Epistemology of Ordinary Knowledge

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Edited by

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FOREWORD

Ordinary knowledge has not been a relevant topic of epistemology and only a few essays underline the complexity of such knowledge. The fundamental sensory aspect of ordinary knowledge has led many philosophers to reduce this knowledge to the sensory or, more generally, to perceptual knowledge which refers to entities of the phenomenic world. In fact, ordinary knowledge is not only the result of sensory-perceptual processes, but also of non-perceptual (noetic) contents that are present in any mind. From the epistemological point of view, ordinary knowledge is a form of knowledge that not only allows one to epistemically access the world, but also enables the formulation of models of it, with different degrees of reliability. Usually epistemologists focus their attention on scientific knowledge, believing that ordinary knowledge does not or cannot have an epistemology for it is not in any way rigorous. They claim that ordinary knowledge is biased by subjective perceptions and beliefs, so, it cannot provide a reliable and verifiable account of the phenomenic world. Indeed, human ordinary knowledge, as well as the biological knowledge of other living species, is formulated with specific processes and it is reliable, at least to a certain degree, because life is based on it: each living being needs reliable knowledge of the world in order to survive in its habitat. In humans, ordinary knowledge is far more complex than the biological knowledge of other living beings, because it is not only useful to survive, but also necessary to fulfill the many other needs and desires of any human being; so, ordinary knowledge in humans involves many mental, psychological and social factors and is reliable with reference to the status of the world.

The papers collected in this volume analyse different aspects of ordinary knowledge and of its epistemology. Each chapter focuses on a certain significant issue concerning this kind of knowledge.

The first chapter focuses on ordinary knowledge from an epistemological point of view, particularly with regard to perceptual/ phenomenic knowledge and self-knowledge, analysing the different mental processes involved and their degrees of epistemological reliability and adequacy. In particular, Bianca examines the complex structure of ordinary knowledge, which he calls the "polignosic structure of ordinary knowledge", subdivided into different types of knowledge: a) perceptual/

phenomenic knowledge, b) self-knowledge of our own mental states, contents and processes, c) knowledge of our own selves and the formation of the self-concept, d) knowledge of other minds and other selves, and e) indirect and non-perceptual knowledge of the world. For each kind of ordinary knowledge, Bianca points out how it is formed, its relevancy and its degree of reliability.

Another topic in this section is considered by Dell'Utri, who states that acquaintance with ordinary objects is a genuine case of knowledge: being legitimate members of our ontology, ordinary objects can be involved in our practices of knowledge acquisition. If a minimal ontological criterion is adopted – roughly, 'To be is to be in a causal relation with humans', provided that the causal relation is not interpreted as a non-Humean relation somehow embedded in the physical structure of reality – then ordinary objects acquire the full right to be part of our ontology. Therefore, according to Dell'Utri, contrary to what some philosophers think, the 'scientific image' has no epistemological pre-eminence over the 'manifest image': the two images are to be taken on par, adopting a non-reductionist point of view. Dell'Utri also argues in favour of the related thesis according to which knowing ordinary objects can be accounted for on the basis of the classical paradigm for direct and propositional knowledge. Insofar as the latter is concerned, a subject S can be said to know that the table in front of her is yellow if she has a justification for the truth of the belief that the table is yellow. Since in cases like this justification is mainly perceptual, it can be argued that perception is mostly veridical – and sceptical doubts pointless.

In his contribution, Ferraris defines *Idealism,* the philosophical thesis that the external world exists depending on some representation, stating that this argument can be articulated in many ways, which he examines in detail. In fact, these are all variations of transcendentalism and its constitutive misunderstanding, i.e. the so-called 'transcendental fallacy': the confusion between ontology (what there is) and epistemology (what we know, or think we know). Ferraris counters *Idealism* with *New Realism,* which simply assumes that the subject observes in reality something that is different and independent from him, otherwise what she is doing is not observation, but introspection. According to him, it is banal to observe that knowledge of reality is the result of a constructive process. Instead, it is trivially false to say that reality is the result of a constructive process. Therefore, the new realist thesis sounds like this: 'knowledge is knowledge of something different and independent of knowledge, otherwise it is not knowledge.'

Finally, Minazzi starts his paper with Einstein's image of scientific knowledge to point out how it can be built by relating two different and antithetical dimensions: that of the world of praxis and that of mathematical abstraction or, in the words of Galileo, the plan of the *sensible experiences* and that of *certain demonstrations*. However, Minazzi shows how the plan of sensible experiences constitutes, in turn, a reality that is separated from the plane of the experience of common sense. Using analysis conducted by authors such as Edmund Husserl, Antonio Gramsci, John Dewey and Remo Cantoni, Minazzi shows well how the plan of common sense appears to be a complex plane. In particular, Minazzi argues that this plan of common sense is born and structured in a dynamic relationship with the history of human knowledge and also with the history of criticism of common sense. The phenomenological approach to studying common sense allows Minazzi to show how it is possible to reformulate the notion of objective knowledge - as their common sense as well as the most sophisticated science, resorting to Husserl's *regional ontologies* and bearing in mind the role of heuristic Kantian transcendentalism.

The second part is devoted to common sense and its relations with ordinary knowledge and scientific knowledge.

Agazzi underlines that it is common today to maintain that scientific knowledge and ordinary knowledge are essentially in contrast, though a certain harmony between them was possible in pre-modern times. A historical reconstruction of the growth of modern natural science seems to support this view but, at the same time, cannot adequately explain why such a deep change occurred with contemporary science. According to Agazzi, the reasons can be uncovered by considering the epistemological choices that promoted the birth of modern natural science as early as Galileo's time, and which consisted of a restriction of investigation to a very limited set of attributes of reality. This determined the specialisation of the general metaphysical principles that were and are included in common sense, from which natural science had to take its start. For a couple of centuries, this contact with common sense was helped by the fact that scientific concepts and models were 'idealisations' of ordinary knowledge, but this easy situation could no longer last when contemporary science clearly became a science of the unobservable. In the present situation, common sense necessarily remains the framework in which all sciences find their start. Then they elaborate complex systems of concepts and statements that are very far from the grasp of common sense. Yet all empirical sciences retain the obligation of explicitly linking their theoretical constructions with empirically ascertainable experimental results that must be understandable within the conceptual framework of

common sense, which in such a way remains the final appeal even for scientific knowledge.

The relationship between ordinary and scientific knowledge is also taken into consideration by Livi, from the point of view of alethic logic. He states that, as the result of a rigorous phenomenology of consciousness, it could be shown that in every thinking subject there are existential certainties whose epistemic justification is founded on the perception of that which necessarily and always presents itself in everyone's experience as something evident. Such certainties constitute the very first link in the chain of presuppositions; for this reason, they can in no way be subject to doubt. On the contrary, their non-truth is absolutely unthinkable: no one can ever really doubt them, and one must understand that any affirmations to the contrary are merely verbal posturing. Actually, they respond to pragmatic logic, and not expressions of a real certainty, endowed with their own adequate epistemic justification. According to Livi, given that they constitute the nucleus of experience, understood as a body of unmediated knowledge, such certainties are present to consciousness in every moment of the search for truth as the logical presupposition of all knowledge deriving from reflection and inference, both inductive and deductive. For this same reason, such certainties function as an ultimate criterion of truth in verifying any hypothesis successively formulated. They therefore constitute the main alethic presupposition, that is, the presupposition necessary for any ulterior knowledge to be thought of as true. In fact, on the basis of these original truths, every thinking subject verifies, time after time, the admissibility of any hypothesis that presents itself in the search for other truths over the course of his lifetime. As a result, all scientific knowledge should be structured as a system logically compatible with the primary truth of common sense, so as to place the instruments of dialectics (reflection, interpretation, inference) effectively at the service of the search for further truths.

The differences and the relationships between common sense and ordinary knowledge are focused on by Piccari. According to him, all organisms are cognitive systems, and life itself owes its preservation to a cognitive process. This process generates biological knowledge, which is formed through the processing of information relating to the external world or our own bodies. In humans, biological knowledge is much more complex than that of other living species due to the presence of the neocortex and the influence of social and cultural life; for him, this kind of knowledge is the ordinary knowledge. From this perspective, common sense as a complex set of beliefs, mental attitudes, views and values not only has an influence on ordinary knowledge, but is also key parts of it.

Ordinary knowledge is not only fit for its purpose, but able to provide articulated semiotic-noetic structures to regulate the behaviour and actions of human beings. Such knowledge also helps to form the noetic conceptual structures that allow the formulation of representations of the human species, societies and any other structures belonging to the human or non-human world.

From his point of view, Piccolo holds that common sense can be considered adopting a foundationalist approach. Within this foundationalist approach, one can make out lighter forms, in the manner of Wittgenstein in *On Certainty*, and stricter forms, in the manner of axiomatic systems or methods, as in Aristotle and Descartes respectively. A minimal definition of common sense recalls the Davidsonian idea of positive *praesupponendum*, understood as a set of few beliefs, which must be shared with other parties so that dialogue can begin. This gaunt structure is placed by Davidson at the base of the cognitive process intended as interpretation. In this sense, Davidson would also permit us to clarify the link between common sense and ordinary knowledge.

Finally, in this section, Lourdes Velazquez also states that, according to a wide-spread view, common sense is a domain of shared opinions that people hold regarding almost all aspects of reality, independently of any specialised competence, but as a kind of immediate unreflective acceptance. Precisely because of this, the frontiers of this domain are fuzzy and these opinions are generic rather than general, in the sense that their scope is not circumscribed precisely. In addition, this common sense also incorporates several kinds of reasoning, which are spontaneously applied without being codified in any explicit set of inferential rules.

Part 3 deals with some aspects of the formation of ordinary concepts. Bianca and Piccari focus on the nature of perceptual concepts. These concepts are considered a conceptual framework, represented by a five-dimensional vector in which, in addition to the strictly perceptual content (the identitive and specifying perceptual attributes), non-perceptual content (semantic reference and various significances assigned to perceptual concepts by single individuals) is relevant. This model does not consider perceptual concepts the simple results of an empirical generalisation conducted on the basis of different perceptual instances, but highlights the relevance of non-perceptual contents in their formation.

Differently from the general model proposed by Bianca and Piccari, Frixione and Lieto consider the notion of typicality. As is known, typicality effects are a well-established phenomenon in the field of cognitive research on common sense concepts. However, typicality effects are hard to reconcile with compositionality, a crucial characteristic of

conceptual systems. They propose to face this problem by adopting a dual process approach, according to which the existence of two different types of cognitive system is assumed. Systems of the first type are phylogenetically older, unconscious, automatic, associative, parallel and fast. Systems of the second type are more recent, conscious, sequential and slow, and are based on explicit rule following. Thus, they advance the hypothesis that conceptual representations should consist of (at least) two different kind of component, each responsible for different processes: second type processes involved in complex inference tasks, and fast and automatic first type processes, which perform categorisation, taking advantage of prototypical information associated with concepts.

Ordinary knowledge concepts, furthermore, can be analysed from two different perspectives: an embodied and grounded perspective and a social one.

Regarding the first perspective, Borghi underlines that, according to the mainstream view in psychology and neuroscience, concepts are informational units, rather stable, and are represented in a propositional format. In the view that she outlines, concepts instead correspond to patterns of activation of the perception, action and emotional systems which are typically activated when we interact with the entities they refer to. Starting from this embodied and grounded approach to concepts, Borghi focuses on various research lines and presents some experimental evidence concerning the concepts of objects and actions, and abstract concepts. Then she adds that, in order to account for abstract concepts, the embodied and grounded theories should be extended.

With regard to the second perspective, Amoretti claims that, according to Donald Davidson, in order to have any concepts or beliefs whatsoever, a creature must 'triangulate' (or at least 'have triangulated') objects and events in the outside world with other creatures sufficiently similar to itself. More precisely, she argues that there are two prerequisites for thought – that is, fixing the empirical content and having the concept of objectivity – which can only be obtained through 'triangulation' and that 'triangulation' is the simplest kind of social interaction. Hence, social interaction can be considered fundamental to having concepts and beliefs. However, according to several critics, Davidson's main argument for the thesis that thought is necessarily social has proven to be seriously flawed. In her paper Amoretti has two aims. On the one hand, she briefly sums up the difficulties with Davidson's account, showing that the two prerequisites for thought that he recognises are both inadequate and that the very notion of 'triangulation' he employs is useless for defending the social dimension of concepts and beliefs. On the other hand, she tries to

reconstruct Davidson's argument by identifying two weaker prerequisites for thought and a different kind of 'triangulation'. In particular, she claims that the two prerequisites for thought are: fixing common domains of current relevance and a concept of proto-objectivity, conceived as the awareness that there is a difference between agreement and disagreement. Furthermore, she exploits the psychological notion of 'joint attention' to sketch a kind of triangulation that may be a genuine example of social interaction, truly necessary for the two prerequisites she identifies, as well as a pre-cognitive and pre-linguistic process. Finally, she explains how this alternative account of the emergence of thought guarantees its social character and is neither circular nor reductive.

The last section deals with reasoning, inferential processes and historical knowledge. Cevolani and Crupi discuss the so called 'Linda paradox', which is the most well-known instance of a widespread phenomenon – the conjunction fallacy – showing that naïve reasoning systematically violates the rules of probability calculus. As such, in the last few decades, it has been a central issue in the analysis of human reasoning and decision making under uncertainty. In their paper, they present two accounts of the Linda paradox, based on the notions of verisimilitude (or truthlikeness) and confirmation (or inductive support) respectively, as explored within the philosophy of science. Furthermore, they discuss the conceptual relationships between these two accounts and conclude with some brief remarks on the roles of truth and information in human reasoning and cognitive decision theory.

For his part, Labinaz, in his paper, criticises what can be called the Cartesian account of reasoning, which is commonly assumed, either implicitly or explicitly, in experimental approaches to human reasoning, and then proposes an alternative account, more closely related to our ordinary reasoning. While the first account, which is based on a strongly individualistic picture of human cognition, considers reasoning a completely self-centred activity aimed at enhancing one's knowledge and maximising one's own personal utilities, according to the account Labinaz outlines, reasoning displays a fundamental argumentative, interpersonal dimension. His aim in this paper is to lay the foundations of this theory, starting with some ideas and reflections about human rationality presented (in a non-systematic way) by Paul Grice, which some scholars have recently systematised under the label of argumentative rationality in discussing the rationality of conversational implicature.

Alai examines ordinary notions of knowledge and justification after Gettier. Gettier argued that Plato's definition of knowledge as true justified belief does not do full justice to all the deep features of our common sense

notion of knowledge. But Alai argues that his seminal paper and the ensuing literature might instead be taken as challenges to the ordinary notion of justification. The latter, in fact, implicitly carries two different connotations: one of an objective and external condition, securing truth, and one of a subjective condition, involving internal evidence but failing to entail truth. Thus, for Alai, both conditions must be encompassed by an adequate characterisation of justification. Attempts to explain the objective condition in causal terms encounter various problems. So, in order to avoid them, Alai generalises the concept of causal chain into that of productive chain, and argues that a belief is objectively justified when it is brought about by a normal productive chain, i.e. one where each link is of a type normally produced by facts of the same type as the truthmaker. Moreover, he accounts for the subjective condition of justification by showing that internal evidences like perceptual experiences, collateral beliefs and inferences are typical parts of productive chains. Once justification is thus characterised through both the objective and the subjective component, there is no longer any need to modify Plato's account of knowledge. But if one prefers to reserve the term 'justification' for the subjective component, then the objective component will supply the additional condition required to supplement Plato's tripartite definition. In any case, truth becomes redundant in the definition of knowledge, since it is already ensured by the normal productive chain.

Salis analyses inferential role semantics, which is the idea that conceptual content is determined by its role in reasoning: a concept C is given by the premises we use in order to draw C, and by the conclusions we draw from C. This theory entails that concepts are rich and stratified, and that conceptual competence involves the mastery of a wide range of inferential transitions. He proposes, in this context, a distinction between a common sense version of the grasp of concepts and an expert one. The first idea is that this grasp does not entail mastering all the inferences which are constitutive of C, but just a few. Expert grasp, on the contrary, is a full and qualified mastery of the inferential transitions involving C.

Finally, Lecis and Busacchi analyse historical aspects of ordinary knowledge. How do we form the representation of the reality of the past? What roles are played by memory, imagination and the epistemic constructions of historical knowledge? To answer to these questions, Lecis remarks that during the nineties, Paul Ricœur focused his attention on the relation between memory and history, in search of reasons accounting for historians' naïve realism. The function of the original psychical trace, which a mind receives, is important and irreducible; natural competences and common sense enable us to immediately recognise it as a sign

depending on past circumstances and events. Busacchi, in his paper, develops a comparison between the roles of testimony in ordinary knowledge and in history. Historical knowledge shows a puzzling epistemological structure: firstly because that knowledge is placed between explanation and understanding, according to von Wright and Ricœur, and secondly because historical knowledge works (a) between scientific knowledge and common sense, (b) using materials such as documents, signs and historical remains, mental (subjective) contents such as personal experience and testimony, and subjective reconstruction through a (personal) story of one's own for that knowledge. Thus Busacchi answers two relevant questions: what is the epistemic status of testimony? And what is the mode of transforming ordinary testimony into a well-controlled method of historical knowledge?

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We want to thank the authors of the essays included in this volume for their dedication to the task of formulating an epistemology of ordinary knowledge. We also want to thank the staff at Cambridge Scholars, who made this project both easy and enjoyable.

<div align="right">Mariano L. Bianca and Paolo Piccari</div>

PART I

ORDINARY KNOWLEDGE

CHAPTER ONE

THE EPISTEMOLOGICAL STRUCTURE
OF ORDINARY KNOWLEDGE

MARIANO L. BIANCA

The epistemological structure of ordinary knowledge is rather complex since such knowledge, on the one hand, is formed by different types of knowledge (perceptual/phenomenic, knowledge of the mind and of the self, knowledge acquired from others, etc.); on the other hand it is always activated with mental and meta-mental processes which involve a great number of factors depending on the conditions in which they occur (previously formed knowledge, motivations and other psychic and existential factors) and from the operational specificity of each mind.

For these reasons, even if it is possible to formulate epistemological structures related to the different types of ordinary knowledge of all subjects, any process of ordinary knowledge can be examined in a specific way with reference to different minds and subjects: hence, it is possible to formulate both *class epistemologies,* referring to the different types of ordinary knowledge, and *single epistemologies,* referring to single subjects, as clearly happens in clinical analysis and in psychotherapy.

This paper analyzes no single epistemologies but class epistemologies, referring to the different types of ordinary knowledge and the related characteristics of *reliability*, *adequacy* and *control*; in the following analysis the most relevant aspects will be analyzed without any deepening, which may be done only by theoretical and experimental research to outline an articulated model of the class epistemologies of ordinary knowledge.

1. Knowledge and its Forms

Before analyzing the nature of ordinary knowledge, some specifications about the nature of the mind and knowledge are useful.

In this paper, the *mind* is considered *the entirety of the information and processes which are elaborated by the brain with the involvement of one*

or more cortical areas. The mind is part of the brain but it does not identify with it since not all cerebral processes are mental processes; *mental processes are the brain's processes which involve, besides non-cortical areas, different areas of the cerebral cortex and they generate meanings which in many cases, but not always, can be transcribed by means of a system of signs like that of the natural language.*

We will use the word *noesis* and its adjective *noetic* to refer to mind's activities differentiated as all other cerebral processes that do not largely involve the neocortex; the term *nomiosis* refers to any kind of mental information and processes and the term *nosema* refers to each specific result of *nomiotic* processes. Among mental (or noetic) processes, we distinguish between *idetic* processes, which are formulated without a direct elaboration of perceptual or empirical data, and *perceptual* processes, which elaborate perceptual or empirical data.

Hereafter, all expressions related to the mind will refer to the configurations and processes which, even if in different ways, are the result of the complex activation of the neocortex, besides other non-cortical areas and processes.

As far as the notion of knowledge is concerned, it is necessary to point out how it is understood in this context and to specify its different forms.

In the history of scientific and philosophical thought, the term *knowledge* has been assigned different meanings, and it has been used variously to refer to the phenomenic or natural world and to many dimensions or realities, like the theological, the spiritual and the metaphysical. Even if, as is known, there are many differences amongst the gnoseological theories which have been formulated in philosophical, scientific and theological thought, these theories, with the exclusion of the innate conceptions, share the following thesis:

General Thesis on the Nature of Knowledge
*Knowledge is the **acquisition**, the **formation**, the **possession** and the **elaboration** of information about any kind of something which is considered to exist: **acquisition**, performed with perceptual and non-perceptual processes and tools; **formation**, understood as a process that aims to formulate purely idetic something and to assign to them attributes like cognitive, theological, metaphysical, theoretical, non-empirical or non-perceptual something (idetic something); **possession**, referring to the memorization and therefore to the presence of information in the mind; **elaboration**, as the collection of processes aimed at the acquisition, formulation and possession and of changes, relations and influences amongst the various pieces of information.*

The term "knowledge" therefore refers both to the cognitive processes and to the different kinds of information which are elaborated and saved in the memory (the contents of the knowledge).

Any form of knowledge is possible only if three entities exist, or are supposed to exist: a) a biological or artificial organism (a subject); b) a biological or artificial apparatus inside such an organism which is able to acquire, formulate and elaborate information, more particularly a brain or a mind, and c) a universe of innumerable something belonging to the phenomenic world or to other realities.

Any form of knowledge, moreover, is based on three realistic assumptions: 1) there are entities phenomenically or noetically considered to exist (including the knowing subject); 2) cognitive processes exist only since they are referable to something considered existing, and 3) information on various something can be acquired (empirically) or formed (idetically) and the processes of elaboration of the acquired or formed information can be carried out.

Therefore, to claim that it is possible to formulate knowledge of something means to presuppose that it exists or its existence is perceptually or idetically considered (theoretical or metaphysical something).

The term *phenomenic* refers to the so-called natural world and so to anything which is empirically observed with the sensory organs or with non-biological tools like scientific apparatus. The term *idetic* refers to different types of something: those formulated without any direct empirical or perceptual information, like scientific theoretical entities; those non-empirical (or not perceptual)m formulated in ordinary thought and in memetic thought, including common sense, like aesthetical and ethical values; those peculiar to any mind and those formulated by philosophy, more particularly by metaphysics and theology. It is not possible to speak of knowledge of something which is not considered to exist, no matter what its existence is; in other words, anything which is considered to possess a determined *ontic* status (including theoretical and mental ones). Indeed, to formulate knowledge of something means first of all to consider it to be phenomenically or idetically existent.

The assumptions which have been indicated are realistic, phenomenically and idetically, but not completely, since from them does not derive directly, as a consequence, the fundamental character of standard realism: it is possible to have a strongly reliable and complete knowledge of something. So, to claim that it is possible to formulate knowledge of something, according to what has been said above, does not

mean to assert that it is completely corresponding, or even isomorph, to the structure of the thing to which it refers.

From this perspective, which is proper in the philosophical tradition, the term knowledge is used to refer, on one hand, to the process of acquisition or formation of information, and on the other, to its elaboration and accumulation (possession).

This paper adopts the aforementioned gnoseological thesis, which can be applied to anything and any kind of knowledge, such as scientific, ordinary, mental and idetic (theoretical and metaphysical).

2. Ordinary Knowledge and Common Sense

Humans formulate ordinary knowledge using tools and methods fitting to their bodily, cerebral and mental structure: the knowledge that human beings assemble in order to acquire or form information on the phenomenic world (including their own body), on their minds and on their selves, on the memetic or socio cultural world, including their fellows, or on any other something considered to be existent, such as idetic something (mental, metaphysical or theological).

Therefore ordinary knowledge can be considered to be any knowledge which, for its methods, tools and results, takes place outside scientific and metaphysical knowledge, even if it can share some of the different something to which they refer. This kind of knowledge, although in very different and more or less complex forms, still refers only to the phenomenic world, and is present in all living beings because they are *disenergetic* or heterotrophic; they do not possesses the energy for their survival, hence they need this knowledge, consisting of information useful for finding the sources of energy necessary to maintain their thermodynamic balance, in other words, to survive in a certain habitat, to reproduce and to compete for energetic resources with the members of their species or of others (*biological knowledge*).

The ordinary knowledge of *Homo* is analogous, but only partially, to the biological knowledge which any living being is capable of formulating relative to its habitat and which is necessary to its survival, and for man, in a broader sense to its existence.

For these reasons, the ordinary knowledge of *Homo* has a biological basis and as such it can be considered (at least in many conditions, even if not in all) more or less reliable; in other words, the information that it elaborates corresponds, more or less, to the status of the world, even with the differences deriving from the diversity of sensory apparatuses.

Such knowledge, in the strict biological sense, must be reliable, since it is evolution's expedient which allows the living beings of planet Earth to acquire information about the world which are useful to their survival; if this knowledge were not more or less reliable, it would not accomplish its task and heterotrophic living beings could not survive, or maybe they would not even have been generated by the processes which caused the onset and the developments of life on our planet. However, even if there is this biological root to ordinary knowledge, in *Homo,* this knowledge is not reducible to this character; it is much more complex, leaving also the task of satisfying biological needs: the biological knowledge which is formed with the sensory organs is only a small, if relevant, part of ordinary knowledge.

Epistemology before the modern development of scientific research dealt only with this knowledge and its investigations brought about the formulation of different gnoseological theories, like, for instance, those of Aristotle, Plato, Saint Thomas, Roger Bacon, Locke, Hume, Kant, Husserl and many others. In the history of western philosophy, one of the main investigation fields was gnoseology, which had the purpose of analyzing the methods with which information is acquired, formed and elaborated, not only of the phenomenic entities but also of the theoretical or metaphysical ones considered to exist. This interest was present not only in western civilization, but also in oriental philosophy, like the *Vedanta* philosophy, which devoted great attention to gnoseology and particularly to the perceptual processes.

The development of scientific knowledge in the modern and contemporary era evidenced, as it is known, fundamental differences from ordinary knowledge, since scientific knowledge aimed to overcome the senses, which were considered the main tool of ordinary knowledge; Copernico, in a letter in his *De revolutionibus Orbium Coelestium* dedicated to Pope Paul III, referred to the fact that his conception surpassed the senses, and in this case that meant overcoming the sensation of the sun moving on the horizon.

However, this is not the only difference between ordinary and scientific knowledge. There are many others, which will not be examined here but will be evident in analyzing ordinary knowledge and some of its epistemological aspects.

The sensorial character of ordinary knowledge leads many authors, even in the present day, to reduce ordinary knowledge to sensorial knowledge or, more broadly, perceptual, referring to anything of the phenomenic world.

Even if the ordinary knowledge which is formulated with sensory-perceptual tools is very important and in some way analogous to that of other living species, it is only a part of ordinary knowledge, which interlaces with other types of ordinary knowledge, which may also utilize the sensory/perceptual results, but, as it will be seen, in many cases, leave them out of consideration.

Before continuing the analysis of ordinary knowledge, it is useful to pause to analyze the notion of common sense.

In the next section it will be asserted that ordinary knowledge is formed by many types of knowledge, which are different not only in their contents but also in the methods and the tools with which they are formulated. In this complexity of different knowledge types, there are also those of so-called *common sense,* which are learned in a perceptual or non-perceptual way and which are considered a part of the mind of those who belong to a certain culture.

Common sense can be understood in two different ways: a) the usual modalities with which ordinary knowledge is formulated, or b) the collection of information of different kinds which is formulated in a certain culture and which is acquired by those who belong to it.

In the first, the expression "common sense" is comparable to "ordinary knowledge" as it has been considered here above and as it will later on be analyzed. In the second, the expression instead refers to the *memetic* world, that is, to that collection of information which is formulated by a certain culture and that differentiates it from any other. In this case we do not refer to the knowledge formulated by single subjects, as happens in ordinary knowledge, but to that formulated by collective or socio-cultural processes which generate visions of the world, values, judgments, prejudices and conceptions regarding different aspects of man, of individual life, of interpersonal relations, of social structure, of the sacred and divine, etc.

Any subject belonging to a certain culture can acquire the knowledge of common sense and by absorbing it; even without careful analysis, he uses it (aware or not) as a guide for his behavior and his way of thinking.

This does not mean, as it was claimed in the past, that common sense corresponds to the manner of thinking of the human mind, because it is not the result, at least not only, of the mental activity of the individual person, but that of the social-anthropological culture that produces the so called *memes*.

Using the second description, the notion of common sense cannot be confused with that of ordinary knowledge; however, the knowledge of common sense is part of ordinary knowledge since it is considered

knowledge which any man can acquire, elaborate and appropriate in the same way in which indirect knowledge is acquired, that is, ordinary knowledge which is not formulated through personal experience, but according to reports, as it frequently happens in daily life, more particularly in the processes of social and scholastic learning (see Section 3.5).

Common sense, moreover, according to the second way in which it is understood, plays an important role in the formation of ordinary knowledge; in fact, many but not all the knowledge types which form ordinary knowledge, including the perceptual-sensory type, can be influenced in different ways and with different intensity by the knowledge of common sense acquired and considered reliable or even true, and as such it is a useful tool for interpreting and knowing the world.

This does not mean one can assume, like some sociologists and anthropologists claim, that ordinary knowledge is determined by common sense, even if between one and the other there can exist various mutual differences and relations which are not investigated in this paper.

For these reasons, it is important to distinguish the two notions. This essay deals with neither the structure of common sense nor the ways in which it is formulated and influences the social tissue and mind of the individual subjects, but it will restrict its attention to ordinary knowledge, its types and the modalities of its formation and control, without forgetting that common sense, as it has been indicated, can influence, but not determine, the formation of ordinary knowledge.

3. The Polignosic Structure of Ordinary Knowledge: The Articulation in Various Types of Epistemologically Different Knowledge

Ordinary knowledge, on the whole, is formed by a large number of mental processes and the something to which it refers: ordinary knowledge is formed by very different types of knowledge, which are correlated in various ways according to mental conditions and the tasks they try to accomplish.

The types of knowledge which form ordinary knowledge distinguish themselves by the methods and tools which they use, by the something to which they refer and by the purposes they want to achieve. Let us think, for instance, of the difference between ordinary perceptual knowledge and non-perceptual or idetic knowledge; or of the knowledge of one's own body, on the one hand, and that of one's own mind on the other; in these types of ordinary knowledge, the methods of acquisition and treatment of

the information and the tools which are used and their purposes are different.

Differently from scientific knowledge, which only refers to the phenomenic world, and from metaphysical knowledge, which deals with entities considered essential beings or the principles of reality as a whole, ordinary knowledge has a complex structure formed of different types of knowledge which not only refer to the phenomenic world, but also to a very large gnoseological spectrum relative to different systems of entities like one's own body and mind, other minds, and other ethical, metaphysical or memetic entities. This characteristic is one of the most relevant aspects which differentiate ordinary knowledge from scientific and metaphysical knowledge; in other words, the formulation of knowledge that does not refer, or does not directly refer, to the phenomenic world.

In ordinary knowledge, it is possible to point out some of the fundamental types of knowledge which form that which can be called the *polignosic structure of the ordinary knowledge,* or in other words, its gnoseological and epistemological articulation in different types of knowledge and in the related entities which they refer to.

3.1. Pperceptual/Phenomenic Knowledge

Pperceptual/phenomenic knowledge is that ordinary knowledge which is formulated through sensation and perception, with the involvement of a large number of extra perceptual factors, cognitive and non-cognitive, such as concepts, categories, feelings or emotions. This knowledge is activated and conceived to achieve purposes related to: 1) the phenomenic world and 2) the individual's own body.

This ordinary knowledge is *direct*, more or less *reliable* and *adequate* and is analogous to that of other living beings. It is *direct* because it is based on reports in which the information concerns entities to which the activity of the sensory organs refers; this knowledge is determined by the structure of the sensory organs and the brain/mind and, differently from what happens in many living beings, its formulation is not limited to the acquisition of information (the sensory data); the latter is subject to a complex elaboration which involves cognitive structures and non-cognitive contents saved in the mind, which influence in different ways, sometime remarkably, perceptions and their positioning within the mind; that is, the way in which the perceptual results are meaningfully correlated with different mental contents.

Reliability is a relational notion according to which cognitive information is more or less reliable, not in itself, but in relation to

something to which it refers; present in this definition are knowledge and an entity which, in theory, cannot be the same. Cognitive information about something is reliable if it reports its attributes in a more or less complete way; this is also true in cases in which the information is expressed with an assertion. The definition of reliability is therefore applicable not only to the perceptual knowledge of man, but also to the sensory knowledge of any living being.

The *measure of reliability* is the result of a comparison between the information which is formulated about something and such something in its actual condition of being the semantic reference of the information that has been formulated; this information can be linguistically expressed with assertions which speak on such something.

For this reason, the notion of reliability is applicable to ordinary perceptual/phenomenic knowledge; such knowledge is more or less reliable since, as it has been stated, in a radical and biological way it is arranged to accomplish tasks connected to survival, even if in *Homo* it is not limited to these but extends to others, relevant to any subject, such as psychological, relational and existential ones. For this reason, ordinary perceptual/phenomenic knowledge, like biological knowledge, is suitable for supplying a report on something and on its relations with other things; this report refers to the attributes which identify and distinguish it from any other, even if not to all of them. Even if this knowledge is formulated with the activation of different mental non-perceptual contents which can greatly influence it, a *perceptual core* remains within it which also allows *Homo* to be able to know in a sufficiently reliable way the environment and its conditions and to recognize the things which are in it in order to be able to act within it to reach certain goals. It is this *perceptual core* that is more or less reliable in regards to the things to which it refers.

This knowledge, at the same time, is *adequate* since it allows the individual to operate in and on the world and to satisfy specific needs and related goals; its degree of reliability allows this adequacy, but to the adequacy may correspond a low level of reliability. *Therefore the reliability and adequacy of perceptual/phenomenic ordinary knowledge are mutually interlaced, but the adequacy does not mean reliability; in fact it can even not be reliable, while adequacy can derive from reliability.*

The information included in this knowledge is derived from perceptual activities which involve cognitive and non-cognitive contents that can be processed by various elaborations which, on the one hand, correlate them amongst themselves or with other mental contents and, on the other hand, allow the formulation of new contents by means of those tools investigated by logicians and psychologists, like inferences, logical and

argumentation rules, which can also be useful to formulate descriptions, explanations and predictions.

From the epistemological point of view, it has been claimed that this knowledge is direct and more or less reliable, but the critical aspect consists of the fact of its being submitted to control processes in order to evaluate its reliability and adequacy.

The fact that such knowledge possesses a biological root, as it has been previously claimed, may induce one to believe that it does need any control, since its reliability is proven by the purposes for which it has been conceived by the evolutionary plan of the living species.

This knowledge is not infallible and in strict biological conditions in *Homo* and in other living beings may not always be adequate for the tasks for which it has been conceived; however, the biological and evolutionary reasons for its presence make it more or less reliable, and a control process can be activated. In fact, this happens very often and automatically (unawarenessly) in various perceptual conditions; at the same time, control can be also formulated in a more or less intentional way. Of what does this control consist? It is a double control related to reliability and adequacy, which can even lead to the modification of the content formulated or the formulation of new contents relevant to the the same something.

Reliability control, which can involve adequacy, is carried out with the following mental and meta-mental processes: 1) the *formation of perceptions*; 2) the *meta-mental process of focusing the perceptual contents*; 3) *the process of bringing back to the state of awareness the perceptual contents memorized (operation feasible only under some conditions)*; 4) *processes of comparison among various contents related to different modalities of acquisition of information*, and 5) *focusing on the result of the comparison, evaluation and formulation of a judgment of acceptability* (even if not expressly formulated), grounded in the measure of reliability.

Control is a meta-mental process, even if it does not refer directly to the individual's own mental contents in all its modalities. Reliability control can be carried out with the following modalities:

The first modality, of a direct type, is the *repetition of the perception* or its *perceptual deepening* (first stage): for instance, focusing perceptual attention, like observing something more attentively in order to formulate a comparison between the first perception and the following ones; afterwards, a comparison (second stage) and a subsequent evaluation of reliability (third stage) are formulated, along with the related evaluation and acceptance, even if not expressed explicitly.