, that the relation is absolutely true at least when certain same circumstances are given, because this is the whole point of scepticism: the impossibility of knowing all the circumstances, as, the *skepsi* argues, you need to know all of them in order to have a “rationally” (in the strong Humean sense) justified belief. In absence of this, a rational truth ultimately holds only “now and here”, in certain simply given, (not entirely specified) circumstances. Rational truth then appears as a pure tautology: the tautology of the identity. For the *skepsi* the impossibility to specify the circumstances, all the possible circumstances that could prevent or cause a certain thing to take place is what makes any statement of knowledge not necessarily true.

What we can say about the humanity and mortality relation is only that, beings made of flesh have been found to die after certain processes occurred, but why that is so and not in another way and therefore, whether it has always been or will always be so, we cannot say. So only if we could reach in the event “death” a final event that, bearing its own reason of being, shows as necessary the relation between A and B, could we assert that all humans are and shall necessarily be mortal. Only in this way the relation between humanity and death is absolutely certain, because it is totally self-evident. But this self-evidence can only be reached if we know the ultimate constitution of what exists.

We have then, answered the question: how could “All humans are mortal”, become a self-evident, indubitable truth for our mind? The answer is that we need to know a self-evident link between humans and mortality, for

only this can shelter the above relation from any possible doubt and make of it a rational law. Where a rational law is a law that does not await any further understanding; a law in which our mind has finally reached in its content the final self-identity of its own form. It has become literally at one with itself, like the Spinozian God. This is why rational truth is only the tautology of the identity.

h) The passage from One to Many.

Let's now go back to the difficulty of conceptualising change which is what we will specifically deal with in this section. I want to stress, at this point, that I am not holding with Parmenides that change does not exist or that we cannot think of change in the correct way at all. It all depends, in fact, on what we intend by change and what we expect from the use of this concept.

As a matter of fact, the world with which we deal in our everyday life is a world of change. Not even Parmenides would have wanted to deny that. I hope. We phenomenally understand change as the being of the same thing in two or more different states at different times. Our mind retains some common features that allow us to talk of two or more states of the same thing and, therefore, of a change. Those who take this identity too strictly, would actually claim at this point that in fact it is not the same thing anymore, but another thing altogether. Where this zeal leads them is not clear. Certainly not to a deeper understanding of what change is, or to a deeper understanding of these concepts in general. If anything, all it gains for them is a confusion of levels, the noumenal (the level of a presumed reality in itself) and the phenomenal (our perception of it) and the useless sacrifice of even those phenomenal certainties

that however unfounded⁸¹ are the only certainty we can get hold of in our interaction with the world.⁸²

As I said, I am not claiming that we cannot think of phenomenal change at all, but that we cannot conceptualise change in its *real happening*: that is, as at the end of the endless series of analysis and descriptions with which our intellect approaches phenomenal change. This raises the question of my attitude to the simple truths of commonsense, such as the truth I have just mentioned: that our world is a world of change.

Let me state again quite categorically that I am not denying any commonsense claims. It is not my aim in this thesis to *replace* the claims of commonsense with philosophical claims. But, unlike many contemporary analytic philosophers I do not think that we can – or need to – provide a metaphysical underpinning or foundation for commonsense. Commonsense claims are in my view claims about phenomena⁸³. As such, they are perfectly in order. But if they are construed as claims about how reality is *in itself*, then we are led into absurdity. An illustration and proof of how commonsense concepts can lead to absurdity and paradox in this way will be given in chapter 3, as applied to the concept of *event*.

In a slogan, my view is: you can't make metaphysics out of commonsense.

⁸¹And why should they be founded? I am in fact trying to argue that it is only from the mistaken point of view of those who believe that we can bridge the gap between the noumenal and the phenomenal that they should be founded.

⁸²For example, Parfit's criticism of the phenomenal concept of personal identity is a typical expression of this zeal. A zeal, though, that does not dare to go all the way, or it would discover that it is humanly impossible to understand change as the passage from one identity to another, and that the only way we can intend it is as a given gradual process, such as it is the phenomenal concept of personal identity and any other concept of phenomenal change. D. Parfit., *Reasons and Persons*, ("Personal Identity and Morality") pp.321-349.

⁸³By 'phenomena' I do not necessarily mean *sensory* phenomena – I use the term in a quite neutral way to mean whatever can be an object of thought.

So let's get back to our issue. As I said at the end of section (e), if we could conceptualise change as real happening, we would actually overcome Parmenides' prohibition to bridge the One and the Many, as we would have an understanding of the passage from the identity that we can think as necessarily true to the plurality actually given in human experience. In this way the plurality would not be simply given and we could think with necessity our claims about the world since we would see the original link among the phenomena that we observe, as we would understand the principle of their transformation or happening. In this way we would understand as necessary the proposition A is B and any other synthetic relation of subject and predicate, because we would know the ultimate reason of their nexus. In other words, we would possess a *deductive knowledge* from the principle of happening to any phenomena. But this is an impossible hypothesis. The truth is that the space between an identity and another, where change should be represented as taking place, cannot be filled by our intellect. That which is the principle of plurality cannot be mimicked by our mind which remains able to know only what is formally identical. Change as real change and not a further description of further states, where the form of thought is still the identity, remains a postulate, simply given, but impossible to conceptualise.

Philosophers like Heraclitus, Spinoza, Hegel and, in more modern times, Bergson and Whitehead, have argued for the necessity to conceive unity and plurality, identity and change as indivisible moments in our mind, for to think of one without the other generates absurdities⁸⁴. So Hegel in *The Phenomenology of Mind* stigmatises as "monochrome formalism"⁸⁵ the Absolute without any intrinsic difference of Schelling and his school which he calls "...the night in which all cows are black."⁸⁶ And Bergson invites us to think that real is not the

⁸⁴See: H. Bergson., *An Introduction to Metaphysics*, and *Time and Free Will*.; A.N. Whitehead, *Process and Reality*; G. Hegel, *The Science of Logic*.; K. Freeman, *The Presocratic Philosophers - A Companion to Diels.*; B. Spinoza, *The Ethics*.

⁸⁵Hegel *The Phenomenology of Mind* p.78.

⁸⁶Hegel. *The Phenomenology of Mind*. p.79.

immobility of the identity which we never meet in real life, but movement and becoming.⁸⁷ In more recent times E. E. Harris has revived this philosophical tradition in his book *The Reality of Time*⁸⁸ where he argues in a Spinozian fashion that “...time is the process of self-specification of the universal, which gives it its content and makes it truly whole and concrete.”⁸⁹ We are very glad to hear this reassuring news once again, but we are also once again, like with his predecessors, left completely uninformed about the way this fusion works in our concepts. We are provided once again, in Harris’ book, with an interpretation of Nature and History that shows us this progressive integration of immanence and transcendence and the constant ascension of the particular towards the universal which Harris calls Omega and identifies with a personal deity. We are also assured that our *reason* can in a Hegelian way embrace all this. But there is probably no need to say that these can be easily seen as biased, idiosyncratic interpretations of Reality.

Anyway, my concern is not to understand whether these interpretations are true, but just to stress that they do not answer the question: “How do you conceive the transition from One which you can think of with certainty (even if empty of content), to Many which has content, but is not rationally justified?”. To argue that the communion of the two does not need to be explained or that does not create a problem because it is simply given and testified by Reality (the reality of their interpretations), we have to admit, I dare saying, that there was no need for any speculation about truth to arise, ever. No need for Philosophy itself, since western philosophy is born as an attempt to understand the nature of this passage⁹⁰ and if there is a passage at all in our mind or, instead, an unbridgeable gap.⁹¹

⁸⁷See also, in this respect, note 32 of ch. 3 of this thesis.

⁸⁸Errol E. Harris., *The Reality of Time*.

⁸⁹*ibid.* p.158.

⁹⁰See this chapter, pp.21-23.

⁹¹In an ideal world where there wasn’t such a dichotomy, what these philosophers of “change” maintain would be true. Because it is true that monism and pluralism taken in isolation as the two alternative keys to Reality, generate absurdities, (of which my thesis offers a review), and it

Now, to pick up our original thread, we can say in conclusion that when we think of the world, all we can know as necessary true in our *logos*, is the identity of our thought, its formal correctness, not the veracity of its particular content. All we can know with absolute necessity is that we are thinking. This, in reference to a concept of absolute or rational truth such as that fixed by Parmenides, of course. In relation to this concept, to found our knowledge means to find, as metaphysics has variously attempted at, the necessary link among the various phenomena, to see how they are necessarily interrelated, and they would be interrelated or derivable from one another, only if they shared a common ground that we can think with necessity without the need of any further evidence.

Some contemporary philosophers of science⁹² such as the previously mentioned N. Maxwell, in the best foundational tradition, simply presume that there must be such a link in the form of a general knowable structure, without which, he says, our knowledge would be purposeless. Others before him, as we have seen, have identified this link with an external principle such as a rational God, advocating it as guarantee of the validity of our knowledge. But this cannot be held with rational necessity because the pertinence of a real God to our theoretical world cannot be proved in any way or we would need a further

is also true that we do experience change in continuity, differences in unity and so on. But no matter how much Hegel has tried to teach us that thesis and antithesis are just moments of the true synthesis, we still cannot produce a concept of this movement from One to Many that would be an answer to our queries about truth started by Parmenides. Unless, of course, we give up our ordinary logic and employ the non ordinary hegelian 'concept' that renounces the identity. On the other hand, to acknowledge the impossibility of overcoming these absurdities and paradoxes will mean for us (as it will appear clear in this work) to accept the true nature of our knowledge with its own limits.

To refute the dichotomy of One and Many as born of a misunderstanding and substitute it with a metaphysics and a logic that has 'resolved' them as moments of a superior unity, means, I believe, to take a short cut that does not answer our original question. As it is just that what we "unbelievers" in the "self-differentiating absolute" want to know: how have they been 'resolved'? The answer is, obviously, that they never really existed, but were only abstractions of our intellect and that, therefore must be subsumed under the superior understanding of a "true" reason. But the dichotomy exists, I have argued and I will argue further, and only the wishful thinking of the philosophers of 'becoming' can reconcile it.

⁹²For a more extended discussion on this problem see Chapter 2, section (e).

principle itself not in need of such a legitimation. Such was Descartes' idea of cause, which as an idea should have been itself founded on God, but he improperly used it as an original self-evident truth to prove the existence of God.

The antimetaphysical genius of Hume pointed out the impossibility of our knowing this common ground that he would variously call "secret powers" or "final cause", and therefore the impossibility of founding the rationality or logical necessity of our ideas about the world, in the first place the idea of cause. Of course also Descartes in the end recognised that our ideas cannot be founded on God, as we have seen, but where the rationalist Descartes clings to them as rational truths, first principles that cannot be endangered not even by the hyperbolic doubt, the sceptic Hume will insist on them being purely reasonable, responding, that is, to the needs of human reason and not necessarily corresponding to the design of a universal reason underlying the all universe. It is in this concept of reasonability opposed to the Parmenidean standard of truth as – ultimately – identity, that truth finds a human dimension which is also a dimension of tolerance and constant questioning that has proved so vital to the progress of human knowledge.

I will argue (in the next chapter) in defence of this concept of knowledge and truth, opposing it as an original "moral" attitude to the other "moral" attitude of dogmatic realism. Sceptical and critical doctrines on one hand, and Dogmatism, on the other, are historically the two ways in which philosophers, but we should probably say, man in general, has regarded human knowledge and its relation to truth. These two different moral attitudes consist essentially in two different ways to regard the relation between being and thought. A sceptical attitude takes seriously the enquiry about the nature and limits of our knowledge in relation to being, and engages in finding a being that is necessary true for thought. In dogmatism, instead, the link between an external being and thought is dogmatically given as a content of our knowledge which is therefore,

ultimately, always a knowledge of reality or even Being. More on this in chapter two.

i) Conclusions

In this first chapter I introduced the theme that will run throughout the following chapters, where I will substantiate it with more specific arguments: the impossibility of giving a “rational” foundation to our knowledge because of the mind’s own nature. That is, we have seen, the impossibility to bridge the gap between the necessary identity and the unfounded plurality. We can think as necessarily true only the identity; this is the only truth in which our mind will rest, not asking for more and more evidence from the experience. From this “discovery” at the outset of western thought, came Parmenides’ prohibition to know any other truth but the identity of being and thought. But this psychological feature, confused with an objective truth about Being, set the standard for an absolute truth that our thought has always since tried to match.

I have tried to show that what has been dismissed often, also by his own contemporaries, as a tough, unmanageable thought, has, in fact, laid down and spelled out the terms of the most central problem of philosophy and certainly the one propaedeutic to any other speculation: the foundation of our knowledge, the problem of truth, the relation between our cognition and its object. In sections (a) - (d) I traced a brief, I am aware, unsatisfactory history of the attempts to challenge and dismiss Parmenides’ prohibition, the attempts to find the link between being and *logos*, the formal identity of thought and the simply given plurality of experience in the *logos*.

In this chapter (especially in section (e) and (h)) I have suggested that the reason for the impossibility of founding the phenomenal plurality of knowledge lies in the human impossibility of conceptualising its underlying principle: change, whatever this may be in reality. If we could conceptualise the

passage from one identity to another in which our mind is “trapped”, if we could understand how A becomes B ultimately we would possess the necessary link amongst all our knowledge of reality: the “general dynamic structure” some philosophers and physicists are dreaming of. If we understood change as we understand identity, we could give a foundation to our knowledge of the plurality as we would be able to derive it from what seems to be its very principle: change or whatever underlies all happening.

Whether there is such a thing as an *identity of Being* outside of us, is not relevant. What it matters is that we cannot find any other way but the identity to think of what *is* and, yet, we have to accept that it is changing all the time, for we have to think it in the formal identity of thought but also as changing. The missing link between identity and plurality, then, is obviously: how? How is it changing? It is not a link between Being as an ontological external being, but as a theoretical Being, identical because this is the only way our mind can think of what *is*, and the *logos*, our discourse on this being that finds it changing all the time.

But to know what *change is*, means to know everything, because knowing the principle of becoming of reality means obviously to be able to have a complete knowledge of phenomena (for the reasons given in section (e)). To ask how ultimately, our changing world changes means also to ask *why* does it change. In fact if there is a “real” change this must be the ultimate structure of reality, the principle of its becoming and constant happening at the “end” of the endless series of our descriptions of phenomena.⁹³ But whatever final structure we will find, it will be understandable by us, I will argue, only if it is explainable through further information; though, this produces nonsense, because in this case it wouldn’t be an ultimate structure and it would create a *regressio*. This is why, as I will argue in the next chapter, the “final structure”, in order to be final, should be a self-evident, self-explanatory truth in the

⁹³This claim is supported by the argument of Chapter 3.

Leibnizian sense. It should be the “final reason”, what does not need further explanations, but explains everything and itself. If it didn’t, it could not be a “final” structure or a final theory.

This aim seems to me a bit pretentious! However, those who aim to a “final theory” of everything cannot settle for any less than that! What kind of final understanding of phenomena could you have if you don’t even grasp change, this principle of movement that is common to all phenomena and that must explain the final structure of reality, or better, it is **the** “final structure”? You need at least to know that, but that is all there is to know about everything. In fact, you either know this “ultimate structure” in a self evident way, as a final reason, or you don’t know it at all. Because if there is something else to be known about it, it means you have not understood change after all, or whatever underlying dynamical structure one may dream of.

There is more than can meet the eye, as we can see, but these are problems that we will deal with in the following chapters.

CHAPTER TWO

THE SEARCH FOR A CERTAIN BEING

a) To be or...not to be: the fundamental question of metaphysics

In this chapter I will discuss the two fundamental epistemological approaches: the sceptical and the dogmatic. I define these in a very broad way in order to cover many streams of thought.

By 'sceptical', I intend in general all those critical doctrines that don't believe that the existence of reality is unproblematically given in our thought. And in a way or in another, they doubt that the epistemic experience is constituted by the relation between thought and reality. Whereas by 'dogmatic' I mean all those doctrines that take as indisputable a belief in the existence of being and reality and believe in a relation of one kind or another between our thought and this reality.

I will characterise them by looking at the different way in which they deal with what Heidegger calls in his *Introduction to Metaphysics*¹, the 'first of all questions': Why is there being rather than nothing? This is a question that in its proper and full meaning belongs only to the *skeptici*, that is, it can be generated only in a sceptical framework. This is a framework that takes seriously what I will call "the power of falsification of thought", the possibility that thought learns from experience, to deny as certainly true any content of knowledge and so, to endanger, ultimately, also the existence of reality and being in general.

It might be thought that there are really two questions here: First, whether we can know being or reality at all? And second, why is there being rather than nothing? But I shall argue that these two questions are intimately related. For I shall claim that we could not truly *know* that there is a reality without knowing *why* it is there. A claim to knowledge of reality without an explanation of its reason for being, so to speak, would be mere dogmatism. This

¹Heidegger, *Introduction to Metaphysics*, p.1.

may seem like an extreme claim; but I hope the argument of this chapter will substantiate it.

This 'fundamental' question arises – why is there being rather than nothing? – in thought when, having discovered that Being lacks foundation, the threat of nothing becomes a real possibility, or at least a possibility that needs to be excluded by thought itself. The way to do this is, as we have seen, to engage in the search for a being that cannot be denied by thought, a being that for this reason is absolutely certain. This is the route followed by Parmenides and many centuries afterwards by Descartes when, scrutinising all of our knowledge, could find only one rational being: the identity of thought.

I am also going to argue that the feeling that generates the question, the "sceptical feeling" is a meta-rational belief: the belief that the power of falsification of thought could endanger also the existence of reality and being. This I call, paraphrasing Fichte's teaching,² an 'original moral attitude' endowed with the same status of legitimacy as the other original moral attitude: the dogmatic one. This latter does not contemplate the possibility that this nature of our knowledge could mean also the existence of reality too is endangered.

In fact, in this chapter I will not hold that one or the other of these two meta-rational attitudes, insofar as they are meta-rational, is most logical, nor am I going to argue, in discussing the question "Why is there being rather than nothing?" that we cannot know reality in itself and that knowledge is only phenomenal. This is indeed what I believe, but at this early stage it must still be undecided and it will be properly argued for at the end of the present chapter and in the following chapters 3, 4 and 5. I want to emphasise most strongly that idealism and dogmatism are moral attitudes and it would be question begging for me to assume any thesis about knowledge of Reality at this stage.

²See footnote 13 on page 79.

I am also going to admit that, even with my sympathy for idealistic doctrines, purely on the basis of the traditional idealistic claim: "the only reality we can know is the reality we can represent, the reality that appears to us"³ is not decidable whether realism or idealism is the most rational epistemological attitude. The traditional dispute between idealism and realism is, I will show further, deadlocked.

But what about Parmenides? Can his prohibition to "know" change or the plurality help us in resolving this dispute? Can his prohibition to understand the passage from one to many (which will be exploited by his disciple Zeno in his paradoxes) shine a light on this millenarian riddle? In section e) of this chapter I will try to answer these questions in connection with the discussion about the possibility to reach a final theory of everything. I will raise the question: How can we know in a final, that is ultimately self-evident, way the plurality of being? And how could the presumed and much sought after "unity" of being be known in any other way than the tautology of the identity? Or is our mind such that it can know the plurality in the unity and so reach a concept of such differentiated unity which is not just a pure "rhapsodic" concept of a Hegelian type, but a truly explanatory concept that does not privilege the factuality of change against its conceptualisation? Is it conceivable, a scientific theory that accounts for this final understanding and accomplishes what I have called an *adaequatio intellectus et intellectus*, where knowledge is potentially self-evident, potentially deductive in all its ramifications? These questions I will address and answer in the last sections of the present chapter where I will engage to show that Parmenides' "tautology" resolves the traditional dispute against realism and I will come to the conclusion that, as it often happens with matters concerning deep epistemological problems, the

³ "...for if there were no representation of things, how should I speak of them?" Renouvier., *Mind* 1877 pp. 2, 378.

scientists who make claims that regard them, don't understand the exact magnitude and philosophical implications of their own claims.

Now, let's return to the question 'Why is there being rather than nothing?'. It belongs, as I said, properly only to the sceptical framework of enquiry and it is only abusively that the dogmatic asks the question, as, in fact, his specific meta-rational attitude, his certain belief in the existence of Being, does not allow him to take the question seriously. Dogmatism, as we are going to see in this section, just exploits the potential of the question in order to try and give a rational legitimation of its own meta-rational belief in Being. The way it does so is through the search for the final reason that could justify the existence of being and so its own belief in it. The question then becomes "Why is there **Being** rather than nothing?" with the emphasis on the given existence of this being, meaning in fact "what final reason can be given for the indisputable existence of this being?".

As I will argue in discussing Leibniz's answer to the question, this is not a correct move. In fact by asking the question in this way, you can only fall into a vicious circle, for to postulate the final reason of what is purely contingent requires a jump from the level of contingency to that of necessity which is totally unjustified from the point of view of reason. In fact, the final reason for the existence of "something" (and, incidentally, it has to be a final reason, for any contingent reason would just prompt the same question again), must be the *ens realissimum* that does not need anything else to exist, as it does possess all the reality, and by causing everything else to exist, makes it truly existent. But how, it is legitimate to ask, starting from what is not necessary real or true (this world for whose existence you have to ask the final reason), can you postulate this necessary being? How can you postulate a necessary cause of something, when you are not certain of the reality of this something that the *ens realissimum* should have caused? You cannot postulate the necessary starting from the contingent.

At the origin of the asking, then, there is for the dogmatic, the belief in a necessary Being, a belief that does not allow him to entertain seriously the possibility that a contingent world caused by It or Him does not necessary exist, because this world is, in fact, just another aspect of that Being, like the Spinozian substance. But just like in the Spinozian system, the way the necessary and the contingent are related, never becomes clear⁴. Heidegger's 'fundamental' question when asked in a dogmatic framework, reveals to be, then, a real predicament as we are going to see in more detail.

But let's proceed gradually with the exposition.

b) The 'fundamental' question and the sceptical feeling

The existence of the world or Being, is not unproblematically given to our minds. In other words, we don't have an immediate intuition of its existence as certain. To have this would mean, I shall claim, to know its ultimate nature and to have an explanation of what causes it to be rather than not to be. Because we don't have this knowledge or intuition, Being is always conceptually threatened by the other obscure pole of our thought: non-being, which is nothing in itself, but the ever lurking question about the beginning, the origin and in one word the *necessity* of Being. Our ignorance of the reason of the existence of being and, therefore, of its necessity for our thought, often issues in the question: why is there something rather than nothing? This question, which is about the ultimate essence of being, adumbrates the concept of non-being that, as I have said and we are going to see better, is an implicit question about the theoretical foundation of being and it is, in general, constitutive of a philosophic way of contemplating the concept of being or what there is.

This question can be taken as having two meanings of which, though, only one is correct and makes sense: (I) "What reason is there which we could

⁴B. Spinoza, *The Ethics*,

For a relevant commentary on this matter see J. Caird, *Spinoza*, and Hegel's *Science of Logic*, pp.94-95.

give to justify (with certainty) a belief in the existence of being?" and (II) "What explanation can be given for the existence of being (since this must exist)?" Of these only the first takes seriously the question "Why is there something rather than nothing?" and asks it properly. The second expresses the meta-rational belief that being is certain and improperly engages in the search for a rational legitimation of the "meta-rational" aiming to a final reason of what exists. I will discuss this second approach at length in the section: "Acting as if..." later in this chapter. Now I want to focus on the first meaning of the question.

"Why is there, in general, being rather than nothing? That is the question", writes Heidegger in his *Introduction to Metaphysics* and he goes on:

Clearly it is no ordinary question.....obviously this is the first of all questions, though not in a chronological sense. Individuals and peoples ask a good many questions in the course of their historical passage through time. They examine, explore, and test a good many things before they run into the question: 'Why is there being rather than nothing?' Many men never encounter this question, if by encounter we mean not merely to hear and read about it as an interrogative formulation but to ask the question, that is, to bring it about, to raise it, to feel its inevitability.⁵

In other words it is the realisation of its relevance to our theoretical or moral world.

And yet each of us is grazed at least once, perhaps more than once, by the hidden power of this question, even if he is not aware of what is happening to him. The question looms in moments of great despair, when things tend to lose all their weight and all meaning becomes obscured. Perhaps it will strike but once like a muffled bell that rings into our life and gradually dies away. It is present in moments of rejoicing, when all things around us are transfigured and seem to be there for the first time, as if it might be easier to think they are not than to understand that they are and are as they are. The question is upon us in boredom, when we are equally removed from despair and joy, and everything about us seems so hopelessly commonplace that we no longer care whether anything is or is not — and with this the question....is evoked in a particular form.⁶

⁵Heidegger, *Introduction to Metaphysics*, pp.1-2.

⁶*ibid.*

I wanted to quote extensively this beautiful passage from Heidegger because I think it is possible to gain, through it, an awareness of the sceptical “feeling”. This is an original “feeling” that overcomes reason when, freed by the everyday commerce and struggle, reaches the awareness of its own presence as an object of knowledge in its own merit: not engaged anymore in mundane tasks and made aware of itself by these same interactions with the world, reason returns to itself and wonders. Wonders about the nature, the status and the scope of its interaction with the world. And it wonders, as the “fundamental” question reveals, about its relation with Being.

As Heidegger points out this is not the first question that arises in our mind either historically or individually. But, I think, one can easily imagine it arising in a “mature” reason, which through its various activities has acquainted a certain familiarity with its own nature and starts reflecting on its relationship with the external world. Likewise the arising in reason of the “fundamental” metaphysical question is the sign of the sceptical “feeling” which germinates from experience itself and whose genesis and implications for the history of thought we are going to analyse in more detail.

If the first question of metaphysics is: “Why being?” “Why is there being rather than nothing”, it is also true that metaphysics does not always ask this question, or does not always ask it seriously, with total commitment to it. The metaphysics that goes on to find the principles of “being as being”, does not ask this question. This metaphysics is dogmatic, and in this sense, we have to admit, most metaphysics is. In fact only the dogmatic belief in a theoretical link with being as something ultimately given in our knowledge, only the belief that our knowledge could really disclose the essence of a given being, can justify metaphysics as science of this being. That a being certainly⁷ exists for us, is,

⁷This certainty obviously prevents one from taking seriously the question: “why is there being rather than nothing?” and therefore from taking seriously the possibility that we are out of the truth of being as far as our knowledge goes. For our knowledge is founded on a plurality that our mind cannot conceptualise, cannot think with logical necessity. This is why, as I have argued in the previous chapter, when Aristotle had to bring onto our knowledge the logical

obviously, the presupposition of this metaphysics that, as we have seen, starts with Plato and Aristotle who, refusing Parmenides' prohibition to bridge being and *logos*, try to resolve and found the empirical plurality of experience given in the *logos*, in a correspondent logical plurality of forms and categories. These somehow should mimic and establish the unity and identity of being in our *logos* which, in this way, it is saved from the anathema of false opinion pronounced against it by Parmenides. This metaphysics, then, goes on to found its constructions on some external guarantee of this given link between our mind and reality. Often this guarantee is, with due variations, a God which ensures in various ways this link.

It is probably fair to say, at this point, that it is thanks to this dogmatic move that Philosophy, as reflection on truth and so as an attempt to resolve the Parmenidean dichotomy, can properly start. The Parmenidean speculation represented, as a matter of fact, the beginning and the end of a philosophical speculation: the alpha and the omega of thought, because it laid down a "beginning" that, as Hegel says in *The Science of Logic*, was also the end. As the identity does not offer any way to proceed for thought, and a differentiation necessary to proceed, can only be brought in fictitiously from the outside with, so to say, a "second beginning".⁸ So Plato⁹ and Aristotle and any dogmatic

constraints, formulated those two principles of non-contradiction and of the excluded middle which are just an expanded form of identity. But these principles, as we have seen, give logicity to the form of thought – as they stress the necessity for thought to be in a formal identity in order to be logical – but not to its contents, where resides the specific truth value of knowledge.
⁸"Parmenides held that there is only being, and he was coherent with his belief, as he held that 'nothing' does not exist at all; only Being is. Being, taken in this absolute way, is totally indeterminate and does not have any relation to anything else. It would seem, therefore, that from such beginning one cannot proceed.....and that one can proceed only if one brings in from without a foreign element.....In Parmenides like in Spinoza one should not proceed at all from Being or the absolute substance to the finite and negative. If, despite this impossibility, one proceeds, this proceeding is a second beginning, a new beginning...."Hegel., *The Science of Logic*. pp. 94-5. See also in this respect footnote 17 to ch. 3 (p.134).

⁹I am very simplistically here characterising Plato as a dogmatic. It should be remembered, however, that especially in ancient times it was very strong the awareness of a relationship between scepticism and Platonism. In particular Diogenes Laertius (Diog. Laer. *De Vitae Philosophorum*, Plato 51.) tells us about a debate between dogmatic and sceptics, both vindicating to their own side Plato's speculation. Unfortunately the acts of the debate have been lost. For a reflection on this theme in the philosophy of the academies see: H. Tarrant, *Scepticism or Platonism?*

thinker, in general, start their enquiry on truth with already two different poles whose link is in fact dogmatically given: thought as knowledge, and being or reality. So the 'foreign element', the differentiation Hegel was talking about, is given in this dogmatic metaphysics from the beginning and, being a differentiation which is dogmatically found, knowledge too, which is seen as the product of these two poles, is dogmatically found. Whereas the "sceptical feeling" which does not accept the dogmatic foundation of the link between these two poles, will not find any foundation for the plurality given in the human *logos* and will accept the *logos* as the place of truths that are always relative.

A metaphysics that asks seriously the "fundamental question": "why being?", "why being rather than nothing?", has not dogmatically presupposed that what is given in our knowledge of the world is in any epistemic relation with Being. This metaphysics in order to answer this "question" will attempt to discover what is, and if, first of all, there is, in our thought a being or a "reality" that thought itself cannot doubt. To take seriously this question, means to allow the possibility of 'nothing' or non- being. This nothing is but the desire of our thought to hold on to something which for thought itself is impossible to deny; it is the obscure pole of our thought that arises from the experience of falsification that our thought can carry out about any aspect of the world, the knowledge of which, can, in principle, always be falsified by thought without falling into self-contradiction. This in its turn is the consequence of the progressive nature of knowledge itself. Its advancing through trial and error, and especially its learning of the likeliness of delusions and mistakes as far as our experience goes. One who takes the "fundamental" question seriously will take it to its logical conclusions in order to find out, following reason and the intuition that there is a being, what is the being or reality that is indissolubly linked to thought itself, and that thought can erect as a defence against the threat of nothing or its own power of falsification. With the appearing of "the"

question, everything is potentially in danger, including thought itself. "Why is there being?" and "why is there thought, after all?". The question is obviously there, thought itself cannot escape the suspicion and cannot provide a self-evident reason of its existence. The question remains in this respect unanswered. Why? We don't know. But the asking alludes to the intuition that there is a being. Thought wants this intuition to become certainty. It becomes so when, once everything has gone, only the identity of thought can be asserted and can only be asserted because every new doubt can only assert it again and again, for there would be no doubt without an act of thinking.

One could object that this threat is irrelevant because it is posed by thought itself, it is as if thought was playing a sterile game with itself. It is, in fact, true that at this point there is no other element, apart from thought, involved in the enquiry about being or truth. But the threat is still real insofar as thought truly does not know if there is a being or nothing, as this latter is a possibility that seriously arises from thought's own power of falsification, as we are going to see better. And if one takes this uncertainty seriously is quite willing to play the game. If one doesn't, then, one puts forwards another element which, so to say, resolves a priori the problem of truth. This second element that thought can bring in at the beginning of the enquiry, is "reality". The problem at this point is that you either bring in reality, at the very beginning with a dogmatic, meta-rational move, or you cannot bring it in anymore because it means that you have agreed to play the game and take the "fundamental question" seriously. But there is no need to say that the bringing in of reality before the enquiry about truth starts, means stopping the enquiry altogether. In fact in this case you can only ask the question: "Why is there being rather than nothing? and, furthermore, is there being or nothing?" acting "as if..", for you already know, as a religious believer would know, that there is

a reality because it is given to you in your knowledge. You have chosen in this case a “specific position in regard to truth”¹⁰, a dogmatic belief.

It is true on the other hand that when metaphysics asks the question: “Why is there being rather than nothing?” it is following, so to say, an obvious intuition of our thought: that there is being rather than nothing. Likewise Descartes’ sceptical exercise in search of an indubitable truth, followed this pre-rational intuition that there is being rather than nothing: without this intuition the question would not be justified or even conceivable.

That thought has this feeling or intuition does not mean, though, that the question is superfluous as thought knows only too well how many times it has been wrong about feelings, intuitions, or impressions that seemed just as certain as this one. This is where it has derived its own power of falsification from. This same power in the exercise of the hyperbolic doubt reduces any existent to nought, and so denies being to everything that it has previously been known for certain. In fact, if something and its contrary, in the absence of a final reason, can be both thought of without contradiction, neither of them has a true or real being that could be indubitable for our thought (as, by analogy, the resolution of + and - is nought). Since we can imagine the contrary of any content of empirical knowledge without logical contradiction, reality is not indubitable. This is where, I believe, also Humean scepticism has its roots and this is why, as I argued,¹¹ it is based ultimately substantially on a logical argument like the Parmenidean prohibition to “know” anything which is not the identity of being and thought.

The metaphysics that takes seriously this power of falsification, a metaphysics that takes seriously the teaching of experience on one hand, and the constraints of what should be a necessary truth on the other (i.e. what cannot be rationally contradicted) – has to try and find out how far this

¹⁰Heidegger. *Introduction to Metaphysics*, p7.

¹¹ Chapter 1, pp.49-50.

falsification of thought can go, how many things it can create and destroy, reducing them to nought. Only thus can it find out if this feeling that there is being rather than nothing is founded at all. Since also this feeling has its contrary: the feeling that there is nothing, which seems at times, we have seen in Heidegger's suggestive passage, just as possible and powerful as the feeling that there is something.¹² This is why thought has to find out if also the resolution of these two opposites will be a nought which would leave us in the uncertainty about their reality, or if, in fact, one of them is real and the other false, and why.

Obviously it will do so by finding out if and what is an indubitable being, because in the case it could not find any, it would have to admit that this feeling or intuition is unfounded.

As we have seen, only by thinking about itself, thought finds always an affirmation, because when it tries to deny its own existence by supposing that is not really thinking, it can do so only through a further act of thinking. Only by thinking about itself thought finds a being that cannot be denied or disproved by further information or discoveries. In this identity thought can finally rest assured that nothing can deny it and so nothing can deny its own being asserted by this identity.

The metaphysics that asks the question "why is there being rather than nothing?" and engages itself in a real expounding of the question has, then, to admit a defeat and a victory. The defeat consists of the discovery that there is no indubitable link between thought and the external world that we build in our *logos*, of whose real being thought could never be certain. The victory is that unlike a constructive metaphysics which brings in reality from the beginning, this metaphysics takes seriously the question: "Why is there being rather than

¹²It is a feeling from whose negativity thought recovers very quickly. But this is not the point. The point is: what is the genesis of this feeling? Is it irrationality, temporary madness or is it, on the contrary, of the essence itself of human rationality and the sign of a lucid mind to ask this question and to "feel" the possibility of nothing. I argue, obviously, for the second of these possibilities.

nothing?", and takes seriously the power of falsification of thought. It thus founds, at least, one rational truth. The constructive metaphysics, on the other hand, cannot say it is taking this same truth for granted – i.e. the identity of thought and, therefore, its certain being – because the problem here is that if you hold this truth and respect it as a rational truth, you cannot go on and find an analogous rational foundation for reality “given” in our *logos*. Since to find this truth you had to painfully admit (through a systematic refusal of any other “truth”) that no other being apart from thought is given to us that we could not doubt. Scepticism and dogmatism are two different pathways with no intersection; as I said, they are two original “moral” attitudes and you cannot switch from one to the other without an act of total rejection. The previous analysis intended, while marking their peculiar speculative features and origins, to offer an insight into these two radically opposite ways to resolve the problem of truth.

Though mine may be a partisan approach, I am not claiming, at any point, that there exists any rationally decisive argument why one should prefer one attitude to the other. The arguments I have been providing until now in favour of scepticism, are only carried out, again, at the level of a “moral” attitude. They argue only on this basis for the goodness of the sceptical-idealistic feeling against the dogmatic one. After having shown this relation of the “fundamental” question with an original “sceptical” feeling of reason in its etymological sense, and its arising in a certain moral context of tolerance and antidogmatism that never gives up an enquiry about reason and its limits, I would like now to switch from this terminology of scepticism (which, I insist, I endorsed in its original sense of *skepsi* or critical enquiry about knowledge) to that of phenomenism, of which sort it will become clear in the development of my thesis. I prefer this terminology for two reasons: first because of the stigma of excessive destructive doubt that has been attached in the history of philosophy to the word “scepticism”, and second because I am going to argue

for the phenomenal nature of knowledge against a realistic dogmatic attitude. But I acknowledge that at this stage they are still both feelings that one can only choose on the basis of an innate disposition or a moral attitude towards life in general, in the way pointed out by Fichte in the Preface to the *Science of Knowledge*. There he writes:

Reason provides no principle of choice; for we deal here not with the addition of a link in the chain of reasoning, which is all that rational grounds extend to, but with the beginning of the whole chain which, as an absolutely primary act, depends solely upon the freedom of thought. Hence the choice is governed by caprice, and since even a capricious decision must have some source, it is governed by *inclination* and *interest*.....What sort of philosophy one chooses depends, therefore, on what sort of man one is; for a philosophical system is not a dead piece of furniture that we can reject and accept as we wish, it is rather a thing animated by the soul of the person who holds it. A person indolent by nature or dulled and distorted by mental servitude, learned luxury and vanity, will never raise himself to the level of idealism.....The dogmatist flies into a passion, distorts, and would persecute if he had the power: the idealist is cool and in danger of deriding the dogmatist.¹³

His description of what is the peculiar nature of an idealist and a realist is, as we can see, so unashamedly idiosyncratic that I am not prepared to endorse it in its specific content.

But I agree with Fichte that there is no rational argument that could originally help one to make a rational decision either in favour of one or the other attitude.¹⁴ In fact as it is meta-rational (because it invests the foundation of reason) to doubt or deny that our knowledge is knowledge of reality in itself, likewise it is meta-rational to believe that our knowledge is knowledge of "reality", and that as a consequence of that we could ultimately know its essence. As much as I do not share this last belief I have to say, in fact, that there is nothing rationally wrong, at this stage, in believing that there is a link

¹³J.G. Fichte., *Science of Knowledge*, p.14-16.

¹⁴Of course, there are also those of us eternally oscillating between Idealism and dogmatism. Certainly this, which I don't consider a disgraceful occurrence, expresses a certain moral attitude, a certain moral concern in life.

between our knowledge and the essence of being; precisely because it is a meta-rational move to bring in reality from the beginning in the enquiry about truth, rather than only thought. It is a choice that ultimately will precede any possible argument in favour or against it, though, and only after you have made the choice can you really argue for it.

But, again, the argument regarding this first choice cannot be rationally decided or logically weighed. In fact, it is not an argument.

In the end the sceptic and the dogmatic pressed by the adversary has just to admit that he just is inclined to believe one thing or another. So one who, in the tradition of the *skepsi*, has chosen to take seriously the “power of falsification” of thought, in principle, can only argue that he feels it is necessary to take seriously the fact that our thought, because of its previous mistakes, cannot give any guarantee that reality exists in order to find out what is instead the being that thought cannot doubt. Likewise a realist can argue that he feels, when he decides to argue for this link between thought and reality, that our knowledge would be pointless or inconceivable without it, or whatever.

These original beliefs are both legitimate as they cannot be contradicted by any contrary evidence. As, to paraphrase an old paradox, that same impossibility declared by the sceptic to see this link between thought and being, should prevent one also from proving the absence of it, so that the same argument for scepticism makes scepticism untenable. And this is an ulterior proof that meta-rational matters, that is matters regarding the foundation of human reason cannot be settled by logical arguments; but any pseudo-rational argument one puts forward is bound to fall, as in this case, in a dialectic contradiction.

In fact, I have to say at this point, that the only fault of the original dogmatic claim from the point of view of rationality, appears when it also tries to give a foundation to this postulated link, as this attempt can only resort in a vicious circle: one cannot find this foundation of truth through rationality, for

the legitimacy of rationality as guarantee of truth is exactly what is at stake here. Echoing the Kantian image of the dove, we have to say that the desire for truth is rational but the search for it, disjoined from the actual practice of reason, is not. One cannot take reason and put it under enquiry as if in a *post mortem*, because one would not find anything on the mortuary table, as reason can only be caught out while it is at work, alive and well. So trying to give a foundation for its activity using a "meta-reason", that is a reason that can step back from any peculiar phenomenal content, is impossible simply because there is no such a thing, but only the illusion that reason can transcend itself in this search of foundation.

I am therefore aware that as we can talk of a dogmatic illusion so we can talk of an idealistic illusion. I would like in this respect to quote a passage from the *Introduction to the New Realism* in which E.B. Holt and other authors at the beginning of this century expressed in a few powerful points the growing dissatisfaction with the claims of a then dominant philosophical idealism. There is in particular one point with which I happen to sympathise strongly:

The fallacy of argument from the egocentric predicament. The "ego-centric predicament" consists in the impossibility of finding anything that is not known (i.e. given as an object of thought). This is a predicament rather than a discovery, because it refers to a difficulty of procedure, rather than to a character of things. It is impossible to eliminate the knower without interrupting observation; hence the peculiar difficulty of discovering what characters, if any, things possess when not known. When this situation is formulated as a proposition concerning things, the result is either the redundant inference that all known things are known, or the false inference that all things are known. The former is, on account of its redundancy, not a proposition at all; and its use results only in confusing with the second proposition, which involves a "petitio principii". The falsity of the inference, in the case of the latter proposition, lies in its being a use of the method of difference. It is impossible to argue from the fact that everything one finds is known, to the conclusion that knowing is a universal condition of being, because it is impossible to find non-things which are not known."

In conclusion to this section I have to say that if I share the initial puzzlement of idealism about knowledge and existence of a reality outside our thought, I certainly don't share the method that it employs to extrapolate from this initial scepticism to the dogmatic conclusion that what exists is only ideal. How has it come to this conclusion,? Where and when in its historical development has it seriously, that is with a logical argument. hindered the other moral attitude that believes in the existence and knowability of a reality outside our mind? As I said, to believe that the "power of falsification" of our thought jeopardises also the existence of Reality, is for idealism as much an un-founded or founded belief as the opposite one held by realism: that it does not jeopardise this ultimate truth or matter of fact, that reality is somehow given to our thought, that there is originally some link between thought and reality. On the other hand Realism finds its own limitation in the impossibility to dismiss the moral attitude of idealism, and this appears chiefly in the face of error or what I have called the power of falsification of thought.

c) Acting "as if..." The dogmatic answer to the "fundamental question".

We have then seen in the previous section that from the way a metaphysics deals with the "fundamental" question, two opposite epistemological attitudes can be detected: a "sceptical" one that feeds scepticism, idealism and in general any critical doctrine; and a dogmatic one that has characterised outlooks such as rationalism and a certain Realism and in general all those doctrines that think they can attain the absolute.

This absolute is still the Parmenidean One, the identity as the only rational truth which, as we have seen, metaphysics "manages" (through a dogmatic move) to put in relation with the human *logos*, contravening in this way Parmenides' prohibition to give a rational foundation to knowledge. This idea of the absolute has been entertained either as "knowledge of the absolute",

like in those great metaphysical system-builders such as in Plato, Aristotle, Spinoza, Leibniz,¹⁵ or as an “absolute knowledge”, as opposed to relative knowledge, which must be implicit in a certain Realism, as we shall see better later on. What in both cases gives them a right to attain the absolute is this dogmatic link between *logos* and being. In the case of Rationalism this issues in the possibility of a “*logos* of the being”, that is a purely abstract speculation concerning the structures of being as being which in this dogmatic scenario is not alienated from us; while in the Realism that I am going to discuss later, this link issues in the possibility of a “being of the *logos*”: that is, once the pretence of the old metaphysics to describe being as being through a purely intellectual construction is abandoned as untenable, the attention is transferred to the reality that we meet in human *logos* as scientific knowledge of the world, which, in virtue of the dogmatic “link”, is believed to be reality in itself. And so it is now the *logos* as scientific discourse that contains in itself the Being which is being progressively unveiled in its ultimate structures by this same *logos*. This is why we can talk in this case of a “being of the *logos*”, that is, a *logos* as scientific discourse that has its rational foundation in this dogmatic link with being and can, therefore, attain the absolute.

It is interesting to note how constructive metaphysics and dogmatic doctrines are, in this respect, an expression of the actual relations between scientific discourse and philosophy of their time. This needs a brief digression. Let me point out that in Plato and especially in Aristotle we find metaphysical discourse and scientific discourse strictly intertwined: *logos* on the being as being (constructive metaphysics) and *logos* as scientific discourse are two faces of the same speculation. In fact metaphysical structures work as logical principles or ordering principles that ultimately found the scientific discourse which, in virtue of this, becomes an *adaequatio intellectus et rei*. This is a situation

¹⁵For this claim about Plato and Aristotle I have argued in the previous chapter (section c). For Spinoza see the introduction of this chapter. Leibniz will be discussed later in this section.

which continued unchanged all throughout the middle ages, where it was canonised by Aquinas, until the Renaissance and characterised a cultural panorama in which “science” was essentially *ancilla Philosophiae*, or *Theologiae*. With the arising of the new science of the seventeenth century, the process of destruction of the Aristotelian essentialism, started in the Renaissance by philosophers such as Telesius and Bruno, and already in the 15th century by Ficino and Nicholas of Cusa¹⁶, came to its accomplishment. Metaphysics then, retreated from the scientific discourse in the sense that it ceased oppressing it with its forms and categories and became exclusively “*logos* on the being as being”. In rationalistic philosophers such as Leibniz and Spinoza we can see all this very clearly. Metaphysics is in them abstract speculation on the eternal structures of being as being, and while certainly influenced by the science of their time, at the same time, with them the *logos*, as scientific discourse, is freed from the “absolute” categories of Metaphysics and is inscribed in its own specific category: that of contingency. Science, after a difficult and painstaking beginning, is not anymore *ancilla* but follows on its own pathway.

Contemporary realism, in its stronger form of physical realism, comments again on the peculiar relation between scientific discourse and the Philosophy of its time.¹⁷ With the success and the progress of science, the *logos* is, or thinks it is, now, a *logos* that is progressively unveiling being in its ultimate structures, and has taken up, to answer them in a scientific way, the fundamental questions of the old metaphysics. Science has incorporated metaphysics, just as in Aristotle’s time metaphysics incorporated science. Philosophy, a certain philosophy risks becoming *ancilla Scientiae*.

¹⁶A.B. Collins, *The Secular is Sacred: Platonism and Thomism in Marsilio Ficino’s Platonic Theology*.

B. Telesius, *De rerum natura iuxta propria principia*.

G. Bruno, *Cause, Principle and Unity*.

Nicholas of Cusa, *In Search of God and Wisdom*.

¹⁷A clear manifesto of this philosophical vocation is certainly J.J.C. Smart, *Philosophy and Scientific Realism*.

In conclusion to this historical and methodological digression I can only say that the category of the modern science which in Leibniz's time seemed to be properly that of contingency as opposed to the absolute categories of metaphysics and theology, was in fact a wolf in sheep's clothing: the new science, like any human understanding, aspired to the absolute.¹⁸ An absolute which, now that science has gained respect and maturity, often vindicates as its proper domain. A domain that, as we shall see, scientists like S. Hawking, see as naturally belonging to science and only accidentally, in the evolution of thought, to philosophy in the form of metaphysics¹⁹. As it is only science, they hold, that can aspire within its precise *logos*, to deal with questions regarding the absolute in its various forms.

Picking up the thread of our discussion, I now want to discuss in more detail the difference between the dogmatic and sceptical approaches to the question, 'why is there being rather than nothing?' As I said earlier, there is a sense in which the dogmatist does not take this question seriously. But is it possible for metaphysics to take this question seriously at all? Let's consider this.

The metaphysics that seriously asks the question "why is there being rather than nothing?", instead of accepting dogmatically our epistemic relation with being, risks everything in order to find a truth or the reality of a being that is absolutely certain. One could object that this is a destructive metaphysics, because it does not save the purpose of metaphysics itself: its being in a privileged contact with being if we have to believe what Descartes says:

¹⁸In this respect the function of the *skepsi* is to acknowledge this aspiration and treat it critically rather than just suffer it like the dogmatic doctrines. This aspect will be discussed in more detail in the concluding chapter.

¹⁹See S. Hawking, *A Brief History of Time*. ch. 11.

*Ainsi toute la philosophie est comme un arbre, dont les racines sont la Metaphysique, le tronc est la physique, et les tranches qui sortent de ce tronc sont toute les autres sciences.*²⁰

And Heidegger enlighteningly comments

The truth of being can, therefore, be called the soil in which metaphysics as root of the tree of philosophy lives and nurtures itself.²¹

On the contrary, I believe that this anti-dogmatic “metaphysics” is the only legitimate one from the point of view of the “fundamental question”. This is because before harnessing itself in order to engage in the search for the true nature of being, it asks which truth is at hand for us, which truth can we ultimately reach. Descartes had asked himself this question in the exercise of the hyperbolic doubt, as we have seen at length in the previous chapter, even if certainly only in an instrumental fashion; in fact, his passion for “*le monde*”, or to use his own metaphor, for the trunk and the branches of the tree, was much stronger than that for the roots where the truth about being has to remain. So he could not accept that there is no rational transition from the certain truth of the *cogito* to the truth of its factual contents, except through a dogmatic solution, like the one he proposed.

The metaphysics that asks this “fundamental” question seriously, explores the possibility that our thought can think of something that cannot be undermined by the power of falsification of thought itself, which, as we have seen, is the desire for truth germinating from the fact that our knowledge has a progressive nature, one which revises and improves its results with further and further observation.²² That this desire ends up in the denial of every truth which is not the pure identity of thought and being and so decrees the impossibility of a constructive metaphysics is an unavoidable consequence of the *skepsi*, as we have seen. This metaphysics ends up, to remember Hegel’s

²⁰Descartes, *Oeuvres et Lettres*, p. 356.

²¹Heidegger. *Che cos’è la Metafisica?* p. 4

²²Chapter 3 will shine a light on this nature of our knowledge.

claim²³, with a principle, the identity, from which it is impossible to proceed, a principle which cannot be a beginning, or a foundation for the philosophical or the scientific discourse, which remain, strictly speaking, unfounded.²⁴ This anti-dogmatic metaphysics, then, I repeat, is not to be identified at all with an idealistic solution which as we have seen is as dogmatic as realism.

The function of the *skepsi* is, in fact, to ensure that this principle or beginning does not produce any further truth that could not be once again object of further revision, unless, of course, it is logically derived from the identity like the non-contradiction and the excluded middle. In this sense, obviously, there is much “dogmatism” in any thought, whether it is sceptical or dogmatic, as they all establish further “truths”. This, though, is not because the *skepsi* is self-destructive, and cannot be found in any serious philosophy – in fact the *skepsi* could be considered the real essence of philosophy when one would simply reconcile oneself with the idea that philosophy, and knowledge, in general, is a never ending task. But it is so because philosophers, including those who call themselves antidogmatic, strive, because of the nature of thought, to establish a definitive truth. All there is to say in this respect, in fact, is that also this attitude is engendered by the most basic form and law of thought (identity) and can be paradoxically explained with that same identity that has imposed itself as the only certain truth; in the sense that thought needs to believe in its own positions, hold them firmly, in order to proceed towards that progressive unification that is consciously or unconsciously the aim of any speculation as it would make thought reach the desired identity of form and contents in which it can finally rest.

²³See footnote 9 of this chapter (p.73).

²⁴Not in Hegel’s speculation, of course. As he denied altogether that identity should be regarded as a true beginning for thought. Not $A=A$ but the becoming as synthesis or *sublation* of being and nothing is the true beginning. “Pure being and pure nothing are therefore the same. What is the truth is neither being nor nothing....but this movement of the immediate vanishing of the one in the other...” Hegel, *Science of Logic*, p.82-83.

Skepsi is, therefore, of the essence of knowledge, but, given the form of thought, cannot be an operative principle. This is a paradox that cannot be reduced further, it cannot be neutralised, it is there and must be accepted as such, without trying, on the other hand, to make of it an argument against the *skepsi* as **regulative** principle, as it often happens. It does, in fact, work as an argument against scepticism in its extreme forms, as this must be asserting nothing while it is asserting a lot, mainly because it is uncritical and it has become itself a form of dogmatism as it does not recognise in its indiscriminate denial of any truth, its own paradoxical nature and its irrelevance to knowledge.²⁵ But it cannot work against the *skepsi* as regulative principle for

²⁵Scepticism cannot assert anything or it would be put in the same league as dogmatism; it would obviously appear even worse. This is why the Sceptics said that their $\phi\omega\nu\alpha\iota$, their statements that “everything is false”, “nothing is true” etc., included also themselves (Sextus Empiricus, *Sesto Empirico*, tr. O. Tescari, pp.10-11, pp.56-57.). In this respect, I would like to quote a passage from Hegel’s *Relation of Scepticism to Philosophy*:

This negative attitude which strives to remain pure subjectivity and appearance, ceases altogether to be something relevant to knowledge; he who remains attached to this vanity that ‘this is how it appears to him’ or ‘this is what he thinks’ and does not want his expressions to be considered an element of objective thinking and judging, must be left to himself; his subjectivity cannot be of any interest to others, and even less to philosophy, neither philosophy can be of any interest to him.
G. Hegel, *Rapporto dello scetticismo con la filosofia*, p.102.

I just want to add that this solipsism in which scepticism retreats, must also deny itself if it is coherent with its own spirit. So that we have the disquieting situation of a mind that while asserts it also denies something, and must go on like this, and this is all it can do, without ever getting to the stage where it can opt for the *equipollence* and so peacefully suspend any judgement. This situation, far from bringing *ataraxia* (quietude), brings uncertainty and unsettlement. In fact, the choice between the equipollence and the active search for truth cannot fall itself under the treatment of the equipollence as it must logically precede it: that is the extreme sceptic that chooses the equipollence, must have made a choice that if all is $\phi\omega\nu\alpha\iota$ are not to be trusted he was not entitled to make. Also in this case, as Fichte says, the choice must depend ultimately on a *caprice*.

A sceptic should be perennially on the uncomfortable verge between the pursue of truth and its denial. But the result of this paralysis is clearly not the so much sought after *ataraxia*, but disquietude and impossibility to choose any of the two alternatives, not because they are equally good, (as I said the suspension of judgement cannot be applied because it has not been chosen yet), but because one might actually be more worthy than the other, a possibility that the sceptic, a rigorous sceptic, cannot originally discount.

This extreme scepticism is the self-destructive reaction of reason to the unrealistic concept of truth as ‘identity’ set by dogmatism. As I have been arguing in the first chapter, the refusal of this idea of truth as a mistaken aspiration moulded on the identity as form of our thought, can cure reason from its self-destructive tendency. In other words, there is no reason for extreme scepticism, because absolute, necessary truth is not a legitimate standard of truth,

this has already acknowledged the paradoxical nature of human reason in this respect. Kant who also had been hit by the spirit of the *skepsi* which as he said awakened him (via Hume) from his “dogmatic slumber”, wrote:

Human reason has this peculiar fate that in one species of its knowledge it is burdened by questions which, as prescribed by the very nature of reason itself, it is not able to ignore, but which, as transcending all its powers, it is also not able to answer.²⁶

I believe, I wish to stress, that the reason for this aspiration is the identity as form of thought, an identity that thought would like to reach ultimately also as complete *adaequatio* between itself and its contents, coming to satisfy the Parmenidean ideal of truth, the identity, also in the *logos*. The sceptical attitude towards the “fundamental” question tells us, instead, what kind of final and absolute truth we can find in thought, and why any other truth cannot have the same absolute certainty.

The ultimate aim of this thesis is, also, to give a rational foundation to the *skepsi* and show it as the legitimate regulative principle of the *logos*, or as the only tenable epistemological principle, acknowledging, on the other hand, that other important impulse of our knowledge: the aspiration to the absolute unity as expression of the form of our thought: the identity. About this impulse it is probably valid to say what Kant argues about reason in the exercise of its pure ideas: as natural or innate it cannot be in itself wrong or without scope, but it certainly requires a critical analysis and the necessity to discipline it rather than just suffer it.²⁷

even if it is inherent in the nature of human mind for the reason we have seen and will see further in the concluding chapter.

²⁶I. Kant, *Critique of Pure Reason*, p.7.

²⁷In the section of his *Critique* called ‘Natural Dialectic of Human Reason’, Kant writes among other things:

But reason cannot think this systematic unity otherwise than by giving to the idea of this unity an object; and since experience can never give an example of complete systematic unity, the object which we have to assign to the idea is not such as experience can ever supply. This object, as thus entertained by reason (*ens rationis ratiocinatae*) is a mere idea.... In thus proceeding, our sole purpose is to secure that systematic unity which is indispensable to reason, and which while furthering in

A constructive metaphysics, on the other hand, builder of systems in which it aims to represent the absolute, if it entertains this “fundamental” question at all, will do so in a purely rhetorical fashion. Heidegger points out, in this connection, that one who believes in a source of truth other than reason, for example the Bible, can somehow follow our reasoning when we ask this fundamental question, and “...can in a way participate in the asking....but he cannot really question without ceasing to be a believer and taking all the consequences of such a step. He will only be able to act ‘as if’...”²⁸ He can only act as if...., for faith is a specific “position in regard to the truth”.²⁹ This, I think, does not apply only to religious believers, but also to any metaphysics that asks the question “Why is there being rather than nothing” acting “as if...”, knowing, in fact, through a source other than reason, that the truth about being is somehow given to us and we entertain an epistemic relation with it, and for that we can attempt a description of its eternal structures. This not rational, but the meta-rational belief that underlies the efforts of a constructive metaphysics is another “specific” way to have access to the truth, like faith in God. Still, there is at this stage of moral attitude no argument to counteract the belief in this link and so too the belief that it is possible to have knowledge of the eternal structures of being (constructive metaphysics) or knowledge as “*adaequatio*” (physical realism).

In virtue of this “faith”, though, constructive metaphysics does not take the fundamental question seriously; its first question is in fact: “What is being?” and simply assumes that the power to know the nature of this being is given to

every way the empirical knowledge obtainable by understanding can never interfere to hinder or obstruct it. (I. Kant, *Critique of Pure Reason*, p. 556.)

²⁸“Anyone for whom the Bible is divine revelation and truth has the answer to the question ‘Why are there essents rather nothing?’ even before it is asked: everything that is, except God himself, has been created by Him. God himself, the increate creator, ‘is’. One who holds to such faith can in a way participate in the asking of our question, but he cannot really question without ceasing to be a believer and taking all the consequences of such a step. He will only be able to act ‘as if’...”. Heidegger. *An Introduction to Metaphysics*. pp. 6-7.

²⁹Heidegger, *Introduction to Metaphysics*, p.7.

us. The antidogmatic metaphysics, on the other hand, is still entertaining the first question, trying to answer if and in what way being is given us to talk about.

It is relevant to remember, in this connection, Leibniz's attitude towards this "fundamental" question. His attitude will display all the characteristics and the logical vices that I have pointed out in a constructive metaphysics that tries to give a foundation to the epistemic link with being, with the recourse to an external guarantee such as God. Leibniz, in fact, is representative of the dogmatic attitude. In 'The Principles of Nature and of Grace', he writes:

Now we must rise to *metaphysics*, making use of the *great principle*, commonly but little employed, which holds that *nothing takes place without sufficient reason*....This principle having been laid down, the first question we are entitled to ask will be: *Why is there something rather than nothing?* For 'nothing' is simpler and easier than 'something'. Further supposing that things *must exist*,³⁰ it must be possible to give a reason....the sufficient reason, which needs no further reason, must be outside the series of contingent things....And this final reason of things is called *God*.³¹

How is Leibniz asking the question here? Has he been hit, in Heidegger's words, by the hidden force of this question, that is by the obscure power of 'nothing', or is he asking the question behaving only "as if..." ? What is Leibniz's relation to this 'nothing'? He says that 'nothing' is 'simpler and easier' than 'something'. Why would that be so?

As we have seen, Parmenides claimed, instead, that nothing cannot exist because our thought cannot think nothing, for to think of nothing means to not be thinking at all, as the being of our thought would coincide with this 'nothing'. The reason why 'nothing' is simpler than 'something', for Leibniz, then, is not so straightforward as it may seem. I suggest that the simplicity of 'nothing' must be put in relation with the 'great principle' he has mentioned before: nothing takes place without a sufficient reason. 'Nothing' is then

³⁰These italics are mine.

³¹G. Leibniz, *Philosophical Writings*, p.199

simpler than something, because it does not require the understanding of a sufficient reason for its existence, because 'nothing' is in fact the non-existence for which presumably we don't need a cause.³² After which, he immediately adds

..supposing that things *must exist*, it must be possible to give a reason why they must exist just as they do....

What role does, then, 'nothing' play in his asking? A purely rhetorical one, it seems. If we must simply suppose that things "must exist" and get on with the next question: *why they must exist just as they do?*, it means that "rather than nothing" does not express a real possibility for thought, that is it does not pose a real threat for being. But if it doesn't, why ask the question at all?

According to Leibniz's claim, for something to exist, there must be a "sufficient reason" of its existence,

...that is to say that nothing happens without its being possible for one who has enough knowledge of things to give a reason sufficient to determine why it is thus and not otherwise....The sufficient reason, which needs no further reason, must be outside this series of contingent things, and must lie in a substance which is the cause of this series....And this final reason of things is what is called *God*.³³

So 'something' takes place rather than 'nothing' because it is created by God. This must be the metaphysical reason in virtue of which for Leibniz 'nothing' can be dismissed as a real possibility and we have to suppose that "things must exist".

But this way of reasoning cannot be correct. In order to postulate God as creator of 'something', you must be certain of the existence of 'something'. That is, an argument for the existence of God as the necessary reason for the existence of the world, cannot be formulated if the world is not certain. But the world can acquire certain existence only from its being created by God, and

³²Probably not every metaphysician would agree about this point either. Someone as subtle as Duns Scotus, would argue that we would need a cause also for the non-existence (ultimately of God. See J. Duns Scotus, *Philosophical Writings*, p.51-54.). But we shall ignore this dispute, and assume that there is an easy agreement about this point.

³³G. Leibniz, *Philosophical Writings*, p.199

God exists because the world needs a reason for its existence. The argument then takes the circular form of A (World) because B (God), but B (God) because A (World). So while Leibniz tentatively claims that the world must exist, he finds its certainty and its necessity in God, thinking in this way to settle two uncertainties: God and the World. But we can see easily that only a certain framework can grant the reason for a certain God. But a certain framework does not need God because a framework can be certain only if its final reason is known: God. It is a “catch 22”. If the world exists you don’t need God, if it isn’t certain that it does, then God cannot help you. This is why I have been claiming that no rational argument can help in giving a logical foundation to the meta-rational belief in the existence of the world or being, because this would mean to postulate the existence of a Being (God), before we have found out if Being is certain. In other words, God must exist because we need to postulate a final cause that holds the necessity of every existent, but how can we postulate the final cause of what does not exist for certain, and on whose only existence depends the existence of the final cause?

You could not call upon God as creator of something that is not certain, and more importantly, you could not postulate a God as final cause of something that is still uncertain, because, then, God himself would suffer from this uncertainty in which everything is. So it seems fair to claim that in the case in which, the reason for there being *something* rather than *nothing* is ultimately *God*, the belief in the certain existence of *something* must paradoxically precede the belief in the certain existence of *God*. But if you believe that *something* is so real that it is worthy to be created by a *God*, that is, so real that it can grant the passage from the contingent to the necessary, you do not really need God in order to substantiate its existence. If you are absolutely certain of one single existent, it means that you hold its final reason for existing rather than not existing and for existing in that way and not another; and since you need this

certainty in order to meaningfully postulate a God for its creation, at the same time you do not need God anymore.

The argument, here, very simply is that the “necessary” is either given *ab origine* or it can never be bridged by starting from the contingent whose existence this “necessary” should grant. So the certainty about ‘something’ rather than ‘nothing’ cannot come automatically from the fact that God is the final reason for its existence. God cannot be the reason of something when you are not certain of the existence of this something, as this would be diminishing for God and would create a God himself uncertain in this context in which the postulation is presumably not certain either. But, on the other hand, if you are certain of the existence of something you do not need God as you must already know the ultimate reason for its existence, as this is the only way to be certain of it: to know its final reason.³⁴ In no case, then, can God be an answer to the question: “Why is there something rather than nothing?” You cannot postulate a God as final reason if you are not certain at least of the existence of one thing, because also this calling upon God would then be inane and uncertain; it would be an uncertain being in an uncertain world, uncertainly calling upon an uncertain God, as everything would be under the same spell of uncertainty. This Descartes must have known very well, as he tried to start from one certain theoretical principle: that of causation, forceful enough to grant existence both to God and reality in his “demonstration” of the existence of God; but, of course, also the certainty of this basic principle depended ultimately on the existence of God so that, in the end, he could not avoid falling into the same circularity I have just described here.

This, however, is not intended to be an argument against the existence of God, but an ulterior proof that metaphysics cannot try to answer this

³⁴The only other way to be certain of something for our thought is of course, if denying its existence is self-contradictory. But this only applies to the being that we know as self-identical: thought. Whereas we don’t know if any other content of our thought is identical with anything outside our thought and so if this can be a certain being for us.

“fundamental” question about the existence of Being in a dogmatic way without falling in a vicious circle. The problem with Leibniz’s answer is that he didn’t take our “fundamental” question seriously. The question he was interested in was “what is being?”, not “why is there being rather than nothing?”, a question, this latter, that he asked “acting as if”, but really only to exploit its potentials in order to prove the existence of a final reason and, through a final reason, to prove the existence of the world.

So to answer properly the question: Why is there something rather than nothing? and to come out of the uncertainty about the existence of something, it is possible only if one takes seriously the second part of the question: the ‘nothing’, and engages in sorting out its relation with our theoretical and moral world. To sort out the ‘nothing’ means to find among the beings whose existence we are doubting in our asking “the” question, a being whose existence cannot be denied without falling in logical contradiction. From this point on, we know, by now, how the story goes.

But another important question now seems to be: why do we ask this question, where does our mind find this ‘nothing’, and why does ‘nothing’ pose a real threat when we ask the “fundamental” question? Why do I ask the fundamental question the way I do, that is, searching for the ultimate reason of being so that I can finally be certain of its existence against ‘nothing’? The first answer that I can give to these questions is that I would not ask the “fundamental” question about the existence of being in general if I was satisfied with the contingent reasons for the existence of single beings that I perceive. The answer, then, is that these contingent reasons do not give me absolute certainty about the existence of singular beings as they are part of an infinite series. If I could be certain of the existence of at least one of these beings that I perceive, I would never ask the question: why is there being rather than nothing?, because I would already know the answer, as I would thoroughly know the ‘reason’ for the existence of this single determinate being. In fact to

know the reason for the certain existence of a determinate being, I need to know the final reason for the existence of that being, or the question will be always open and in need of further answers.

For, to know why ultimately anything takes place instead of nothing, I need, as Leibniz says, to know the sufficient reason which needs no further reasons and must be outside the series of contingent reasons. Otherwise we still do not have a sufficient reason at which we can stop, and this means that every content of our knowledge can in principle be denied without implying self-contradiction as in the sceptical enquiry that led Descartes to the “discovery” of the *cogito* as the only logical truth. Therefore, the possibility of ‘nothing’ is still open and still poses a theoretical and a moral threat.

Whatever contingent reason I give for the existence of a single existent, this, being drawn from experience, can always be hypothetically denied by my thought which has learned, from past experience, about the ever lurking possibility of mistakes and delusions. Taking this possibility of mistake to its logical conclusion, (what I have called the power of falsification of thought) I have to admit that I cannot be certain of the existence of any given single object or single aspect of reality. This, I think, is the theoretical genesis of nothing³⁵ its ever lurking as the obscure pole of our thought, and this is why by asking the question: Why is there something rather than nothing? one tries to get over this threat posed by ‘nothing’ by asking for the final reason for the existence of ‘something’. But this final reason that metaphysics calls God, as I have argued, cannot be postulated before one has sorted out the ‘nothing’, that is, before one is certain that there is something for which a creator can be disturbed. But if we

³⁵The moral genesis of nothing, as a feeling of absence and emptiness, is also derived from this lack of sufficient or final reasons, so that Heidegger could say that even when we are very happy, we may be overwhelmed by the question: why things should be the way they are rather than not being at all?

take the question seriously the only “something” certain that we find in reason is the identity of thought. From this it is impossible to move on.³⁶

On the other hand, if ‘nothing’ was not a real threat anymore, it would mean that one already knew something certain about being, but to know something certain about Being, (apart from the identity of thought of course), means that one does not need God, because the only certainty about being one can acquire is to know its sufficient reason which being a final reason will be a self-evident truth. But to know this self-evident truth would mean to know fully or better to “understand” what metaphysics calls God. But only a God can fully know God, so that whoever knows God is a God. I don’t think I need to draw further conclusions for now, but we will come back to this problem shortly in the following section.

That concludes my discussion of the dogmatic attitude to the fundamental question. The fundamental question: Why is there being rather than nothing?, we have seen, has a meaning only if ‘nothing’ is entertained as a real possibility by thought as a consequence of its own power of falsification and of its lack of knowledge of a sufficient reason for Being. As a real possibility, ‘nothing’ challenges thought to find out, by exploring its own power of falsification, whether there is a certain being and what its nature is.

As I said, on the other hand, and I want to stress it here, there is nothing rationally wrong with taking on reality and being in general, postulating its existence in our thought, from the beginning of the enquiry about truth. This is, just like the idealistic attitude, a meta-rational move, whose validity cannot be at this stage rationally decided. But the problems certainly start as soon as metaphysics tries to give a rational foundation to this meta-rational attitude, by introducing in a way that can only issue in a paralogism, an external principle

³⁶This is why *skepsi*, as enquiry, and not Truth as absolute, necessary truth, is the regulative principle of human knowledge: because we have found the impossibility to apply this same certain absolute truth of the identity to the *logos*. *Skepsi* as a regulative principle is just the reminder of what kind of truth can be relevant to our knowledge.

such as God, in order to grant the link between *logos* and being. In the case of Leibniz's argumentation, we have seen, it is fair to object that God must presuppose reality just as much as reality must presuppose God, otherwise this God appears in a context of uncertainty and possible illusion, and being itself a possible illusion cannot serve the purpose it was called for. The sufficient reason for the existence of Being one cannot even attempt to enquire, if Being is not certain, but if it happens to be certain it can only be because one knows its sufficient reason.

d) To answer the "fundamental" question means to know God's mind.

"Why is there being rather than nothing?" has become a question that science must try and answer because as Hawking writes:

the people whose business it is to ask *why*, the philosophers, have not been able to keep up with the advance of scientific theories.

And he goes on:

...if we discover a complete theory, it should in time be understandable in broad principle by everyone, not just a few scientists. Then we shall all, philosophers, scientists, and just ordinary people, be able to take part in the discussion of the question of why it is that we and the universe exist. If we find the answer to that, it would be the ultimate triumph of human reason – for then we would know the mind of God.³⁷

So according to one of the most eminent scientists of our time, there is a good possibility for us all to know the sufficient reason of being, as this is what he must mean by the mind of God. Hawking, beware, is not claiming as metaphysics has done, at least until Kant, that there must be a final reason, an uncaused cause, an immobile engine etc.. all general ways to define the ultimate nature of being which enhance, simply, the finally self-explanatory and self-sufficient power of this final "thing" whose nature we cannot understand any

³⁷S. Hawking, *A Brief History of Time*, p.175

better: precisely because, to be final, it must be outside the series of reasons that admit further explanations. What Hawking is claiming, instead, is that we will be able to understand the intrinsic nature of this final reason: the mind of God.

When I read these words for the first time, I tried to believe it was a joke, or perhaps just a vague metaphor, but then I realised that it cannot be dismissed as one, as it has become a more and more insistent claim from some theoretical physicists³⁸, and that philosophy needs to take a definite position on it.

Let me say, to avoid any possible misunderstanding, that the reason of my astonishment was not because I found the pretence to know God's mind particularly blasphemous, but because as a philosopher I find the pretence to know the nature of a final cause, if there is one, utter nonsense from a rational point of view. I find even more nonsensical questions such as: "And who created him? (the creator)"³⁹ This kind of questions are sensationalist and when addressing a wide public they are certainly bound to impress (which is the effect they are directed at) but more importantly they will confuse and trivialise the issue.

Let's say immediately that no philosopher in his right mind would think it is possible to answer the question: "what is the (intrinsic) nature of the final cause?", as this is the whole point of the final cause: to be freed from further phenomenal determinations that could help us to understand it, and so be totally self-explanatory. For us to understand this final cause or sufficient reason would, then, require us to have a knowledge wider than the final cause itself as we should comprehend it without analysing it. But this is nonsense. When the old metaphysics asked questions such as: "Did the universe have a beginning?" or "Is there a final cause?" it did not aim to understand the ultimate nature of a beginning and a cause outside the series of contingent

³⁸See also S. Weinberg, *Dreams of a Final Theory*; P. Davies, *The Mind of God*; P. Davies, *God and the New Physics*; and for a critical analysis of these views see J. Barrow, *Theories of Everything*.

³⁹S. Hawking, *A Brief History of Time*, p.174

causes and relative generations of things, but just aimed to find within the pure concepts of reason an argument for or against the existence of a beginning and a cause, allowing that a complete understanding of it is impossible because of the nature of a final cause: it is outside the series of contingent causes that is given us to apprehend.

But Hawking, pitying the destiny of philosophy, laments that it has abdicated its traditional role of dealing with these great questions.

Philosophers reduced the scope of their inquiries so much that Wittgenstein....said: 'The sole remaining task for philosophy is the analysis of language'. What a comedown from the great tradition of philosophy from Aristotle to Kant!⁴⁰

So what we thought was actually progress in philosophy, its learning its own limits from its own mistakes, it is only a "comedown"! Few philosophers these days spend their time answering these questions of the old metaphysics, and the reason for this, I would like to believe, is because Kant (actually a few centuries before Wittgenstein) has shown us the dialectical inanity of the exercise of pure concepts when applied to the world, rather than because we expect an answer to "the fundamental question" from physics. It is as if physics was a form of knowledge sheltered from the predicaments in which our knowledge always falls when "approaching" something final. This is something that we are going soon to discuss.

In fact, when a philosopher is asked about the possibility of knowing the nature of the final cause and a "true" beginning, he can only answer by following a logical argument and this unavoidably shows that a final cause, if there is such a thing, is unapproachable in its nature by our reason, as we have been arguing and will argue further. A physicist instead can only keep on searching as this is the nature of his job: to answer the challenge that a constantly widening horizon offers him. It is not his job to ask critical questions about the limits and the scope of human knowledge. For these the physicist

⁴⁰S. Hawking, *A Brief History of Time*, pp.174-175.

would do better to listen to the prescriptions of philosophers, for, if he cared to do so, he would probably understand that the dropping of the “big” questions by philosophy is not a ‘comedown’, but great progress; not the final defeat of philosophy, as a specific form of knowledge, by these big questions, but the victory of knowledge, in general, in understanding that these are not questions that can be explored by human mind, as I am going to show with my arguments. If these arguments happen to go against the high expectations of physics, this is not a philosophical problem.

I have to stress here that fundamental questions such as: “Why is there being rather than nothing?” which for science becomes: “Why the universe?”, “Why”, as Hawking writes, “it is that we and the Universe exist?”⁴¹ unfortunately for science have a sense only in a metaphysical framework in the sense that they can survive only in the soil where metaphysics lives and cannot be investigated by the tree and the branches (the specific sciences). These questions do not have any sense in the framework of a phenomenal knowledge because as the tree cannot know the soil where the roots live, so scientific knowledge cannot, because of its explanatory, fundamentally empirical character, utter meaningfully these questions, as this would mean to go beyond the series of causes that always allow a further explanation and comprehension of themselves. We have also seen with our previous discussion about Leibniz, that to ask the question “Why Being rather than nothing?” can have a meaning only if we take seriously the threat of “nothing”, otherwise we just have to ignore it and choose the moral attitude of the dogmatic rationalist or realist who brings reality or being within the theoretical world from the very beginning and so takes for granted the epistemic link between our *logos* and being. Likewise when science asks the question: Why the universe?, it is not taking seriously the obscure force of nothing,⁴² because if it did, there would be

⁴¹S. Hawking, *A Brief History of Time*, p.175.

⁴²And it would be surprising if it did, as this is not at all the business of science. But, on the other hand, when science asks this question it becomes properly metaphysical, so it should be

only one way to answer the question: to understand the relation of this 'nothing' with our theoretical and moral framework. This would mean to follow the "sceptical feeling" in search of a certain being; science would then become a sceptical science, a science that is faced with the impossibility of reaching within the *logos* any final truth about reality or the Universe. Whereas science asks the "fundamental" question of metaphysics which has now become the fundamental question of physics, because to answer it would be the only way to know the Universe entirely, because only in this case there would be nothing else to know. Only by knowing the final cause of the Universe, one would know the intrinsic nature of the Universe, and this seems to be the business of a science whose presupposition is physical realism, like for the old dogmatic metaphysics to answer "Why is there being?" meant ultimately to attain the final knowledge of the intrinsic nature of everything: God. Except that the old metaphysics was wiser, because God and his decrees were axiomatically unknowable, whereas physics promises to unmask any possible trickery. The old metaphysics only aspired to the unity of knowledge contained in the idea of substance or God. But this unity whereas it could be **thought of**, it could not be **known** in the way we know other things, as this would imply a contradiction in terms. The same is implied in the idea of a "final theory of everything", as we are going to see.

What I am going to discuss now, in the final section of this chapter, is just the predicament in which human knowledge falls when it claims that it is

concerned with the possibility of 'nothing' and so become a "sceptical" science. But this should be impossible if what Heidegger writes in this respect is true:

To speak of nothing will always remain a horror and an absurdity for science. But aside from the philosopher, the poet can do so – and not because, as common sense supposes, poetry is without strict rules, but because the spirit of poetry (only authentic and great poetry is meant) is essentially superior to the spirit that prevails in all mere science. (Heidegger, *Introduction to Metaphysics*, p.26.)

Is it necessary to stress further that in our human world there are many more things than science could suspect and account for? One of them is this "experience" of nothingness, of the unreality of Reality and existence because of their lack of self-evidence for our thought.

possible for it to know something final: a cause, a dynamical structure, or however one wants to call it, that does not need any further explanation. I want to make clear, also, that in my arguing against this pretence, I do not intend to get involved in a specialised discussion about the kind of theory through which this final knowledge would be reached. The general nature of the idea of such a theory is what raises philosophical problems, not the specific details of the theories.

In articulating a logical argument against a final theory or a theory of everything -- an argument reminiscent of the Parmenidean "discovery" of the identity as the only necessary truth and the consequent "prohibition" to bridge the one being and the many of the logos -- I am going to provide an argument against realism. This argument, being a simple development of the identity is also, I believe, sheltered from any sceptical attack.

e) God's mind: an unavoidable objective of Physical Realism

I claim that the knowledge of the ultimate nature of being or the Universe and therefore of a final cause, is a logical possibility according to physical realism. I mean it is a belief which is consistent with this Realism. This Realism claims that knowledge must ultimately be *adaequatio* or as A. Messiah writes in his classic work *Mecanique Quantique*: "The object of a theory is to give an account of objective reality".⁴³ The conception of knowledge as *adaequatio* or

⁴³Answering the question whether the description of phenomena in Quantum Theory fulfils all the requirements of a completely satisfactory theory he writes:

The first thing to demand from a theory is of course that its predictions should agree with experimental observations. It is quite certain that quantum mechanics fulfils this condition, at least in the domain of atomic and molecular physics. But a physical theory can not claim completeness if it restricts itself to predicting what can be observed in this or that experiment. At the start of every scientific enterprise a fundamental postulate is made that nature possesses an objective reality, independent of our sensory perception and of our means of investigation; the object of a theory is to give an account of this objective reality. (A. Messiah, *Quantum Mechanics*, Vol. 1, p.151.).

Similarly in B. Ellis's *Truth and Objectivity* we read:

as reflecting an independent reality, entails this possibility of knowing reality *intensive* and *extensive* like God. I am claiming, paraphrasing the famous Galileian terminology of the “Dialogue”⁴⁴, that if we can know reality *intensive* as it is in itself and so virtually as God would see it, we cannot exclude the possibility to know it also extensively as God, which is what some physicists such as Hawking and Weinberg, quite logically claim in this theoretical framework of physical realism.⁴⁵

Talking in very simplistic terms, if the universe is finite and if we have enough time (and we cannot exclude these two possibilities, unless we arbitrarily decide so) then it is logically possible for us to know the reality *intensive* and *extensive* like God. The claim of some contemporary physicists to know the “why” of the Universe, then, actually has its theoretical justification in the philosophical creed of physical realism, as we are going to see better.

So, what appears more important now, from the point of view of a philosophical enquiry, is not so much to fight the scientific illusion, as this cannot be harmful to philosophy (even though it can be harmful to the man in

For it is a remarkable fact that we have been able to explain so much of the diversity of nature in this way. Now the best explanation we have for this fact is that the ontological categories are not just of our own making, but *reflect* (my italics) categorical differences of kind in nature. Therefore, by the main argument for scientific realism, we should believe in the ontology of science. (p.290).

⁴⁴G. Galilei, *Dialogue Concerning the Two Chief World Systems. Ptolemaic & Copernican*. p.103. But modesty restricts Galileo to applying this only to the mathematical sciences, certainly not also to physics. On the contrary he is quite wary of the capacity of physics to fully understand reality:

There is not a single effect in nature, even the least that exists, such that the most ingenious theorists can arrive at a complete understanding of it. This vain presumption to understand everything can have no other basis than never understanding anything. For anyone who had experienced just once the perfect understanding of one single thing, and had truly tasted how knowledge is accomplished, would recognise that of the infinity of other truths he understands nothing. (p.101).

⁴⁵In the concluding paragraph of the aforementioned book by B. Ellis (*Truth and Objectivity*) we find I think one of the most explicit manifestos of physical realism. After having defined his own type of physical realism as naturalistic realism, he writes:

The question ‘What is true?’ is a question of what it is right to believe. The question of what exists in reality is a question posed at a different level of enquiry....These two levels of inquiry are normally distinct. But the two kinds of inquiries merge in fundamental physics. For, at this level, the attempt to discover what is true, and the attempt to discover what exists most fundamentally, become indistinguishable. Therefore, the ontology we should believe in is just the ontology of science with which we started. (*op.cit.*, p.291).

the street), but to fight the philosophical creed of physical realism as this entails the logical possibility of a knowledge of all of reality and therefore the knowledge of a final cause, if there is one. In fact, there is no reason why one who can legitimately say that we know reality in itself should not be legitimated in believing that one day we could know all of reality. As it is possible that the universe is finite and we have enough time to know all of it, so it must be possible that knowing reality in itself, cumulatively we will come to know all of it in itself, including its final cause: the last piece of knowledge that we would need to acquire about it.⁴⁶ But a final cause or the ultimate knowledge can only have a cryptic nature, like the self-explanatory final reason. By 'cryptic' I mean that it cannot be further analysed. For if it could be further explained, it would not be final. In fact, if this last knowledge was in need of further explanations, these could either consist of further new information which still needed to be explained, or it could be explained by the previous theory: in either case we would not have a final knowledge, because this would either bring new, not previously understood information, or it would be completely explained by the previous theory which would then be always the real 'final' knowledge, and this would create a *regressio ad infinitum*.

If, on the other hand, this knowledge is cryptic (that is, not further analysable) like the indivisible being of Spinozistic memory⁴⁷, it cannot be understood by us because it does not admit of further explanations, and we know that, at least until now, this is the only way our mind can know things:

⁴⁶ As B. d'Espagnat writes in *In Search of Reality*: "Since by assumption, Nature has a reality independent of any observer, and since the ultimate purpose of science is to describe that reality, he [sc. the scientific realist] must try to discover that deeper level of reality and describe it by means of statements bearing upon it effectively, hence, strongly objectively. If he does not succeed he must hope others will." (p.59).

⁴⁷The problem is just this: the reconciliation of one and many which has been achieved several times in the history of philosophy through an ultimately rhapsodic concept (remember again the self-differentiating unity of Spinoza and Hegel) cannot be achieved in a scientific theory where rhapsodism is not admitted and what is ultimately at stake is just the comprehension of how a plurality of existents, that is information and theories can be subsumed under the unity of a theory which is completely self-explanatory. Do I need to remind the reader of the uneasiness with which scientists also those very keen to Hegelism have dealt with the given notion of synthesis that cannot be further analysed?

through further analysis.⁴⁸ So, if the final cause or last knowledge can only be cryptic as it does not admit of further explanations, we have to admit that in the theoretical framework of physical realism, our knowledge of reality, when it reaches the final cause, would suddenly come to a halt. This seems inconceivable though, as there seems to be no reason why a knowledge of reality as *adaequatio* should come to a halt, unless we devise a superior being who has set up things in a way that a final cause or last knowledge is always concealed from us.⁴⁹

⁴⁸There is, obviously, a knowledge of God as mystic intuition that does not require any explanation, but this is not the kind of knowledge we are concerned with, of course.

⁴⁹One might want to argue, here, that maybe the key to the final understanding lies in calculus rather than observation; in this way one would escape my dead end of the *regressio* and the 'cryptic knowledge' (a contradiction in terms). In this respect what we need to point out is that, first, the essence of our science is not deductive: what it is trying to do with is to understand the structure of the Universe, not the potentiality of our calculus. Second, it is obvious that a calculus that should furnish us with a final theory of Reality, must be faced in the end with the same problems we find in phenomenal observation. Let's imagine that at a certain point of our history we will have a calculus X and a state of observational data Y. A development of X, even if Y remains unvaried, it is suggested, could yield us a final theory. But how would we realise that the state of knowledge 'Xi Y' is, in fact, the final theory? Presumably it has to yield us certain results. But how will we search for these results? Against what can we prove its validity? This is not just any theory that could still leave open some questions about the final structure of reality, this theory must provide us the final *adaequatio* to this structure. But how can we know that we have reached this *adaequatio* if we don't know what this structure should be like, since we have not exhausted our observation of it? It will be argued: the Theory will show us what this structure is like. But is there a way to describe this final structure that could avoid the *reductio* without being faced, on the other hand, with a cryptic structure? This calculus should tell us: 'This is the final structure, there is nothing more to understand'. We should, then, through this calculus, reach an *adaequatio* to Reality and, obviously, know that we have reached it (then, by the way, we would know how it feels to be God). But how could it do so?

What is final, we have seen, must be not further analysable, this means that it is either cryptic or that it contains all the elements for its intelligibility or its explanation. It is self-explaining. But for this self-explanation to be possible without the introduction of genuinely new elements that, as such, would be themselves partially unexplained, also XY must have been a self-explaining theory, and so on *ad infinitum*.: the explanation must have always been furnished, really, by the previous theory (the infinite *regressio*). In fact, a calculus to be final must use the pre-existing elements of knowledge to completely explain each other, since it cannot rest on any other observational aid and, on the other hand, it must still have "some" relevance for our final understanding of reality. But if the elements of our knowledge can, at any point, thoroughly explain each other, it means, paradoxically, that also the previous stage was completely intelligible and so on. Or we would have to admit in the new stage a genuinely new element that contributing to explain the previous one, brings truly new knowledge. But this new element would be, as such, still partly unexplained, or, again, it would not be new. This presumed final theory afforded by a calculus, then, we can see, would have, at most, the value of a validation of the knowledge contained in the previous theory which should be the real final one, and so on *ad infinitum*. I do not need to comment further on the absurdity of this conclusion and I feel I have to ask the reader to pardon me for the construction of this strained argument

The final knowledge, if it is final, must, in fact, be a One, insofar as it is self-evidently true, or it is not final. But how do we accomplish the passage from many different notions to One notion? When the starting point is many, Zeno⁵⁰ argues in his paradoxes following Parmenides, you will always get many without ever getting to one. This is because only the identity is self-evident and so final; whereas the changing plurality of the many is not. This is what happens also with our understanding and therefore with our theories, as we have seen. A plurality of notions to become one must have been one to start with (deductive knowledge) or you will always need a further notion that should allow you to attain the One notion. But this further notion, we have seen, will either bring something new, still awaiting to be understood, and so it is not final; or it will be thoroughly explained by the previous theories and in this case you should conclude that it is always the previous theory which is truly final, and this should be so *ad infinitum*. But this is clearly a reasoning *per absurdum*. What is relevant here is that with an argument of Parmenidean nature that simply exploits the dialectic of one and many and is ultimately derived from a tautology, the tautology of the identity, we have argued that only the identical one is self-evident and so final, whereas many, the plurality which is not unified cannot be known with necessity. This necessity can be afforded to the many only by the self-evident one; but how do you reach the one if you don't have this necessity in the first place? You will always be faced with the missing link between the unfounded many and the necessary one, and this is clearly expressed in my formulation of the argument above about the paradoxical nature of a "final" knowledge.

Physical realism, then, we have seen, entails the logical possibility of something that is clearly nonsense for our mind to entertain: the knowledge of something final. A logical implication of this Realism would be inconsistent

which had to employ in many points a reasoning *per absurdum* in order to display the consequences of the considered claim.

⁵⁰see third chapter.

with the nature of our knowledge. This only has to be a logical possibility that one cannot exclude in order to question the plausibility of physical realism.

This implication of *realism* seems to me particularly dangerous when it goes together with the religious belief in a God creator of the Universe. In fact, if you admit that your knowledge of reality will possibly end with a total understanding of it – and, as I said, I can't see how a realist can avoid this possibility – you will have to admit that, if that happens, you will not need God anymore. All it needs to jeopardise the existence of God, is the logical possibility, as his existence is necessary or it isn't.

A believer cannot claim in this respect that the last truth about reality is simply ununderstandable so that for some reason when our cognition will get to the core of this reality will become inadequate. The problem is: what could be the reason why the core of reality is not as intelligible as the rest of it? It does not seem a good move to claim that the essence is concealed from us because God has disposed it so, as this would, firstly, require us to know already something about God's mind and, secondly, would make God a capricious being that allows us to get so close to the final truth, only to conceal it from us. Likewise it is not possible to claim that we will not have enough time to know all of reality, because, again, it is God who gave us this short time so that we could not know everything and so dispose of him. This, anyway, would not stop us from being potential Gods. If only...we had enough time! And also in this case we could not avoid an idea of God as a capricious being that spoils our efforts so that we keep on, till the end, believing in him. But this belief in God would be totally empty, by now.

Besides one cannot hold *for certain* (and you need to be certain to save your faith) that God has disposed things in a way that we will never know the essence of reality, for this, as I said, would mean to know God's mind. So one who holds that knowledge is *adaequatio intellectus et rei* cannot escape this

problem: the logical possibility, implied by *realism*, to know all of reality poses a threat to the existence of God. All you need is the logical possibility. A believer has to admit that since it is logically possible that we could know all of reality, it is logically possible that God is not necessary and does not exist. But this is against any faith, which does not admit conditionals and possibilities. Faith when it is there is certain or it isn't there at all. But in these conditions this faith cannot be certain anymore and, so, it cannot be at all.⁵¹ Not to talk of those who embrace scientific realism together with a true profession of theism. So we read in Peter Forrest: "...theists such as myself who are scientific realists see the beauty of creation revealed by Science, as an expression of the infinite beauty of God."⁵² The infinity of God which could be suggested in order to counteract my argument, is small consolation indeed. In fact to know everything about His creation means to know at least something about the infinite mind of God (which is already an absurdity as if it is a true element of the Infinite it must itself be infinite as Spinoza also teaches us⁵³, and precisely, it means to know at least in regard to the creation what it is like to be God. I think this should be enough to destroy the most resilient faith. Besides, I think I can say with enough confidence that the creation is the only aspect of God that could ever be relevant to us, anyway. I will argue more about this problem at the end of this section.

To avoid this problem a believer has to postulate that God has disposed things in a way such that we will never get there, but these are claims about God's mind. On the other hand, a believer cannot simply dismiss this possibility of knowing God's mind as a ludicrous fantasy, especially today when eminent scientists and some philosophers argue for it with much fervour.

⁵¹'Certain' does not mean here that it does not admit doubts or that it is always present with equal strength in a believer. It means, though, that when it is present, it cannot be undermined by such a destructive doubt that simply denies faith. Neither can faith alone get rid of this doubt, once one has become aware of it.

⁵²P. Forrest, 'Why Most of Us Should Be Scientific Realists: A Reply to Van Fraassen', *The Monist*, (1994), Vol. 77, pp.47-70.

⁵³"God, and all the attributes of God, are eternal" B. Spinoza, *The Ethics*, Prop.XIX, p.62.

It is true, though, that faith can go very far in its claims. But how far a philosopher who is also a believer can let it go, and still be talking in a philosophical framework? I am aware this is a problem that transcends the purpose of this enquiry.

I dare to think, and it isn't only a joke, that if Aquinas were living nowadays, very much concerned, as he was, about proving the existence of God with rational arguments for which he offered well five demonstrations, he would have not put forward the doctrine of knowledge as *adaequatio*. But of course in his time the pretence to know the final nature of reality (God's mind), must have seemed a ludicrous frenzy, that certainly no one ever entertained.

What implication does it, in fact, have for faith to reach the last knowledge about reality? It means as Hawking says, to finally know "God's mind" and so, I add, one would not need God anymore, because only a God can know God's mind and whoever knows God's mind must be a God. Or better, it would mean simply that there isn't a God. One could claim that to know God's mind is not enough to become like God, as one could know how God has created but still not be able himself to create because he would be lacking the "power". For example one could know everything about the creation but not possess that "energy" necessary for starting the whole process as this energy is possessed only by God. So one who is not able to manufacture this energy cannot create like God has done. This argument is so clearly fallacious, though. If this energy cannot be manufactured, it means that we have not known its nature. It means it is a *unicum* that as such cannot be understood through anything else that we know. If it could be understood, it would mean we have the elements to understand it thoroughly and so it could also be manufactured. So this "energy" has itself become the very element one needs to know in order to produce a **final** theory of everything and, furthermore, as part of a knowable reality it should be in a realistic framework knowable like anything else, or rather fictitiously concealed from us. For me

this is a reasoning *per absurdum*, for Hawking it is, it seems, a deadly serious business, as he writes:

But if the universe is completely self-contained, with no singularities or boundaries, and completely described by a unified theory, that has profound implications for the role of God as Creator.⁵⁴

We have seen, then, that the Parmenidean discovery that thought can only think what *is*, the apparently sterile tautology of the identity of thought that made Parmenides' speculation so unpalatable to his contemporaries and many others who came after them - as it implied the "falsity" of our everyday world of change - can afford us the key to understand something fundamental about our knowledge. Since we can truly know only the identity, this cannot be reached from within the plurality of our logos; to do so it would mean to be able to transform into a necessary truth (the identity) the multifarious world of change. This situation, we have seen, finds, not surprisingly, an actual counterpart in our way of understanding, as we should always be unable to accomplish the transition from many theories which are not already unified and self-evidently true, to one final theory which is unified and self-evident. To accomplish this transition, in fact, would mean to find the missing link between these many and the one. But this link would itself be either a many or a one. If it be a many it would be not self-evident and so would be itself in need of further understanding, an understanding which could not be entirely afforded by the subsisting body of theory, or, this latter would be the real final theory and this, obviously, *ad infinitum*. If it be a one it would be a cryptic knowledge, that is, a contradiction in terms as we cannot understand what is not further describable or analysable. Especially when this should afford a final understanding to a subsisting body of theories. This paradoxical situation should probably explain why some physicists among whom Einstein⁵⁵, longing for the final theory

⁵⁴S. Hawking, *A Brief History of Time*, p.174.

⁵⁵P. Davies, *The Mind of God*, p.162

looked for it in a sort of deductive knowledge afforded by calculus. About the problems that this solution would pose see footnote 49 of this chapter and P. Davies' *The Mind of God*.⁵⁶

Let me say in conclusion to this chapter that this logical paradox of the final theory I have described is not different in nature from the one that follows in the next chapter. This, starting from a neutral analysis of our commonsensical concepts of event and duration arrives at the startling conclusion that what really happens, if there is such a thing, cannot happen in our temporal dimension, in the horizon of our observation, and so it delivers another blow to the epistemological attitude of physical realism.

What I propose, in the next chapter, is a conceptual argument which claims that we do not know reality in itself and so we could never reach a final knowledge of it. This argument, I think, has to be faced by those who claim that we could reach such final knowledge. The argument, if it is sound, does not need to confront any supposed contrary evidence coming from science, but rather these claims of reaching a final understanding of the Universe need to face the logical argument if they acknowledge its logicity. This argument I call the "paradox of phenomenal observation" as it unmasks the predicaments in which one falls when pretending to use the concepts of time, space, state and change which are, I will argue, only phenomenal, to describe reality in itself.

⁵⁶*ibid.*, p.166.

CHAPTER THREE

THE PARADOX OF PHENOMENAL OBSERVATION

a) Introduction.

In this chapter I will argue that when subjected to a rigorous analysis, the concept of event – the concept of something happening – is somehow incompatible with the concept of time – conceived of as duration. As a consequence of this, I will argue that what “really” takes place cannot take place in time. A “real” happening cannot have a duration. The sense in which I use “real” here, is the sense in which a strong Realism uses the term: real as opposed to purely phenomenal. I must also say that I personally do not presuppose at this stage any particular conception of the phenomenal. It will emerge clearly later, in chapters 4 and 5, what is phenomenal, that is, what is knowable to us. Phenomenal will be used here, therefore, in its etymological sense of what appears to and is so knowable by us. But I do not mean 'what is perceptible' by us in a narrow sense of 'perceptible' (e.g. visible with the eyes). This is not what I mean by phenomenal.

The argument which follows aims to prove that our thought cannot conceptualise real change, but that every time thought attempts to pick out change, it can only collapse into a description of further states. The argument will throw a light on the nature of our knowledge. It will show that ultimately, we cannot talk about what really takes place, but can only offer descriptions of processes in which change is assumed. Change can never be picked out as it really happens.

This is because our thought can rationally understand only the identity of being, and whenever it thinks of a being it must think of it only as *identical*, or there cannot be anything for thought to grasp at all. This is why our thought cannot conceptualise change in the terms of a rational self-evident truth: because if this change is to be something different from the identity, it should

be able to display in our thought a being that is not itself anymore, but it is not even a new identity yet: an ungraspable becoming that our thought cannot think of.¹ The relation with the Parmenidean tautology should be very evident and it will become even more so in section **d)** of this chapter. Furthermore, the following argument shows that the reason why our knowledge can only deal with contingent reasons, and why it can never reach a final knowledge of reality, derives from the nature of phenomenal observation and from the very nature of our concepts of time and event.

The concepts I am going to investigate, though, are so deeply engraved in the fabric of our thought, that what I am going to say will probably be taken as a misunderstanding or as a sophism built upon these concepts, and I am sure it will leave sceptical even those who are open to accept radically new theories. I expect very few, who will have an intuition of the problem at the first reading, will welcome the argument as offering an insight into the nature of our cognition. Nevertheless, I believe, that this paradox I am going to describe,

¹Mine is obviously a metaphysical claim. I am not concerned at this point with the existence of a specific object that falls in our ordinary perception, and of which I would not want to deny that it changes, as we commonly view change: something alters its properties whilst remaining the same thing. In this conceptualisation of change that I propose to investigate, we need to go beyond this immediate experience. So imagine asking somebody who believes that something is changing whilst remaining the same thing: "Could you draw a line between a thing and its changing properties? Could you tell me, more precisely, what is the relation between the colour, the shape, the texture etc., and the thing to which they belong?" The "man in the street" (blissfully unaware of any philosophical diatribe about whole-part relation, which is in fact irrelevant here) would simply answer that the thing in fact consists of these changing properties. Pressing him more one would then ask: "Does a change in one property involve a change in the thing?" The prompt answer would be: "yes" since the previous identification between the thing and its properties would certainly imply this. What does not change, then, is our capacity to identify the thing as the same thing. We could otherwise say that the thing preserves a numerical but not a qualitative identity. Am I saying here that the thing is only its properties? Not at all. I do not want to make any such claim. In fact the present analysis does not need to get involved in this kind of debate. All I am saying and all I need to say is that in the attempt to conceptualise change – final change, real happening – the mind very briskly goes beyond the common sense opinion. Not because, as we shall see, this common sense opinion is in itself mistaken, but because it is often entangled with strong realistic claims about certain states of affairs: such as in this case it could be the underlying claim that a thing, its properties, and their changes, do not represent just a phenomenal description, to which I would have no objection, but real matters of fact. My enquiry, it will become clear, is not an argument against phenomenal evidence, but it is the attempt to scrutinise if there is something in this phenomenal evidence that can be called real in a strong sense, without us falling in logical contradictions and non-sense.

should certainly be addressed by metaphysics and epistemology. Here is a brief summary of the argument.

When we think of events we think of them as happening in time, as having a certain duration. If we did not do this, we could not conceive the dynamicity necessary to the smallest event, the smallest happening. How can an event happen without having a stretch of time *in which* to happen, a stretch of time which is filled with the happenings that constitute the event? An event is only conceivable as dynamic, and as having a stretch of time along which it can happen². In order to be dynamic, to be a happening, this stretch of time must be filled with other happenings. Otherwise the event would be an empty immobility occupying a stretch of time. And this would be a state rather than an event. So any humanly conceivable event must (a) have a duration and (b) consist of other events.³

But reflecting further on the concepts that we have been describing above, I suggest we have to conclude that those that we normally call events cannot be “really” happening in the sense held by Realism.⁴ In fact, the dynamicity of the event – and therefore its happening – always consists in what happens *in* its stretch of time. This has the result that we can never pick out what *really* takes place. Given the fact that there is only one place and one time for an event to happen, the various described sub-events cannot all be real,

²As we shall see, in fact, events that happen at an instant are a misconception, one of the several that this chapter wants to address.

³This premise or first assumption shouldn't be taken as an *hypothesis* which is given without demonstration, but as a *thesis* which awaits proof and demonstration. It works as a plausible assumption to start with and, since the development of the argument yields the maximum of conceptual coherence, it should be accepted as the most logical concept of event that our mind can entertain. Furthermore in chapter 5 I will argue in detail against the conceivability for the human mind of point events and/or events with a duration but without further happenings in them.

⁴By Realism I will intend here, I want to stress, that epistemological approach which claims in general that our knowledge is knowledge of reality “in itself”, and not a knowledge of phenomena. I refer *only* to this strong form of realism as the one opposed to a phenomenal theory of knowledge which the reflection on the present paradox intends to support.

as this would create an overcrowded (and impossible) ontology. This means that if there has to be such a thing⁵ as a real happening (and not just phenomenal descriptions of whatever it is that takes place) and if this real happening does not just consist of whatever happens *ad infinitum* in its stretch of time, the real happening cannot have a duration. It must be conceived of as outside our temporal framework or, once again, it would not be what is really taking place, but it would just consist of what happens in its stretch of time. The ultimate event, then, since it cannot consist of further sub-events, cannot have a duration, it cannot be thought of as happening in our temporal dimension – otherwise it would have to be thought of as a duration in which nothing happens: an immobility. But an immobile event is a contradiction in terms – as is, we shall see, the idea of an event happening at an instant. We have to conclude, then, that our mind cannot conceive of a real happening taking place in time. This means ultimately that the real happening, that reality to which our mind constantly aims, whatever it is, cannot be conceived as temporal. The reality that Realism claims we can really know, is instead the *limit* of our knowledge, the limit of our temporal framework of observation.

This brief introduction outlines the heart of the argument. I will now go on to explain it in more detail.

b) The Analysis of Our Concept of Event.

Imagine an event E that falls under our phenomenal observation: that is, an event that we either perceive or think about as happening. E covers a stretch of time, however short, in which things happen or are presumed to be happening. Our understanding of E, in fact, must be such that in this stretch of time things must have happened. Otherwise E would not be happening and it would not be

⁵As a phenomenalist, I am not really concerned with this “real” happening, as I believe that we have to be concerned only with phenomenal happenings, that is descriptions of processes that never pick out this real happening.

an event. So whenever we consider an event, this must be a happening that covers a stretch of time in which things can happen – since what makes it a happening are the things happening in its stretch of time. So the event under observation cannot be what really takes place.

Let's call the event under observation, the **nominal** event and the things happening in its duration its **sub-events**. Now whenever we single out any of these sub-events and take it under observation, each one of them will itself be a nominal event which cannot be what really takes place, because, again, the assumption is that its happening consists of whatever happens in its duration.

Now a paradox arises, which I call the **paradox of phenomenal observation**. It consists of the following: events need time to happen, but because time consists of duration, the event occupying this time cannot be considered as really happening (in a realistic sense). If the event were what was happening, it would (paradoxically) be an empty immobility, for it would correspond to a stretch of time in which nothing happens. Instead, the nominal event always relies for its happening, for its being an event, on whatever happens in its stretch of time, whether we can observe it or not.

The conclusion from this is that what “really” happens, if there is such a thing, cannot happen in time. Someone who believes in a reality outside our own mind, and I personally believe in it, cannot conceive of it in a temporal framework. In fact, I believe that one cannot conceive of it in *any* particular way, except in a (so to speak) negative way: outside our temporal framework. Reality as the place where phenomenal events can “ultimately” happen must be thought of as extra-temporal. One can only postulate its existence as the place where whatever we observe as happening can take place – for happening, as we have seen, cannot take place in the temporal framework of our cognition.

This conclusion may seem quite worrying. Or to hard-nosed realists, it may even seem that I have created a tricky paradox through a misunderstanding or a sophisticated argument. But a closer look at our

concepts of time, duration, event, etc., will show that what I have described is the very nature of our phenomenal observation. There is no way out of it, and only by acknowledging it can we – and especially those involved in the search for the “ultimate reality” – be led to the comprehension of many observational impasses.

c) Observation and “Real” Happening

I claim that our concept of time is based on continuity; events and changes happen in it gradually. In fact, if an event were thought of as consisting ultimately of instants without duration, we would not be able to understand the genesis of our time as duration. In this respect, let’s say immediately that the “zero time” of mathematics in which “point events” are said to happen, is only a conventional concept that cannot help us out of the above paradox of duration and change. Zero time cannot be taken as the smallest unit of time because the sum of many zero time-points amounts always and only to zero, and never to the *duration* that time actually is. So the smallest unit of time approachable will always be a duration and therefore susceptible to the above paradox.

Now, in order to provide a better understanding of the “paradox of phenomenal observation”, let’s analyse a familiar event: the rotting of an apple.

Observing⁶ an apple over a period of time we would see it rot. So we have this **nominal** event, “the rotting of an apple”. Biochemical examination of this event tells us that it consists of many sub-events involving many different types of molecules. For example the bonds within long-chain carbohydrate molecules will be broken down and the apple will become softer. This “bond-breaking” is a relevant sub-event which, when taken under observation, will

⁶ Let me repeat that by 'observation' I do not mean only direct observation, e.g. with our eyes, but also all type of indirect scientific observation.

become immediately a nominal event (a duration in which things must happen) because the breaking of the bond, unless miraculous (an assumption not very frequent in science) must consist of other sub-events that happen in this time. And each sub-event when singled out by our observation will become a nominal event in which other things, known or unknown, must happen, in order for us to think of it as an event. For example we will find enzymes binding to carbohydrates whose sub-events are amino acids interacting with sugar residues, and this in turn will consist of component atoms of amino acids interacting with atoms of the sugar residues. These atomic interactions are mediated by electrons, this, at least, is as far as we can infer from our knowledge of chemical interactions at the atomic level.

Thus this observation shows that every time we single out a phenomenal event, this event as happening in time, as being a dynamic event, must consist of further events and so it cannot be what really takes place.

Some, as I have anticipated, would like to argue that there are events that happen at instants: that is, they don't cover a duration of time in which other events happen. This is an important objection. But I am going to argue here that it is a total misconception to claim that there could be temporal happenings, phenomenally singled out, at a so-called instant (where the instant is an ideal zero time of no duration to which a no further reducible happening corresponds).

Consider for example the "instant" at which someone wins a race, or even the velocity of a car at a certain "instant". Whilst I don't want to deny the phenomenal reality of these events, I hold that one certainly has got to acknowledge that a further analysis of the instant in which someone wins a race, if it is an event, and exists for us as such, will always be filled with other sub-events (known or unknown) and so it cannot be conceived as happening at an instant of no duration. If my argument is right, then the ultimate instant without duration, if there is such a thing, in which one "really" wins a race,

must be outside our temporal framework, since it has no duration because it does not consist of further sub-events. It would be a “final event”. This, though, cannot be identified with the event which we call the “winning of a race”. This latter is only a phenomenal event – that is, it exists only at a certain level of interpretation. When we go beyond this level and analyse what happens in the so-called instant in which one wins a race, we will find more and more sub-events, much smaller than that presumed “instant” in which one wins a race; showing in this way that also that “instant” had, in fact, a duration in which other things happened. The same goes for the velocity of a car which can never logically correspond to a time without duration, because velocity is a concept that by itself involves events and happening. Nonetheless we use these conventions and they work without any problem as long as we don't pretend to attach to them a strictly “realistic” meaning.

So we can talk of “the instant in which one wins a race” or of “the velocity of a car at an instant”, as long as we don't claim that these, as events phenomenally singled out, have no duration, but that the instant is an operative value by means of which we fix, for example, the event of the “winning of a race”. The winning of a race is a final event happening at an instant, then, only in the sense that at a certain level of interpretation, that of those who are in a way or in another involved in the race, it is the last relevant event. These are not interested in what further may happen in that instant, and are only interested in its value of final event. This is why we say that the race is won at an instant and it is a “point event”. But it would be simple for us to point out that even in that thousandth of a second which is, for example, the time in which the diaphragm of a sophisticated instrument of detection opens to record the winning of a race, there will be things happening, for instance whatever happens to the photographic device to allow it to operate. So what one, in a certain system of co-ordinates, considered an instant without duration in which to fix the winning of a race, is in fact a duration, a humanly measurable time filled with

sub-events. Beyond this duration in which we find further and further sub-events, there can only be an extra-temporal reality (in which maybe changes “really” take place), of which nothing can be said, least of all be identified with the perceived phenomenal event of winning a race.

Someone, in the name of common sense, will certainly want to ask here: why does the fact that a nominal event consists of sub-events means that the event is not really taking place? Why couldn't the nominal event and the various sub-events all be taking place at the same time?

The answer is in the question itself. There is only one place and one time in which these series of sub-events could happen. This is, incidentally, what it must mean to be a realist as opposed to a phenomenal description of reality. So how is it possible that they all take place, that they are all really happening? None of the events singled out phenomenally can be a real event, an event really taking place, or we would have (ontologically speaking) a crowd of events, all happening at the same time and place as the original nominal event. For example in the case of the “rotting apple”, for the same place and time there would be, candidate for “reality”, at least five series of sub-events. In fact, if what we have called “enzyme binding” was really taking place it would be, absurdly taking place at the same time and place as “amino-acids interacting with sugars”. These events, in fact, do not happen in a temporal succession, but each series simply consists of another.

At this point we obviously need to sharpen our Occam's razor, and this will consist of denying reality in the sense of intrinsic reality, to any event phenomenally described. In fact these will have to be either all real, as they are of the same observational nature, or none of them will be real. Obviously, they cannot all be real, as this would lead to an unacceptable redundancy in our ontology, or better in the ontology of Realism. So we have to conclude that none of them is real. One cannot even claim, from a realistic point of view of course, that each series is real at a different level, as a realist cannot accept that

there are several levels of reality. Reality must be now a fully fledged concept or it loses its specificity in contrast to a phenomenal approach. Only at a phenomenal level of discourse we can talk of different levels of reality. This is because by “reality”, here, we intend what we “describe” as such, “creating” it, in an idealistic sense, in our cognition. This is why, more specifically, one cannot simply argue, as an objection to the paradox, that these sub-events are the same event under different descriptions. For if we do that we must either accept a phenomenal approach that does not invest these sub-events with a strong intrinsic reality — the one I endorse — or, if we persist in a strong realistic approach, what we are really saying is that these sub-events are all competing for the same place and the same time (the place and time of intrinsic reality). But this is clearly a non-sense and can only be entertained as a reasoning *per absurdum*.

In any case, what does this talk of different 'levels' really amount to? It is obvious that just because something can be described at different levels, or be given many different descriptions, this does not mean that there really are many different levels of 'reality' in one thing. We cannot infer from the fact that we have two names 'Cicero' and 'Tully' that there are two people, Cicero and Tully.⁷

So we have a dilemma. If someone says that this talk of 'levels' means 'different descriptions of the same thing', then their argument does not touch mine; it is irrelevant. For my question is not about the descriptions, but about the *thing*, the *reality*: what *is* this thing, this reality? Saying that there can be many descriptions of it obviously gets us nowhere.

⁷See G. Frege, "Sense and Reference" in P. Geach and M. Black (eds.) *Selected Philosophical Writings of Gottlieb Frege*.

On the other hand, if the idea is that reality itself contains different levels, then what does this idea really mean? What sense can we make of the idea of levels of reality? The believer in levels has not explained this to us yet.⁸

Furthermore even if one does not accept my argument about the redundant ontology it is well known that the position that reality divides into levels gives rise to redundancy in causation, for if events at the different "levels" of one event have common effects, then they overdetermine those effects. This constitutes an intractable problem for the theory of "levels" ⁹.

So I hold that in a phenomenal framework, then, no sub-event is more real than another, but they are all "unreal" in a strong realistic sense, and all real in a phenomenal sense. Every sub-series will provide us with a contingent reason for why things are in a certain way, without ever being possible for us to acquire any certain truth about reality, as to acquire this, we would need to come to the end of the series of contingent reasons and this, as I have argued, is impossible.

To acknowledge the paradox of phenomenal observation, means to acknowledge that reality in itself is in an extratemporal dimension, and it is, therefore, out of our cognitive reach and will never provide us with an understanding of what is really taking place in it. To accept this paradox, though, does not have to issue in an extreme scepticism; on the contrary, it means to believe in many more things as true and real than a realist would, without regarding them as minor truths. This is simply because any other concept of truth and reality is and will always be out of the question for us, it is simply a figment of our imagination, an illusion of reason, in the Kantian sense.

⁸Neither would it be a valid objection to this occurrence to argue that it is possible to have at one place and time more than one thing, given that they are of a different *kind*, such as, for example, the statue and the piece of clay. (see D. Wiggins 'On Being at the same place at the same time' *Philosophical Review*, 1967) In fact the various descriptions of events we are taking in to account all share, in the realistic framework, the same *kind*, Reality. Therefore, they do not belong, as far as the kind at issue goes, to different kinds, but to the same one.

⁹See T. Crane, "The Mental Causation Debate", *Proceedings of the Aristotelian Society*, supplementary volume (1995).

To accept this paradox means, most of all, to accept the phenomenal nature of our theorising, and therefore value it equally in its entirety, as there cannot be in it aspects that are more or less close to reality. Rather there are simply different ways to interact with reality, and therefore, different ways to describe it as effect of a different kind of interaction. So atomic interactions, in a rotting apple, are not closer to reality than the simply watching an apple rot, nor than the writing of a poem about it.

But before I conclude this section I would like to provide another example of this “paradox”, one that deals more directly with a temporal reduction, whereas the apple was more typically an example of substantial reduction.

Imagine the breaking out of a short sharp sound. You want to know when this event happens along a certain length of time. You allow yourself an arc of time, quite short, made let's say of three seconds along which you will have to place the sound. Suppose it falls at time $t-2$, suppose now that you will divide $t-2$ into three further parts, and that the sound will cover all three of them: this is an example of continuity at the phenomenal level. Suppose now you want to know more precisely when the sound starts. You will have to divide the first part of $t-2$ into further parts; phenomenally speaking you can place the start of the sound along one of these fractions of time. But this, we are aware, can only be an approximate correspondence. In fact we could always imagine for further precision, even though it could be not feasible, dividing the time into smaller fractions and place the start of the sound at a smaller more precise time. But as long as this time has a duration necessary for a phenomenal event to happen, this event will always correspond only to a description, the nominal event, and not to what is really happening. The reason is that what is “really” taking place cannot be conceived in a duration – or, because it does

not consist of further happenings, it would be an immobility, or more plainly, a piece of nonsense.¹⁰

The point of this impasse is not to describe, as I am going to say, the paradox of the infinite divisibility of time. What it really means, as we have seen, is that whenever we have an event that corresponds to a stretch of time in which this event is said to happen, this event, as a duration, must consist of other events that happen in that time. Otherwise it would be, as a static “event” covering a duration, an immobility rather than an event.

It is probably useful, as a conclusion to this section, to spell out again the paradoxical nature of time and event in relation to reality: to conceive an event as happening we need to conceive it as covering a stretch of time or duration in which things happening constitute the happening of the event. But because this same duration is always necessary for an event to be happening, any event singled out, will never be what is really taking place, because this event will consist of sub-events that happen in its time and so on, potentially *ad infinitum*. So it is important to say that the infinite divisibility of time is a consequence of the nature of our observation and not vice versa, as one may simplistically think. It would be a wrong way of reasoning to think that in order to grasp the final, “real” happening, if there is such a thing, we should be able to divide the time until there would be no duration anymore, until we get to the famous instant. This is absurd reasoning: to look for the absence or the end of time within the temporal dimension. Time is only phenomenal and at the level of phenomenal events, there will always be a time that as such can be divided so that these events consist of dynamical happenings. Beyond these, there is maybe only the extra-temporal dimension of reality. But this is something which we cannot investigate.

¹⁰So even if one argues that there are only events and processes and not “substances” that generate the *reductio* I have illustrated in the “rotting of an apple”, one still has to meet the objection that these events and processes, to be real happenings, cannot happen in time, because if they did they would have a duration and so would generate the same *reductio* that we have observed in the case of the rotting apple.

d) Zeno's Arrow

From the confusion between the phenomenal dimension of events and the extra-temporal dimension which we have to postulate for a “real” change to take place, are born some challenging paradoxes. I want to discuss here Zeno's Arrow and demonstrate how this is a paradox that springs from our concepts of time, events and duration, when these are applied to reality in itself, in this case to the conceptualisation of “real” change. This discussion should throw a retrospective light on what I have been talking about until now.

Zeno's intuition was that at an instant in time, movement and immobility are the same: since, for the most basic law of logic, when we think of an arrow we have to think of it as identical, we have to think of it always at rest. This is, in fact, what it means, for Zeno, to think of the arrow at an instant. But since all we can think of are successive instants in which the arrow is always at rest, we cannot logically conceive the movement of the arrow.

It seems just fair, towards Zeno, to say that with his argument he didn't want to deny movement altogether – that wasn't his concern – but to show the problematical nature for our mind of movement and, therefore, change: these having to meet the requirement of identity necessary for anything to be, or to be thought of, as Parmenides taught him. It is probably useful to recall, here, the reason why our thought can only think of being as identical.

Something to be must be in any moment identical with itself, it cannot be at the same moment A and not-A (principle of non-contradiction) and what is most important it cannot at the same time be not itself anymore and not even something else, a new identity (principle of the excluded middle). This means that as soon as something stops being itself, it must be, for us to be able to think of it, immediately something else, a new identity. The problem, then, is: how

can we conceive of change?¹¹ If all we always have must logically be an identity? How can we conceive of the passage from an identity to the next which is properly what we understand as change? A change which is conceived as a gradual passage from a state to another, from an identity to another. But if we reason according to these compelling laws of logic, we cannot find a time in which change could happen because what we will always have is an identity without the possibility to conceive the gradual passage required by the conventional concept of change or movement. What Zeno asks us, then, is to reflect on the problematic nature of our phenomenal concept of change when considered in logical terms.

The key to understanding Zeno's paradox is, of course, the concept of an instant. This latter is supposed to represent in its indivisibility, the indivisibility of being which makes it possible for us to think of it at a certain point and at a certain moment. With this Zeno intended to deny the possibility, held by the Pythagorean pluralism,¹² for the phenomenal world of modification to be real, that is to be rationally thought of. This is not just an excursion through history of philosophy, but these are important notions, if we are going to understand the relevance of Zeno's argument in relation to our previous discussion. In fact with his paradoxes Zeno intended to polemicise with the "pluralistic" position that, mocking Parmenides' intransigent principle of identity,¹³ postulated the

¹¹We have two concepts of change: the phenomenal one – or gradual change – and the concept of a discrete change. They are both ultimately unintelligible, as far as a true conceptualisation of change goes. The phenomenal concept of change is not a "rational" concept as it does not stand the test of the most basic laws of logic. In fact it involves, as gradual change, that something is at the same time itself and something different, or it collapses in an already new identity or state where it is impossible to talk of change. In the concept of discrete change, instead, what is enhanced is the moment when change has already happened. Words such as jump, leap, etc., should conceptualise change, but in fact they don't, they just cover a lack of understanding.

¹²For a discussion about the possible target of Zeno's paradoxes, see *Zeno of Elea* by H.D.P. Lee.

¹³In this respect Taran writes: "We have reason to believe that his poem gave rise to an attack which pointed out the paradoxical consequences of his doctrine, for there is no reason to doubt the historicity of Zeno's remark in Plato's *Parmenides* when he says that, using the same method used by those who attacked Parmenides and starting from their own assumption that a multitude is real, what he did in his treatise was to show that even more ridiculous consequences would follow." L. Taran, *Parmenides*, p.195.

reality of the plurality, where “reality” means the logical thinkability of something (in this case change). Zeno shows with his paradoxes that trying to conceive movement and change in the theoretical framework of the “many”, produces, from a logical point of view, results just as laughable as the Parmenidean identity of the “one” produced for the pluralists.

The Eleatic school, has the invaluable merit of having pointed out the impossibility for our thought to conceptualise change – because what is, must be always an identity, or we could not think of it as being. The way out of this impossibility to conceive of movement or change, is for me, as we have seen, to place what is “really” taking place, outside our temporal framework, whereas Zeno falls, as we are going to see, in the paradoxical concept of instant, as a *time with no duration*,

Before I go ahead and explain why Zeno's instant is itself paradoxical, I need to spend a few words about two classical solutions to Zeno's paradox which have both misconstrued the problem that Zeno pointed out, and left unresolved the conceptual difficulty to conceive at the same time movement and being, in one word change. In fact, as we have seen, the reason for talking of instants from Zeno's point of view was that only at an instant can we conceive the arrow as in its identity necessary for the arrow to be and, therefore, to be thought of. A “really” moving arrow is, from the point of view of its being, inconceivable because it lacks identity. In this situation, if time can only be made up of such instants we will not be able to logically conceive movement or any kind of modification, but only the immobility of each instant in which it is given us to think of the arrow. This means denying altogether, as in fact Parmenides had already done, the existence of time, as a duration and as a flowing of modifications. These latter could only be, as we have seen with Parmenides, inferior aspects of reality, or inadequate versions of reality which in fact did not deserve the name of Being or Reality at all. They were mere opinions, fallacious because induced by senses and not reason.

Now, some interpreters of Zeno's paradox propose that if the arrow is always in a place identical with itself at each instant, this does not prevent it from being at different places at different instants.¹⁴

Well this interpretation, that I would call that of the common sense means to take a short cut, a lamentable short cut, since what is at issue here is not whether there has been or not been movement but if movement is thinkable within the logical framework proposed by Zeno. This says, I repeat, that only the instant assures the identity necessary to think of the arrow, as being, that is to say, the only way the arrow can exist and be thought of is at rest in a position in which we can think of it at an instant. To be "really" moving means to be nowhere, to not have identity, to not be logically thinkable as being. So if we accept, so to say, Zeno's logical rules, and it seems hard to refuse them, which is why this is a challenging paradox, then we cannot choose the common-sense view and say that we can think of it at different places at different instants, because since Zeno's time is made up of these instants, it loses the possibility of being thought of as a duration in which an event like movement could ever be thinkable. All that is logically thinkable for Zeno is the arrow at rest at a so-called instant. It is also a misunderstanding of Zeno's argument to conceive his instant as a mathematical point, which could work as a useful operative and reconcile being and movement as it does in classical mechanics.

Zeno's instant was none of this, it was a logical "absolute", the non-duration necessary for the identity, and for something to be, because duration implies modifications which are not thinkable as being. To give it a reductive

¹⁴This would be, for example, the interpretation provided by M. Sainsbury in *Paradoxes*, pp.22-24). There he argues that movement can be reintroduced if one considers that the arrow is at different places at different instants, and this should offer a way out of the paradox. "An object is at rest at an instant just on condition that it is at the same place at all nearby instants; it is in motion at an instant just on condition that it is different place at nearby instants." (p.23). In this way he puts the accent on the factuality of movement rather than its conceptualisation which was the only concern for Zeno. As in the case of those who, like the cynic Diogenes, outraged by the Eleatic thesis of the immobility, started walking up and down to assert the undeniable evidence of movement. For further discussion of this position see footnote 20, page 135, and relevant text.

less absolute meaning is to take a short cut that does not get us out of the paradox which is not, if we ever become aware of it, about factuality, but about thinkability of being and movement at the same time. Only in this light does Zeno's argument acquire the dignity that it deserves and does not become a self-complacent intellectual game.

I would like now to talk more extensively about mathematical attempts to resolve this paradox and point out that they all share a common feature, a feature that makes them consistently miss the point. With its manipulation of the unit, mathematics finds “ways out” of the immobility of the arrow, condemned, according to Zeno, by the self-identity of its position at any moment, to never accomplish the transition from rest to motion. But the point, quite generally put, is that using Zeno’s rules of the game, the unit cannot be manipulated, and furthermore a manipulation of the unit does not resolve the problem of the passage from one to many. This was the point of his criticism of the Pythagorean pretence to get the many of the Universe by multiplication or addition. As Kathleen Freeman writes regarding this matter:

Zeno’s attack was on the idea of the Many, that is, of multiplication.....multiplication in itself is useless....It is useless because you are bound to start with either a Nothing or an Infinite, and by its means you get only what you start with, either a nothing or an Infinite.¹⁵

In other words Zeno argued that One (a non divisible) is one and can never become many and that Many (a divisible) will always be a quantity and, therefore, can never be exhausted by division in order to make of it a One. If you accept this logic, you are hooked and you can easily see how this assumption hinders the conceptualisation of change and movement.

To acknowledge, and even maybe to understand, Zeno’s paradox it is necessary to take into account that the premise of his argument is that the arrow always occupies a place equal to itself (*kata’ to’ ison*). For everything is

¹⁵K. Freeman, *The Pre-Socratic Philosophers*, p.156.

either at rest or in motion, but nothing is in motion when it occupies a space equal to itself.¹⁶

Can we conceive of anything that does not occupy a space equal to itself at any moment? Hardly (in an ordinary logic, at least). This is the real premise, apparently an innocuous one, of the argument, on which he steals the easy agreement of his interlocutor, and from which it really follows that the arrow must be thought of at a durationless instant (*en to' nun*). This durationless instant is in fact the effort to conceptualise the identity with itself of the arrow. Whenever you think of the arrow, this must occupy a place equal to itself, this can only happen tautologically in a non-duration (in a framework in which time is change, of course). It should be clear, then, why the premise is only apparently innocuous, and it assumes, in fact, in a way, the very thing he should demonstrate. I say in a way because on one hand there is no possible demonstration for the identity, and, on the other, most of his interlocutors would easily agree on this premise though being unable to accept its logical consequences. Aristotle, as we shall see shortly, was one of them. He would, then, focus his criticism not on the identity but on the Zenonian instant as the last atom of time, and claim that the paradox would not subsist if we considered time as infinitely divisible. Again he would start from many and so dismiss Zeno's problem: the conceptualisation of change in the framework of the identity.

But if you accept Zeno's premise, his conclusion is inescapable. The paradox is, in fact, a tautology. One is always one and can only be one. As Parmenides had argued, you cannot bring movement or change in what is identical.¹⁷ Likewise the two paradoxes founded on the infinite divisibility of time, the Stadium and the Tortoise, are a tautology. Many is always many, and

¹⁶Diels, *Vorsokratiker*, see H. Lee, *Zeno of Elea* p.80.

¹⁷As Hegel pointed out many centuries later: "It is just as impossible for anything to break forth from it as to break into it; with Parmenides as with Spinoza, there is no progress from being or absolute substance to the negative, to the finite." *Hegel's Science of Logic* pp.94-95.

as a quantity, it can never be exhausted in order to finally conceptualise movement. If one accepts these premises, one can acknowledge the paradoxes, but if one doesn't, one is not even able to reason within Zeno's framework.

This, I believe, is what happens in the solution to the 'Arrow' proposed in a recent paper by Mark Zangari.¹⁸ There he argues that Zeno's is not really a paradox but a "poorly posed problem" and "The 'Arrow' is a chimera bred by a misinterpretation of the indeterminate form $0/0$ ". Now $0/0$ expressing the velocity evaluated as a ratio at an instant, according to Zeno is resolved as 0, but this, objects Zangari, is wrong, because:

... $0/0$ is not a well defined expression and is what is known as an *indeterminate form*." As such it "...cannot contradict any finite velocity because $v = 0/0$ is consistent with $v = \text{any velocity}$. So the arrow's non-zero velocity, as determined over finite time intervals, is not in the least bit paradoxical, nor does it contradict anything about the state of the arrow at each instant.¹⁹

Without going further into the details of the argument, against whose mathematical formulas I have nothing to object, we can say that Zangari's solution appears very clearly as a refusal, possibly unaware, of the premise we have previously pointed out: that everything occupies a space equal to itself. This premise, once accepted, makes movement as an intrinsic property impossible and the most one can achieve in terms of rescuing the dynamism of the arrow is to explain movement as the actual being of the arrow at different times at different places, but this falls short of conceptualising motion which was Zeno's challenge.²⁰ Anyway Zangari sets out to achieve more than this

¹⁸M. Zangari (1994), 'Zeno, Zero and Indeterminate Forms: Instants in the Logic of Motion', *Australasian Journal of Philosophy*, Vol. 72., pp.187-204.

¹⁹*ibid.* p.194.

²⁰About this I do agree with Zangari that:

The standard solution that seems to be currently accepted by most philosophers rests on what is often called the 'at-at' theory of motion. According to this, the 'motion' of an object does no more than correlate the position of the object to the time at which it had that position. So it is at a particular place at a particular time. If the object has the same location in the instants immediately neighbouring, then we say it is at rest; otherwise it is in motion....According to the most commonly accepted view, instantaneous velocity is not an intrinsic property of the object, but a supervenient

with his solution. Approaching the paradox from a mathematical point of view, he concludes that there is no mathematical reason why the arrow has to be stationary at an instant. In disputing the validity of Zeno's premise through a mathematical operation that once again manipulates the unit without showing the transition from this (the unit) to a concrete plurality or change, he completely misses the purely logical point of Zeno's paradox.

But showing that in a mathematical framework the arrow at an instant can move, does Zangari say anything about the transition from one to many, which was the one and only concern of Zeno? This kind of argument rather says: since from a mathematical point of view we can make a perfect sense of the velocity at an instant, we needn't to be concerned about the logical *aporia* suggested by Zeno. But the problem is that in a mathematical framework this *aporia* cannot be understood. The manipulation of the unit is purely abstract and is not concerned with the objection that Zeno already moved to the Pythagoreans: that this manipulation does not yield concrete plurality which is what is needed to conceptualise change. We can rightly object to Zangari that Zeno would have certainly seen through this manipulation and pointed out that whatever value you give to the velocity of the arrow, it has still to pass the test of the transition from one to many. That is, if you accept that the arrow occupies a position always equal to itself, you still have to explain how these abstract values can become a concrete movement of the arrow. Zeno would have not been impressed by this solution because it assumes as unproblematical the very position he was historically attacking²¹, the Pythagorean pretence, as

relation based on the correlation between position and time over a neighbourhood of *T*. (*op. cit.*, p.192).

This was essentially Russell's solution of the paradox. As he wrote "Motion can be understood as the position occupied by an object in a continuous series of points in a continuous series of instants." (B. Russell, *I Principi della Matematica*, p.637.) This theory cannot explain dynamism as it never operates the synthesis that could intrinsically correlate different points in time and space.

²¹And this can be seen as ironical since Zangari declares, with temerity, that "However, the historical facts are not the focus of my discussion. The arrow paradox, no matter how it began,

we have seen, that a manipulation of the unit can resolve the logical *aporia* of the passage from one to many or from identity to change.

To say that $v = 0/0$ means $v = \text{any velocity}$, means that the arrow has a velocity at an instant. Now this can either be interpreted as saying that the arrow occupies at one time different positions, an Hegelian sortie that Zangari does not seem to cherish, or as saying that the instant is not durationless, but in this latter case the paradox would propose itself all over again. The point that Zeno makes with his paradox is very simple: we cannot unproblematically think that the mathematical multiplicity as manipulation of a unit, is real and concrete plurality, that is, that it can mimic in our mind the passage from one or identity to many or change. The consequence of this impossibility is that the plurality made up of these units always precipitates when you think of it, into an identity or immobility. The only way “out” not of the paradox, but of the immobility to which the identity tautologically forces the arrow, would be to claim that the arrow does not have to be thought of as occupying a space always equal to itself, but that we must rise above the “thinking that belongs to the understanding alone”²² and have an intuition of the arrow as never occupying a space equal to itself. This is the Hegelian key to the interpretation of reality and movement: to deny the identity as a constraint on our reasoning and rather opt for the speculative Reason that raises itself above “the mere logic of the understanding”,²³ reaching in this way an immediate apprehension of the synthesis of A and B, in our specific case, of two different points in time and space, two otherwise unbridgeable identities. The only way to “conceptualise” (but the Hegelian one is no ordinary concept) change and to conceive of the plurality as concrete rather than abstract, that is as pure sum of the unit, is the Hegelian synthesis or any other doctrine that privileges an experience of

has evolved into its modern form and it is with this that I am concerned.” M. Zangari, *op. cit.* p.190.

²²G. Hegel, *The Encyclopaedia Logic*. p.35.

²³*ibid.* p.131.

movement over an aseptic attempt to understand it²⁴. But these doctrines do not acknowledge the paradox as a poorly posed problem, they do not acknowledge it at all. On the other hand it is impossible and it really results in an *aporia* to try and conceptualise movement as concrete, intrinsic plurality while keeping the logic of the identity. But mathematical “solutions” of Zeno’s paradox are hardly giving up the identity and agreeing on embracing an Hegelian logic of becoming. There would be no point in doing that, anyway, for someone who wants to approach Zeno’s paradox, because the Hegelian logic is not a solution of the paradox but a dismissal of the logical coordinates that generate it. I think it is worth considering that mathematical solutions of Zeno’s paradox insofar as they illegitimately transform the abstract plurality of their manipulation of the unit into a concrete plurality, are unconsciously Hegelian, for at some critical moment they privilege becoming as a given experience and so they are never really confronted or never really address Zeno’s paradox in the right logical perspective.

Similar objections, I feel, should be moved to another mathematical solution: the recent attempt to solve Zeno’s paradox with the recourse to the “infinitesimals”. In William I. McLaughlin²⁵ we read that the strength of the infinitesimals consists in that being infinitesimal intervals they:

can never be captured through measurement; infinitesimals remain forever beyond the range of observation.²⁶

In fact he argues:

So how can these phantom numbers be used to refute Zeno’s paradoxes?...it is clear that the points of space or time marked with

²⁴See footnote 34, page 142.

²⁵W. I. McLaughlin, “Resolving Zeno’s Paradoxes”, *Scientific American*, November 1994, pp.66-71.

²⁶*ibid*, p.69.

concrete numbers are but isolated points. A trajectory and its associated time interval are in fact densely packed with infinitesimal regions. As a result, we can grant Zeno's third objection: the arrow's tip is caught "stroboscopically" at rest at concretely labelled points of time, but along the vast majority of the stretch, some kind of motion is taking place. This motion is immune from Zenonian criticism because it is postulated to occur inside infinitesimal segments. Their ineffability provides a kind of screen or filter.²⁷

All we can say, again, is that if one argues that the arrow is moving in these infinitesimal segments which are presumably different from 0, the absolutely indivisible, we are still faced with an abstract plurality that has not even slightly addressed the problem of the conceptualisation of change. As vanishing quantities, on the other hand, they seem to actually mimic the effort of our mind in grasping this passage from one to many. But all they can do is to be the mathematical counterpart of this effort, not the mathematical solution of it.

In fact McLaughlin & Miller themselves write²⁸:

The theory explains the fact of motion but does not describe the nature of 'present motion'. If there is a concept of 'present motion', it must refer to a process taking place during the infinitesimal open intervals...of time. It cannot be established, in fact, what process of 'present motion' is operative within the infinitesimals...The object could jump instantaneously from one end of an interval to the other, or it could move nonuniformly within an interval, or it could move uniformly within an interval.....More generally, the object might not be, during these time intervals, in any kind of spacetime.²⁹

And later:

Basically, the theory represents motion as a finite series of infinitesimal steps....If one wishes to define 'present motion', it is possible to do so in a manner consistent with this theory of motion. The fact that motion has occurred is verifiable without encountering Zeno's objections, but

²⁷*ibid.*

²⁸ McLaughlin, W.I., & Miller, S.L. (1992) "An Epistemological Use of Nonstandard Analysis to Answer Zeno's Objections Against Motion" *Synthese* Vol. 92, pp.371-384.

²⁹ *ibid*, p.382

the fact of present motion does not appear to be verifiable, since it takes place inside unobservable infinitesimal intervals. The process of change is hidden but the effects of change are visible.³⁰

Seeing the infinitesimal as an alternative to both an indivisible unit and to a knowable quantity divisible ad infinitum, and so, as the place and time in which motion can finally happen, suggests a strong analogy with what Plato says in the *Parmenides* about the instant:

...that queer thing, the instant. The word 'instant' appears to mean something such that *from it* a thing passes to one or other of the two conditions [sc. rest and motion]. there is no transition *from* a state of rest so long as the thing is still at rest, nor *from* motion so long as it is still in motion, but this queer thing, the instant, is situated between the motion and the rest; it occupies no time at all, and the transition of the moving thing to the state of rest, or of the stationery thing to being in motion, takes place *to* and *from* the instant.³¹

It is relevant at this point to report J. O. Wisdom's claim about the "Achilles". He claims that this paradox, based on the infinite divisibility of time and space, is flawed because Zeno treats a physical distance as if it were a mathematical distance for he actually confuses mathematical points with physical points:

A physical point, unlike a mathematical point, has some size, though this may be as small as we please. But, however small a physical point, since it has some size greater than zero, an infinity of them cannot be packed into a finite distance. In particular an infinity of physical points cannot be packed to correspond to the mathematical points described by an infinite geometric series. Hence an infinite geometric series is inapplicable to a physical distance. i.e. a physical race cannot be described by repeated bisection, or Zeno's premiss is false.³²

³⁰ *ibid*, p.383

³¹"Parmenides" 156d-e., *The Collected Dialogues of Plato*, p.947.

³²J. O. Wisdom, "Achilles on A Physical Racecourse" in *Zeno's Paradoxes* p.88.

The question to ask here seems to be: what is a physical point? Are we born with such an axiomatic idea that no one could question it? But it seems to me that Zeno's paradoxes show exactly why we must question this idea that to Wisdom appears so unproblematic: the idea that something physical, something greater than zero, therefore a quantity and as such divisible, can account for a point, a point where finally something happens. That is a point that is not further divisible and where, as Wisdom says, we must stop thinking "and so on"³³, about the infinite bisection.

Maybe Wisdom would like to suggest that this point is a vanishing quantity? Whatever, the impossibility of grasping and defining this concept of a physical point is nested in his same account, where he says that the physical point has some size "though this maybe as small as we please". In fact, it **must** be as small as we please, as small as we can think of, for we must keep on thinking of it as smaller and smaller, since it is a quantity, and divisibility applies to all quantities, physical and mathematical. Zeno, in fact, points out that we fail just in this: accounting for the transition from an abstract, mathematical quantity to a concrete, physical quantity. What is it that makes a physical quantity not divisible *ad infinitum* and so makes it a real plurality and not again just a manipulation of the unit? This is the question that awaits an answer in Zeno's paradoxes and it is not given by simply putting forward the physical evidence or the necessary requirement of a "physical point" against a mathematical one. Of course, to be able to answer this question we would need to be able to conceptualise movement and the passage from one to many. This is exactly the difficulty that Zeno was pointing out and that Wisdom has not removed but only, maybe, delayed in the mind of an attentive reader.

But there is another obvious way in which this idea of a "physical point" as definitely greater than zero, is going to be paradoxical in relation to movement. In fact, if a point has a size greater than zero, also its corresponding

³³*ibid.* p.88

time should be greater than zero: a duration. What is a putative moving body doing in this duration? If it is moving, then the point is not a point after all, but a distance, because, in order to move, the body must pass through a series of points. If it is not moving, then this point has no extension, is not greater than zero.

There is another way to ignore Zeno's paradox though, and that is to deny his first instance: which is, in fact, that we should think of time as indivisible instants. Only in this case, only if time consists ultimately of indivisible units, would we find ourselves in the impasse of the immobility, whereas movement, the supporters of this view think, is perfectly conceivable in time if we abandon this last atom of time, the instant, and consider time as potentially divisible *ad infinitum*. This was Aristotle's³⁴ reaction to Zeno's paradox of the arrow³⁵, and it is not by chance that he didn't have any respect for him as a philosopher. This is also the view which should be taken up by all those who believe, and I am aware that it is probably the majority of us, that

³⁴ A.W. Moore points out that Aristotle resolved Zeno's paradox by pointing out that "the time it takes for an arrow to fly through the air is not actually composed of infinitely many indivisible instances. It is just that there is no end to the instances we can recognise within it." (A.W. Moore *The Infinite*, p42). At this point I would like to point out that the difference between Aristotle and Zeno in this matter, consists principally of the fact that whereas Zeno, following the teachings of his master Parmenides, was specifically concerned with the conceptualisation of being and movement, Aristotle was, as philosopher, more interested in the empirical aspect of problems. Also Hegel in his *Science of Logic* points out that the Aristotelian solution, privileging concrete continuity against abstract plurality, is to be highly praised as a better understanding of the problem of motion. He writes:

To infinite divisibility (which, being imagined as actually carried out, is the same as infinite dividedness, as the atoms) on which is based the most famous of those proofs, he opposes continuity, which applies equally well to time as to space, so that the infinite, that is, *abstract plurality* is contained only *in principle [an sich]*, as a *possibility*, in continuity. What is actual in contrast to abstract plurality as also to abstract continuity, is their concrete forms, space and time themselves, just as these latter are abstract relatively to matter and motion. (G. Hegel., *Science of Logic*, p.198.)

My position in this respect will become clear in the following pages.

³⁵ "Zeno's argument is fallacious. For if, he says, everything is either at rest or in motion when it occupies a space equal to itself, and what is in flight is always at any given instant occupying a space equal to itself, then the flying arrow is motionless. But this is false, for time is not composed of indivisible instants any more than any other magnitude is composed of indivisibles." Aristotle, *Phys. Z 9. 239b 30*, in H. Lee, *Zeno of Elea*, p.53.

movement or modification can happen in a divisible time or a time made of durations, or in one word: in Time.³⁶ All I would like to say regarding this type of solution is that they do point, unconsciously, with their infinite regression, to an “extratemporal” dimension where movement finally takes place. In this sense Aristotle and Zeno would probably not be saying something so different, after all, as they were both pointing out, with different degrees of awareness, the impossibility to find “real happening” in any given duration. I am going to demonstrate, using my argument about time and reality, that the arrow could have not moved even if we considered time not as an instant, but as an always further divisible duration.

In Zeno's view, the duration as a presumed flow of modifications (what I have called an “ungraspable becoming” for our thought) will never allow me to think of the arrow as being and, therefore, will never allow the arrow to be. As an alternative to this unrealised pluralistic picture there is the arrow at rest at an instant; but here comes the legitimate complaint of the pluralistic school: if we have to think of being as immobility what can explain the event and modifications of the phenomenal world, those that we witness and that no logic can deny? Since the Eleatic school cannot justify a phenomenal happening or the events that we observe in our temporal framework, these must be self-justified and therefore are described by the Pluralistics as the “real” being. But I have argued, in the previous section, that what happens in time cannot be real in the sense of being what really takes place, and that we can think of modifications only if we place them in an extratemporal dimension. Let's now think in this direction.

³⁶G. Galilei in *Dialogue Concerning the Two Chief World Systems* offers a similar solution. In fact, to the question prompted by Sagredo: how can a body which is at rest reach any assigned speed when between rest and velocity lies infinite degrees of lesser speed, Salviati answers:

I tell you that the movable body does pass through the said gradations, but without pausing in any of them. So that even if the passage requires but a single instant of time, still, since every small time contains infinite instants, we shall not lack sufficiency of them to assign to each its own part of the infinite degrees of slowness, though the time be as short as you please. (p. 22)

If we consider the movement of the arrow from a position P2 to P1 from time T2 to T1, we will have a movement represented by a segment that unites the two points in space and time. Space cannot account for movement because either in movement or at rest a body always occupies a space identical with itself. What we are left with then is a segment of time. The question again is what sense can we make of this segment or so-called duration in which a movement has supposedly happened? I claim that the movement has not taken place in this duration, or, better, that we cannot conceptualise a movement as taking place in this duration. In fact we are faced with several alternative choices that all discount the possibility of movement.

If the segment is made of further positions and further instants of no duration, at each one of which the arrow is not moving, we have Zeno's solution. If it is a segment of time long enough to allow the movement then we will have two choices: a) it will be divisible in sub-segments until we get to an ideal instant, the mathematical instant, which is not Zeno's instant, or b) it will be virtually divisible *ad infinitum*. If we chose a), the mathematical instant, this cannot offer us any help out of Zeno's paradox because it just assumes that movement does happen in time; this instant is in fact only an ideal approaching zero which conventionally ascribes a velocity and a position to a mobile object at a certain time. But whereas the mathematical instant is a convention that reconciles being and movement, Zeno with his paradox intends to expose just this contradiction. As I said, Zeno's instant is not a conventional operative at all, but represents the immobility and the identity necessary for being to be thought of; whereas the mathematical instant makes an operative sense of the mobile object having a velocity at a time, Zeno's logical instant wants to deny just that: that the arrow at any instant of no duration necessary to think of it as being, has also a velocity. It follows that, since time is only made of such instants, it cannot explain the movement.

The alternative b), the divisibility of this segment *ad infinitum*, which is Aristotle's solution, means that every smaller segment of time that we will consider can be further divisible. So, for example, we can consider the segment of time T3 correspondent to three seconds, in which the arrow has travelled for thirty metres. Zeno's question in this respect will be: how can we adequately conceive the movement of the arrow across this space in time? We know, it is evident to us, that the arrow has covered this space, but when we go with our concepts of time and change, to analyse the movement of the arrow we have to admit, with Zeno, that movement is inconceivable.

In fact the arrow in its moving from P2 to P1 can cover the distance of thirty metres only if it has previously covered smaller distances. For example it has travelled first for one metre, then for five, then ten, twenty and so on. That is, the movement of the arrow in these three seconds is comprehensible only as consisting of movements corresponding to smaller segments of time. The arrow, in other terms, does not move in a sudden and discrete way from P2 to P1, but has to pass through all the points between P2 and P1. These correspond to smaller and smaller distances that the arrow gradually covers, presumably. Now, Zeno points out that if the arrow has to pass through all the points between P2 and P1 and must be in each of these points identical with itself, that is in each point must be in an identical position or it would not be at all, in each of these points the arrow is at rest. Now, because apart from all the points between P2 and P1 in which the arrow is at rest, there are no other points between P2 and P1, when and where can the arrow be thought of as moving? The arrow does not "really" move, is the answer of the Eleatics. Still... the arrow moves. Therefore, the movement and not the identity is the real being, claim the pluralists on the other hand. But this movement, we have to acknowledge, has become, at least, problematical as we cannot give a logical explanation of it, but simply swear by its evidence or as those opponent of Parmenides once did, start stubbornly walking up and down to prove that movement does exist. But if we

have understood Zeno's point, we will not do any such thing, because Zeno's argument is not about factuality, but about the adequacy of our concepts in giving a logical account of this factuality. Zeno's point is that an explanation of movement that starts from the given plurality of our concepts of change, is, as far as an understanding of reality goes, as much a failure as is the Parmenidean identity (but this at least did not try to explain change). In fact we cannot deny that the arrow transiting through all the points between P2 and P1, is always, when we think of it, at rest in one of these points, because there is nothing else apart from these points, between P2 and P1 and all the space between P2 and P1 correspond to a certain point where the arrow must be found at rest. It is again the principle of the excluded middle, as an extension of the identity principle that comes back to bring a constraint on our capacity to conceptualise the plurality or change.

Now, what we have to say, to go back to Aristotle's "solution", is that, while for Zeno each of these points corresponds to an instant with no duration in which the arrow can be thought of as identical and therefore as being, for Aristotle each of these points is always a further divisible segment of time, so that the arrow does not have to be at rest. Aristotle's "solution" then, only delays the real problem which is: how to conceive movement in a duration? and it is directly open to the objection of my paradox of duration and happening. In fact, we can see immediately that each of these segments, being a certain duration cannot be covered by the arrow simultaneously, but the movement of the arrow, corresponding to this duration, will be reducible to smaller and smaller segments of time and space, which, for being themselves always a duration cannot be covered simultaneously, but always consist of smaller segments through which the arrow has to transit before it covers a certain distance. This, obviously, *ad infinitum*, because, as long as there is a duration, this cannot correspond to a real event or movement, or this would be a movement occupying a duration in which nothing happens, in which there are

no sub-movements. But this is a contradiction in terms that does not provide a logical concept of movement. In fact, we have seen in the previous section, if this duration corresponded to a real event or a real movement taking place in it, this paradoxically would not be a movement but, not consisting of further sub-movements and covering a duration, it would be a rest, an immobility. In other words, a non-sense.

So I am not arguing against Aristotle that time is not potentially divisible *ad infinitum*. I am rather saying that because of this unavoidable divisibility, as the only alternative to the immobility of the Zenonian final instant in which the arrow is at rest, movement cannot be reached within our concepts of duration and extension.

So, once again, we find that a segment of time as duration, makes it impossible to conceive of something really happening, really taking place in it, because an arrow to move must move from one point to the next one, but if these points correspond to an always virtually divisible time-slice, the arrow can never be thought of in its actual movement because there will always be a smaller duration with a smaller movement and then a smaller one and so on, *ad infinitum*, for the arrow to cover any considered distance, however small. So we can never track down the time-slice when the movement has really happened simply because it is inconceivable that to a duration could correspond a real movement and not just a description of sub-events. I claim, therefore, also in the light of Zeno's paradox, that we can think only of a phenomenal movement which consists always of sub-events, none of which is real because it is happening in a duration in which if there aren't further sub-events, there is immobility.³⁷ Asking for more than this, that is pretending that the movement we observe and by which "phenomenal" evidence we could swear, is "real" in the sense of Realism, creates the paradoxes we have just described.

³⁷See also the paradox of the stadium.

All that is left to say about the arrow paradox is that while Zeno points out the impossibility to conceive of movement as really taking place, on the other hand he himself falls in a paradoxical concept: that of an instant as absence of time, as no duration in a temporal framework, since this is the framework where Zeno still places change. The problem is that Zeno needs the instant to think of the arrow as being, but, he points out, there is no rational way to think of the movement of the arrow the way we can think of its being. Zeno himself, then “confuses” in his paradox the two levels of being, the Parmenidean identity, and of phenomena. The arrow that is in the instant identical with itself, cannot be the arrow that moves. The arrow at an instant, is an ideal, an abstraction of our thought that never exists in the reality that we experience and in which we experience movement: the phenomenal reality. Because in this reality there aren’t Zenonian instants, but only Aristotelian time-slices further and further divisible, at least in theory. So, for Zeno, changes or movement are inconceivable because we can only think in terms of instants, that is we can only think in terms of rational being, while changes need duration and plurality to happen.

This concept of “instant” is the root of the paradox of the arrow and, as I said, the key to understand it. This is what we have to get around in order to get out of the impasse of the Eleatic immobility. In fact it is incorrect to assert that the arrow does not move in time, because the arrow that we know, the phenomenal arrow, we know it only in time, we never know it at an instant. If there is an arrow, then, this is in time.³⁸ The important thing is to accept that

³⁸Bergson’s position in this respect was very strong. According to him, the reality that we know is only movement and “...immobility being only the extreme limit of the slowing down of movement, a limit reached only, perhaps, in thought and never realised in nature.” and so “...it is movement that we must accustom ourselves to look upon as simplest and clearest...” So, he argues, the problem of movement, since antiquity, has been misconstrued, for what we have started from is immobility. Whereas, he claims:

The positions of the moving body are not parts of the movement; they are points of the space which is supposed to underlie the movement. This empty and immobile space which is merely conceived, never perceived, has the value of a symbol only. How

this is a phenomenal arrow and that its movement is a phenomenal movement, therefore, a movement we cannot track down in its real taking place beyond the endless series of phenomenal descriptions which, as we have seen, cannot be all taking place in a realistic sense, as this would create an overcrowded and impossible ontology.

Zeno's arrow is, then, consigned to immobility because its "real" movement, the one we should conceptualise in its actual taking place, is still thought of in a temporal dimension, in which there can only be what we have called "nominal" events. Only by clearing up Zeno's confusion between being and the phenomenal that his own master Parmenides had kept strictly separate, can we resolve the paradox of the arrow and save the phenomenal arrow from the immobility in which the arrow as "being", the one we never experience, had confined it. But, here, Zeno indirectly points out something important: if you want to talk about the arrow as this "being" than you have to give up the movement, that is, if one wants to talk of the "real" arrow, one has to give up phenomenal concepts. But this is something we can't do and must not try to do, as we can only talk of the phenomenal arrow and of its "nominal" movement.

This, I believe, is the teaching we should draw from Zeno's paradoxes: to not unproblematically take phenomenal concepts as being able to describe ultimate entities. This teaching has been ignored by all those who have tried to solve his paradoxes, either by ignoring the dichotomy that makes them simply compulsory, or by trying to resolve this dichotomy, with **abstract** mathematical

could you ever manufacture reality by manipulating symbols? (H. Bergson, *An Introduction to Metaphysics*, pp 44-45.)

While I totally agree with Bergson's criticism of the abstract symbols used by metaphysics in the attempt to manufacture reality, and with the idea that the paradoxes of movement are born of a confusion between the phenomenal and the logical level, I do not agree with his dismissal of the relevance for our thought of the problematic nature of change and movement. He claims that it is movement we must accustom ourselves to look upon as the simplest and clearest, but as a matter of fact, I reply, it is not the simplest and clearest concept for our thought to grasp, as I have tried to show.

devices that should bring **concrete** dynamism into the One, but consistently failing to do so.

We can resolve, in the narrower sense of understanding, Zeno's paradox only if we acknowledge the "paradox of phenomenal observation". This says that time is the dimension of phenomenal events and that in a duration "real" change cannot take place because an event that does not simply consist of other sub-events, if it occupies a duration, is an immobility rather than an event.

An arrow that moves, then, must not be thought of at an instant because instants are abstractions which we never experience when we experience the movement of an arrow or of any other object. This is why applying the concept of instant or identity to the level of experience, Zeno confuses the two levels of Being and of the phenomena which goes against Parmenides' prohibition itself. Zeno, then, creates with this "confusion" a paradox and, in a way, rightly does so, because the Pluralistic school was claiming that the movement, not the Being, is "real" or rationally true. He demonstrates then, that movement cannot be conceptualised with the same rationality with which we conceptualise being. Obviously, I believe that they were both wrong: the pluralistics for believing that movement could be rational or "real", and Zeno for bringing together in a paradox the identity of being and the phenomenal movement and so creating with this "confusion" of levels, his paradox. These two levels of the identity or rational truth and of the plurality or contingent truth, must be kept strictly separated as claimed by Parmenides.

My answer to Zeno's paradox, like my answer to the paradox of "phenomenal observation", is that real movement does not exist in time, in time only phenomenal movement exists, and this is phenomenal because it can only be described as it appears to us in an endless series of sub-events. Whereas if we could conceptualise it the way we conceptualise identity, we would then know what is really taking place in "reality", a real change, if there is such a thing. But it is not so. I do not know the reason why it is not given to us to know this

“change” in itself at the end of the endless series. All my paradox shows and wants to show is that things are in this way: reality, as what really takes place, is out of our reach. If there is such a thing as Reality, where something finally takes place and does not simply consist of more and more sub-events – and I personally believe it exists – it must be in an extratemporal dimension, as our concepts of time and happening cannot account for it.

CHAPTER FOUR

IS EMPTY TIME CONCEIVABLE?

a) Introduction.

My argument about the correct way to think of events and our observation of them, seems to be in conflict with and could be disproved by the claim, made by certain philosophers, that empty time is conceivable: that it is logically possible to conceive intervals of time in which nothing happens. The connection between the paradox of phenomenal observation and the idea of empty time can be spelled out as follows.

Remember that a central assumption of the argument of chapter three is that all events have sub-events as parts. We could put this by saying that there are no 'simple' events. Now these putative simple events could be of two kinds:

(a) 'point' events – events which happen 'at an instant'.

(b) 'empty' events – events which take time to happen, but 'inside' which nothing happens.

Now, in section (d) of chapter 3, I argued against the idea of a point event, when discussing the various 'solutions' to Zeno's paradoxes. My present aim is to argue against the idea of an empty event.

If the notion of an empty event is to be conceivable, then the notion of empty time must be conceivable too. For what is an empty event if not a period of time where nothing happens? So, the conceivability of empty events entails the conceivability of empty time. Therefore if empty time is inconceivable, empty events are too, and the argument of chapter 3 is preserved.

Some philosophers, however, have claimed that empty time is conceivable. I shall, therefore, discuss these claims about empty time, to try and unveil the fallacy involved in them, deeply rooted in a typical misconception of those concepts of happening, instant, duration and so on that I have been clarifying in the previous chapters and that this discussion will give me the

opportunity to expound further. Before beginning this discussion, let me first say where I think the burden of argument lies. It is evident that according to commonsense, time and change are intimately linked. So from the perspective of commonsense, empty time is hard to make sense of. Accordingly, those philosophers who believe in empty time have to make a case for it themselves. The burden of proof rests with them. I will take my case to be completed, then, if I can refute their arguments. I do not *need* to prove that empty time is inconceivable. However, further arguments to this effect are given in chapter 5 if they are needed.

In my refutation of these claims I will refer mainly to two major representatives of this current: S. Shoemaker and W. Newton-Smith.¹ I will refer to their thesis as 'antireductionism', i.e., that philosophical position that challenges Aristotle's claim about time, made in book XII of *Metaphysics*.² There he holds that there must be eternal substances which never could have come into being as they must have always been. Otherwise it may even be possible that nothing would be at all. These substances he calls actualities, and they must be in fact actual since ever as what is only potential may possibly never be. Motion is one of these actualities and of it Aristotle says that it is impossible

either that motion should have come to be or that it should perish, for it always existed.³

In fact, if it was at any stage only a potentiality it may have never come to be.

He writes:

..and the same it is true of time, for there cannot be a before and an after if there is no time. Motion is continuous, then, in the sense that time is; for time is either the same as motion or a property of it...⁴

¹Shoemaker, S. (1969), 'Time Without Change', *Journal of Philosophy*, LXVI, pp.363-381; W. Newton-Smith, *The Structure of Time*. ch. 2, pp. 13-47.

²St. Thomas Aquinas, *Commentary on the Metaphysics of Aristotle*. For a brief discussion of Reductionist and Anti-reductionistic views about time and change see: B. Van Fraassen, *An Introduction to the Philosophy of Time and Space* and W. Newton-Smith, *The Structure of Time*.

³St. Thomas Aquinas, *Commentary on the Metaphysics of Aristotle*, 5:1055, p.876.

⁴ibid.

On the opposite side of Aristotle's *reductionism*, there is *Platonism* which considers time as a system of temporal items that necessarily exist independently of things in time, that is independently of change. A strong example of the platonic position can be found in I. Barrow. In his '*Geometricae lectiones*' he reacts radically to Aristotle's claim about time being an aspect of motion:

But does time not imply motion? Not at all I reply, as far as its absolute intrinsic nature is concerned; no more than rest; the quality of time depends on neither essentially; whether things run or stand still, whether we sleep or wake, time flows in its even tenor. Imagine all the stars to have remained fixed from their birth; nothing would have been lost to time...⁵

Analogous and even stronger was Newton's position:

Absolute, true and mathematical time of itself, and from its own nature flows equably without relation to anything external, and by another name is called duration...⁶

I personally sympathise partly with reductionism, and in particular I subscribe to the thesis that time cannot be conceived except in terms of motion. (Indeed, my argument in chapter 3 presupposed this.) Though I would not commit myself to the thesis that time and motion did not have a beginning nor shall have an end, mainly because I do not understand the words 'beginning' or 'end' used in an absolute way, so whether they had beginning or end I think should be cognitively indifferent to us and we just shouldn't talk of these things.

I would not endorse the Aristotelian thesis that claims that there could not have been a beginning because we cannot think of it without thinking of what happened before it, the reason for this being that we only know what has a relative beginning and a relative end. I must say that I am rather in favour of a

⁵J.M. Child, *The Geometrical Lectures of Isaac Barrow*, pp.35-37.

⁶F. Cajori, *Sir Isaac Newton's Mathematical Principles of Natural Philosophy and His System of the World*, pp. 6-8.

Thomistic⁷ solution of this problem: I refuse to make the inference from “That is how we cannot but conceive of it” to “That is how it must be”. But I will come back to this later.

I have to say on the other hand that I do not have any argument against a platonic concept of absolute space and time as extramundane entities existing before and independently of the “created world” to use Barrow’s terminology. I regard this concept as ultimately a dogmatic belief that could not help to explain or understand our concept of time, but that creates a concept of time as ultimately founded only on this dogma.

I also have to say at this point, making a brief digression, that it strikes me that though these platonic views are historically linked to a theological context, the arguments in their favour are often paradoxically dangerous from a theological point of view as they undermine altogether the possibility itself of creation by an omnipotent, perfect creator. Let’s take for instance Clarke’s argument against Leibniz’s notion of time and extrapolate from it this central claim: ‘if you do not accept the independent existence of absolute time, than you cannot hold that the world was created. For if it can be asserted that God created the world, then it can be asserted that God could have created the world sooner than he actually did. But what this means is: God could have created the world at a time prior to the actual time of creation. And if time is not independent of the existence of the world, then the instant of creation is the first instant’. I agree with Bishop Berkeley who described the similar views of Barrow as “materialistic and atheistic conceptions”; these views in fact tend to attribute independent existence to time and space and to remove God from the cosmological system in their favour. Doesn’t Barrow say that:

⁷cfr. Aquinas, *Commentary on the Metaphysics of Aristotle* XII., L.5:C 2498. See also I. Wilks “Aquinas on the Past Possibility of the World’s Having Existed Forever” *The Review of Metaphysics* 1994, Vol. XLVIII, N°2, pp.298-329.

there was Space before the World was created, and that there now is an Extramundane, infinite space (where God is present)⁸.

But more than the extramundane existence of space it is the pre-existence of time before the creation, or the creation “in time”, that presents a big theological impasse, the sort of impasse that St. Augustine had to face when trying to define the problem of creation. I agree, in fact, with St. Augustine that this is the kind of argument that impairs and diminishes the perfection of a God of creation⁹. For what does it mean, if it means anything, that if one accepted that God created the world, one has to accept that he could have created it sooner? (Clarke’s argument) What does the introduction of the adverb ‘sooner’ in the act of creation involve if not the introduction of contingency and therefore imperfection in the act of creation? If there was a sooner and a later in the dimension in which God created the world, this makes one wonder why he created it at all: was he before his creation less perfect? What reason could he have that he didn’t have before? That is, how could God in his unchanging perfection mutate his mind? If creation is conceived in this temporal dimension, his artificer ceases to be the immutable perfect Being that we understand him to be. The only way out of this impasse is the one that St. Augustine argues for: that God created the world *ab aeterno*, in that dimension that is His dimension where there isn’t the successiveness of time as experienced by humans, but everything must be present at once. This *extratemporal dimension* is not given us to understand, but this does not mean that it doesn’t exist, argues St. Augustine. It must necessarily exist to get out of the impasse about creation for St. Augustine, as it must exist for me to get out of the impasse of observation and

⁸See W. Newton-Smith, *The Structure of Time*, p7.

⁹In his *Confessions* Augustine writes: “If, however, someone’s mind is flitting and wandering over images of past times, and is astonished that you, all powerful, all creating, and all sustaining God, artificer of heaven and earth, abstained for unnumbered ages from this work before you actually made it, he should wake up and take note that his surprise rests on a mistake. How would innumerable ages pass which you yourself had not made?...Time could not elapse before you made time. But if time did not exist before heaven and earth, why do people ask what you were then doing? There was no ‘then’ when there was no time.” (p.229-230).

happening, as I have argued in the previous chapter. I just want to conclude this brief digression by stressing that this kind of argument for the extramundane existence of time should not be based on the fact of creation, because if it is true that God created time, He certainly could have not created the world “in” time.

I do not wish here to indulge further in an historical review of the debate between Aristotelian reductionism and Platonism¹⁰. Let me just say that the position of the antireductionists is not of a platonic sort as they are not absolutely committed to “a view of time as necessarily existing independently of all things in time”¹¹, and in fact their thesis involves “some actual events in relation to which the temporal vacua can be identified”¹². But what exactly their positions are we are now going to see in detail.

b) Some preliminary considerations

Before analysing in detail Shoemaker’s argument I need to make a methodological premise in order to help the reader to understand which are the real terms of the discussion and what is really at stake here.

Let me spell out, then, that the claim that are possible or conceivable temporal vacua, or that it is conceivable a time in which nothing happens in an otherwise changing reality, is not substantially different from the claim that there can be a reality without change for a “while”. In fact, I hold, they are totally interdependent claims and probably one and the same claim. If it wasn’t so the expression “temporal vacua” would become meaningless: a pure assertion of vacuity, as we shall see. By saying this I don’t want to dispute (at least not at this stage), the ontological possibility of empty time but just the logical conditions for the meaningfulness of this expression “temporal vacua”

¹⁰For an historical discussion see B.C. Van Fraassen, *An Introduction to the Philosophy of Time and Space*.

¹¹W. Newton-Smith, *The Structure of Time*. p.46.

¹²*ibid.*

which must be kept strictly intertwined with that of an unchanging reality in order to preserve any informative power. Let's see why.

"Temporal vacua" is not an expression which, strictly speaking, can be immediately and unproblematically accepted as meaningful. Its meaningfulness depends, in fact, on a presumption. The presumption on which it is founded any argument in favour of empty time: that Reality can 'stand still' and persist in a state, even when any change is removed from it. For a reductionist this alleged absence of change will have as consequence an absence of time and reality altogether; a reductionist would not allow that the absence of change could occupy an empty interval of time in which reality stands still. So the expression 'temporal vacua' will be for him an assertion of total vacuity and, strictly speaking, meaningless. For a reductionist, in fact, time is not conceivable without change and where time is not conceivable without a changing reality, this absence of change signifies an absence of reality altogether. What I am going to argue, in fact, is that the antireductionists can entertain the concept of temporal vacua or time without change, because of several presumptions, and that without these presumptions, their arguments in favour of "empty time" could never make sense.

The first thing to point out now is that, given that vacua are predicated of time, time needs to be logically prior to a particular situation of alleged vacuity. It needs to preserve a character of its own even in the absence of events, or this vacuity would overwhelm it, becoming "vacuity" of time itself. This is what happens, in fact, when time is dependent on an ever changing reality for its characterisation, as it is in a reductionist account: time, then, stripped of change would be overwhelmed by this vacuity which would mean an absence of time itself. But what is this character that time has over and above the attribute of vacuity of events, and allows us to talk in a meaningful way of "temporal vacua"? This character can only be that of flowing, of passing away, like the Barrowian time that exists in the extramundane space and flows before

the changing world is created. Only in this sense can we conceive of an absolute time which subsists also in situations of absence of change: this absolute time flows in such a way that instead of having total absence of time and reality when there is no change, we still have Time. But unlike the Barrowian *extramundane* time, existing before the creation and before any change, the dimension in which the modern anti-reductionist's time flows, even without change, is the ordinary reality, the "created world", the one that otherwise changes. So where for an Aristotelian reductionist the world, motion and time are *actualities* that have always existed and will never cease to exist because if they did, even for a short while, nothing may ever be anymore, for an antireductionist to talk meaningfully of time over and above change requires the presumption that a reality, a world that normally changes is conceivable also without change or motion. This is the radical difference between *reductionism* and *antireductionism*: the reductionist believes that Time and Motion are actualities with which it is conceptually impossible to tamper, for otherwise they may never come into being anymore, whereas the antireductionist believes that it must be possible to withdraw movement from reality without any grave conceptual implication.

In fact, the modern anti-reductionist claims to not be a Platonist for whom time would exist independently of change and a changing reality ever. The expression "temporal vacua" can be more than a pure assertion of vacuity (as it is in the reductionist's universe), only if what was otherwise "full" of change, subsists also when it becomes empty of change. And since changes of which time is otherwise full take place in a reality, a "created" world or however one wants to call it, it is this reality that must be conceived as subsisting without change, in order for the antireductionist to conceive a changeless time, in order for him to even think of empty time. This reality from which motion is withdrawn for a "while", is not the extramundane space of the Cambridge Platonists where change has never happened, but the "created"

world. Antireductionists such as Shoemaker and Newton-Smith are not committed to a concept of time existing even if change had never taken place in a reality, but to a time that flows also if in this reality in which changes otherwise take place, happened to stop for a “while”. This is why their claim that a time without change is conceivable rests on the claim that a reality, is conceivable also as unchanged for a “while”: that the *created world* can, in principle, be thought as existing also without motion, which should be impossible for a reductionist.

But the presumption that a reality or a world without change for a “while” is conceivable, needs another important presumption which must be given before any argument can be produced: that there is a time in which this reality stands without change for a “while”, a time that still flows¹³ measuring the “time” in which this reality stands unchanged. That is, one must presuppose (as I argued in the beginning) that time is an absolute framework that flows in any case with or without any change. In this sense, I think, time could be conceived also if change was never given, because if it has to flow also when there is no change and mark as an interval of time the reinstatement of change in reality, then it needs to be an absolute time ever independent in itself of any change. This would plainly equate the antireductionistic position to the platonic one. But this platonic conception of time is not what the antireductionists wanted to argue for, as they didn’t want to totally deprive time of any connection with change.¹⁴ Unfortunately I don’t think they can escape this platonic concept of time totally independent of change in principle.

What we are facing here is a vicious circle. One cannot argue for a concept of time subsisting also without change but always in reference to an otherwise changing reality, if one does not argue tout court for a platonic

¹³I talk about time ‘flowing’ but I do not mean by this to get involved in the debate about A-series and B-series views of time. See in this respect H. Mellor in *The Philosophy of Time*, (eds. Le Poidevin & MacBeath) pp. 47-59.

¹⁴There would be obviously no point, in this case, in arguing for “empty time”.

concept of time as existing and being conceivable even if change was never given. In fact for time to pass also when changes don't happen and so have the concept of a change reinstated after a certain "time", one needs to suppose that time is an external framework in principle independent of change. One could object that you don't need to be committed to a tout court platonic concept of time conceivable in principle without change, but that one could conceive time as created with change (or needing change in principle) to be conceived but that flows nonetheless, also when there is no change. But if time goes on also when all changes stop for a time, I ask, why shouldn't time go on also if change stops forever like in the Barrowian concept of time? What logical reasons could there be then, for time to not exist? I can't see any unless one decides that it should be so in a design of creation, but this wouldn't be a philosophical argument. I think it necessarily follows from the fact that time flows also when changes stop for a while, that this time would flow even if any change should stop forever, or even if change had never existed. I don't see any argument in sight to differentiate, in principle, the antireductionist time from the tout court platonic time.

Returning to the previous considerations we can say that the claim that temporal vacua are conceivable is the same as the claim that a reality unchanged for a while is conceivable, because the expression "temporal vacua" is meaningful and not a simple assertion of vacuity only if we allow that a reality can stand unchanged for a "while" and so break the reductionist equation reality=change or motion, of which time is but a 'numerable' aspect. For this we need to conceive time as an aspect of a reality which can be changing and unchanging, but this in its turn presupposes that time is an absolute time ever independent of change, that is, to flow, it does not need change in principle.

c) Why does Shoemaker's argument appear plausible?

I want to stress that if you don't take for granted that time is this absolute external dimension, you cannot attend to produce any argument in favour of "temporal vacua" as intervals of time in a reality that merely fails to change for a while. Shoemaker does not produce any argument that could demonstrate preliminarily that time is this dimension that flows...nonetheless; this is therefore given as a dogmatic assumption. Shoemaker's argument, as a matter of fact, is founded on this dogma: if he didn't take it for granted, it would remain undecided, given his fantasy world that I am soon going to describe, whether one should assume as relevant framework an absolute time and so talk of unchanging reality for a certain time, or rather a local time relative to the rate of change of the so called "frozen" system. In this case, as I will argue, there wouldn't be absence of change for a time, but one could postulate a different rhythm in the change, which could have become faster or slowed down without having to talk in reference to the system of a time empty of changes, and without committing ourselves to a judgement on the structure of reality as made ultimately of *changeless states* and *changes*.

It is necessary at this point to recall for those who are not already familiar with it, the structure of Shoemaker's argument. He asks us to imagine a world which is contained in three small regions, A, B and C:

These regions are separated by natural boundaries, but it is possible, usually for the inhabitants of this world to pass back and forth from one region to another, and it is possible for much of what occurs in any of the regions to be seen by observers situated in the other regions. Periodically there is observed to occur in this world a phenomenon which I shall call a 'local freeze'. During a local freeze all processes occurring in one of the three regions come to a complete halt; there is no motion, no growth, no decay, and so on. At least this is how it appears to observers in the other regions. During a local freeze it is impossible for people from other regions to pass into the region where the freeze exists, but when inhabitants of other regions enter it immediately following the end of a freeze they find that every thing is as it would have been if the period of the freeze had not occurred. Eggs laid just prior to the beginning of a freeze lasting a year are found to be

perfectly fresh....And this remains so even when they make the finest measurements, and the most sophisticated tests, available to them.....However things will seem out of the ordinary to any inhabitant of a frozen region who at the beginning of the freeze was looking into one of the other regions. To such a person it will appear as if all sorts of major changes have occurred instantaneously in the other region....Although people might initially refuse to believe that events that seem to them to have only just occurred in fact occurred a year before and that they have been unconscious for a full year, it would seem that they would eventually come to believe this after hearing the reports of observers from the other regions and, more important, after they themselves have observed local freezes in other regions.¹⁵

One last thing I need to emphasise: the so-called frozen region is concealed to the others by an impenetrable curtain, so that no one can see what is going on (or maybe we should say what is not going on) in the frozen region. In Shoemaker's argument we are presented with the hypothesis of time without change in single regions. So we have temporal vacua in single regions. My strategy will be to show that since the hypothesis of empty time is not the most favourable explanation for what goes on in single regions, we have no ground to extrapolate from this to the idea of a total freeze.

It is important to emphasise the structure of Shoemaker's argument. Shoemaker is not arguing directly that empty time exists. His strategy is to refute an argument *against* the possibility of empty time. This argument is that we could never have a reason to believe empty time had happened. Shoemaker attempts to refute this by describing a possible situation of which the best explanation is that a period of empty time has occurred. So there are, obviously, at least two ways in which one might criticise the argument: one might argue that the situation he describes is not really conceivable or possible; and one might argue that even if it is, the hypothesis of empty time is not the best explanation of the situation. As we shall see, I shall take the latter approach. But I shall also argue in the next few pages that Shoemaker's argument ultimately presupposes what it sets out to establish.

¹⁵Shoemaker, S. (1969), 'Time Without Change', *Journal of Philosophy*, LXVI, pp.369-370.

Our exposition of Shoemaker's argument can stop here. There is no need to go onto the following argument in favour of a total freeze of this Universe, as the extrapolation from the local to the total freeze is based on the plausibility of this belief in the occurrence of a total halt of any event in a frozen region. Since we reject that this belief is the most plausible and the most preferable, we don't need to worry about the rest of his argument. On the plausibility of this belief, then, we shall concentrate our attention.

I have been arguing that this belief already presupposes that the inhabitants of this universe are strongly inclined to believe that time is an absolute, external dimension, otherwise why wouldn't they presume that the rate of change has slowed down or increased when a region is concealed to the others? This would just be a phenomenal judgement, an observational inference, as one wouldn't be saying that such and such real thing or mechanism has slowed down, but that whatever is that underlies phenomenal happening – which presumably has not been unveiled yet in its final structure by their scientists like it has not been unveiled by ours – appears as if it had slowed down. Instead Shoemaker simply presupposes that the structure of this reality could be such that it can stand there unchanged between two changes. This is why, I think, he devises this fantasy world and to resolve the problem of detection he proposes the trick of the impenetrable curtain. In this way he seems to feel entitled to assume that this reality subsists unchanged in total immobility under the impenetrable curtain. The proof of this is that when it comes back to life and the curtain disappears it will appear to the other regions as unchanged, in the same state in which they saw it before it disappeared. Now because this reality cannot just have vanished while it was concealed by the impenetrable curtain and reappeared unchanged after a certain time¹⁶

¹⁶And why not? One could legitimately ask. Since the occurrence we are asked to imagine is in itself already so alien to any ordinary experience? I personally cannot see, once the field is swept of any metaphysical prejudice, by which standard one of the two occurrences should be more or less outrageous than the other.

Shoemaker claims that it would be fair to assume that this world must have been there unchanged for whatever time has elapsed in the other regions. But I claim that this idea of a reality conceived as being there unchanged for a while can only be a presumption based on that other presumption of absolute time, as we are going to see better. On these presumptions the argument is built rather than compelling us towards them as its logical conclusions.

To the claim that this reality was there unchanged for some time, I would prefer and propose another solution: that this system which is, in fact, concealed by an impenetrable curtain is unknowable, out of the reach of the other systems because it has gone into another temporal dimension, so that the systems have become incommensurable. This, I am aware, sounds very obscure and even more difficult to accept than Shoemaker's solution because it has "apparently" less explanatory power, but, in fact, if one overlooks the fact that we don't really understand what it means to be sucked in a different temporal dimension because we don't have any experience of such a phenomenon, just as we don't have one for Shoemaker's unchanged reality, this solution is still preferable because it is not based on any presumption about the structure of reality but it just interprets a phenomenal fact with phenomenal notions. The *onus probandi* that his solution is preferable lies with Shoemaker, but he can't do that without presuming that my solution is untenable because we should, for some never explained reason, use as framework an absolute time, rather than taking time to be an aspect of change, as it would be in my solution. This is what we are now going to discuss at length.

First I have to say, to make my position about Shoemaker's argument totally unambiguous, that I don't think, as it should be clear from the previous chapters, that we can talk (even in hypothetical terms) of reality in its real changes and states because we don't know if there are such things at all. I don't know if Shoemaker is aware of it, but that is exactly what he ends up doing when he talks of a reality in an unchanged state, or when he talks of the first

change after the immobility of the freezing and so on. These are very strong metaphysical implications, on which the favourability and plausibility of his interpretation ends up relying completely, and that ought to be argued for. One could object that these are not presumptions but is the conclusion towards which the inhabitants of the three regions are forced by the unusual happenings. I have to strongly disagree with this, because only one who believes that there are states and changes in the real structure of reality can devise such a situation, and more importantly can interpret it the way Shoemaker does. In fact this fantastic situation is biased in the very way it is built, as it hardly disguises the premises on which Shoemaker bases his interpretation of it. I could have never conceived of this fantasy world and even less of the interpretation that Shoemaker gives of the happenings, not because I couldn't have thought of it but because the all fantasy presupposes already that it is very likely that reality is such and such in its ultimate essence, or Shoemaker's conclusions about these abnormal events wouldn't be the favourable one.

The question that is immediately prompted to us when we are faced with this argument, is in fact: could this fantasy of Shoemaker have happened the way he describes and interprets it? and in which kind of reality? The answer, I believe, must be: in a reality whose structure consists ultimately of changes and states where these latter account already for empty time. Therefore a reality in which empty time is taken for granted. As it happens, Shoemaker's interpretation of the story never provides an argument for the likelihood of a reality consisting in its structure of states and changes, but it just presupposes it as an implication of his hypothetical argument. This is a real flaw in his argument, because without this step he will not have any ground to refute my alternative interpretation of the story and show why his interpretation should be the most reasonable one in virtue of its plausibility, and therefore able to prove the existence of empty time. I firmly believe that he could defend his line

of interpretation only if he had assessed somehow in advance that it is most likely that reality is made of states and changes. But then it is also true that if he had been able to demonstrate this assumption, he would hardly need any further argument in favour of empty time. As a matter of fact in order to argue for empty time all you need to know is that reality is constituted of changes and states. If we allow that reality is so constituted, then we already know of the existence of empty time. In fact, it will be empty whatever length of time that elapses between two successive changes. This is in fact what Newton-Smith claims in his simplified version of the Shoemakerian argument.¹⁷ What Shoemaker is suggesting with his argument is that reality is made of states and changes, a premise without which he could not produce the kind of argument he produces, and, especially, give the interpretation of it that he gives. Newton-Smith understands that the suggestion is enough without the need of Shoemaker's fantasy:

But the smallest temporal vacuum is just as threatening to the reductionist as the big one.¹⁸

where this small temporal vacuum is the time that allegedly elapses between two discrete changes.

To be fair to Shoemaker, I must point out that in arguing that the idea of states and changes simply introduces the idea of empty time, I am myself making an assumption. The assumption is that time as we experience it phenomenally is dynamic: that it involves the perpetual passing away, the flowing of one thing becoming another. A defender of empty time might say "this is only how we *experience* time; how time *is* in reality is a different matter". Fair enough; but if they want to go beyond the phenomenal, to say something about time itself, the burden of proof is with them, as I remarked at the

¹⁷W. Newton-Smith, *The Structure of Time*. ch. 2, pp. 13-47.

¹⁸*ibid.*, p.24.

beginning of the chapter. They have to *establish* their claims. I rest only on the phenomenon.¹⁹

So I will argue that if the structure of reality as made of changes and states weren't in fact conceded as a premise, Shoemaker and the inhabitants of this fantasy-universe would have no ground and no reason to favour his line of interpretation against alternative ones, such as mine, for example, and therefore to argue that with such happenings going on, it would be reasonable to believe in empty time. But I am also going to argue that the assumption of this premise does not yield Shoemaker the flawless results he hoped for.

d) An alternative interpretation of Shoemaker's fantasy.

Let's suppose that there are two otherwise synchronic systems A and B, and that at a certain point in their history an instant of A corresponds to one year of B; when this happens they are concealed from one another by an impenetrable curtain. There are now two ways to interpret this situation. A phenomenal one that does not commit us to any statement about the final structure of reality and that does not propose a real explanation of what is happening. Taking this line of explanation we would have to say that in the system A the rate of change has simply slowed down, without pretending to know what this means, just like one does not know what it means the rate of change in the system that has not slowed down²⁰, actually in this case one could not really say if one of the two systems has slowed down or the other has speeded up. In this perspective, in relation to the system that has slowed down time simply hasn't passed. Besides, the two systems would have also become incommensurable because they would have been sucked in two different

¹⁹Here I ignore for convenience the earlier arguments in chapters 2 and 3 about the impossibility of knowing reality.

²⁰As I have been arguing, in fact, we don't know what change is in any case, also in a "normal situation".

temporal dimensions, this is why they would be concealed from one another by the impenetrable curtain. As I said, one does not need to worry that this situation is not intelligible by us as we don't have experiential referents to understand what it means to be "sucked in a different temporal dimension" and therefore become temporally incommensurable with another system. These hypothetical situations have only to be consistent in order to offer a viable alternative to Shoemaker's interpretation based on the two presumptions of an *unchanging reality* and of *absolute time*. Shoemaker's thought experiment in fact is not helping us to decide whether we should opt for relative or absolute time in reference to the three regions. Even less it is demonstrating that reality can be unchanged for a while, but it is simply showing that, given the 'likelihood' that time is absolute and reality made of changes and states, there is no better interpretation, no question, for example, of a different rate of change which in principle shouldn't be more absurd than a total absence of change. But this 'likelihood' that should be a conclusion towards which the argument compels us, is, instead, a premise without which Shoemaker's interpretation does not follow.

But Shoemaker cannot pretend that every one shares his "presumptions". In fact either the Shoemakerian argument is an ad hoc argument (that is one knows already that this reality is ultimately made of changes and states) or its structure is **unknown** and the events described open to interpretation. If the latter is the case then one who believes that time is a "numerable aspect" of change could presume that the rate of change has slowed down in A, without this meaning that there is in A an unchanging reality for a time of B. The two systems are simply incommensurable as they belong to two temporal dimensions. In fact just like in the fast "system" one cannot get down to the rate of change and find the immobility between two changes (even though there should be also there an immobility), so no one can

do that in the slowed down system. Whatever there is between two changes and if there is such a thing as a final change and state, it is not known by us.

Let me emphasise what I take my response to Shoemaker to be doing. I offer an alternative account of what is going on as an explanation of the story Shoemaker describes. In itself, of course, this does not *refute* the hypothesis that empty time is unintelligible. The existence of two incompatible theories of the same phenomena does not show that one is right and the other wrong! But it should begin to undermine confidence in the idea that empty time provides the *best* explanation of the phenomena. If there is another coherent explanation which is more in harmony with the phenomenal conceptions of time and change, then we should prefer this. (This point presupposes the correctness of my remarks about the burden of proof, stated at the beginning of this chapter.)

Before passing on to a closer evaluation of Shoemaker's argument, I want to stress that, as I said in the beginning, the expression 'temporal vacua' can be uttered meaningfully only if we concede with the antireductionist that it is conceivable an unchanging reality, for a while, in a framework of absolute time (and I don't know what further than that is left to be demonstrated). But the same expression is for the reductionist just an assertion of vacuity because for him, world, movement and time are strictly intertwined and one cannot be conceived without the other.²¹

²¹It is true that reductionism is far from giving a satisfactory theory of reality and change; but a sensible reductionism, a phenomenal reductionism, shouldn't want to either. A phenomenal reductionism is content to give a workable theory of phenomenal change and time along with adequate concepts for our phenomenal description of reality. But it leaves any anxiety about the final changes and the final states of reality to a dimension that for the reasons I have elucidated in the previous chapters humanity will never know. One can only think (and should in fact think for commonsensical reasons) that there exists a dimension where happening is possible or substantial and not only a further description of further subevents. But believing that this dimension exists does not mean that we can come to know it, as in fact it is the impossibility to ever know anything substantial about what is going on in our world that should make us postulate the existence of this dimension, as I have been arguing. Many of us however, impressed by the enormous breakthrough of science and especially Physics in our century, would be actually distressed by, or simply incredulous of this fact: that there is a dimension that man will never understand and this is the dimension where the essence of happening lies.

It should be clear at this point that Shoemaker and as we shall see Newton-Smith,²² do not really need any further argument to demonstrate that empty time is conceivable: they produce as premise of their arguments, as an almost “matter of fact” that a reality unchanged for a while is unproblematically conceivable, whereas this is what they should painstakingly argue for. In fact this is all there is about the conceivability of empty time, once we allow it, there is nothing left to doubt.

It seems to me, in fact, that the postulate of “duration causality”²³, produced by both authors as an argument in favour of empty time, is a postulate directly dependent on this “fact”: reality is conceivable in its essence as a mixture of change and absence of change for a certain time, so we need something that gives a formulation of this “unproblematical occurrence”. ‘Duration causality’ therefore, is not there to prove that time and reality without change are conceivable, but it is only a theoretical consequence of its conceivability. It is like saying ‘Now that we have the data, let’s build a theory that accommodates them’. But to my best knowledge, no one has yet argued for these data: how have they been produced, if not through a presumption? Yet on this presumption and only on it, is based the unavoidability and forcefulness of Shoemaker’s line of argument.

We are obviously faced, here, with a methodological confusion masked by the common usage of apparently innocent concepts such as “immobility” (the total halt or freezing), the absence of change which when used in our description of phenomena are unproblematic, but when referred to the structure of reality create impasses and paradoxes as their use presupposes a somehow given knowledge about the structure of reality and time which is

²²Newton-Smith in his book *The Structure of Time* (ch. 2, pp. 13-47.), repeatedly states that we might have grounds for adopting about the actual world the belief that reality is made of states and changes and that the essence of happening is a discrete quantized change. It is not very clear what these grounds would be, though. Anyway in the next chapter I am going to argue that such a theory of reality is meaningless to humans.

²³Shoemaker, S. (1969), ‘Time Without Change’, *Journal of Philosophy*, LXVI, p.377.

what they pretend to be arguing for. Neither, I argue, can Shoemaker give respectability to this confusion by introducing the ad hoc notion of “duration causality”. Superfluous for someone who holds his same belief about the structure of reality, this could be, instead, a decisive argument only for those who, like me, don’t believe yet that reality could be conceived as unchanged for a while and then change again. But, in this case, it should be built as an argument and a very complex one that argues for the conceivability of absolute time and unchanging reality, whereas it is only given as a postulate, as the best explanation for the observed phenomena.

In the light of what we have been saying about different rates of change and different temporal dimensions, let’s now try to revise Shoemaker’s thought experiment and rewrite it in terms of what we have suggested, but keeping those basic constraints that in his interpretation would force the inhabitants of his world to believe in the existence of empty time, in order to see if they are really as forceful as he thinks.

Let’s imagine that there is a universe made of three adjacent regions A, B and C, and that every five years while A seems unchanged to B for a year, B seems unchanged to C for a year and A seems unchanged to C for two years. That is, for example, at the beginning of the Year ‘87 for C, it will be the beginning of ‘86 for B and the beginning of ‘85 for A, consequently for C will have passed 2 years, for B one year and for A an instant, i.e., the “time” that elapses normally in this Universe between two phenomenal changes. From the point of view of observation, that is, from an exterior point of view the following has happened. At the beginning of year ‘85, a date common to all three regions of that Universe, suddenly region A becomes concealed to B and C by an opaque and impenetrable curtain; during the seventh month of year ‘85 while region B and C are both observing the impenetrable curtain that conceals A, also region B becomes enveloped by this curtain and what is happening in C

becomes totally concealed to B. When on the first day of '86 for B, the curtain disappears, the inhabitants of C will claim that for them it is the first day of '87 and their belief is actually supported by the kind of change that have in the meantime occurred in C. Also region A will become visible again and claim that no time has elapsed for them at all.

What would be the most sensible way for the inhabitants of this universe to interpret this phenomenon considering the experience of each region? When during the seventh month of '85, C became enwrapped in this impenetrable curtain, it left B in the same chronological situation as its own, whereas neither C nor B knew anything about what was going on in A. When A and B become visible again to region C, the inhabitants of C need to interpret what has happened in A and in B judging from all the elements that they can gather. This will include also the reports of A and B. Particularly B will report that during these remaining 5 months in which C was concealed from its sight things have continued just the same in B, in particular the rhythm of life has not shown any difference, just as it has not shown any difference for C and A. In this kind of description one does not need to imagine that there have been intervals of empty time for B and A, while time was flowing with its normal changes for C, just because at the end of it all, C is the one with the most advanced calendar and the one exhibiting the fastest changes.

Why shouldn't this case too be interpreted in terms of intervals of empty time for A and B while time and reality flow normally for C? In fact, whereas B would be quite reluctant in accepting this kind of explanation, C could actually decide to embrace it: nothing would prevent it from believing that in A there has been an interval of empty time of two years, in B there have been intermittent intervals of empty time which explains that while at the beginning of '87 one year and five months have passed for C, only five months have passed for B. By doing so C would decide that its own time is the absolute time of that system and therefore if the other regions don't have the same rate of

change as its own one, they would have intervals of time without changes. But by doing so C also embraces the metaphysical belief that in the structure of this Universe between two changes there is always an unchanging state, a reality unchanged for a while, or it couldn't have claimed that there is such unchanging reality in A and B.

If one doesn't think that this is in fact the underlying structure of reality, one cannot concede that there could be a reality that at a certain point stops all its changes for a while, and after a (more or less long) state in which it stands still, it starts changing again. If, for example, one has the metaphysical belief that the world exists insofar as change exists, and that without change reality does not subsist (Reductionism), one could not accept as plausible this explanation of the alleged events based on intervals of empty time between changes. But it is also true, I believe, that a sensible reductionism can only have a phenomenal nature. In fact, to identify and reduce time to change means that one cannot apply to the structure of reality a concept that works unproblematically only at the phenomenal level. Because at this level there is no question of the real, final change or state, but they are always further reducible and analysable. In fact, if one applies the ordinary concept of change to the structure of reality, one has got to allow for a real state (empty time) too, as we cannot conceive of changes without states. A *change* is discernible as such for us, only because it is preceded and followed by a state, otherwise one could not individuate a change. We always presume that change is the passage from one state to another: this is the only intelligible concept of change available to us. But it is obvious that those who, like the antireductionist, apply this concept to the structure of reality, end up making metaphysical claims about what they are supposed to demonstrate: that reality and time consist of these changes and changeless states (empty time).

To restate our point then, only if one accepts²⁴ that reality in its structure is an alternation of changes and changeless states one can accept that there can be a longer such state in which reality stands still for a time after which there is again a change. In other words one's idea of reality can survive with this concept of an unchanged state for a period of time only because reality is conceived as made of changes and states. This means, though, that C has to concede that to an external observer, C itself could seem to have empty intervals of time between changes whereas it does not appear so to C. So, for C to believe that its time is absolute in reference to that system and so conceive intervals of empty times in A and B, implies, for the just discussed metaphysical belief, that there are empty intervals of time between its own changes, and, therefore, that C could appear frozen to an external observer. In fact, if there is an interval of time between two changes and this time seems always imperceptible to the inhabitants of each region A and B also when the "peculiar" events occur, it must be logically possible that also in relation to C, there is a system in which this time elapsing between two changes, is so much shorter that C would appear actually frozen for an interval of time. Therefore for C to assume that its time is absolute in that system, means to imply automatically that it is so only relatively to the observation of its own inhabitants and only because of a delusion. Those in C or Shoemaker, may actually want to concede all this, holding that this would still stand in favour of empty time. But the problem in this case is that C in order to choose this explanation would have to present a good reason to believe that this phenomenal structure of reality made of changes and changeless states corresponds to the structure of reality in itself, so that, creating the "pathological" situation of a reality that freezes or is immobile for a time, we

²⁴I do not claim that one has to entertain this belief before this "extraordinary" event happens, but that certainly when it happens, the kind of Shoemakerian interpretation implies this explicit or implicit metaphysical belief about reality. It is certain that if one refuses to believe this, one cannot endorse this interpretation.

can find this ultimate change and empty time corresponding to a state. But a) What good reason would C have to believe that? and b) How can C logically argue that this is the structure of reality? That one cannot logically argue that this is the structure of reality will be demonstrated in the next chapter, where I discuss Newton-Smith's argument based on the presumption of this structure. Now I want to try and answer the first question: what good reason, given the peculiar happenings, would C have to believe that the structure of reality consists of states and changes? which is more pertinent to the kind of argument given by Shoemaker which is based on trying to show the plausibility of this belief.

Let me stress that this is a very dangerous assumption because, as I have argued just now, this belief in a reality as made of empty states and changes can initiate a *regressio ad infinitum* as one can never decide or have a reason to decide that a certain time between changes is the shortest possible and therefore can work as absolute time, instead of just another relative time.²⁵ This means that there can only be a time relative to change and therefore never empty because never measurable in relation to an absolute time, if not in a very arbitrary way, but only measurable in relation to the local rate of change. And so we are back to the Aristotelian time as purely a measure of change. Region C, in fact, could actually have the shortest interval of time of that system and therefore decide to judge the time of A and B as empty, though, without being able to impose its criteria on A and B, because it would not have any logical argument to do so. In fact A and B sharing the same metaphysical belief about the structure of reality, would know that also C has empty intervals of time unknown to its inhabitants, just like those of A and B are unknown to their inhabitants. This means that, as the fastest system, C, cannot look down at its time and therefore does not see empty intervals in itself, neither can the slowest regions A and B, and furthermore as C can talk of empty intervals of time in A

²⁵Relative to observation, of course.

and B in relation to the flowing of its own time, so it cannot in principle exclude that what is for itself a time always full of change, its own time, could appear from the perspective of another system as empty as that of A and B. It seems then that C does not have any good reason to believe that in B and in A there have been intervals of empty time unless it is prepared to concede that there could have been intervals of empty time also in itself, from an external point of view. But it is impossible now to generate an absolute measure of time, a sort of timekeeper outside time, because this generates a regress *ad infinitum* in which any referent that seems absolute could show in fact to another “more” absolute one, intervals of empty time, and as long as this process cannot be stopped except in an *ad hoc* way, time will always emerge as relative to change.

So to answer the question: what reason could C have to believe that reality is made of states and changes, (a necessary assumption in order to make it possible to conceive of a total halt in a region)? The answer, I think, must be the presumption that its own time is the absolute time or that in general there is an absolute time. If they didn't assume that, they would naturally be inclined to elaborate a sort of phenomenal explanation similar to mine.

But if the belief in absolute time is the reason for which C chooses this line of explanation of the events, it reveals itself to be a very frail reason, because this belief in absolute time is undermined by the very occurrence of a reality made of states and changes, as this involves the idea that any time that must always elapse between two changes in a system can always appear empty to another system with a smaller such time. So one can never postulate absolute time and, therefore, there is no reason to presume that reality consists of changes and states or, in general, there is no reason to make claims about the structure of reality.

Let's restate our argument in its most forceful form. Only if C's time is the absolute time can what happens in A and B be described as empty time elapsing between two changes, rather than the slowing down or the speeding

up of the rate of change, for example, or any other purely phenomenal description. But if C's time is absolute and consequently what happens in A and B can be described as a 'halt' and a period of empty time, reality in its ultimate structure must consist of changes and changeless states, otherwise it would be inconceivable that the reality in A and B could survive a changeless period of time. But this implies that also in C there is an interval of time between two changes and that this interval of time could seem empty to an external observer (another system or even God).

C cannot exclude that there is an external observer to whom its own time can appear empty and this observer in its turn, having made all of C's assumptions that follow from absolute time, cannot exclude either an external observer to whom its own time will appear empty and so on *ad infinitum*. But this just means that it is impossible to pin down a time which could be the smallest one and would not appear to someone else empty and this to someone else. In these conditions in which it is obviously impossible to point out an absolute framework which was in fact our first, necessary assumption towards empty time, there is no reason why one should rely for its own time on someone else's perception, since it is absolutely impossible to find someone who can hold a certain standpoint which could be an absolute time. And since the assumption of absolute time is the only one that can justify any talk of empty states when certain events (such as those described by Shoemaker) occur, there is no empty time after all.

In conclusion, because of this argument, the inhabitants of C or B or A do not have any good reason to believe that C's time is the absolute time of that system. For the assumption that time has elapsed in A and B without change, requiring that their reality consists of states and changes, had as a consequence that C's time could appear empty to an external observer too and so on *ad infinitum*. In fact, if there is any standpoint which can stop this regress, and talk of absolute time, then, this standpoint whether it is called C or Y, or whatever,

does not need any argument from Shoemaker, in order to prove that there is empty time, because it *presupposes* already that there *is* absolute time and so if certain events occur, one *must* talk of empty time.

Only the certainty that in a system there is absolute time can make us argue for empty time when certain events occur. Obviously C assumes that time is absolute and that its own is the absolute time only tentatively, as an hypothesis that needs to be tested by the adequacy and the coherence of the conclusions that it is able to yield for us. In fact, if C knew for certain that its own time is absolute, there would be no argument, because in this case if these events would happen they could be interpreted only in this way. But the simple assumption that time is absolute only tentatively proposed in order to yield certain conclusions that should substantiate this first assumption, cannot survive together with the second assumption, that necessarily follows from that of absolute time together with the occurrence of “certain” events: that reality is made of changes and states. This, in fact, requires that there can be other smaller such periods of time outside of C, and this *ad infinitum*, so that the tentative assumption of absolute time falls and with it that of states (empty time) and changes that needs, to survive, an absolute standpoint. Only if absolute time is a certainty for C, a sort of dogma or some knowledge scientifically acquired, C can assume that its own time is the smallest and so talk of absolute time and empty time. But this makes C and human knowledge incommensurable as C knows something that we don’t know and, what is more, what C knows, is exactly the *vexata questio* and what we and Shoemaker are arguing about: that there is an absolute time from whose standpoint one can talk of time flowing without events.

So the mere assumption of absolute time tentatively proposed in order to make a sense of the events, turns out to be wrong or, better, unfit to yield the conclusions it was meant to yield, and produces, in fact, conclusions that contradict the assumption itself. In other words, in the Shoemakerian context,

the assumption of absolute time turns out to be self-contradictory and must be, on this ground, rejected.

The argument can have the following schematic form: If P (there is absolute time) then Q (what happens in A and B can be accounted for as empty time).

If Q then R (In C also there can be empty time).

If R then S (there is an infinity of external observers making the same assumptions as C).

If S then T (absolute time is not conceivable).

And if T, then not-P (it's not the case that there is absolute time).

Assuming transitivity, then, P entails not-P.

In conclusion, hypothetically allowing P, implies not-P; therefore, the hypothesis of P must be rejected on the ground of self-contradiction.

But at this point something that we have mentioned must be spelled out more clearly because it appears to me as if it is the real core of Shoemaker's misunderstanding. The *regressio ad infinitum* in search of an absolute time, cannot be avoided unless one presumes that C knows for certain that the Universe consists only of these three regions and its own is the absolute time. This seems, in fact, to be Shoemaker's assumption. But if this is known to the inhabitants of that Universe, it means, I argue, that they know already too much in order to need Shoemaker's argument. We would have in this case a totally *ad hoc* fantasy which is presuming what it has to demonstrate: that there is nothing outside that system with which that system could be in relation, and so that when these events happen, C knows, as a consequence of the certain knowledge that there is an absolute time in that universe²⁶, that reality is made of changes

²⁶They don't have to know this before, but when the events happen they would point unequivocally in the direction of this assumption, since the regions know the boundaries of their Universe and, I would be inclined to think, much more than that. In fact, it is difficult at this point to judge what kind of knowledge these people possess and put it in any relation with ours.

and states and that therefore there is always empty time in that system. But in order for C to know that reality is made of changes and states, C, as I have argued before, must not only assume that time could be absolute, but it must be certain of it. That time is absolute is not tentatively proposed, and then, proved to be the right assumption, because there are no other elements that by their occurrence stand for empty time without the certainty of this assumption, as we have seen. Now, to be certain that time is absolute and not relative to change which is in fact what needs to be demonstrated ultimately, means that you already know fundamental things about the structure of reality and time, and this is not surprising as, after all, you also know that your system, consisting of three regions, is self-contained. But in these conditions I can't see space for any argument. There are certain premises that make the conclusion inescapable, but not through deduction, but simply because, as I have said several times, what should be demonstrated is in fact given in the premises: that in that system time is an absolute framework and in consequence of that if "certain" events happen, they simply show there to be empty time, but there is no reason to argue for it, as there is no possible contention. But it is obvious that in this case, that is, I repeat, if the regions know the boundaries of their Universe, their knowledge is incommensurable with ours and more importantly transforms a tentative assumption that should be proved by its own power of explanation, into a certainty that does not need further proofs, and makes all that follows from it, certain *ex hypothesi*. So these conditions cannot afford any demonstration: everything is contained in unproved and questionable premises.

e) Two dogmatic presumptions.

But given an imaginary world the way I have described it, why should one believe that the fact that in B only five months have passed while in C one year and five months has passed should be explained with empty intervals of time corresponding to short, intermittent "freezing" in B? As we have just seen,

this could be so explained only if one held the unjustified belief that C has an absolute time, giving way to all those theoretical consequences I have been discussing. Why shouldn't one believe that the rate of change in the regions has simply changed and that therefore they have been dislodged for a while in different temporal dimensions? After all an indispensable feature of this fantasy world (of mine and of Shoemaker's) is that the regions become invisible to one another and all one can see is an impenetrable curtain. When I say that one should believe that the rate of change has changed, I mean that one should think of time as relative to the happening of each region, without claiming to understand this happening, that is, without implying an ontological claim about what goes on in the real structure of this Universe, because this opens the way to the problems I have just mentioned. Unless one knows, through other sources, the truth about the final structure of this Universe.

When one talks of a different rate of change, in fact, one does it completely in a phenomenal way, without implying any realistic claim about the time that elapses between two phenomenal changes. This is the only point of the discussion: one has to think of time and change as phenomenal data without committing oneself to a description of reality as it is in itself, as made really of changes and states which is what the theory of empty time does, without being able to support its presumptions. It simply assumes that the structure of reality can be made of these changes and states on the model of those that we observe in the phenomenal world; changes and states that in fact when we analyse them phenomenally we always find further substates and subchanges,²⁷ whereas, obviously, in this theory the states and the changes are substantial and only as such make possible to talk of empty time. The kind of description that I suggest for the happening of this universe then is totally a phenomenal one, where one does not have to make claims about the structure of reality, like the talk of intervals of empty time, with its entailing final states,

²⁷This I have been discussing at length in the previous chapters.

does. But just as one does not feel one has to make claims about the structure of reality in a normal situation, so one shouldn't feel obliged to do it in this pathological situation, but could just talk by extension of a phenomenal concept, of a different rate of change that has dislodged the regions in different temporal dimensions.

One could object at this point: "If one is not entitled to talk of states and changes in reference to reality because one doesn't know if there are such things, why one should so lightly talk of different temporal dimensions?" It could seem that there is no reason why one should prefer my "presumption" to the Shoemakerian one. But mine, I claim is not a presumption about any unknown, it is rather an inference that in the attempt to interpret phenomenally the situation described by Shoemaker, simply extends the use of unproblematical phenomenal concepts. For a start we can talk of temporal dimension and we can talk of rate of change in a legitimate way as these are descriptive concepts that do not make any claim about reality in its essence. We don't know and we don't pretend to know what in "reality" is what we call a temporal dimension, but we know that we can use properly the concept of time in relation to change in a system and this is what we call the temporal dimension of that system. In the same way it is not problematical to talk by extension of two or three or more temporal dimensions in relation to different rates of change, as long as we know that we are talking at a purely phenomenal level that does not entail any thesis about the nature of reality.²⁸

Shoemaker's approach, then, should be rejected because it is self-contradictory and ends in a vicious circle. I have argued that believing that reality is ultimately made of states and changes involves the claim that however small the time between two changes, having a duration, can always appear empty to a logically possible smaller time, and so it can never be absolute. The

²⁸And ultimately, if one feels uncomfortable with my interpretation, that there may be more than one temporal dimension, it is not my responsibility, as I did not devise this fantasy world, I am only trying to make a sense of it.

metaphysical assumption of a reality made of changes and states corresponding to empty times on one hand is necessary to the Shoemakerian argument in favour of an absolute time from whose point of view the time of the so called frozen regions appears empty; but on the other hand it destroys the possibility of absolute time unless this is given as a certainty. So, if absolute time cannot be established from those who are in a temporal dimension, there is no point of view from which one could argue that there is empty time corresponding to unchanged states.

My explanation will probably appear not as satisfactory as the antireductionistic one because as we didn't know anything about reality before, so we don't know it now. But then, I ask, why should an abnormal happening enlighten us about the real structure of the phenomenal happening and time? It is true that the reason for which Shoemaker devises this situation is to give himself an access to the structure of time and reality, but it is clear that the way he does that is via the presumptions of absolute time and unchanging reality. As I said his fantasy world with its peculiar structure cannot help us decide if time is absolute or relative, but only says that if time were absolute then there would be empty intervals and vice versa. But only if we concede that reality consists of states and changes can we argue for the very possibility of absolute time in the Shoemakerian Universe. These two assumptions, we have also seen, apart from being inconsistent, unless absolute time is given as a certainty, lead to a circular explanation and to the impossibility of ever demonstrating from our human point of view that there is an absolute time and consequently empty intervals of time.

One shouldn't be surprised then, that with Shoemaker's analysis, our knowledge of Time and Reality has not advanced even an inch, because however much one tries to ignore it, it holds firmly that our knowledge of reality, of changes and states is phenomenal, and how could it advance in a situation in which allegedly there is no phenomenal happening going on? One

can devise as many as abnormal situations as one wishes to do, imagining that they give one an insight into the structure of reality, deluding oneself that the changes and states that one is talking about are not just those that we describe phenomenally but that these things are actually in the fabric of reality: the state corresponding to a freeze, a final state, and a first change following the freeze, a final change. But in fact these are only presumptions that rest on other presumptions and so on without ever being able to say something that does not need a dogma, an ungranted metaphysical assumption, whether it is that of an unchanging reality or that of absolute time, as none of them can be derived from our actual knowledge of reality.

I am aware that my interpretation does not give an explanation of what has happened, where what one would probably like to know is, in fact, what things like the 'rate of change' mean, what *change* and *state* ultimately are, rather than explaining the change in terms of time and the time in terms of change as I do, without ever getting out of the phenomenal use of our concepts. One could probably be more captivated by Shoemaker's explanation of what has happened, an explanation that accounts for time and change in a substantial sense, whereas mine is not an explanation but only a description in phenomenal terms. But I have to warn those who are attracted by the apparent explanatory power of Shoemaker's interpretation, that my interpretation as unsatisfactory as it may seem, does not claim what it can't demonstrate: that state and change are in the underlying structure of our reality.

After my analysis, is Shoemaker's interpretation still compelling, if it ever was? Why couldn't we interpret his actual fantasy world in terms of my interpretation? What is in his thought experiment that forces us to believe that one could reasonably talk of empty intervals of time? If, as I have argued the inhabitants of the three regions don't have good reasons to argue for local freezes, they certainly cannot extrapolate from this to the total freeze. But one could object that there is an important feature of Shoemaker's fantasy world

that I haven't accounted for: the sluggishness that affects all the inhabitants of the region before the presumed freeze starts. This cannot be a very important objection because this sluggishness could have many other explanations, for example it could be caused by the fact that the region that is presumed to be frozen, before it actually goes in another temporal dimension, is releasing energy to the region that is going to move faster or something of the sort.²⁹ In fact sluggishness or whatever symptoms one may think of as preceding immobility and being a proof of it, can never be connected causally to immobility. Immobility cannot be in fact connected in a verifiable way to a cause or it should be possible to read an event in the immobility connected to this cause, but this would mean that the beginning of immobility would always be an event and therefore the period of immobility would never start.

f) Conclusions

I wish now to resume the essential points of this complex and variously articulated discussion about Shoemaker's argument for empty time.

First of all I have to stress that in principle I would not like to allow the conceivability of Shoemaker's fantasy universe, because, as I have argued, it is not an unbiased fantasy but it is based on the presumption that reality consists, in its structure, of states and changes; in fact, only if this is the case can it happen that a world can freeze in a state for a time and then come back to life. But this, as I said, is what one should demonstrate because if we take for granted that such a reality subsists for a time in an unchanged state, we are taking for granted that empty time does exist, so the theory is vitiated from its very start. One could object to this that the thesis that reality is made of states and changes, (that is, of empty time and full time) is not taken for granted, but it is what the inhabitants are forced to conclude from the observation of the

²⁹Shoemaker can only claim that 'sluggishness' is evidence for the freeze; I claim, on the other hand, that sluggishness is consistent with my interpretation.

strange goings on in this universe. I doubt that this is so because Shoemaker conceives the possibility of the local freeze in a rather unproblematic way after having devised few tricks that answer what he sees as two major objections to the plausibility of the situation that he describes. The first suggests that one can never be sure that there are really no changes going on in the region rather than this being a limitation of our instruments of detection, the second suggesting that

visual observation of an ostensibly frozen region would itself involve the occurrence of changes in that region...³⁰

As answer to these objections he proposes respectively that this Universe has a certain Physics that does not allow the possibility of undetected changes and that an impenetrable curtain conceals from the sight the frozen region. Whereas I have claimed that without the presumption that a reality is an alternation of states and changes, that is of empty times and full times, one would not have the theoretical motivation to articulate this kind of fantasy in such an ad hoc way as he does. One who does not have presumptions about the nature of reality in itself does not toy with situations in which reality appears naked in its ultimate structure, allegedly that of state and change. This, in fact, as I said in the beginning of the chapter, is my main objection to Shoemaker's argument: that if he didn't take for granted the conceivability of what he has to demonstrate, he couldn't have devised his fantasy world with all its accessories.

It could be said that the assumption that there is a local freeze is uncontroversial and that my objection to the local freeze is unwarranted. On this view, the introduction of a local freeze begs no significant questions, since there could be a local freeze without there being empty time — if changes are going on elsewhere in the world.

About this, I would say two things. First, most of the argument of this chapter has been aimed at showing that the idea of a local freeze presupposes

³⁰Shoemaker, S. (1969), 'Time Without Change', *Journal of Philosophy*, LXVI, p.371.

the intelligibility of a certain metaphysical picture: the picture I have called 'states and changes'. And on this picture, empty time is quite easy to conceive.

But — and this is the second point — the idea of a local freeze is question-begging for a simpler reason. For suppose a region of the universe could freeze for a while. Unless this region *presupposed* the existence of other regions in the universe, we should also be able to make sense of this region being the *only* region in the universe. (The presupposition is a *very* extreme one, it should be observed). But if it were possible that the region is the only one in the universe, then a 'total freeze' is possible and so is empty time!

From the very start of this chapter, where I argued for the conditions necessary for the meaningfulness of “temporal vacua”, I have been suggesting that Shoemaker’s line of argumentation is totally biased by the premises that he should instead demonstrate: that there is an absolute time and that reality is ultimately made of changes and states. These premises feed each other and one cannot subsist without the other, at least in this context, but neither of them is able to substantiate the other. They remain unfounded premises, sorts of postulates which are too fundamentally linked with the conceivability of empty time for us to simply concede them. One probably doesn’t really need a further argument to reject the legitimacy of Shoemaker’s construction. But for the sake of a philosophical discussion I wanted to demonstrate that even if we accept that happenings such as those he describes are conceivable, there is no forceful reason why we should give them the interpretation he proposes, unless to accept his fantasy involves automatically to accept the unfounded premises on which his line of interpretation is based. But, I argue, there are many reasons to refuse this interpretation.

As far as time goes, in the cause-effect relation (what Shoemaker calls “duration causality”³¹) there is no substantial difference between what happens in the frozen region and in the unfrozen one. The relevant point that I made

³¹Shoemaker, S. (1969), ‘Time Without Change’, *Journal of Philosophy*, LXVI, p.377.

was that in the metaphysical framework of this Universe, in the unfrozen region also there must be an interval of time, an empty time corresponding to a state between two changes, and no matter however small this time is we can always imagine a smaller time and therefore an external point of view to which this time of C, for example, will appear empty. (In this aspect Newton-Smith's argument is more coherent because it overcomes at least this difficulty, as it is in fact based simply on the claim that we could have "grounds" for believing that reality consists of discrete quantized changes. This is enough to argue for the existence of empty time.)

Given that the structure of reality is made of states and changes we can never establish in a non-arbitrary way an absolute time and if we do so, we cannot impose our choice of perspective on others, for example C cannot impose it on to A and B. In fact we have to reflect on the fact that both in region A with its alleged empty time of the freezing, and in region C, a cause is "immediately" followed by its effect without anything in the middle. Therefore to claim that between the cause and the effect of A, empty time has elapsed, is really begging the question, the question being that in a relatively closed system such as one of these regions would be, time can pass also when nothing happens, only because time has passed in the adjacent region, and one cannot beg this question without introducing the relativity of the time of C itself which could likewise appear empty to an external observer and this to another one *ad infinitum*. Unless one knows for certain that C's time is the absolute time; but, then, there is no argument.

Without this presumption, we can, instead see, that even if we allow Shoemaker's fantasy, there is never an empty time; because if no region can ever be shown to have absolute time, what is important is what every region experiences: that time is a measure of change and that as no one in the fastest region can go and look down to the alleged empty time between two of its

changes – whereas another hypothetical system could do so because what is important is that this time exists and has an extension – so no one can in the slower region. Because it is impossible to establish an absolute standpoint, there must never be an empty time or for some unjustified reason the inhabitants of one region should credit someone else's relative time more than their own. And there is no reason for doing so as this would only create problems in their otherwise unproblematic phenomenal use and perception of time.

So we can argue that while the presumption that reality is made of states and changes made C believe as possible that in A and B intervals of time elapsed while its own time was an absolute time from which could be judged the happenings of A and B, this same belief that reality has always ultimately unchanged states corresponding to empty time, has as consequence that no one's time could become an absolute standpoint from which to judge that empty time has elapsed for someone else, unless one has always known it through the assumption of absolute time. It follows from this that if one cannot establish an absolute time, there is no reason why one should believe that reality is made of changes and states of empty time (unless this has been otherwise demonstrated), rather than just assuming that time is just a property of change and always relative to the changes in a system. The circle is so closed, the two presumptions on which the argument for the conceivability of empty time is based rest upon one another in a vicious circle. But neither of the two could support the other because neither of them has been or could in this context be demonstrated without presuming the other.

CHAPTER 5

PROBLEMS IN THE ANTI-REDUCTIONISTIC CONCEPT OF TIME

a) Introduction

The claim that there can exist an unchanging reality, as a premise of the argument to prove that time without change is logically conceivable, is spelled out even more clearly in W. Newton-Smith's elaboration of Shoemaker's argument. It is this approach that I am going to discuss in the present chapter.

At this point I have to discuss briefly what Newton-Smith says about inconceivability and logical possibility:

To borrow an example of Shoemaker's — we cannot imagine what it would be like to experience a world in which the preconditions for experience were not satisfied. But for all that, there may be such a world. We could put the point with regard to time this way. There is no sensible use for the sentence 'there is now absolutely no change occurring anywhere'. It remains possible that we can describe a sensible use for the past- or future-tensed version of that sentence.¹

I will say immediately that I don't feel I can agree with this last statement. The possibility of conceiving of a changeless reality entails, I am going to argue, creatures who have a noumenal knowledge of it, so we cannot describe a sensible (for us) use for past or future tensed version of "that sentence".

The noumenal is simply what can never, legitimately and under any condition, be conceived by us. The reasons for the inconceivability of Newton-Smith's entities will be argued in detail in sections c) to e) of this chapter. So it will emerge, accordingly, what the constraints are on what is knowable by us. This will be in agreement with the main thesis of the paradox of phenomenal observation : that "any humanly conceivable event must (a) have a duration and (b) consist of other events".²

¹W. Newton-Smith, *The Structure of Time*, p.18.

² Chapter 3, p.117

Anyone, I hope, can see that what is at stake here is not one or two features of our knowledge or experience, which would simply produce a different physics (that is, a different theory of nature). What is at stake here is the status itself of our knowledge, the minimal conditions, as Newton-Smith himself acknowledges, required for any experience to be given, and from this, the consequent elaboration of a theory of nature. All this makes Newton-Smith's theory incommensurable with our experience. What he presupposes, like what Shoemaker presupposed does not apply to the epistemic conditions of human beings, whether past, present or future. In the light of this I claim that these arguments about empty time should be preliminarily refuted not on the basis of unverifiability, against which Newton-Smith rightly argues, but on the basis of incommensurability with the basic constraints of possible human experience and consequent theories. But let's see more closely how Newton-Smith's argument about empty time commits us to this incommensurability; that is, how the mere idea that someone could have knowledge (or just the concept) of an unchanging reality implies the knowledge and the concept of a noumenal reality. This concept of an unchanging reality, since it implies a noumenal reality, I argue, is totally **unintelligible** for us.

b) Newton-Smith's Fantasy Theory.

After having discussed Shoemaker's argument and pointed out some difficulties that this presents, Newton-Smith goes on to present his own argument in favour of the possibility of a temporal vacuum. He proposes to do so without recourse to such an

....extreme fantasy, by describing a particular system of beliefs we might have grounds for adopting about the actual world.³

I feel I have to stress the following quote:

³W. Newton-Smith, *op. cit.*, p.24.

These beliefs would be consistent with the character of our everyday experience of the world and would commit us to positing the existence of temporal vacua.⁴

I have claimed that the belief in an unchanging reality is thoroughly incompatible with the phenomenal nature⁵ of our knowledge and the basic conditions of our experience of phenomena which requires some activity from both knower and known. I can see, in fact, the point of what he says subsequently:

the ingredients of this armchair theory have been toyed with by some physicists.

In fact, the problems that this theory presents are not physical, but genuinely philosophical: they are of the same nature as those problems that I have been pointing out in the previous chapters, regarding our understanding of the concept of event, change, instant and so on.

Newton-Smith wants to present an 'armchair theory' of time which allows for temporal vacua.

It will be useful to summarise the five points that Newton-Smith considers the basic tenets of this "theory" that, he writes: "...one could have good grounds for adopting which would involve positing empty time."⁶

1) All observable change in the world is to be explained by reference to the properties and behaviour of some finite class of types of entities to be called particles.

⁴*ibid.* p.24.

⁵Where Newton-Smith probably sees this as an accidental limitation that one can strategically overcome with a fantasy physical theory, in order to have a better insight into the nature of "reality", I see it as an imprescindible constraint to which any physical theory of reality has to conform in order to gain intelligibility and logical conceivability. The problem, I claim, does not lie with the conceivability of certain concepts, employed by him, at the level of physics, but at the philosophical level which is the level where the need for a rational proof of these concepts lies.

⁶W. Newton-Smith, *op. cit.*, p.24.

2) In so far as fields are involved in the theory, all fields have as sources particles or system of particles and change only in response to changes in their sources.

3) There are only a finite number of particles in the physical world....they have a finite size.

4) All change that these particles undergo is discrete quantized change. That is, if some particle is in a state S it is in that state for some finite interval of time and there is some next state that it takes on. The change of state is **instantaneous** and the interval between these changes is **much smaller** than could ever be experimentally determined.

5) For any particle there is some minimal **interval** between two adjacent changes.⁷

Given points 1,2,3, as important premises for picturing this world, the relevant points in which Newton-Smith describes the nature of change in this “physics”, are 4 and 5. On these we have to focus our attention to understand why, as I am going to explain, they depict a kind of knowledge we cannot have: a conceptualisation of a noumenal reality.

It is true that in one important feature this world is similar to ours: that is, what happens at the macro level, the changes in the macroscopic objects of the world are due to (or simply are) the changes in the micro level. Until this point, his description is perfectly intelligible. But let’s see from close up what happens when a particle undergoes a change. Newton-Smith says that changes in the particles are discrete and quantized. That is, the particles are in a state between two changes for a finite interval, but, he adds, this interval is “much smaller than could ever be experimentally determined”, and a further important element is that these changes are instantaneous. These two requirements: 1) a change that is instantaneous, that is it is not a gradual process happening along a knowable duration, and 2) the particle being in a

⁷W. Newton-Smith, *op. cit.*, p.25.

state for a time interval much smaller than could ever be determined, are, as we shall see, theoretical shields against the *regressio ad infinitum* of a reductionistic theory of time and change which obviously could not allow empty time. They are effective in a sense, because they pin down a final change and a final state, whereas reductionism (as we have seen in the previous chapters) can offer only a never realised multitude of subevents. But this final change and state, I will argue, is unintelligible by creatures that can only know reality ultimately through interaction with it, and that do not have a noumenal access to the final happening of this reality. In fact, I repeat, we can acquire new knowledge about the physical structure of this reality only through the interaction of our physical apparatus and this reality which requires happenings and changes in both sides. So how could we come to know anything about a final state or change if this means absence of those changes necessary for us to gather information about it?

Newton-Smith asks us to imagine a particle in one state for an unmeasurable period of time changing to another state with a 'jump' that is, a sudden non-gradual change. Both either the change and the state then, are not detectable and I am later going to explain why.⁸

But, before we pass on to discuss more intricate questions, I would like to ask now a simple question for the reader to reflect on: how is the physicist of this fantasy world supposed to know when the change is going on and when it has ceased? Since on one hand, the interval in which the particle is in a state is much smaller than could ever be detected and, on the other hand, the change does not have a knowable duration or if it did, it would be equivalent to a state or an immobility across a certain interval of time, as it does not contain further subchanges.⁹ The first problem that calls our attention is that there is no way in

⁸The reason for which the instantaneous change is not detectable is considered mainly in section (c) of this chapter. Let me say briefly that a change, to be detected, must cause another change in a detector of whatever nature, but as I am going to explain an instantaneous change because of its cryptic nature cannot entertain a relation of causality.

⁹I analyse this problem in more detail on page 211.

which the physicist of this world could ever detect directly or indirectly what is going on at the micro level, or no way in which he could even come to know that there is such a micro level if it is structured in the way Newton-Smith claims, with instantaneous changes and states much shorter than it could ever be empirically determined.

It would be totally misleading for those who maintain this thesis to claim that they could have come to know about this reality through pure calculus, in the way that our scientists have predicted some aspects of reality before they could be empirically confirmed. It would be misleading because what is at stake here is precisely if and how some intelligence similar to us could know that there is a reality with no changes and therefore, empty time. As this is information about the essence of reality and not any particular aspect of it, and on this premise rests the vindication of empty time, it is, at least, vital to their argument and our acceptance of it to show which calculus provides these conclusions. The point here, very simply, is that if their knowledge is similar enough to ours in order to make this speculation useful, then we want to know just that: what kind of calculus would reveal the structure of reality, which scientists have been painstakingly working at with the experimental method, at least since the time of Galileo! What Newton-Smith argues for, concerning the microstructure of reality, is not a minor point that we can simply concede, but it is **the** point about empty time. As I already argued about Shoemaker, you cannot simply glide over the assumption that somehow one has access to the possible structure of reality and discover that it is made of changes and states, because once you have allowed that, you don't need any further argument.

States and changes however have to be such as those described by Newton-Smith if they want to escape the trap of reductionism which lurks wherever there is a knowable duration, whether it is a state or a change, simply because this can be known only through its happenings and only in this way become a phenomenon for us. But with the concepts of instantaneous change

and state empty of further changes, Newton-Smith has shielded this reality from the corrosion of reductionism. Unfortunately, though, his treatment has also made it unknowable, inaccessible to any knowledge, to any possible assessment and, I claim, to any adequate concept, least of all that of its existence and of the structure of this existence. In fact, I insist, how is the physicist of this fantasy world supposed to know which state the particle is in, and distinguish it from a previous state, since he can know that there has been a change only by detecting a new state? And this he can't do either, because the interval of time to which this state corresponds is always smaller than could be ever detected? How can the physicist know anything about that state (and so know it as a state), if that state corresponds to absolute absence of change; what is going to inform the physicist of what is going on in those supposed particles if there is nothing going on before and after the change, and the change itself is nothing but the occurrence of one immobile state after another?¹⁰

Neither could the situation be different in this antireductionistic crusade, because if the state could be detected or described by any smaller happening or change, it wouldn't be final and it wouldn't be a proper changeless state. The paradox of phenomenal observation appears again: anti-reductionism (just like reductionism) is in the end trapped in this paradox, as neither of them can conceptualise change as "really" happening. On the one hand reductionism can only talk of events in terms of further subevents and on the other, antireductionism, claiming to be talking of final events, cannot in fact say anything about them, and therefore cannot conceptualise change at all, as we shall see.

Anti-reductionism seems to me, in this respect, an incredible struggle to avoid the natural limitations of human observation and knowledge: an open

¹⁰Newton-Smith says that his armchair theory has been toyed with by some physicists: I don't find difficult to believe that, as the concepts that he employs in it are those kind of absolute concepts that physicists always deal with, such as "zero time", "zero point" etc... The task of a metaphysics of time is to establish whether these concepts can have any explanatory power or if they can express only a limit of our knowledge.

and unfinishable task expressed by the *regressio ad infinitum* of reductionism.¹¹ And by not acknowledging the unaccomplishable nature of our knowledge it ends up falling into a paradox: in fact there is no way in which we can claim that there exists a reality such as the one described by Newton-Smith, because the logical constraints of anti-reductionism itself (absence of further sub-events) have made it unknowable! By its own requirement, then, we cannot know the states because nothing happens in them, no interaction necessary for phenomenal knowledge, and likewise we can't know anything about the change which must be instantaneous and cryptic, (that is, it does not consist of further events). Such states and changes in fact, one must admit, are not knowable through the ordinary means of experience: bodily and various other physical apparatus that record ongoing changes and interactions would fail to detect anything. That is why I stress that they would be knowable only through an immediate intuition of the noumenal nature of this reality. But this intuition that requires an immediate communion with the structure of nature, without the media of experience could only be possessed by godlike creatures.¹² Would these be Newton-Smith's fantasy physicists?

The claim that the entities of Newton-Smith's fantasy theory are noumenal could, of course, be challenged. I anticipate a reaction to this argument that goes as follows:

'Just because a theory talks about entities which are not phenomenal, this does not mean that they are noumenal. Rather, what the theorist is doing is postulating entities which are neither phenomena nor noumena. These entities, the 'posits' of a scientific theory, are postulated on the basis that they form the best explanation for the phenomena in question. So they are not noumena.'

¹¹Nonetheless anti-reductionism has in this useless struggle a merit: that of expressing the uneasiness of a concept of a reality that is never reached in the reductionistic approach; something of which we should always be aware in order to never take, unproblematically, our descriptions of phenomena to be real happenings, and so, just like anti-reductionism, end up making claims about the structure of reality.

¹²That is creatures whose knowledge of reality is similar to the knowledge that we attribute to God: immediate knowledge of the essence of reality. See Chapter 2.

But this response misreads my understanding of 'phenomenon' (see chapter 3, beginning). A phenomenon is simply something that is thinkable for us. So the posits of scientific theories are phenomena just as much as tables and chairs are. (However, I recognise that someone – a traditional empiricist, for example – might not accept my conception of phenomena. I have no argument against such a position.)

c) States and Changes: a necessary but unsupportable presumption of anti-reductionism.

But Newton-Smith seems completely unaware of these insurmountable difficulties that his theory presents. In fact after giving the five tenets of the theory he goes on to describe in detail what happens in this microworld, when events at the macrolevel happen such as, for example, the waving about of an arm, which is

constituted by a finite sequence of perceptually indistinguishable jumps of the system of particles comprising my arm.¹³

And he goes on:

If particle p is at spot x at time t , and has its next position x_1 at time t_1 , it will jump instantaneously from x to x_1 .¹⁴

And, of course, we have to imagine these physicists recording, in a way that still is not given us to understand, cryptic states and changes, jumps and everything that his fantasy may suggest them, even though all this, Newton-Smith points out candidly, is “perceptually indistinguishable”. But, then, ‘perceptually indistinguishable to whom?’ it is natural to ask. Surely not to the godlike physicists of above? We are obviously facing a methodological confusion. Newton-Smith is completely ignoring here what he claimed a few lines above: that the interval between the changes, that is the state in which a particle is in, is much smaller than could ever be determined and that the

¹³W. Newton-Smith, *op. cit.*, p.25.

¹⁴*ibid.*

changes are instantaneous. These are all requirements necessary to anti-reductionism, as we have seen, but he seems to abandon them as soon as he goes on to describe to our human intelligence what happens at this microlevel.

Then he carelessly embraces concepts that can only open the way to reductionism, but on the other hand are necessary to any description of phenomena and so accessible to our comprehension and relevant to our conceptual system. The only way he can talk about actual happenings is through employing a concept of change that, whether he realises or not, implies sub-events. As this reductionistic concept of change is the only one that allows us to conceive of a detectable state or change, or better of a change and state relevant for any human intelligence.

So we find the concept of a particle that is at spot x at time t , and at spot x_1 at time t_1 ; he even raises at this point the doubt “will it still be the same particle?” which is an absolutely superfluous scruple, as who could care less since nobody under any condition can ever know about the states of p ? How is it possible, I ask, that one could know that p is at spot x at time t and at spot x_1 at time t_1 ¹⁵ if to satisfy the anti-reductionistic requirements, the states of p can never be recorded or it would mean that something is happening in them with which we can interact and this would make them not final states at all?

But even if he hadn't gone to the extent of describing what happens in this reality in a phenomenal fashion that can only open the way to reductionism¹⁶, his theory would have still been untenable. It was so in the first formulation of points 4 and 5, inasmuch as it claimed the existence for someone, sufficiently similar to us, of a reality consisting of last states and final changes,

¹⁵ Obviously the reason why Newton-Smith can ask these questions is that being a realist he distinguishes between what there is and how we know it. But the point is, I argue, that it is vital in this case that one knows what there is in order to argue for the possibility of this kind of reality and empty time. Because the issue, here, is not about time in itself, but about a concept of time which could be logically held by creatures similar enough to us to make the argument meaningful.

¹⁶Because for someone to know that something is in a place at a time, requires interaction and therefore things happening in this so-called state.

where, by definition, there could be no interactions going on between this someone and this presumed reality that could make him aware of its existence.¹⁷ What follows in his description of particles being in a place at a time, simply makes this contradiction apparent: how can physicists similar enough to us to possess a phenomenal and not a noumenal knowledge of reality, know anything about states and changes that are by definition cryptic and not knowable by beings who need some sort of interaction in order to gather information? If such are our alien scientists, then Newton-Smith's speculation is incoherent. If instead they are such that they could know these states and changes, than his speculation is irrelevant to us and an unsupported assumption. In either case he has clearly failed in what he wanted to demonstrate: that temporal vacua are possible, because the argument in favour of this, rests, as in Shoemaker, but in an even more striking way, on the presumption that a changeless reality could exist for someone with a cognitive apparatus similar enough to ours in order to make their speculations worthwhile. But for this premise neither Shoemaker nor Newton-Smith feel they need to argue, they rather present it as an "axiom".

But, as I have said, when Newton-Smith claims that p is at x at time t , it means that the time of this interval between two changes cannot be "much smaller than could ever be detected", even though it has to be such for anti-reductionism to hold. Newton-Smith, in fact, interestingly oscillates between a phenomenal description of reality, the only one intelligible to us, in which changes and states are knowable because they have a duration in which things happening interact with us, and a description of undetectable states and instantaneous changes which could only be known noumenally and therefore unintelligible to us.

¹⁷As I said on page 197, we cannot concede that the fantasy physicists arrived at this knowledge by calculus, because in this case this same calculus would become the only relevant aspect of an argument for empty time. One in fact would not need any other proof than this mathematical knowledge of a structure ultimately consisting of instantaneous changes and empty intervals or states.

Let's now consider the terms of Newton-Smith's putative reality in a very schematic form and see what kind of picture comes out of it. Imagine a state A, a change x and a following state A1. For anti-reductionistic purposes, no possible detection with the even most refined instrument could tell me anything about the state A, because if I could detect anything about A it would only be through interaction and that means an action of A. But A is a final state and as such must be without happenings: it is in fact described as an interval of empty time between two changes. The same goes for A1, the state that has followed the instantaneous change x. We know that it is a new state because there has been a change x. But how can we know anything about change x, in this situation? Change x in its turn must in fact be instantaneous, it cannot linger about and cover a knowable stretch of time or we would find ourselves with the unintelligible concept of a change covering a stretch of time in which nothing happens, namely a change without change, since nothing more can happen in it or it wouldn't be the final real change and would reopen the way to reductionism.

This means that in terms of cognition x is nothing for us but the "passage"¹⁸ from A to A1, there is nothing more to be known about x as there is nothing in the middle of A and A1, except for x. Therefore all we could know about x depends on our knowledge of A and A1. But if we cannot know anything about A and A1 because they are cryptic states, how can we know that there has been a passage, a change x from A to A1? The problem couldn't be spelled out more clearly, I think: we cannot know anything either about the states or the change and neither could we derive the knowledge of one from the other.

¹⁸As we shall see in section (d) of this chapter there is nothing to say even about the forms or ways of this passage. x, in fact, for its instantaneous cryptic nature cannot be thought of as being caused in anyway or as causing anything.

So the whole theoretical construction of this reality of undetectable states and instantaneous changes appears to rest on nothing, or on a figment of our imagination which could never satisfy the requirements of our knowledge that shows again and again to be limited by that paradox that I have illustrated in chapter 3. What happens for us, can only have a duration in which things happening interact with us, but this means also that in terms of reality, the reality pursued by the anti-reductionist, this happening is never what “really” happens, because it can only consist of always further things happening in it. Probably this concept of a never-reached reality, disturbs people like Newton-Smith who oppose to it the picture of a reality, whose events and, consequently, whose time are not divisible endlessly, but whose ultimate nature consists of last changes and final states which, in virtue of their being final, cannot interact with us, because if they did, they would have to be thought as further analysable and not cryptic, final happenings.

It should be clear now why I claimed that if there existed instantaneous changes and changeless states, they would also be unknowable and not conceivable: they would be *ipso facto* in a noumenal dimension. But there is no need here to get lost further in the speculation about what kind of intelligence is needed to know such cryptic changes and states or even if they can exist; what is important for our current purpose is to substantiate with further arguments the claim that final changes or states not only cannot be known, but cannot even be conceptualised by us. Newton-Smith, in fact, argues for the logical conceivability of these concepts of final states or empty time and instantaneous change, against a naive verificationism.¹⁹ To undermine this conceivability will be the task of the next section.

d) The immobility of a state involves indifference of its parts.

¹⁹W. Newton-Smith, *op. cit.*, p.19.

When we talk of final change as the fundamental rate of change of a reality, we must also take into account that no human-built and human-readable instrument could detect this change because no such instrument could have a measure smaller than the rate of change of the physical system to which it belongs and that could so detect any intervening final change. The latter, being the smallest event happening, could not be recorded as having happened, as I am going to explain. But let's imagine (properly speaking we are employing here a reasoning *per absurdum*) that we have such an instrument that records a particle such as that described by Newton-Smith which changes its state instantaneously, for example, from being charged positively to being charged negatively, which I shall represent as A+ becoming A-. This is in fact, already impossible for us to conceive because these states are described and understood by us only through further subevents or substates and interactions. But let's allow that there are and are conceivable such cryptic final states A+ and A- which are empty of further changes.

Now to talk of a change from A+ to A- should be possible only if these two different states offer a different kind of interaction to a possible detection. Or, even putting the detection on hold, as it could involve the accusation of verificationism, whereas we want to deal with pure conceivability, this change x can be conceived only if it brings a modification in the system consisting of A+, x and A-. For something to change in this system, the state A- following the change x must determine a different pattern however small or intangible in the behaviour of the system. But if what follows change x is a state with no happenings in it, but absolute immobility, what sense does it make to talk of change x? What has there been a change for if nothing really changes in the system since the status quo corresponding to A+ was immobility empty of any happening and the "new" status quo following the change that should bring about A-, is just as immobile and empty of happenings? In fact, how, in these conditions could A+ and A- have been different? This is clearly why our

reasoning was *per absurdum*. There aren't the conceptual conditions that would allow us to differentiate A+ from A-.

I can hardly conceive an immobile and therefore cryptic state of a particle as being different from another immobile cryptic state of the same particle. Anything that could differentiate these states in terms of relations and interactions with other particles is totally absent because not only to interact but also to entertain any relation a state must be internally dynamic, as we shall see. But where every part in a system has lost its own peculiarity given to it by the way it relates and interacts with the other parts, then all the parts become equated by immobility, they become indifferent to one another and the system becomes an undifferentiated system.²⁰ This appears to be so with or without detection or verification.

I can now envisage two relevant objections that Newton-Smith may want to move to the claims that I have been making about the inconceivability of instantaneous change and its meaningfulness in an immobile reality. Answering them will give me the opportunity to substantiate further my claims.

The first objection regards what I have characterised as a necessarily dynamic relation among the parts of a common structure; that is the impossibility of conceiving of reality as a differentiated and meaningful structure where absolute immobility is given. The objection, drawing an argument from our everyday experience, is that you don't need further happenings in a system in order to understand an intervened change and so a modification in a pre-existing structure of that system. In fact, given here that

²⁰One could argue that an undifferentiated system is still something to which we still allow existence or that we can still conceive as reality. But I am in fact going to show that where there aren't meaningful relations there are not knowables for us. So this "system", lacking what would make it knowable to us, would rather be a Void than a system. The Void expresses in fact this absence of relations knowable to us, it isn't the nothingness, an absolute emptiness, but an emptiness of relations for us.

an instantaneous change is conceivable²¹ we can conceive that this change produces a modification in the relations amongst the parts of the system, relations which, one could argue, persist also in the total immobility that intervenes after the change.

I will deal with this objection in the following section. Let me now deal with the second objection which regards my claim of meaninglessness or (if you like) unintelligibility of change when simply preceded and followed by immobility. And with it the claim that a concept of reality where immobility reigns is unintelligible, since the putative instantaneous change that should create relations in this reality is nothing but the passage from one immobility to another.²² The objection to this could be that, in fact, it is not the intervening immobility following and preceding the change in which we have to find the real nature of this reality, but in the change itself, this never-ceasing change from one state to the next in which this reality is always differentiated and dynamic, and also interrelated. In fact, Newton-Smith could argue, when a change happens, this can cause other instantaneous changes to happen and so create the pattern of a meaningful differentiated and interrelated reality rather than the absolute, meaningless and therefore inconceivable immobility that we are claiming to find whenever we “look” at it. So it is our mistake, because rather than pointing out the change we have transfixed our attention on this unintelligible immobility of states. This would be, in fact, the case if the instantaneous change could accomplish such a task, but, as it happens, it cannot. Let’s see why.

First of all, as I have already mentioned, we cannot ascribe to this change any particular nature of its own: it cannot be anything in itself, but the passage

²¹To deny of its conceivability will be the final result of my analysis. At the moment in order to develop a final counter argument, I allow its possibility, even though I have already offered several arguments against it.

²²This claim of mine needs of course to be substantiated by the previous one: that this immobility does not preserve any meaningful relation amongst the parts that could make this reality intelligible and conceivable by us. This I will provide in the next section, (e).

from A+ to A-. The problem now is that this "passage" is not a passage as we normally intend it, a gradual process that, however small and short, is still thinkable as consisting of something: in this graduality and in this consisting of "something", is nested the corrosive poison of reductionism that Newton-Smith wants to avoid, because he knows only too well that this way you would never get to empty times and changeless states but only to smaller processes filled with further changes. This is why an instantaneous change cannot consist of anything further than the "difference" between A+ and A-. It could take an extremely long "time" or an extremely short "time", in this time nothing would happen except A+ becoming A- with no further intermediate passage in between. In this case the term 'becoming' is also improperly used, as this suggests certainly a gradual passage. This is why no matter how long this instant is taken to be, it will be an absolutely cryptic time because the change will be absolutely cryptic; and one thing we must assume for certain: it cannot be anything more than A+ and A-, because there is nothing intermediate between them, but their instantaneous changing from A+ to A-. So if A+ and A- were absolute immobility, the instantaneous change x is nothing but the cryptic "passage" from an absolute immobility to another. This is sheer absurdity.

We have just seen, then, that x is nothing but the temporal difference between A+ and A- and that it cannot contain further intermediate passages between these two states. Now if the change x is supposed to cause with its happening other changes, these can obviously be instantiated only during the happening of x. The problem that arises immediately here for an attentive mind is that if a change, let's call it x1, is "caused" while x is happening it should be totally simultaneous with it because the happening of x is not made of subparts belonging to different times of x, so that one could say that x1 has happened at T2 of Tn times of x. If it was caused by x it should have been, for the cryptic nature of x, totally simultaneous with it, but it is also true that it couldn't be

simultaneous with x as x to cause x_1 must be anterior to it. It should in fact be partially anterior to it, but it cannot be because there are no parts of x , and yet this is the only way in which we could conceive the instantiation of x_1 by x . In fact the other relations of complete simultaneity, or of complete antecedence and consequence are not suitable to this kind of direct causation, and the only one necessary, partial contemporaneity,²³ cannot be given because x does not have parts in its happening. So simultaneous changes cannot cause each other.

Now if we tried to argue that even if x does not have parts in its happening, it still happens in a non zero time and this time as duration is divisible so x_1 could have started at any of the times of x , we would be digging our own grave. In fact this concept of instant, (which of course I do not subscribe to),²⁴ as covering a stretch of time cannot allow us to think of it in terms of our concept of duration, that is, as something divisible in parts while is lasting. Change x cannot have parts, so if we thought we could divide its time into n times, we should expect that whichever time we analyse we would find x in its entirety, not a part of it. But, obviously, we are now talking plain nonsense.

It appears, then, impossible that x could in anyway instantiate x_1 , because x does not start, last and finish like any normal process with differentiated parts, but is x all the way along, and its time cannot be divided in parts or it would become a state because in each one we would find only and always x in its entirety. But this, again, is only a reasoning *per absurdum* whose conclusion does not make any sense, even less than any other claim we have been analysing until now. x_1 could only be simultaneous to x but not caused by it. That is, in this yet again unrelated reality it could appear as simultaneous to an external timekeeper, as the relation of simultaneity could not be entertained

²³It is obvious that we cannot conceive that such a last event causes another one when it is completely over. In fact it should be possible to link an effect to what happens in its cause and this is possible only through partial contemporaneity, at least in the case in which the event is not further reducible, as we are going to see better.

²⁴For the reasons exposed in Chapter 3.

by x and x_1 as we have not demonstrated yet that time or any other relation, is conceivable by humans in this reality of instantaneous changes and immobile states. (In fact we are going to prove the contrary). The other hypothesis that could tentatively be put forward, is that x_1 is not caused while x is happening, but when it is over and, as its result, A^+ has become A^- . So one could want to claim that it is the changed nature of A that instantiates x_1 . But this possibility is even less feasible in Newton-Smiths' imaginary reality. In fact for A to instantiate any change in, let's say, B , it would require some interaction between A and B . That is, it would require what would most of all infuriate an antireductionist, that the state A on which rests the possibility of empty time, is not changeless but it has certain happenings such as those necessary to instantiate x_1 .

We have thus explored and ruled out every possible way in which the instantaneous change could differentiate and so give intelligibility to this reality.

Reassuming, then, we can say that a change x_1 cannot be instantiated by x because this latter, not having subparts, allows only a relation of complete antecedence, complete simultaneity and complete consequence, none of them suitable for a causal relation, one where it is possible to conceptualise a relation between an effect and its cause. I discount that between a real or ultimate event which is held to be the cause and another event of this same nature which is held to be the effect, there could be anything but a relation of partial contemporaneity or partial anteriority of the cause. With this I am not disagreeing or making any claim about accounts of causality as a relation of simultaneity as argued by Kant²⁵ or, on the opposite, of consequence as in Hume.²⁶ I am, in fact, not considering at all this kind of analysis that regards a phenomenal description of causality. Here, we must remember, we are talking

²⁵Kant, *Critique of Pure Reason*, pp. 227-8.

²⁶D. Hume, *Enquiries*, pp. 60-79. For a discussion on simultaneity and consequence in causation see Le Poidevin, *Change, Cause and Contradiction*.

of final events or happenings as this is the level of speculation of the antireductionist. x_1 , as event not further reducible, should be instantiated while x is still happening, or it would be impossible to conceptualise a relation between them, as there would be no other opportunity for us to retrieve this relation between cause and effect, because these are supposed to be ultimate causes and ultimate effects. So if the relation is not instantiated when they are both present, how can it be instantiated? It is obvious, then, that a relation of complete consequence is to be ruled out.

About simultaneity we can also see easily that a complete simultaneity where an event is not further reducible, cannot account for causation. That is when x is over, it is completely over, or if it is simultaneous with x_1 , it must be really simultaneous as they do not have sub-parts that could make this simultaneity partial. When we talk of change x causing x_1 , we are talking in this context of putative final changes. This requires us to ignore all those causal situations that are further reducible to these presumed last changes. That is, we have to ignore all our ordinary experience of causal relations that are also what philosophers who analyse causation normally have in mind.

I obviously do not agree with the working hypothesis of antireductionism as I believe that the only kind of causality that is “intelligible” to us is the causality of a reductionistic, phenomenal framework where there are no final events and where every change is a gradual change. I am not claiming that this phenomenal level allows us to grasp the “real” nature of this relation, for this, I claimed, as a real happening, ultimately belongs to a dimension we cannot reach. But neither can antireductionism with its claims and hypothesis of final events not further reducible, grasp this concept. In fact its theory is much more vitiated because it applies concepts such as that of duration, state and change that make sense for us only at a phenomenal reductionistic level, to a level where presumably there should be no further

reduction and a change, a cause, a state, should appear for what they really are. But what are they? The antireductionist cannot answer this question and simply goes on to apply to these putative real states, changes, causes (etc..) our ordinary spatio-temporal coordinates and all the constraints that our ordinary concept of time and space carry with them, as they cannot go beyond them.

This thesis is in great part dedicated, as it must have been realised, to the paradoxical nature of the concept of happening when it is thought in “realistic” terms. I would like here, instead, to point out how also the concept of a “real” cause becomes paradoxical when we try to grasp it in an ultimate instance of it, according to our phenomenal coordinates of space and time (and in what other way could we approach it?). But for this I have to refer the reader to an appendix to this chapter, for the discussion, if carried out at this point, would break the thread of our reflections.

Going back to our previous considerations we can conclude that the change x from A^+ to A^- , still remains the unintelligible change from an immobility to another, because for the cryptic nature of the instantaneous change x and the changeless structure of A they cannot relate to any other part of this reality. So this reality appears as consisting of unrelated immobilities which, I claim, make a concept of it unintelligible to us, because there is nothing in this reality that we could grasp with our intellect.

The central claim for the unintelligibility of this reality, in which A is described as immobile before and after its change is, of course, that immobility is necessarily the absence of any relation. This is the strongest claim here which still needs to be substantiated.

So we have arrived at the first objection mentioned earlier on: the objection that immobility does not have to be undifferentiated and unintelligible, or lack any parts or relation. Since instantaneous changes, as we have seen, cannot create a network of relation in this reality and so differentiate it in its parts, we must rely on the relation amongst its parts, a relation that,

therefore, must be given even in the immobility, in order to find its differentiation and meaningfulness. Instantaneous change, one could claim in other words, brings about every time a new configuration of the space, one that is given even in the immobility of the parts and this is what makes the change meaningful and what makes this reality intelligible. If this objection was founded, then, my arguing that we not only cannot experience this kind of reality, but we cannot even produce an adequate concept of it, would be unjustified and claims of empty time would make sense. I am obviously going to argue that where immobility is concerned we cannot talk of a change in the spatial configuration or of a **spatial** configuration at all. As consequence of this, I will argue, Newton-Smith's "logically possible" reality is in fact inconceivable because its concept, amounting to total immobility without relation, is totally unintelligible for the human mind.

e) Spatial relations are not conceivable in the immobility.

In order to understand what is meant or what should be meant here by immobility I will provide the reader with a clear example. Let's imagine a structure such as a chair. We know that this structure when in a stable state (when not burning in a fire for example), is constituted in its spatial configuration by the particular relations (we want to consider here only the spatial ones) that each of its particles bear to one another through their respective interaction.

Now we have to imagine that these particles will stop being characterised by the interrelations determined by their interactions and become immobile, which does not mean "frozen" in the position or in the spatial configuration in which they are when they make up a chair like in Shoemaker's idea of freezing.²⁷ Let me say that the problem with the 'freezing' is in fact that

²⁷The problem is that we don't know what this real immobility means, because all we humans know, we know through relations. This is the real point of my criticism: they talk about what they don't know and what cannot be known because even if it did exist, it would never meet,

it takes for granted that particles that make up a chair or whatever, only when they bear these relations to each other due to their interactions, do so also in the immobility without further changes of the frozen state. But this immobility, we have to remember, does not mean (or it should not mean) the being at rest of Physics which still requires forces acting upon the particles to keep this equilibrium, but it is the lack of any of the relations given by the interactions of the particles that create the structure. That is why to claim that there could exist such a reality made of the objects as we know them but with no further changes going on is begging the question: that such reality could exist or be conceived by us (or by anyone similar enough to us in order to make this speculation worthwhile). But a reality which is supposed to keep these meaningful relations (meaningful to us, so that we can still conceive it as that peculiar reality), while nothing at all happens in it, is something, I argue, we cannot talk about because we will never know anything about it.

This, of course, does not have anything to do with the limitations imposed on our conceptual powers by a naive verificationism, as Newton-Smith believes²⁸, but it has to do with conceivability *tout court*. The fact that this

for its own nature, the requirements of our knowledge. And, more importantly the existence of an immobile reality, a point that they so easily concede, is not a minor point about empty time, it "is" empty time. So that, as I have often said, they allow, *ex hypothesi*, what should be demonstrated. Shoemaker, for example, takes for granted that the parts of a system would retain the same meaningful relations by retaining the same position they normally occupy, also in the frozen state, while I am going to suggest that the same idea of position is at stake in total immobility. This is in fact an idea that we draw from a dynamic reality. Any possible relation between apparently immobile parts can be conceived because there subsist some external framework of movement and change. In fact how could we conceive the relation between immobile objects in a room, for example, if they weren't given in a framework of already dynamic relations. If we didn't have the concept of traversability how could we come to conceive a relation of distance between two objects? You don't need the aid of modern physical theories in order to challenge this idea of unchanging reality and empty space. This, I say particularly in response to a point of Shoemaker's argument where he claims that those philosophers of the past who argued for the inconceivability of empty time didn't do it on the ground of Physics' assertion that our Universe is an ever changing one, so this aspect of the problem does not need to be challenged. But those philosophers didn't need to know the latest discoveries of physics in order to deny this concept of unchanging reality, in order to know that without any movement within a system isolated from any other framework, it is impossible to retain any of those meaningful relations that allow us to identify the system and talk about it. In fact it is not on the basis of a physical argument but purely a logical one that I am going to base my refutation of this theory.

²⁸W. Newton-Smith, *op. cit.*, p.19.

reality does not meet the fundamental requirement of phenomenal knowledge, makes it also inconceivable. Where Newton-Smith maintains that the fact that we cannot experience it, does not mean it cannot find a legitimate status in our concepts. But I am, instead, trying to demonstrate that this fantasy world is, in fact, when closely looked at, unintelligible inasmuch as our concept of change and state are only derived from experience and only refer to a possible experience.

Any other kind of privileged access to them that does not have to suffer the restriction of a physical interaction, such as a purely mathematical theory, has to be provided in its detail, (rather than being adumbrated in the argument), for the argument to be run successfully. Because whatever is this substitute of observation, it has to be thoroughly disclosed, since it is on it that the success of the argument rests, simply because it itself *is* the argument for empty states and, so, empty time. To claim that such a reality even if unexperienceable “could” nonetheless exist, expresses a belief of the same nature of an act of faith. Of course one can base all his “philosophical” system on this faith, but one must at least be aware of doing so and not contraband this faith as a genuine philosophical argument. This remains faith in a “noumenon”. This was a very important digression I had to make, because the central point I am stressing here and the flaw I am trying to unveil in these claims of empty time is the impossibility for us to conceive of a real immobility or of a reality empty of changes but still full of those meaningful relations that make us know it as the reality that we know.

Imagine now that in this structure whose parts are all reduced to immobility, whatever this means, there would intervene a change followed by another of these states of absolute immobility. This immobility, I claim, would be an absence of any relation among the parts which wouldn't simply be at rest in the position in which they form the chair or whatever, but would bear to one another none of those relations that made of them a chair intelligible as such.

This latter, as we gather from our observation, is in fact a dynamic structure.²⁹To believe that its parts would still retain these peculiar relations that create a chair, means to “know” that this reality could exist as we know it, also in the absence of this dynamicity, these relations and interactions through which we come to know of it; as if these happenings, these changes that make possible the interaction with us, were only an additional, unimportant feature of this reality and of which we can dispose without that making any difference to the existence of this reality for us.

But this belief in the subsistence of an unchanging reality with the same features of the one we experience, except for a very important one (dynamic relations), would not only beg the question about the existence of such a reality (and therefore of empty time), but it would also involve questioning centuries of slow and sometimes painful progress in the attempt at construction of a theory of nature, based on this interaction with it, and I can't see the reason one could have for wanting to do this. Why, I ask myself, should some odd philosopher decide to tell us that interaction with reality is not necessary to come to relevant conclusions about it, that, in fact, we can assert its existence and speculate about the ultimate nature of its changes and states also without interacting with it?

However, I can anticipate that Newton-Smith will respond that he is not challenging any empirical discoveries of science. He is not ‘refusing to look down the telescope’. Rather, he is articulating what our concepts allow us to speak of – his fantasy world is an analytic or conceptual possibility. My response to this is as before: our concepts derive from experience (which is not synonymous with crude verificationism) and can only be applied to worlds which are somehow experienceable. I will now demonstrate this in relation to our problem.

²⁹Again, I have to specify that these are not claims which depend on the discoveries of physics. I talk of the micro-parts of a chair because it is easier to talk of a single structure, but I could as comfortably talk of relations among macro-objects of reality as in fact I will do next.

The problem was whether we can conceive of **change** in the spatial configuration and of **spatial configuration** altogether when this real absolute immobility is given. My question at this point is: what sense does a change make if all you have before and after it is undifferentiated, unrelated immobility? My task now is to show that Newton-Smith's one is this real immobility where it is impossible to conceive of change and relations amongst the parts, and, better, that it does not have parts and it is not a spatial configuration at all. Therefore, such fantasy reality, consisting of empty states and instantaneous changes which, according to Newton-Smith, we could have good grounds to believe in, is, in fact, unintelligible.

Even if we turn our attention from the chair to a smaller structure such as a particle or a cluster of particles the picture does not change. In a particle with no further subparts and whose only change can be a change of position, its real immobility, the impossibility to relate itself to other parts of the system with some sort of interaction would make it impossible for us to conceive a change in its position and so a change in the spatial configuration and indeed the spatial configuration altogether. This presumed instantaneous change seems good for nothing because all it produces are immobilities. One could try and see the meaningfulness and the differentiation of space in the actual change, but this, we have seen, is not a process of change as we know it normally, but it is only the being of the particle in a new or different state or position with no intermediate events. Neither the state is the ordinary state we normally talk about in our everyday life, consisting of further states or changes, but it is a real immobility, the absence of any happening. But, coming to the point, can one real immobility be different from another real immobility, so that we could talk of change in the spatial configuration and of spatial configuration altogether? and if we think so, how would we go about describing this difference?

We cannot claim that these immobile particles are already in a spatial relation for the simple reason that they occupy different regions of space. In fact, to claim that would mean that a hypothetical absolute space is by its own nature differentiated even before anything happens in it to differentiate it.

Try to picture the following: an absolute space *S* with no relation to other spaces external to it, in which there are two particles *A* and *B* which then go on to change their position. “*S*” as a putative absolute space cannot be in itself differentiated. Regions of *S* in themselves cannot be left or right, or up and down, because something can only be left or right (etc.) in relation to some standpoint. And *ex hypothesi*, there is no such standpoint. Now consider *A* and *B*. In their turn they are said to occupy two “different” regions of this space in their immobility. But how is it possible if these two particles *are not in relation* as nothing happens in them except for this presumed change of position? And in fact whether it is a change of position, whether they have a position at all and so differentiate the space they occupy making of it a “common space” is what has got to be demonstrated rather than be taken for granted.

In fact I claim that no one could say that there exists such a space differentiated by these two such immobile entities lying in it, that is, no one could say that in the region *x* lies the particle *A* and in the region *Y* lies the particle *B*, taking these regions as singled out by the presence of the two different particles. *A* and *B* even if presumed “different”, are unrelated, in fact only if they occupied two already differentiated regions of the same space they would be related, their relation lying in the given difference between the two regions. They would be in this case indirectly related. But as it happens these two regions are not pre-differentiated and only if the two particles were not each an absolute, in its own isolation, but entertained a relation with each other, they could be said to single out two different regions in this absolute space, making of it a common space or an intelligible spatial configuration. Their just

lying there immobile with no relation to each other, no interaction, cannot differentiate this absolute space, as we are going to analyse in further detail.

One could object at this point that we can perfectly conceive a space where there are different physical entities even though they are completely immobile. We can imagine as such an absolute space a room isolating it from all its surrounding. Such an absolute space must also be considered whilst finite also unbounded³⁰ because for it to have boundaries would require something external that determines its space. We also imagine the objects that we ordinarily find in a room as the last indivisible atoms that occupy this space (e.g. Newton-Smith's particles). Even though, it would be said, these objects are absolutely immobile as they are in our perception, they still differentiate the space they occupy. Namely the lamp is up relative to the table, the chair is on the left of the door, the door is on the right of the cabinet and so on.

Let's now imagine that an instantaneous non gradual change moves the chair in another position, after which the objects are as immobile as they were before. Now for us to talk of change we must be able to detect or conceive a difference in the spatial configuration, and in order to conceive a spatial configuration we must be able to conceive of parts of the space in a specific relation with one another as we have seen for the lamp, the table etc.. To conceive the change we need then 1) to conceive a difference between two spatial configurations and 2) in order to conceive this intervening difference we need to be able to assume that the parts of this space entertain specific relations that become altered with the change, that is we need to assume that they create a spatial configuration in the first place. (In fact, if these parts were all equivalent, if for example all we had were identical chairs and all they did was swapping place with one another, it would be impossible to talk of change in the spatial configuration.) The relevant question at this point is: can we talk of a

³⁰Such is, for example, the way our universe is often depicted: finite and unbounded.

“certain” spatial configuration, that is of a space differentiated by these objects rather than the undifferentiated ungraspable Void when there is absolute immobility? The answer to this question seems to be immediate and simple: yes. It is obvious to us that the objects in a room create a differentiated space rather than an undifferentiated void even when they are completely immobile, which is, in fact, one would claim, their usual way of being.

But this, I suggest, it may be so because we are prejudiced by many pre-existing relations from which we haven't removed our conception of the room and the objects so that they could properly fall under the restrictions of our case. We should, therefore, analyse our example more closely and try to purify it of these preconceptions that are often given when we take an example from everyday life. To make this example work in relation to Newton Smith's imaginary reality, we have to stress, as I have already specified, that chair, table and whatever is in the room are “atomic” objects in the etymological sense of the word, that is not made of further parts, but just like Democritus' atoms, indivisible objects with different shapes. As absolute space the room is finite and unbounded, as there is no further space outside it that could define its boundaries, this means it cannot be conceived anymore as a room delimited by perimetral square walls (square would be already a precondition that cannot be accepted), but it is just the spatial configuration determined by the objects it contains. Actually whether it is a spatial configuration or only undifferentiated void, is still to be assessed. Let's imagine that in this finite unbounded space there are for conceptual simplicity, not chairs and tables, but a cube, a sphere, a hexagon etc....., and that they are not made of further parts,³¹ and they do not entertain any relation to one another because of their immobility.

But to this claim one would immediately object (and on this objection is based a vindication of the differentiation of space and reality even in the

³¹These are not conditions which I personally believe possible, I grant them just for the sake of the argument.

immobility of its parts) that they entertain at least one relation, they are “different” from one another and it is in virtue of this diversity that if they swapped place, for example, they would create a different configuration. But for this to be true, we have to assume that the space in which we find these objects, has already got its own co-ordinates, a sort of grid or a space already mapped out in which the objects find place, and only in this way happen to be in relation with one another because they entertain different relations with the same space and so indirectly they entertain relations with one another.³² But to be truly mapped out, the different coordinates of this space, the east and the west, for example, to be truly differentiated should express different relations to another system, that to serve as frame of reference must be itself already mapped out in the same way in relation to another given frame, and so on *ad infinitum*. Because without an original differentiation due to given relations, there would be no difference between the east and the west that could in its turn differentiate and put in relation objects posited in this space.³³ But if this absolute space is already so mapped as to give to the different objects different spatial relations with it and through this with one another in virtue of them belonging to the same mapped out space, then what are we arguing for? If this were the case, in fact, what we are trying to assess – if these immobile objects can form nonetheless a spatial configuration which we could conceive of through meaningful relations – would be already given as a premise insofar as the absolute space is already mapped out by a grid of co-ordinates expressing such relations, so that whatever happens to be on this grid is *ipso facto* in a spatial relation with whatever else is on the same grid. The spatial

³²Each one of them entertains a peculiar relation to this space in virtue of the fact that this space is already differentiated, and only thanks to this so-developed peculiarity can these particles relate to one another. If the space was not already differentiated, it would be easy to imagine that all its places would be equivalent and the presence in it of different shaped particles that stand completely by themselves would not serve to organise this space in a configuration, because each particle with the space it occupies would behave as an absolute in its own right, not having any interaction with any other part of the space but being completely immobile.

³³On a pre-shaped space, see Graham Nerlich, *The Shape of Space*.

configuration is anterior to the existence of the objects in question and the objects just add to it further specificity. In this sense the spatial configuration would be anterior and completely independent of our sensibility. Now I am not denying that such an absolute space so mapped out could exist for a being with a different constitution from ours, but I do deny that it could exist for us and that we could have an understanding of it that is more than a simple act of faith in it.

The proof for the existence of such a space is doomed to failure, I believe, because the defender of such an idea cannot abstract in his demonstration from all relations given purely through our sensibility. To do so it would mean, in fact, to take for granted that the “real” space that we have always and only known in dynamic relations which alone can affect our sensibility, could subsist for us with a sufficient intelligibility even without such relations, that is, even abstracting completely from our sensibility. In fact, our sensibility becomes known to us, so to say, only through its affections which are a kind of motion and therefore relation. Before one could argue for the concept of absolute space, one should, then, argue for the intellectual conditions necessary for this conception. These must be given abstracting completely from our sensibility. Whatever is left must be an innate idea (which is not the same as a pure form of sensibility, of course). But here we are in a realm that does not need further demonstrations, neither can it afford any.

In the metaphysical language of Leibniz this absolute space, “the idol of some modern English man”³⁴, is an absurdity because it would involve God’s choosing something without a reason. In his famous dispute with Newton’s follower, Samuel Clarke, about absolute space and time, he argues that it is only the relation among the different objects that can differentiate one part of this space from another:

³⁴ The man in question was, obviously, Isaac Newton. “Correspondence with Clarke”. p.211 in Leibniz, *Philosophical Writings*.

Space is something absolutely uniform and without the things situated in it one point of space does not differ absolutely in any respect from another. Now from this it follows that if we suppose that space is something in itself, other than the order of bodies among themselves, it is impossible that there should be a reason why God, preserving the same positions.....should have arranged bodies in space thus and not otherwise, and why not everything was not put the other way round (for instance) by changing east and west.³⁵

What this means, is that without the objects placed in space and their relations, it would be impossible to distinguish one region of space from another, and, I argue, without the possibility to express the “order of bodies among themselves” as dynamic relations between the objects placed in space, it is still impossible to distinguish a region of this space from another and, so, to conceive of a spatial configuration, that is something with intelligible structure and relations. Objects that are immobile and do not entertain any relation, do not differentiate a space and so create a common space or a spatial configuration that we could conceive as such. What is at stake here, we have to remember, is whether such immobile objects could stand in any relation at all and so give a meaning to their instantaneous changes which are claimed to modify a spatial configuration. We have just seen that it would be wrong to maintain that these objects entertain at least one relation, that of being different from one another, because they have different shapes and so relate in a different way to the common space they belong to.³⁶

Kant’s discussion of incongruent counterparts in the *Prolegomena* can probably help us to shed a further light on this problem. Kant argues that we cannot make intelligible to ourselves the difference between things which are similar but incongruent – such as, for example, the right and the left hand – through a concept, but only through the actual relationship entertained by the two hands, and this is given by the faculty of intuition. He also writes:

³⁵*ibid.*, p.212.

³⁶See footnote 32 (this chapter).

There aren't in these cases internal differences that an intellect could think of, nonetheless the senses tell us that there are such intrinsic differences....³⁷

But what are the differences and, more importantly, what does the relationship of the two hands consist of? I suggest we try to imagine as in the case of the room, a body to which the two hands belong among its other parts, as the absolute space without any external referent. How can their belonging to the body as common space and, therefore, their reciprocal relation be defined? Why is the body a common space for hands, feet, arteries and so on? Is it because they are all attached to each other so as to form a physical continuum? But it is easy to see that this continuum cannot be, without any further specification, anything more than a convention. In fact, we could say that for what are the ultimate constituents of a physical object, the body is not more of a continuum than the rest of the Universe would be. Still, the body as a certain spatial configuration seems to be the common space of hands and so on, more common than the rest of the Universe would be. Why is it so? It must be because its parts entertain very close dynamic relations. The blood circulates through the body, the two feet walk together, the two hands grab together, and so on. In other words they perform synergistic actions. This is exactly what defines these parts as a body, and this would apply, I believe to any physical body, and it is what makes the body a common space to its parts in a more special sense than the rest of the Universe would be. Not, then, any spatial relationship which we could trace before and independently from their dynamic relations. Imagine, in fact, a completely lifeless body, where lifeless does not mean rotting, but a body whose parts have no activity, have never had any and never could have any. Is it still possible to think of it as a body, that is to trace those spatial relations among its parts that made of it a spatial configuration over and above them? What is now a hand? what is a foot? what of the symmetrical relations they

³⁷I.Kant, *Prolegomeni*, p.41.

enjoyed? A body without synergism does not have a shape identifiable over and above its parts, it is not a spatial configuration any more.

Let the defender of absolute space deny this. He has to explain then what special relations are entertained in this immobile body by its original parts, which would not be entertained by any extension simply attached to it, such as an item of clothing or a tool or, even, the rest of the universe as a presumed continuum. The original space that defined a body has lost its specificity and it has become a continuum with the rest of what is supposed to exist but also indistinguishable from it. The original parts of the body, whether they were hands or molecules, in absence of dynamic relations have ceased to belong to a common space and have become lost in the Void. In the Void there are no identifiable parts, because there are no relations. So a hand is not a hand but an ungraspable absolute in its own merit. Without relation, it has become like the Hegelian pure being which is indistinguishable from pure nothing.³⁸

Kant's own answer is also to this effect, I believe:

What is the solution? These objects are not representations of things in themselves as a pure intellect could think of them, but intuitions of our sensitivity, that is phenomena, whose possibility is founded on the relations of things, in themselves unknown, with something else, our sensibility.³⁹

And how would this be conceivable in the immobility?⁴⁰

f) Conclusions.

It will be useful to resume the previous argument, stressing that since it is impossible to conceive an absolute space as a container already having a spatial configuration or a mapped-out grid to which our immobile objects relate, we still need to argue for the conditions of a conceptual genesis of spatial configuration, or in a word, the genesis of space as differentiated or

³⁸Hegel's *Science of Logic* p.92.

³⁹I.Kant, *Prolegomeni*, p.41.

⁴⁰For a relevant discussion on this problem, see also G. Nerlich *The Shape of Space* pp. 29-49 and P. Remnant 'Incongruous Counterparts and Absolute Space' *Mind* 62:287 (July 1963), pp.393-9.

differentiable rather than the undifferentiated Void of which we cannot have an adequate concept. Now if these objects in virtue of their diversity of shapes do not stand in spatial relations with an already mapped out common space,⁴¹ they cannot entertain any spatial relation among one another and their individual shapes do not create a relation of diversity simply because they do not stand in any relation. Each one of these objects stands by itself and their being in this putative absolute space does not guarantee talking of spatial relations among them so as to create a spatial configuration. So these objects, even though they are said to belong to a common space, do not create any spatial configuration unless this is preconstituted in some mysterious way in the absolute space. But someone, and myself in fact, would at this point be inclined to claim that if there is no spatial configuration, if there are no spatial relations, there are no conceptual conditions which enable us to talk of a differentiated space, namely we cannot say that these objects, immobile and unrelated, belong to a common space rather than to the undifferentiated **Void**. They are totally indifferent to one another, until they start interacting and so entertaining relations with each other and only in this way they create a common differentiated space. Otherwise they can only stand by themselves and so what they occupy, what they belong to, is not a common space in which they would occupy a position, but... the Void. They are literally objects lost in the Void. Notice that Void here does not represent an objective reality out there,⁴² Void is a concept that denotes what is not describable because it does not offer any knowable, and whose existence, therefore, can only be noumenal and so as far as the

⁴¹A space that is common because is mapped-out.

⁴²Interestingly, the term Void expresses a lack and an absence. It does not mean “nothing”, but it expresses what I would call a “putative” emptiness, it is, in fact, empty of what can be “relevant” to us, what can be known by us. But as putative emptiness we can’t exclude that where there isn’t anything for us there isn’t in fact something. So I don’t want to exclude that this immobility to which we are indifferent because there is no way one could know about it, could be meaningful to another entity, to God, for example, who could perfectly conceive immobility and relations within it, and could have made such the ultimate essence of his creation. But the problem is that here we are talking, and we can only talk of the human conceivability of spatial configuration within a framework of immobility and not if there could be, in absolute, space with total immobility.

conceptualisation of it goes, it has to remain totally indifferent to us. Such is, in fact, the total indifference of immobility devoid of any intelligible relation. In its isolation, without a spatial configuration to which it belongs, each “object” loses its peculiarity and it becomes impossible to individuate it or conceive it as that rather than something else. This is the Void: total indifferenciation in the absence of any relation so that there is nothing there for our mind to grasp.

I hope that now, at the end of my analysis, it is finally clear why we cannot produce an intelligible concept of change, and therefore, that of an intelligible reality, in these conditions. As I stated at the beginning of this section, if there are no dynamic relations among the parts of this putative “space”, there cannot be a spatial configuration and therefore there cannot be an intelligible concept of change that requires the passage from one spatial configuration to another. Even if we allow for a moment, for the sake of the argument, that one of the objects would change position, we must immediately admit that without a mapped-out space, the object has not changed position, because it didn’t have a position before, as we can talk of position only in relation to something else, but not in absence of any relation.

So, in conclusion, all we can say is that we could never be in the position, postulated by Newton-Smith, of having good conceptual grounds to allow this kind of reality made of instantaneous change and states. Because as soon as we reflect on the cognitive conditions that it involves to conceive of it, we have to conclude that it is inconceivable because these conditions, implying the knowledge of a noumenon, are inaccessible for our mind. And so too is “empty time”.

APPENDIX TO CHAPTER 5

The only way I can conceive of an intelligible model of physical causation is through interaction of one kind or another. The way in which ultimately two parts of matter¹ are going to interfere in our spatio-temporal coordinates is by touching, by actually coming in contact with one another. It seems an obvious and incontrovertible fact that there is an interaction between a photon and a silver plate in the two-slit experiment. Likewise it expresses a common way of thinking to say that two particles interact, collide etc.. But what is ultimately our understanding of these concepts both in a reductionistic and antireductionistic framework? Let's consider in detail the terms of an interaction.

For two things to interact they should be in the "same" place at the same time. This is such an obvious truth when referred to the world of our everyday experience. You and I can meet and physically interact only if we are at a certain space at a certain time. But also in this simple case, if we try to analyse in more detail the terms and the conditions of our encounter we fall in a *reductio*

¹I must say that by using this word I don't really know what I am talking about, but I doubt that anybody does. Regarding this D'Espagnat tells us a very humorous story:

The physical sciences are quite often termed "sciences of matter", which implies that matter is their basic concept. And one of the facts that it seems to me scientists try to persuade us of is that indeed everything narrows down to the notion of matter; that in the absolute only matter exists with innumerable properties.

The least we can demand from such diehard materialists is that they should tell us what the notion of matter means to them. To make this clear, a friend of mine once visited some professors, my dear colleagues.

The first one he met was an extremely old chemist. He said, "young man, this is easy: matter is conserved whereas form is lost. See Lavoisier for supplementary details." But in the meantime, an elementary-particle physicist mentioned mass defects and the discovery of anti-particles. To save the notion of conservation he suggested that the number of baryons minus the number of anti-baryons (or one third the number of quarks minus that of anti-quarks) be called "matter". Before he could define these terms, though, one of his colleague stepped in. To this number he proposed the addition of the number of leptons minus that of anti-leptons. They finally agreed that the choice between these proposals – and between others as well – was entirely arbitrary. And as somebody said, "but then Number is the Idea of Things", the two fellows unobtrusively slipped away, afraid of being labelled Platonists!

B. D'Espagnat, *In Search of Reality*, p.51.

and find that they are not justified or explained in a rigorous analysis of our concepts of space and time.

If we analyse our shaking of hands, for example, according to our concepts of space and time we will have to admit that in a strict sense we never really meet or have a contact, in the ordinary sense of two things touching. Here, as in Zeno's paradox of movement, the co-ordinates of space and time which are on one hand necessary for us to conceive of contact and movement, are on the other hand not able to explain or logically justify a "real", final contact.

To conceive of a contact between two things, we need the co-ordinates of space and time. Our hands, to meet and touch have to be in the "same" place at the "same" time. This is the only way in which two hands could meet and touch and this is how we generally take it to be. We never, or seldom, reflect on the fact that if the two hands were in two different places they could not touch, and even more seldom reflect on the fact that the two hands are, in fact, in two different places, they occupy two different parts of space, each one defined by each hand. How can they touch then, if they are not in the same place? An obvious answer could be that the two spaces occupied by the two hands, have a common border: their respective boundaries meet. But it doesn't take much reflection to understand that (for *reductio*) the problem of occupying different space can be applied to the edges as well as the whole hand. In fact the so called matter that constitutes the borderline of one hand will still occupy a space different from the matter of the borderline of the other hand.

However small we imagine this point of contact, if it is between two spatial entities, it will present the same problem. That is, it will not explain an interaction by contact between two spatially different things because these two entities for being spatially different can never meet. Again, we are seeing that contact which is conceivable only in a spatio-temporal framework, is also in a strictly logical sense, spatio-temporally impossible as a real, final event that

does not admit of further reduction. In fact, what is the concept of borderline if not the ideal reduction or abolition of any spatial difference? As a line common to two things spatially different, it is the negation in a certain ideal point of their difference. But this negation is not an understanding of how the two and different have become one in that point of contact, it just abolishes the difference, conventionally, so to say.

This is, however the model for interaction also at a micro level of analysis, that of interaction of particles as a principle for understanding events. But this, I am arguing, is a gross explanation that can satisfy physics but not our logical rigour and curiosity as philosophers. Two things spatially different can touch only if in a certain point they are not two anymore but they become one. But they can't become one if first they don't touch and as long as they are two different things in space they can't touch, no matter how much we reduce the dimensions of the two different parts of space that should touch. Likewise the idea of two adjacent or contiguous regions rests on this ununderstood assumption of the different becoming the same, on this abolition of the original difference with which we have started in favour of a given unity. "This account of yours though", one could claim, "means to go beyond the phenomenal where it is simply undeniable that two things are touching, whereas you yourself have always claimed that the only possible description and understanding of events is phenomenal." This is all true. But it is also true that whereas this phenomenal description is not reluctant to a further and further reduction but it is quite happy to cohabit with it, my paradoxes appear, instead, when one is looking for the real, final, not further reducible space where two things "really" touch. It appears, in fact, when somebody pretends to overcome the phenomenal level of description, which implies a further and further reduction of the event which is therefore real for us only in this phenomenal sense, but never final. These paradoxes appear in an antireductionistic

framework that pretends to deal with final events, final durations, final particles etc., such as those we have seen in Newton-Smith.

This I have just discussed is a similar paradox to that of phenomenal observation, except that this applies more specifically to space. Also, this paradox or, we should probably say, intellectual impasse, expresses that same dichotomy of the one and many that we have seen in the first chapter: the passage from the many to one and vice versa can only be given but not understood by our mind (section g, chapter 1). The point of contact between two things is like the unity in which all differences are finally abolished, but it seems impossible to pass from one to another, from many to one, with an appropriate concept of this passage. The unity is either given or it can't be reached by our mind that understands only through further analysis. Likewise we cannot understand how two things really come into contact, how what is more than one can ever become one without starting a *reductio ad infinitum*.²

²Since writing this thesis, I discovered a passage from Sextus Empiricus who makes a point very similar to mine when he writes:

Regarding that which acts and that which is acted upon it is also possible to raise difficulties of a more general kind, based upon contact. For in order that a thing may act or be acted upon, it must touch or be touched; but, as we shall establish, neither can either touch or be touched; therefore neither that which acts nor that which is acted upon exists. For if one thing is in contact with another and touches it, it is in contact either as a whole with the whole, or as a part with a part, or as whole with a part or as a part with the whole; but, as we shall show, it is not in contact either as part with part, or as whole with whole, or as whole with part, or the converse; therefore nothing touches anything. And if nothing touches anything, neither what is acted upon exists nor what acts. Now it is according to reason that a whole does not touch a whole, for if whole touches whole, there will not be contact but the union of them, and the two body will be one body, because the one must touch the other with its depth because these two are parts of the whole. — Nor, again, is it possible for part to touch part. For the part is conceived as a part in respect of its relation to the whole, but in respect of its own limited extent it is a whole, and for this reason again either the whole part will touch the whole part, or a part of it a part. And if the whole touches the whole, they will be unified and both will become one body; while if with a part it touches a part, that part again, being conceived as a whole in respect of its own limited extent, will either touch as a whole the all part or touch a part of it with a part — and so on *ad infinitum*. (Sextus Empiricus "Against the Physicists", in *Sextus Empiricus*, Vol. III, bk. I, 258-262. pp.127-9.)

CHAPTER 6

CONCLUSIONS

In this concluding chapter I wish to pick up the two central themes of this enquiry: (i) the aspiration of our thought to reach unity and its consequent need of foundation and (ii) my specific attitude towards idealism, whose epistemological approach I obviously favour.

This aspiration to unity, to the ontological and epistemological One, the foundation of the existents and, therefore, also foundation of our adequate knowledge of them, is a theme that we find in our philosophical tradition. I would not dare to say it is a universal trait of philosophical thoughts developed by humanity, it is rather a fundamental trait of western thought. While eastern philosophies are often founded on complementary principles that seem more apt to describe the multiformity of human life, western thought appeared as a search of the principle, the *arche'* of everything, the natural element common to all the existents.

This was the object of the naturalistic philosophers, Thales, Anaximander and Anaximenes and became, in the successive more properly philosophical speculation, the Being, the substance, the *upokeimenon* that is laid underneath everything else. The aspiration to find the principle of everything, the ground common to all the existents which appears already in mythologies, cosmogonies and theogonies of many populations, is in our tradition transfused in the philosophical speculation which has, in fact, as its central theme the problem of foundation of all beings and of the thought that thinks them.

With the advent of a proper and more rigorous philosophical speculation in Greece, this foundation is not any longer the naturalistic search for a naturalistic principle of what exists, but becomes the search for the foundation of thought itself in its thinking of what exists. This need for a

foundation has remained, as I already discussed in the introduction, the central theme of western philosophical thought. It is, in fact, what is otherwise called the “problem of truth”.

The arche’ of everything that was sought by Thales and the others in this or that natural element is soon transformed, in the more properly philosophical approach of Parmenides, in the search for the true being. In this search, as we have seen¹, thought reaches the highest level of abstraction, as it finds the true being, a being that cannot be denied or falsified, in the identity of thought with itself. Thought can find the true being only by thinking something identical with thought, only by thinking its own identity. Only when thought is in this pure self-identical form, a sort of contemplation of its own activity devoid of any other content but its own thinking, can thought find a true being. This being, finally, since it is not the being of this or that particular content, but the one, identical being of thought, does not prompt further analysis and understanding as these, depending on further knowledge, are never necessarily true. Parmenides has unveiled the form of our thought when it thinks: identity with itself. And unlike the naturalist philosophers, it is in this identity rather than in its specific contents that he finds the end and the aim of his own search. The arche’ sought by the naturalists is then found by the philosophical thought in this one and identical being that, because it is the only thing we can think without fear of contradiction or revision, becomes the only possible being, the ultimate and true being. In this perspective the principle of everything and the unity and identity of thought in thinking of this principle, become one and the same thing. Being must ultimately be identical with itself, because this is the only thing that our thought can think with certainty, it is, therefore, the only true being possible for our thought.

We can see, then, that it is the form of our thought that is at the basis of our ideas of God, substance and of any principle that is sought as the final

¹Chapter 1, pp.17-20.

explanation of everything; this principle must be an identical entity, because only in its identity can our thought rest assured that there is nothing more fundamental to be discovered and thought of. This rest can last only for the brief moment of a mystic union with this Being, reached through an ecstatic experience like in the neoplatonist Plotinus, emulated shortly after by Augustine and many other religious minds through the centuries.² Or it might take the form of the brief intellectual intuition of the identical being that one can have following Parmenides' example.

Unity, real and complete unity, can be reached only when there is a complete knowledge. But a complete knowledge is only of a mind that knows everything at once with no more strife. Such is God's mind. This is probably why God is infinite love and peace and the projection of what we would like to be, or, better, one of the things we would like to be. Such unity, it should be obvious, can only be an ideal aim, but not a concrete objective of human knowledge, for a complete human knowledge, I have argued, amounts to an absurdity.³

Man's quest for unchanging unity was explained by Russell in a half humorous and half serious passage of his *History of Western Philosophy*,⁴ as a quest for peace, for a reassuring refuge where finally rest our mind and soul. But this emotional need adumbrates the rest of the explanation. Why, in fact, one should ask, can we reach this peace only when unity is given? Why can't we conceive of intellectual peace without a complete unity, and where does this desire of ultimately knowing everything at once come from? Why do we long

²This path is not disdained even nowadays as we can read in *The Mind of God* by Paul Davies:

Is there a route to knowledge – even “ultimate knowledge” – that lies outside the road of rational scientific inquiry and logical reasoning? Many people claim there is. It is called mysticism. (p.226)

I have never had a mystical experience myself, but I keep an open mind about the value of such experiences. Maybe they provide the only route beyond the limits to which science and philosophy can take us, the only possible path to the Ultimate. (p.232)

³See Chapter 2, section (e), pp.103-113.

⁴B. Russell, *History of Western Philosophy*, p.63.

for it at the point that we project it in an entity that transcends us – a God or a substance – in any case a perfect being with a perfect knowledge?

This perfect knowledge is self-knowledge. This being knows everything at once and so it is perfectly **identical**.

The obvious answer, I believe, is to be found in Parmenides and his “discovery” of the form of thought: its identity as the only self-evident truth which does not require further understanding. Thought **is**. This becomes in the metaphysical mind of Parmenides an ontological claim: Being **is**. Being is **one** and **identical**. This is the being we aim at discovering and know ultimately. But this being is, possibly, just the form of our mind. As far as we know, being is identical because the form of our mind is identity, because our mind is at home only with this self-evident truth: I am.

So the God that answers a still reluctant Moses says: “I AM who I AM”, and orders him to tell the sceptical Israelites: “I AM has sent me to you”.⁵ Had he said anything more, he could have not been a perfect Being, he would have not uttered the perfect truth that Moses and the Israelites needed to hear.

This identity has become, as I have argued, the highest standard of truth for human knowledge. The starting point of philosophical speculation is also the ideal aim of knowledge, and for some, more than an ideal: the probable conclusion of human knowledge. But this unrealistic standard of truth that, as I have argued, has caused the reaction of scepticism whose roots must be found in the Parmenidean speculation itself, will never be satisfied because at the beginning of it there is a misunderstanding: the transformation of the pure form of thought and first law of a natural logic in a paradigm of truth for knowledge as a process endowed with content and so its transformation in an ontological claim: Being is one.

Going back to our Parmenides, we have also seen that his discovery of the identity as the only necessary truth, meant an aristocratic contempt for any

⁵Exodus 3:7 (*Holy Bible* - New International Version).

knowledge which is not purely knowledge of this identical being. Once you have found this necessary truth, it is difficult to escape the temptation to subsume all human knowledge to this standard. But given that Parmenides had condemned all phenomenal knowledge as deceptive, the task that faced subsequent philosophers was to save human knowledge from this accusation. The accusation, again, was that knowledge of phenomena is necessarily deceptive because it cannot provide the same certain truth that we can only find in thinking of the one Being. But it is legitimate at this point to ask: should it? And what is this truth of being or identity in the end? Is it the discovery of an objective truth, or shouldn't it just be the acknowledgement of a constraint imposed upon our thinking, a thought whose form is self-identity?

We have to admit, immediately, that no matter how alien this idea of the Parmenidean identity seems to us, it is nonetheless undeniable that this criterion of truth set by Parmenides has informed and still informs our criterion of truth, or at least constitutes one of our two fundamental criteria of truth: the criterion of rational truth. It is therefore important for we who believe this criterion inapplicable to human knowledge, to unmask its origin in order to invalidate, once again, at the end of this enquiry, its validity.

It is understandable, though, as I said, that once you have found a truth that is so certain, it is hard to settle for anything less. But the Parmenidean one was clearly a criterion of truth that transcends any experience, in fact it is truth in so far as it is not polluted by any experience; it is a criterion that is too high to reach and satisfy, (unless...one finds a metaphysical ladder). And Aristotle was not prepared to settle for less than this criterion.

He certainly acknowledges Parmenides' accusation of deceptive appearance brought to human knowledge; but empirical knowledge is, in fact, what matters to him as a philosopher, so he engages in saving our knowledge from this accusation. First he puts this clear tautological principle of the identity at the basis of our understanding: we can know only what does not

contravene the “identity law”. But for Parmenides everything in our understanding of phenomena contravened this necessary “law”. So Aristotle reduces the scope of this identity from the content to the form of our understanding. The form of our judgements cannot contradict the identity law in its expounded form of the excluded middle and non contradiction⁶. What about the content of our knowledge? To secure the content of our judgements there is in Aristotle the theory of human knowledge as emanation of the active mind of God: the human intellect is just passively knowing what God’s intellect actively knows.

This should have been enough to reassure those of us who are impressed by Parmenides’ accusation and prohibition to bridge the truth of being (identity) and the *logos* (plurality). But does it reassure us? It doesn’t. Because there is nothing that could bridge this gap except the postulation of a separate and transcendent principle that founds our knowledge such as it is provided by Aristotle’s theory of active (God) and passive (human) intellect. Aristotle following Plato inaugurates in this way the foundational tradition of knowledge that finds in a super-human reality the guarantee of its truth content. It provides in this way that “ladder” which under the scrutiny of sceptical or critical thought, is revealed to be a surreptitious fiction.

This Greek aspiration to the One as principle of intelligibility of all that exists and criterion of truth has been legitimated and fuelled, in the evolution of western thought, by the advent of Christian monotheism. Thanks also to the mediation of neoplatonism this theme satisfied and at the same time shaped the desire for transcendence of the new religion. These are, then, some of the streams through which the aspiration to the one, and the consequent foundational urge, has been transfused in our tradition and has survived more or less intact to our day.

⁶See Chapter 1, pp. 41-44.

The reason why it has survived must be seen, as I have argued, in the fact that it answers one of the deepest needs and aspirations of our thought. Is it surprising, then, if in our (only apparently) more secular world this aspiration still survives as the desire to reach the One through a final theory of everything? Only the means to reach it have changed, but the principle that inspired the task is exactly the same. The principle is the search for the arche' of the naturalists that through the philosophical speculation of Parmenides has also become, as the identity of thought and being, the ultimate guarantee of truth to which Aristotle answers with his foundational theory of knowledge. It is the conjuring up of these circumstances that has shaped, for better or for worse, our scientific-philosophical thought with its aspiration to unity and, at the same time, to foundation.

The foundation remains the only way in which this thirst for unity can be satisfied within the irreducible plurality of human knowledge. This is why, as we have seen, at the outset of the new science in the seventeenth century, the metaphysical thought attempts again, most obviously with Descartes and Spinoza, to give a certain foundation to scientific knowledge. Also, when this unity is pointed out by some contemporary physicist as an objective, a possible objective to be reached by our knowledge, rather than a starting point (as in metaphysical accounts of substance or being), the reason is this same need for a foundation of our knowledge, the need to conform to this ultimate criterion of truth which is the identity. In fact, only by reaching the unity will there be the guarantee that our knowledge is knowledge of the true being or reality. Since Being is one, it is thought more or less consciously, also our knowledge to become finally adequate to this Being must be one, unified – which can only mean, if it is really unified – literally at one with itself, like divine knowledge⁷. But Being is One and identical because of the form of our thought that can only

⁷I have argued for this claim at the end of the second chapter where I consider the logical implications of claims of a “final theory”

think of a true being as one and self-identical. Maybe Being or Reality cannot, in fact, for its inherent nature, be subsumed under this category of identity which, in our enquiry, is revealing itself more and more as a feature of our mind, imposed upon it, rather than the discovery of an objective truth about being and thought as Parmenides believed.

To the sceptical doubt that the underlying unity or identity is not a feature of reality but simply a psychological feature of our thought, A.E. Taylor objects in the first book of his *'Elements of Metaphysics'*. There he argues 1) that the fact that a law is a law of logic does not mean that it is not also a law of Reality, for to claim this would mean just to fall in the same kind of dogmatic claim that such a sceptical opinion denies. This I agree with. But secondly and most importantly he argues that ".....the sceptic's interpretation of the Law of Contradiction rests on a positive confusion."⁸ The sceptical argument arises from an unconscious confusion between this law as

...a) a *psychological* law, a true general statement as to the way in which we actually do think, or (b) a *logical* law, a true general statement as to the conditions under which our thinking is valid...⁹.

And he goes on:

Now, in the first place, it seems doubtful whether the principle of contradiction is even true if it is put forward as a psychological law....¹⁰ Certainly it is not uncommon to meet persons who do fervently profess equal belief in propositions which *we* can see to be inconsistent; on the other hand they are usually themselves unaware of the inconsistency¹¹

And he continues:

⁸A.E. Taylor, *Elements of Metaphysics*, p.21.

⁹*ibid.*

¹⁰True, again, by which standard? It must be asked If it is a standard higher than the simple fact that we cannot think something and its contrary at the same time, (which is, again, more than holding two different beliefs as Taylor takes the law of contradiction, as a psychological law, to mean – for contradiction expresses, as we have seen, the same constraint of the identity), than it is not true, just because there isn't for the *skepsi* a higher standard for truth than this psychological fact which is true simply because its contrary is non-sense.

¹¹A.E. Taylor, *Elements of Metaphysics*, p.22.

But it is at any rate certain that the logician does not intend his Law of Contradiction to be taken as a psychological proposition as to what I can or cannot succeed in believing. He means it to be understood....as a statement about the conditions under which any thinking is valid. What he says is not that I cannot think that A is B and that it is not B, but that, if I think so, my thinking cannot be true.¹²

A natural question at this point should be: why? Why is that so? A question that I believe can be answered only with the appeal to an accidental psychological constraint. Whereas, with a jump, the dogmatic advocates here an ontological constraint. "Now to think truly about things" Taylor argues, in fact:

is to think in accord with their real nature, to think of them as they really are, not as they merely appear to an imperfect apprehension to be; hence to say that non-contradiction is a fundamental condition of true thinking is as much as to say that it is a fundamental characteristic of real existence.¹³

I must admit that at this point is not clear anymore who is Taylor's interlocutor. In fact, if it is the sceptic, this latter is not prepared to concede any of the assumptions that have brought Taylor to his conclusion, whereas if it is the logician of above who "does not intend his law as a psychological law" but "...to be understood...as a statement about the conditions under which any thought is valid", then, his arguing is quite superfluous, because whoever does not take the criterion of truth to be merely psychological, must be appealing to a realistic, ontologically founded criterion of truth.

What I have to say at this point is a repetition of what I have been arguing all the way along. Given, first of all, that the law of non-contradiction is not different from the law of identity for the constraint it puts on our thinking, these laws are simply saying: "thinking is identical with itself", "thought is". Not because "everything is identical with itself" (which is something we cannot know), but because thought cannot be different from itself, as if it was we could ultimately be thinking and not thinking at the same time. And this is in any

¹²*ibid.*

¹³*ibid.*

context, sceptical or dogmatic, utter nonsense. This fact which is imposed upon us and whose reason and origin (whether it is a principle that underlies all of reality or not), we don't know anything about, founds our logic. But the peculiar truth of this fact also means, as we have argued, that nothing can follow from it in the same true way.

This *fact* is true in a special way, the only rational and self-evident way for our thought. Thought is itself. Full stop. The truth of this statement is actually such a *sui generis* kind of truth that it is not even given us to understand its nature. To understand it we would need to know why it has to be so, why it has to be that we cannot think two different things at the same time, as this would mean to be thinking and not thinking. It would in fact mean that thought is different from itself: the thought of A is a thought of not A. But + and - are resolved in nought. So we are thinking and not thinking at the same time. Why this is so, why the result of + and - is nought,¹⁴ in its turn refers us again to the same constraint that started our reasoning. At this level we can only move in circle. The conclusion is that there is no reason that we could understand for this law, without this making its constraint any less forceful, though.

So these laws of natural logic may well be considered as a psychological feature simply given, as we are given, in our physiological make-up, flesh and blood. But nonetheless they can be considered a feature of **true** thinking, without this implying, as Taylor holds that to say that the law of contradiction is a condition of true thinking is the same as to say that "it is a fundamental characteristic of true existence". Because, again, *true* has been defined only by this occurrence of the identity of thought. To hold that the truth of the identity defines the essence of reality as opposed to what is only appearance, as Taylor maintains, begs the original question: "What is certainly true?" And begs it in

¹⁴Again, I have to say, here, that this is not so in an Hegelian logic in which + and - are subsumed under the synthesis of becoming.

the most typical, dogmatic way: by assuming that thought and reality come together originally in this definition of truth, and that what is true of thought is true also for a “putative” reality outside thought.

The impossibility to deny that thought is while thinking, tells us something about the nature of thought: identity. But to go from this to wanting to found on this same nature the truth about reality, there is that gap that, as Taylor shows once again, it has always been the business of metaphysics to fill. And it fills it by assuming that the discovery of the true existence of thought can tell us something about the true existence of reality. So where the skepti engages in the search for a certain being, dogmatism has, in fact, always possessed one, and now it simply extends to it the only truth that the skepti has found: the identity and the laws connected with it.¹⁵ Let’s now leave this discussion and pick up the original thread of our speculation about the search for the arche’ or the principle of everything.

Today, finding the arche’, means, on one hand, to exhaust this plurimillennarian search for it, and, on the other, that our mind will perfect its own similarity with God’s mind in which (in the Aristotelian-Christian tradition) it has been transfused the Parmenidean Being. So to bridge the distance between human *logos* and Being means to bridge the distance between

¹⁵Husserl in his *Logical Investigations* offers us an extended criticism of the psychologistic interpretation of the logical principles that I support. Among many other interesting things he writes:

There is a grave ambiguity in the word ‘impossibility’, which not only points to a *union excluded by objective law*, but also a *subjective incapacity* to unify factors: this ambiguity serves to reinforce our psychologistic tendencies. I *cannot believe* that contradictories coexist: try as hard as I will, my attempt shivers itself upon an unconquerable, felt resistance.....I therefore have evident insight into a psychological law of which the principle of contradiction is the expression.” But he argues: “The ‘vain attempt’, the ‘felt resistance’ etc., are individual experiences, limited as to person and time, bound up with definite, if not exactly specifiable circumstances. How could they provide inner evidence for a universal law which transcends persons and times? One ought not to confuse the assertoric inner evidence for the existence of a single experience, with the apodeictic inner evidence for the holding of a universal law. (Vol. I, pp.120-121.)

our knowledge and God's knowledge (not that this God has in this context any religious meaning, though).

This one and identical Being first pointed out by Parmenides as the only thing we can truly know, was also rightly forbidden to our *logos* by him. Aristotle's speculation with its foundational theory opens a way to bridge the gap between *logos* and Being, between *logos* and this Parmenidean criterion of truth: our mind is in a way connected to God's mind (Being itself!) who has *in actu* all the knowledge which in us is only *in potentia*.. From this follows, one can reason, that if we could transform our potential knowledge completely in actual knowledge, we would **be** God's mind. We would **be** the self-knowing being that to use a famous Thomistic expression "*intelligendo se, intelligit omnia alia*".¹⁶ It seems too much. And probably those who have been and are talking of a unified theory will claim that their target is not so high. But this is the problem! The target cannot be lower than this or they have to modify their claims¹⁷ in a more modest direction. A unified theory can only be a theory that unifies our knowledge of the universe, of what exists, a theory that can potentially account for everything, otherwise it is not final enough, it is not unified enough. In other words, it is not unified at all as it still leaves something out that awaits further unification.¹⁸ This is how Hawking's words must be interpreted when he talks of "knowing God's mind"¹⁹ and, more importantly, what I have just discussed is the background to his aspiration. To reach this "knowledge" means no less than becoming a self-knowing mind, a mind that is simply at one with itself and can rest assured in this unity as it does not have anything else to know.

Those scientists who are prey to this aspiration to the point that they believe it is more than an ideal end which will never be reached, should just

¹⁶Thomas Aquinas, *Commentary on the Metaphysics of Aristotle*, Book XII, lect. 11, n. 2614 (cf. nn.2615 -18).

¹⁷See footnote 53, Chapter 1, p.35.

¹⁸See Chapter 2, section (e), pp. 103-113.

¹⁹See relevant discussion in Chapter 2, section (e), pp. 103-113.

think how much their claims of unity are modelled and shaped by the Greek-Christian philosophical tradition from which they think their science takes not only its due distance, but will succeed where the other one has failed. The idea that the formal self-identity of thought is the self-identity of being (Parmenides), the idea that our mind is legitimated in its knowledge by this identical and One mind of God where all the differences are composed in a perfect actual unity (Aristotle), even the idea that we are made at image of this One or God (Christianity), have a lot to answer for this dream of the final explanation of everything that some physicists nurture. Apart from these antecedents, I don't think, (and I have tried to prove it with my arguments), that there is, cognitively, any other ground for their claims.

I do not intend to dilute the essence of my position now by adding, as it is often done in these cases, that this tension in science towards the final principle is necessary and commendable after all, as it represents the necessary spring of scientific investigation. I think that because of the inherent nature of our minds, our science could have only appeared as the search for the arche', some sort of element common to all the phenomena and that could explain all of them. But this does not mean that our science has to persevere in this attitude and claim meaningfully that this final explanation can be reached. Once this attitude has been unmasked in its genesis, it should probably be abandoned. Whether this will be for the better or for the worse for scientific thought one cannot say. In part this tension towards unity that leads also to the systematisation of theories will remain always an insuppressable feature: being identity and unity inherent in the nature of our mind, they determine the way our mind works and, in fact, our mind works and will probably always work **towards** unification. But to claim that this unification could actually be reached would mean to ignore the other fundamental feature of our mind: its capacity to know new things only through further discoveries, further understanding. In other words, it is to ignore the inductive nature of our knowledge as far as an

understanding of the physical world is concerned. Now the idea of a final theory implies just that: that what is final does not bring a new element that still requires to be understood as this would mean that the theory is not final; and if, on the other hand, this new element can be understood through previous knowledge, it means that our knowledge was already unified before this knowledge was acquired.²⁰

At this point, the question that I would like to ask is: if we acknowledge that the form of our thought when it thinks, the identity, despite the important constraints it puts on our cognition (that have been expressed by the Aristotelian laws of logic), is not, as far as we know, an objective truth about being and therefore paradigm of any possible truth, but just a psychological feature imposed upon us, shouldn't we abandon for good any absolute, rationalistic criterion of truth that conforms ultimately to this identity? And once we have identified the foundational urge as a way to surreptitiously bridge the gap between our *logos* and this identity which rather than being shown in the light of an accidental form of our thought is seen as the highest standard of truth, shouldn't we concentrate purely on the empirical and therefore relative, not absolute nature of our truths? Shouldn't we also acknowledge, as consequence of this, that dreams of unification of our knowledge, dreams of a final theory are in fact just... dreams, because they are produced by a mind that like in a dream is confusing its own form with the form of reality, and a mind that in this wrong perspective is looking for a unification that, just like the metaphysical foundations, should finally legitimate our scientific knowledge? Who is responsible for this? Is it Parmenides who unveiled the form of our thought but also prohibited any dialogue between this truth and our *logos* on the world? Or is it those who after him were stunned by this luminous, blinding truth, and disregarding his "prohibition", wanted it to be also the ultimate foundation of our *logos* which

²⁰See Chapter 2, pp.105-106.

was since then dogmatically linked in a way or in another to this ultimate unity and still is today? This question must have become at this point of the enquiry, purely rhetorical.

But I am aware that this scrutiny to which I have submitted the genesis of a dogmatic-realistic approach to knowledge, would not be enough to convince even the most sympathetic of its groundlessness, as the root of this criticism can still be seen in those particular moral affections that determine what I am as a philosopher²¹.

Whereas I believe that with the “paradox of phenomenal observation” I have provided an argument for the phenomenal approach to knowledge which is not morally but rationally grounded as it is developed by an empirical analysis of our knowledge. An argument of this sort has not been afforded by idealism until now, not even by Kantian idealism. With Kantian idealism my view shares, apart from the fundamental belief that our knowledge is only knowledge of phenomena, also the belief in the existence of a reality in itself. According to Kant our knowledge is only knowledge of phenomena produced by some sort of “encounter” between the external object and the *a priori* forms of our perception and the *a priori* forms of our intellect:

Objects are given to us by means of sensibility and it alone yields us intuitions; they are thought through the understanding and from the understanding arise concepts.²²

What is the exact epistemological role played by this reality considered as before our knowledge, this reality in itself? The thing in itself is, on the one hand, unknowable in the Kantian theory and, on the other, is not derived through any epistemological route. It remains a strong ontological postulate with no foundation. Kant’s formal idealism, as he calls it to distinguish it from “material idealism” *à la* Berkeley which, he says, reduces real objects to pure

²¹See Chapter 2, pp.66-67.

²² Kant, *Critique of Pure Reason*, p.65.

representations, remains, in fact, open and vulnerable to the attacks of both material idealism and Realism.

The reason is this weak status of the thing in itself and its relation to our senses and reason. A “material idealist” could easily object to Kant: “Why do you need this thing in itself? All you have done is to propose a form of idealism and this thing in itself is an undemonstrated appendix that makes of your idealism an hybrid, a compromise between an idealistic genesis of knowledge and some transactional theory where there are still the two poles, mind and reality, without the possibility to account for their encounter without falling in a form of strong realism”. In fact, what Realism could object on the other hand, is: “Once you have admitted the existence of an external reality that in your theory causes our sense impressions, it is not possible to deny that this thing is, thanks to this relation, mirrored in our knowledge which is, in fact, knowledge of this reality as it is in itself. Since there is a relation between the thing in itself and our senses, why shouldn’t it be the thing in itself with its own property that we know? In fact, the same idea that reality causes certain sense impressions, involves that the concept of causality belongs to reality as much as to our senses, since this is the first relation between our minds and reality necessarily preliminary to any of our judgement on reality”.

Undoubtedly the thing in itself postulated by Kant poses many problems regarding its existence and, obviously, its relation to our cognition. As B. Russell writes in *Wisdom of the West*:

We may at best infer that there are such things from the postulated external source of impressions. Strictly speaking, even that is not permissible, since we have no independent way of finding out that there are such sources, and even if we had, we could still not say that they were causing our sense impressions. For if we speak of causality we are already inside the network of *a priori* concepts operating within the understanding.²³

²³B. Russell, *Wisdom of the West*, p. 241.

Formal idealism, for love of objectivity, asserts its belief in the existence of a reality outside of the subject, a reality that, though, remains in itself and about this “in itself” the subject doesn’t know anything. But it is this concept of causation, this indubitable, even if mysterious, relation between us and the reality that exposes the Achilles’ heel of formal idealism. If there is a sort of transaction – in the *Prolegomena*, for example Kant talks of “influence” of the objects on our senses²⁴ – then, there is a communication between the two poles, and as soon as this communication is admitted, realism or the claims of realism can set in. Beyond the mysterious relation that words such as “influx” suggest, there must have been a “contact”, an “encounter” between the subject and the object as the category of causality also suggests.

Now the “thing in itself” of formal idealism does just that: creates the problem, unsuppressable once it has appeared, of how subject and object come into “contact”, or as one could more mildly say, in relation. This problem that represents the real weakness of formal idealism had been “resolved” by material idealism and realism in opposite ways. The first, by denying one of the two poles, and the second, by dogmatically bringing together in the epistemic experience the two poles *ab origine*. Formal idealism refuses the first as a sort of “fantastic and mystic”²⁵ idealism and the second as, also an idealism, but as Kant says, a “dreamy idealism” that “transforms in real objects the simple representations”.²⁶

But, as I said, formal idealism does not resolve the problem of the relation between subject and object, but problematising this relation with its theory of phenomenal representation and the thing in itself, it exposes like a fresh wound the mysterious nature of this relation. Here we have some thing which is completely in itself but at the same time causes my sense impressions. In a passage in the *Prolegomena* Kant says that the property of an object of my

²⁴Kant, *Prolegomena*, p.43.

²⁵Kant, *Prolegomena*, pp.49-50.

²⁶*ibid.*

intuition cannot “transmigrate in my faculty of representation”²⁷, but in another place he talks of an “influence”²⁸ that the external objects exercise on our sensitivity. Yet again in the *Paralogisms* he criticises the doctrine of the “influence” as the belief of the common sense that:

rests on a crude dualism and treats the extended substances, which are really nothing but mere representations of the thinking subject, as existing by themselves.²⁹

Granted Kant’s awareness of the awkward nature of this relation of subject and object, it is clear, I think, that his theory of causation cannot escape a sort of transactional theory of perception, whether atomistic or immaterial in nature. I cannot see what else could account for this “influence” and in general for the causation exercised by the objects on our senses. Kant’s uneasiness with this problem makes him say too much and too little at the same time. So in the *Paralogisms* he censors our capacity to understand this communion of subject and object as he writes:

The much discussed question of the communion between the thinking and the extended, if we leave aside all that is merely fictitious, comes then simply to this: *how in a thinking subject outer intuition, namely, that of space, with its filling-in of shape and motion, is possible.* And this is a question which no man can possibly answer. This gap in our knowledge can never be filled; all that can be done is to indicate it through the ascription of outer appearances to that transcendental object which is the cause of this species of representation, but of which we can have no knowledge whatsoever and of which we shall never acquire any concept.³⁰

But since it can only be some sort of, however undefined, emanation of the external reality that causes our sense-impressions, why shouldn’t we know it as it is in itself? why aren’t its own real properties those that we are knowing, even if in our own elaboration of them? At this point to not know the object in itself could only mean that we do not know the object as it could appear in an immediate understanding of its essence to God, or something of the sort; but it

²⁷*ibid.*, p.36.

²⁸*ibid.*, p.44.

²⁹Kant, *Critique of Pure Reason*, pp.358-9.

³⁰Kant, *Critique of Pure Reason*, pp.359-60.

is certainly the properties of the object that we are knowing even if we may fail to know some sort of internal unity of the object. But does an object possess this internal unity? This “in itself” beyond the “influence” that the properties of the object exercise on us and through which we know or represent the object could make one think, at this point, of a mysterious soul or unifying principle that the object possesses and that we can never capture simply because we are not the object itself.

At this point the question: is there such an object “in itself”? could be asked with different purpose both by idealism and realism. The first would answer that since we don’t know anything about this object “in itself”, this Kantian theory of the “in itself” which ultimately causes our sense impressions without an explanation of how, remains a useless impediment for an idealistic theory of knowledge. The second would answer instead that since this object causes our sense impressions, what we know is the object as it is, so nothing remains “in itself” as Kant claims.

About the *a priori* forms of our perception that would shape the object the way it appears to us, we now have to ask: what do they act upon? When are they applied? The fact is that in this causal theory there should be a point of encounter of subject and object common to both of them, a point where they are both present for what they are, or the theory of causation of sense impression by reality does not stand. But what does this mean? It means that when the “influence” coming from the object meets our perceptual apparatus and then is elaborated in a perception, (admitting that this of the “encounter” or “contact” between two different things is an intelligible model)³¹, in this moment, we are in contact with material that comes from the object. So why shouldn’t we know the object as it is in itself? what more is in the object beyond the properties that influence our senses? The object in itself, beyond these properties, as I said, suggests the idea of a mysterious unity, almost a soul. So, whereas idealism

³¹I have argued against the intelligibility of this model in the appendix to Chapter 5.

denied that there are other beings except the thinking ones, Kant would seem to give a soul also to inanimate objects, besides granting them existence? Could realism ask, at this point. "So we do know the object that we perceive as it is in itself", is also its claim and "we can know it better and better, by discovering more and more aspects or properties of it". The fact that we elaborate the information coming from the object, should not mean that we loose this contact with the object. To believe that space and time belong only to the subject and so do the categories, could appear at this point, just a prejudice with no justification. For instance the category of causality must belong both to the subject and the reality outside of it, as it is thanks to this "category" that reality can have an effect on the subject.

These are problems that formal idealism carries with itself as implications of its belief in the reality outside our knowledge, a reality that causes our knowledge without being known "in itself". This is the result of the desire to rid not itself of material reality, as in the fantastic idealism *à la* Berkeley, but to preserve the objective reality as source of our perceptions and judgements. But this creates an insurmountable problem for formal idealism. As it is not prepared to admit that the subject knows anything about the object in itself, has then to explain what kind of causation is involved in its theory. This problem arises for formal idealism, I believe, because despite its assertion that we cannot know reality as it is, but all we can know are phenomena, that is, our representations of reality, it tries to explain the relation between subject and an object outside of it at a phenomenal level, and, therefore, applies phenomenal categories such as causation also to the reality outside the subject; what should be a pre-phenomenal reality.

Besides, its talking of causation and "influence", poses the problem of how can there be causation without knowledge of reality in itself. How can there be any causation without a sort of transactional theory of knowledge, where what comes in contact with the subject's perceptory apparatus are the

properties of reality. But Kant, as we have seen, denies that these properties can transmigrate in my perceptual faculty.

With the paradox of phenomenal observation I have tried to show that knowledge can be phenomenally described as the observation of further and further events without ever getting to what “really” happens, to a reality “in itself” that I postulate as the place where what we observe can finally happen. But “description” is not “explanation”; knowledge as the “final” encounter of that subject and object that we know only phenomenally, is itself susceptible to the same paradox where an ultimate event such as it would have to be this “encounter”, can never be described in its real happening. Formal idealism, in fact, whilst refusing to attempt an explanation the nature of this encounter, with its talk of “influence” and causation from reality to the subject, does allude to some kind of explanation that on one hand is not provided, on the other brings the “in itself” — that as we have seen can only be the limit of our knowledge and such is claimed to be also in formal idealism — in a causal contact with the phenomenal level of our knowledge, where we find the forms of space and time and the categories of the subject. These latter are descriptions or models of a phenomenal knowledge and they cannot apply to a reality outside the subject. As soon as the encounter of subject and object is examined by an idealistic theory of knowledge, problems start, as the ambivalence and the ambiguity of the category of causality in this case shows. This category, in fact, as a mental category for idealism, should not apply to a reality which is not already ideal, such as it is the external reality that causes sense impressions in formal idealism. But if it applies to a reality outside the subject, then formal idealism cannot claim that reality in itself is unknowable, as it has just been known in this fundamental feature: causation.

The paradox of phenomenal observation shows what kind of idealism is possible. Not an idealism that provides an explanation of phenomenal knowledge as caused by a reality in itself — because this creates a confusion of

levels with no way out but the elimination of material reality, like in material idealism – but an idealism that is totally focused on the phenomenal nature of our knowledge. As our understanding of reality can only be a representation of it without ever knowing what “really” happens; without ever knowing, in this case, what is ultimately the kind of relation, if there is such a thing, between subject and object that at the phenomenal level appears as a causal relation. Like formal idealism, this idealism postulates that beyond the phenomenal level there is a reality in itself that we cannot know. But this postulate has an epistemic foundation because it is this reality that can be the only place where events, including the event of perception, “really” take place. But the important thing is that this reality could not be taken as causing our sense impressions, as we are talking here of two completely different levels. In fact, at the level of this reality, where the events that lead to (what we know as) perception happen, there is no reason to suppose that there is any such a thing as causation in the way we know it.

Kant’s mistake appears to be that of wanting to keep the reality as unknowable in itself, in favour of a phenomenal theory of knowledge, but at the same time claiming that reality stood in some relation to this phenomenal level of knowledge. In fact, as I have shown in the appendix to chapter 5, we certainly cannot account, with our phenomenal concepts of space and time, for a “real” causation, a causation where two things “really” come in contact.

In conclusion to my enquiry, I can only say that what realism does, on the other hand, is to take the phenomenal descriptions, and so also the phenomenal descriptions of what happens in a cognitive process, as descriptions of real happenings. The claim of the form of idealism that I am proposing is, instead, that there is on the one hand a reality in itself outside the realm of our knowledge of phenomena as the place where things “really” happen, and, on the other, our phenomenal knowledge with its descriptions of

subject and object, where subject and object both already belong to the same phenomenal level, that is the object is already idealistically constituted.

I hope that with the paradox of phenomenal observation I have been able to show that what realism calls “real”, as opposed to the purely phenomenal or ideal, cannot be intelligibly understood.

END

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