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PREFACE

The issue *Epistemology—From Old Dilemmas to New Perspectives* consists in a considerable part of papers prepared for the Conference “Epistemology Today” organized in November 2005 by the Institute of Philosophy, Maria Curie-Skłodowska University in Lublin. The meeting gathered scholars working in the fields of epistemology, philosophy of science and other philosophical disciplines, from different Polish academic centers. The participants presented various research programs and the newest perspectives in epistemology dominating in modern Polish philosophy. Its characteristic feature is the multitude of manifold viewpoints and positions representing subsequently the Polish analytical philosophy (Lvov-Warsaw School), phenomenology as well as hermeneutics, cognitive science perspective, Marxism and even postmodernism (including feminist epistemology).

Despite their different philosophical orientations and affiliations, the authors deal with the essence of epistemology—its meta-theoretical nature, the status of its statements as well as the relations between the philosophy of knowledge and scientific, mainly psychological, anthropological, and logical studies of human cognition and knowledge, particularly, the dependence or independence of epistemological analyses, in other words, their autonomy, which was the leading subject of the papers. In the issue, one can find arguments both supporting and challenging the autonomy of epistemology, in particular, a discussion of its stages and situations when the autonomy is in question. Barbara Tuchańska, Zdzisław Cackowski, Barbara Kotowa, Alina Motycka, Elżbieta Pakszys, Marek Hetmański argue that traditional epistemology needs to turn towards socio-cultural and historical analyses of human cognitive and practical activities. Others (Urszula Żegleń, Paweł Kawalec, Piotr Markiewicz, Andrzej Kapusta, Barbara Trybulec) give examples of epistemological implications as well as assumptions that occur in the frame of particular research programs close to scientific or philosophical perspectives (i.e. cognitive science and computationalism, human studies, phenomenology, and naturalized epistemology). Only a few (Józef Dębowski, Aldona Pobjewska, Renata Ziemińska) try to convince the reader, although from different standpoints, that epistemology may be

(ought to be) autonomous, and therefore take a privileged viewpoint in respect to science and public opinion, at the same time maintaining a distinguishable position in philosophy. In any case, however, the reader can find one common notion—the constant and indispensable tendency of epistemology to consider its own status and aims in-depth, seriously and responsibly, with a strong conviction about the meta-theoretical nature of epistemological analyses. From all the papers collected in this issue it can be seen that there is, however, no single pattern of epistemological work that the authors adopt; what is important is their critical attitudes toward the foundations of knowledge originating from their manifold philosophical positions or inclinations.

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EPISTEMOLOGY AS PHILOSOPHY OF KNOWLEDGE. OLD DILEMMAS AND NEW PERSPECTIVES

ABSTRACT

The paper presents a survey of traditional problems tackled by epistemology throughout its history, especially its meta-theoretical inclination as well as the old dilemma of its normative *versus* descriptive nature. I sketch the prevailing models of epistemological normativity (epistemic values such as truth, falsity, justification, or evidence etc.), and show how they function, what their essence and genesis are, how they change and what influences them. I also consider the utility of epistemology for science, education and practice in respect of its critical disposition toward cognition, knowledge, and communication. Finally, I outline some perspectives epistemology could open if it would really analyze and predict the complex and manifold human cognitive phenomena.

Key words: traditional epistemology; social epistemology; normativity; meta-theory.

1. INTRODUCTION

Philosophical analyses determining the sources and limits of knowledge, the nature of cognitive abilities, epistemic values such as truth, evidence, error, or certainty, as well as the question of what methods justify true and reliable beliefs—all these issues constitute the traditional (classical) epistemology (theory of knowledge, gnoseology, or doxology). The peculiarity of this philosophical discipline (having the same status as ontology and philosophical anthropology) stems from its history and the position (still dominant and somehow obligatory) of its founders—Rene Descartes, John Locke, David Hume, Immanuel Kant, Edmund Husserl and others. And despite the works of such classic critics of epistemology as Michael Foucault, Richard Rorty, or Steve Fuller, with whom one could agree at some points, there are still significant (theoretical and practical) reasons justifying the belief that epistemological analyses are not only valu-

valuable but also indispensable. What motivates such bracing conviction? Why would it be inadvisable to restrict or abandon philosophical (epistemological) inquiries in favor of entirely scientific studies of cognitive processes and their results? How to maintain and defend epistemology, moderating its sophisticated analyses and overestimated expectations, ensuring that it remains critical and self-correcting at the same time? And how to preserve its valuable heritage and at the same time focusing its interest on cultural and social changes human cognition and knowledge are still subjected to? In other words, how to retain traditional problems at the same time opening up to new perspectives or prospects?

2. META-THEORETICAL NATURE OF EPISTEMOLOGY

Every theoretical study (a universal and comprehensive view encompassing overall or common object) involves an examination of its own nature; it concentrates on its subject as well as on its self-referential nature (Greek *theōros*—spectator, *theōreō*—look at). Both aspects of meta-theoretical nature of every general viewpoint are mutually correlated and indispensable. The philosophical analysis of knowledge and cognition successfully reveals the meta-theoretical characteristics, and implies a number of significant situations worth of discussing. Epistemology is, in fact, the knowledge about certain types of knowledge, it is the specific cognition of particular cognitive phenomena, so it has the meta-theoretical nature. But this fact leads to certain, troublesome as well as paradoxical consequences.

Throughout the history of philosophy, the expressions of the distinctive, meta-theoretical characteristics of epistemology have not been limited to only one, unchangeable way or pattern. Historically, they have been constantly present, assuming different shapes. Currently, this interesting cognitive (theoretical) situation becomes the subject of many considerations and gives the chance to make some general meta-philosophical remarks that assume importance outside epistemology itself. It seems to me that its theoretical as well as practical significance may be exploited in science, education, mass communication, or public opinion. Basically, cognition and knowledge ought to be present everywhere as the subject of critical and responsible considerations, and the role of epistemology must be rethought to match the same.

The practical-cognitive meaning of the epistemology's meta-theoretical analysis of knowledge and cognition might be formulated by the following recommendations:

1. Epistemology has to recognize properly its real place in the history of philosophy as not privileged (in respect to science or other philosophical disciplines), but rather as called upon to analyze critically all cognitive phenomena including the concepts and ideas of knowledge ("knowledge" as not exclusively a purely cognitive phenomenon).

2. It must constantly investigate the changes and turns of its basic concepts ("knowledge" as an event, a process, not a thing).

3. A real, significant role epistemology might play rather outside itself because it is well prepared to indicate other disciplines (scientific as well as philosophical) which could reveal the essence of broadly understood cognitive phenomena ("cognition" as perceptual or intellectual dissonances, decision making, problem solving, cognitive biases and obstacles, knowledge probable and uncertain, etc.).

4. It would also recognize and even predict the socio-cultural changes constantly occurring in human cognition and knowledge which transform them all the time developing them or devastating ("knowledge" in progress as well as regress).

5. Finally, epistemology is well designed to analyze epistemic norms and standards, but without its detrimental (hitherto traditional) inclination to determine what they ought to be.

The meta-theoretical nature of epistemology does not limit its importance to merely making marginal comments or remarks. Its purpose is to research in a fundamental way classic problems and dilemmas. One of such problems is the following: what (and how) does give the reasons or grounds for the complex object which people refer to as "knowledge"? It is an old, still running debate termed "knowledge as true justified belief" that still seems not to have a reasonable and commonly acceptable solution (see Gettier 1963, Armstrong 1973, Bonjour 1985, Chisholm 1989).

What type of justification one can talk about? What procedures, of what nature, and how reliable may be in question? Is there really a need for knowledge legitimization, what does compel us to do so? Without any doubt, most of our cognitive undertakings and their results are evaluated by ourselves, constantly and smoothly. So why put them into force as a specific epistemological obligation? What in fact does make such a situation, if it really is functioning, obligatory? In my opinion, there is one important thing to mention before asking the above questions. There is, namely, a significant difference between **legitimization** and **justification** in reference to gaining and possessing knowledge. Most of epistemologists live in the strong conviction that knowledge implementation (agent's mental state in which he or she has a true justified belief) demands specific, rigorous, dependable and at the same time trouble-free procedures which unquestionably warrant such true knowledge. The illusory character of such a conviction is today evident. So it is not reasonable to construct an epistemological model of knowledge where the theory of what epistemic values are or should be, would really guarantee knowledge fulfillment by agents. The theory of what knowledge is does not precede the particular cognitive acts of knowledge acquiring. It would also be naïve to expect people to follow such theories, rules and norms in all cases. Only in very narrow realms of knowledge (espe-

cially in formal, mathematical systems) principles and strict rules really control human cognition and constitute the strict areas of knowledge of high certainty. They have to be formally legitimized, however, even then there are logical limits of such knowledge. This fact is determined by the Gödel theorem.

Nevertheless a certain type of justification in epistemological analyses is really needed; in this activity lies the essence of epistemology as such. The duty (in the meaning of the theoretical as well as practical consequences) of epistemologist's analyses is to tell what are relatively the best or the worst (satisfying or not satisfying, acceptable or not acceptable) procedures that lead people to cognitive results. Telling this does not consist in constituting or establishing the strict and unchangeable rules and epistemic norms (truth as such) derived from them. If it happens, it means that the philosopher creates the epistemological myth in limits of which all human cognitive acts should be legitimized. When epistemologist rejects such an option and chooses a more realistic attitude, he is able, first of all, to recognize what are human cognitive behaviors orientated toward truth and falsity, and, subsequently, how to "improve" them. Improving does not mean neither regulating, restricting or dismissing one epistemic norms in respect to others, nor closing the epistemological realm for other values and norms that could evolve or emerge during any future, not expectable cognitive and communicative undertakings and situations. So the epistemologist should not be infatuated with hitherto existing epistemological norms and blind to new ones. He must investigate the ways of the coming of epistemic values to philosophy from the everyday or scientific experience. His epistemological duty consists in explaining how social, political or religious circumstances influence humans' cognitive activities and achieved results, and how they constitute or dismiss epistemic norms. Epistemologist gives reasons or grounds for such complex epistemic situations in the post-factual explanation and probable comprehension of them. In other words, he justifies, not legitimates what has happened in human beings' cognitive and communicative undertakings.

3. DESCRIPTION *VERSUS* NORMATIVITY

The descriptive (explanatory) and normative (regulating) nature of epistemology is the constant leitmotif of its history. The two aspects are not equivalently present in epistemological analyses; the former has most often been given priority over the latter. The dominant aim of epistemology is to say what one ought to do (perceive, think, understand, or imagine) in order to experience certain things better than would be possible without such a guidance. The second aim of epistemology—a description of what cognitive processes are—has been mostly omitted, not properly estimated, very often opposed and contrasted with the dominant normative nature of the study. The issues of what knower's actual cognitive motivations are (not his epistemological, ascribed obligations but the real epistemic inclinations), what are his or her results, and why they

change so often, as well as what does influence them, have never been within the main scope of epistemology's interest. Epistemologists have inclined towards the belief that their philosophical calling is to settle what epistemic ideals ought to be, and not simply to explain how it occasionally happens to human beings that they know something accidentally; in their opinion the former is a noble calling, while the latter is troublesome and less sublime.

The epistemological normative approach first started with Descartes' attempt to set up the "rules for the direction of the mind" (*regulae ad directionem ingenii*) which conclusively stated what justified true belief was and how to gain it. Next generations of philosophers, including Locke, Hume, Leibniz, Kant, Husserl and others, followed this path and strengthened the above tendency which I wanted to name the "normative epistemology's bias". It is an expression of a deeply rooted philosophical conviction (if not obsession) that rational thinking and true knowledge that emerges from it have to be ruled by epistemological norms and standards; otherwise they would not be worthy of the designation of epistemic values.

The normative nature of epistemology manifests itself in two ways. One comprises obtaining epistemic norms or ideals by means of constructing them from natural and innate human cognitive undertakings (i.e. from common sense, perception or simple intellectual acts of reasoning) as well as from particular, prevailing scientific practices (i.e. from geometry, inductive conclusions, or procedures of experimental sciences). The meaningful as well as troublesome example of such a situation is the neo-positivist standard of empirical verification built with close reference to the practices of experimental physics. In fact this normativity is a specific "cognitive excavation" from the variety of sensory and intellectual acts and processes of cognition, the ideal results which are then epistemologically valued. In other words, these norms and standards are **re-constructed** by means of the idealization of many different considered cognitive undertakings. Therefore, they are products of a peculiar "epistemological distillation" taking place in the mind of an epistemologist (in fact, in his image of what is happening when cognition and knowledge are examined).

Such an approach to normativity involves devising standards prevailing in one area of knowledge as epistemologically valuable, or specific for only one cognitive interest (i.e. scientific). They are recognized as typical and universal for all human knowledge and treated as general cognitive values. However, in reality, they are constructed (re-constructed) according to the particular patterns and models of real cognition; they are idealized products of epistemologist's speculations and the suppositions which he usually makes while imagining what the essence of knowledge is (should be).

Another way of the emergence of epistemic norms is not quite different from the first one; it is more radical and at the same time controversial. It involves establishing epistemic norms and values by the way of a specific, philosophical analysis without any reference to other types of knowledge and cognition. In

opposition to the first mode of normativity, the latter does not follow the practices of commonsensical or scientific cognition and knowledge because of its general distrust (if not negative obsession) toward non-philosophical (not epistemologically legitimized) inquiries, especially toward science. A significant example is provided by the phenomenological program of constituting new and rigorous patterns of cognitive values as eidetic cognition which is very different from the common ways of obtaining knowledge. The essence of this normativity lies in the **constitution** of new epistemic norms, independently of other ways of evaluation (i.e. esthetical or ethical) and in the opposition to other norms (i.e. utility) estimated as not epistemologically sufficient. In reality, these norms are formulated by an epistemologist who believes in their uniqueness and significance as an indispensable (but actively dominant) element in the process of acquiring knowledge.

4. REAL SOURCES OF EPISTEMOLOGICAL NORMATIVITY

What are epistemic norms themselves—it is a vital question approached by epistemologists many times and in various ways. It continues to be asked, although the modern, especially postmodern, philosophical turn has changed epistemology to great extent, radically diminishing its absolute nature. Philosophers are generally convinced that epistemic norms such as truth, certainty, evidence, or reason, no matter how they are conceived, are, in fact, indispensable; how could any cognition be carried on driven or any knowledge gained (and therefore evaluated), if epistemic norms did not provide guidance and (obligatory) principles? In general, they are conceived as superior things that lead the cognizer to the realm of knowledge (be it pure and absolute or probable and uncertain).

There have been many ways in which the normative nature of the epistemological analysis has revealed itself throughout history. Few of them have been adopted into philosophy from religious or ideological debates, others have been elaborated by epistemologists themselves who strongly believed in the privileged and unique position of philosophical inquiries and their achieved results. One can, therefore, say that in the first case epistemic norms (truth as an ideal, or certainty as a mark of true belief) are solely echoes and imitations of the issues and questions occurring outside philosophy—especially in religion (Truth as a God's substantive feature, agent's certainty as an act of his faith's grace) and in ideology or politics (truth as a leader's or party's dominant opinion). In the second case, epistemic norms are philosophers' inventions originating from the strict and rigorous methods specially devised to serve the process of gaining knowledge (i.e. Rene Descartes' introspection, Edmund Husserl's phenomenological eidetic reduction).

But the epistemic norms, immediately connected with scientific methods and scientific knowledge, have a special status; they are either intrinsic or external

in their nature (as regards their functioning in sciences). Since the scientific undertakings and their methodological implications (i.e. Descartes' *mathesis universalis* or Isaac Newton's *Philosophiae Naturalis Principia Mathematica*) developed in the seventeenth century, have confronted epistemological analyses with science, epistemologists have elaborated on a few models (theories) how these two cognitive faculties really function. One of them was the early modern normative methodology (i.e. Francis Bacon's theory of induction and cognitive errors) and August Comte's positivism (his division of the previous (religious and metaphysical) and the present (positivistic) knowledge of mankind). The common feature was the idea of the philosopher intervening in order to improve knowledge production in different areas of science. The culmination of this tendency was the logical positivism and its Vienna Circle phase (Moritz Schlick's and Rudolf Carnap's rules and norms of empirical verification) and a long debate on the correlation between the "context of justification" and the "context of discovery" led by Hans Reichenbach as well as Karl R. Popper and his followers.

The questions mentioned above does not account for the essence of the normativity problem. One cannot, as I want to stress, forget that it also entails other aspects and problems worth considering. There are, namely, three others, equally significant following questions: (1) where do epistemic norms come from, from what areas of life (what types of human experience) are they derived or taken; (2) how do they function in cognition, how do they control all human cognitive interests; and finally, (3) how do they change themselves in this process, or what has (non-epistemic) influence upon them? The essence of the normativity problem comprises the genesis of epistemic norms and values that have their history and socio-cultural context in which they function, shortly speaking, it has its own specific genealogy of normativity.

The proper context of epistemic normativity is a true/false alternative, i.e. cognitive as well as practical situations when people are obliged to make decisions what things and judgments about them they want to estimate as valuable or invaluable. The normativity problem arises where and only when people evaluate certain cognitive undertakings and their results as proper or improper, satisfactory or unsatisfactory, true or false; in other words, only when they treat achieved results as specific judgments which they particularly convinced to be worth being deemed as properly justified. Shortly speaking, epistemic norms appear (emerge) during, if not after, human cognitive undertakings, not prior to them. They are intrinsic, not external to cognition. As Fred Dretske observes: "Beliefs and judgments must be either true or false, yes, but there is nothing normative about truth and falsity. What makes the judgment false (true) is the fact that it fails (or succeeds) in corresponding to the facts, and failing (or succeeding) to the facts is, as far as I can see, a straightforward factual matter. Nothing normative about it. [...] Aside from our purposes in forming beliefs or in sign beliefs as guides to action, there is nothing they should or shouldn't

be.”¹ In other words, epistemic normativity relies on the problem of evaluating and making decisions in ambivalent situations. If there are solutions that satisfy one’s practical or cognitive demands and expectations, only then epistemic values have a chance to occur. But it does not imply the adoption of a relativistic perspective on norms. Merely, it does taking into account a broader (wider than only cognitive, subjective one) context of their genesis and functioning.

5. NORMATIVITY AS EVALUATING ATTITUDES

The epistemic norms, to put the problem generally, are the results of the manifold human undertakings, and they function in a much broader context than the cognitive one. Namely, all norms and values originate from the manifold of **human evaluating processes** or acts. They are results of effectively performed (however, not always completed, as well as very often misled) doings, undertaken in order to achieve some practical and cognitive goals. These goals look for their completion or fulfillment, and agent’s satisfaction, called a certainty, is ascribed very often to the gained knowledge (while unsatisfactory beliefs are called falsity or mistake). Most of the goals are, in fact, collective, not individual, and many social influences are reflected in them. No one can deny that the practical evaluation (ascribing things or events values) is a more substantial human activity than any particular cognitive process. It is so because perception (namely its visual evidence) as well as thinking (its conceptual evidence, a concept) or conveying and communicating what is perceived and conceived as a true justified belief (its truth *per se*, truth as a statement’s feature) are usually undertaken in the course of deciding or estimating. When people carry out certain assessments, they discriminate between different states of things and affairs as profitable (valuable) or non-profitable (non-valuable), and only then the values and norms emerge. It is due to estimating and deciding in many areas of human life where they function. Truth is then an epistemic value that emerges throughout perpetual human evaluative (normative) undertakings that are prior to the norms themselves.

All norms are therefore a cultural embodiment of social experience which people have acquired while trying to experience a lot of things. And this concerns not only science, where truth plays the crucial role, but also the areas of commonsensical knowledge, mass communication, and public opinion.

Because of its introspective and subjective concepts of the cognizer/knower, traditional epistemology often did not take the above perspective into account. As most of epistemology’s concerns (i.e. agent’s identity, scope and limits of knowledge, concepts of truth and evidence, etc.) were traditionally considered in the internalistic (introspective) framework, being understood as the first-

person perspective, the problem of norms usually has an absolute solution. Epistemic norms and values were conceived as the final goals of personal cognitive acts; they preceded, not followed them. But since the Cartesian-Husserlian epistemology has been repeatedly, critically reconsidered, a new perspective has been opened. Referred to as externalism (see BonJour 1994; Goldman 1995; Ziemińska 1998), it re-evaluates all epistemic concepts and issues, including the normativity problem. There obviously is no single direction in which this change is realized, and it has revealed itself recently in a number of noteworthy theories.

Socio-historical epistemological study is one of the distinguished currents of externalism; Alvin Goldman’s veritistic epistemology situated in the analytical tradition plays a crucial role in it. Goldman says that veritistic epistemology (“a specialized subject, analogous to environmental studies and nutritional studies”) deals with special social values, a circumscribed kind of things that people and institutions take into account. “Veritistic epistemology is such a special field where the selected good is knowledge and the selected bads are error and ignorance. [...] It has the distinctive *normative* purpose of evaluating or appraising such practices on the veritistic dimension, that is, in terms of their respective knowledge consequences. Practices currently in place will be veritistically good or bad in varying degrees; they will rarely be ideal. To investigate prospects for improvement, social epistemology must be prepared to transcend previously realized practices. It must be ready to consider the probable veritistic properties of practices that have not yet been, but might be, adopted.”² Social practices, namely, these involved in evaluating particular achieved cognitive results as true beliefs, constitute certain goods as true or false. They are then, consequently, the matter of epistemology’s interest and respectively the subject of its meta-theoretical analysis (veritistic in their nature). It obliges, if not compels, the epistemologist, as Steve Fuller says, to take the role of “the disinterested participant of analytical social epistemology, which aims to acquire knowledge first-hand above all else.”³ But Fuller goes much further in the critical analysis of the normativity problem, his externalism approach takes into account the social circumstances as important and exclusive conditions for the knowledge making and evaluating. What matters is not only scientific methods and results but also social and public strategies and policies (“knowledge regimes”). Epistemic norms emerge in the course of knowledge production and distribution; they do not function independently of the social situations which generate them. He holds that: “Social epistemology’s normative concerns largely reflect the bureaucratic context of modern resource-intensive ‘big science’. It situates the points of critical intervention not in the laboratory, but in the policy forums where research is initially simulated and ultimately evaluated.

¹ F. Dretske 2000, *Perception, Knowledge, and Belief*, Cambridge, Cambridge University Press, p. 247.

² A. Goldman, 1999, *Knowledge in a Social World*, Oxford, Clarendon Press, pp. 6–7.

³ See Fuller, 2007, p. 110.

Part of this shift is due to the gradual demystification of scientific work that has attended the rise of science and technology studies. [...] Another part of the story is the increasing realization that bodies of the knowledge can be evaluated, not merely in terms of their conception, but also in terms of their consequences. Given the increasing access to resources that science commands, research has become—if it was not already—both in investment opportunity and a public trust.”⁴ In other words, epistemic norms and values originate and function in the context of social, public, not individual activity. Their status and importance are due to the constant change as well as re-evaluation.

The epistemological consequence of that epistemic fact is a change on the meta-theoretical level of the analysis. The epistemologist becomes “the interested non-participant in the knowledge system”, as Fuller mentions (a position directly opposed to that which he ascribed to Goldman’s). It happens because “interest in knowledge policy is grounded in the idea that, generally speaking, the *prescribers* and *evaluators* (or, respectively, *legislators* and *judges*) of knowledge production are not the same—in terms of identities or interests—as the first-order knowledge producers. Knowledge serves as a means to other human ends (which themselves may be epistemic) but one’s participation in the knowledge process is usually confined to the meta-level of inquiry, that is, the design and evaluation of knowledge production regimes that *others* carry out. [...] Thus, the social epistemologist’s position is, generally speaking, *rule-utilitarian*: if the people subjected to an epistemic regime can live well with its consequences, then that is success enough. [...] A progressive knowledge regime institutionalizes both the exploration and the criticism of alternative research trajectories.”⁵ Finally, as I wish to claim, the essence of normativity problem lies in the fact that epistemic norms have their (large and complex) genealogy which is opposed to its (usually simplified and obscured) history written in epistemology. Their real genesis is misled very often by the epistemologists themselves who are still inclined to overestimate their intellectual position as the truth-makers or at least those privileged in deciding what is right or wrong in cognitive issues, what is true or false in the realm of knowledge.

6. NEW PERSPECTIVES FOR EPISTEMOLOGY

Epistemological problems, no matter how abstract or general, do not live in vacuum, however, they are practiced in this way by many philosophers. The problems are always involved in the real, complex context of cultural, social phenomena, generally speaking, in the context of manifold civilization’s issues that bring them into being. The traditional epistemic categories, concepts and

⁴ S. Fuller, 2007, *The Knowledge Book. Key Concepts in Philosophy, Science and Culture*, Stocksfield, Acumen, p. 110.

⁵ *Ibid.*, pp. 110–111.

notions (i.e. agent, subject, knowledge, truth, evidence etc.) are abstracts derived and constituted by epistemologists in their analyses (they are specific “distillates” gained in the process of different intellectual undertakings). Although they are generally conceived as pure and independent epistemological entities, they are, in fact, deeply rooted in social, cultural and political contexts. As I have already mentioned, the main epistemology’s duty as well as its intellectual challenge consists in describing and properly evaluating such a complex situation. There is also another successive task of epistemologists who would not like to be called conservative or traditional beyond measure. This task lies in predicting or forecasting civilizational changes in those areas of human experience and institutions of social structure in which cognitive and communicative processes and knowledge’s products are dominant and cause spectacular as well as widespread and pervasive effects.

Generally speaking, these are the problems of the non-individual, non-subjective understanding of human cognition and knowledge, that is, the social and tools-mediated nature of human gaining and communicating knowledge. The main issues concerning information technologies, especially, such phenomena and events as knowledge-based artificial systems (i.e. expert systems), information (knowledge) retrieval, ubiquitous computing, dispersed and impersonal mass communication, or cognition and learning at distance etc., await now for serious epistemological considerations.

The new epistemic problems emerge from the spectacular as well as common cognitive situations in which agent’s perception or gained beliefs are more and more technologically mediated and bring then new issues named recently “telepistemology”. As Ken Goldberg holds: “Access, agency, authority, and authenticity are central issues for the new subject of telepistemology: the study of knowledge acquired at distance. [...] Although epistemology has lost primacy within philosophy, each new invention for communication and measurement forces us to recalibrate our definition of knowledge. [...] Telepistemology asks: To what extent can epistemology inform our understanding of telerobotics and to what extent can telerobotics furnish new insights into classical questions about the nature and possibilities of knowledge?”⁶ It approaches both technical and moral questions that arise from those new phenomena: Do telerobotics and the Internet really provide us with knowledge? Is it reliable knowledge? How should we act in the technologically mediated environment? How does our sense of agency change? Why and how one should believe the distance experience, how can he cope with the skeptical arguments? Hubert Dreyfus specifies further the above questions and admits: “And if telepresence became ubiquitous and we became dependent on electronic prostheses to mediate *all* our relations to the world, the epistemological questions that troubled Descartes and three

⁶ K. Goldberg, ed. 2000, *The Robot in the Garden. Telerobotics and Telepistemology in the Age of the Internet*. Cambridge, Mass., London: The MIT Press, pp. 3–4.

centuries of epistemologists could again come to seem, not just intelligible, but disturbing.”⁷ In other words, the above situation compels us to answer anew the old epistemological question of whether our relation to the world should be that of a detached spectator or an involved actor? If there are serious reasons to doubt the authenticity and reliability of the Internet communication or highly mediated mental representations (virtual, fictional) that are so easily experienced, how then to dismiss skepticism? Shortly, is epistemology able to cope with these traditional issues and questions?⁸ No matter how troublesome and astonishing they are from the traditional viewpoint, they open new perspectives and horizons for epistemological analyses.

6.1. Technologized communication and its impact on epistemology

Technologically mediated human undertakings and cognition processes are the cultural fact characterizing the latest decades of the computer revolution with information technology has penetrated so deeply and widely into our lives. But the mediation of human experience was taking place long before it, and was introduced to facilitate many social and cultural areas, to mention only such examples as writing, print, the press, radio, or television systems of mass communication. In all these cases of “technologizing” and “making of the typographic man”, human collective and individual experiences were mediated by the tools, instruments, and means of communication. Thanks to these technological mediations, new types of mentalities, minds, and especially scientific styles of thinking have emerged in European civilization. New kinds of social relations and structures also arouse. As Marshall McLuhan mentioned several decades before: “The use of any kind of medium or extension of man alters the patterns of interdependence among people, as it alters the ratios among our senses.”⁹ The linear, mono-causal, predictable commonsensical or scientific ways of thinking, being created by such inventions as the printing press, microscope, telescope, and mathematical calculus, concurrent with the rise and evolution of modern science in the seventeenth-century, gave rise to epistemology that unfortunately has forgotten its real historical source in the next decades and centuries.

It has happened in the history of philosophical analyses of knowledge that the epistemological ideal was losing its true nature. The Cartesian-Lockean model of the theory of knowledge (*considerations concerning human understanding*) as well as its other sophisticated versions (e.g. Kantian, Husserlian) were, in fact, theoretical implications of the instrumentally mediated knowledge

⁷ H. L. Dreyfus, 2000, *Telepistemology: Descartes's Last Stand*. In: Goldberg, Ken, op. cit., p. 55.

⁸ See Hetmański, 2008.

⁹ M. McLuhan, 1965, *Understanding Media: The Extensions of Man*, New York-London-Sydney—Toronto: McGraw Hill Book Company, p. 90.

gained by the philosophizing natural scientists (e.g. Galileo Galilei or Newton) in astronomy, physics, or geometry. Paradoxically, this knowledge has been misleadingly presented by philosophers as a domain of the “pure reason”, as a result of an ideal agent who is free of any mediations which would only “contaminate” his process of cognition. In the context of such circumstances—on the one hand, the real and successful instrumentally achieved scientific knowledge and, on the other, the meta-theoretical analyses of it—traditional (classic) epistemology has emerged. Its ambiguous and apparent nature (as I tried to show in the above argumentation) is evident as far as one discerns the two levels on which it realizes itself: (1) *epistemic* (factual)—where real instrumental mediation has been effectively recognized and analyzed, and (2) *epistemological* (meta-theoretical)—where such facts have unfortunately been obscured and refined specifically into the shape of the normative philosophical theory of knowledge. Both of them comprise epistemology as such, but the dominance of the later, making epistemology normative and far from the social context of cognition, must be at present counter-balanced by more realistic analyses of what really happens when technology is involved in human cognition or communication. In order to answer the above question, I wish to formulate a few opinions, including seemingly obvious statements which nevertheless have important consequences because they open new perspectives on the essence of knowledge entangled by technology.

Only technologically mediated human cognitive processes have meaningful epistemological consequences which produce really new epistemic situations. Mediation in human activity, both practical and cognitive (individual and social) has two possible functions: (1) **organic** — when human being uses parts of his body (e.g. hands or organs of senses) as well as very simple tools that are used occasionally, at random, to perform ordinary cognitive tasks, and (2) **artificial** — when more or less complex, intentionally constructed, instruments and tools are used to enhance weak natural sight or touch and improve them. It is in substance indispensable (natural not normative) pre-condition ongoing almost in all human undertakings which aim at gaining new knowledge. But only in the cases in which mediation brings about effects that could not appear in natural (organic or very simple artificial) situations, it becomes the epistemological problem. In other words, the domain in which epistemologically interesting new cognitive situations occur is much narrower than the areas of human activity in which obvious and habitual (organic or instinct) mediation takes place. The former, being the sub-domain of the later, is, in fact, brought into our theoretical interest only by new considerations free from the restrictive traditional (classic) epistemology's assumptions which do not fit to new civilization's cognitive situations.

The mutual knowledge and technology entanglement takes different shapes. Thus, instrumentally mediated knowledge emerges in information technology systems where signals and signs characterizing the objects and processes are

encoded and transmitted between different material things and processes. Information technology allows mutual and repeated coding (i.e. encoding and decoding) of any possible state of matter or energy. It enables transition from the analogue to the digital form of information, and conversely. Apparently, dematerialized strings of zeros and ones may be conveyed between different senders and receivers (human beings as well as machines) regardless of speed and place, which makes communication the form and matter of the newest civilization. Technologized (i.e. computerized) communication has absorbed not only all previous means of communication such as the telegraph, radio, or television but the means of transport and ways of doing everyday things as well. Thanks to its effectiveness, almost everything becomes "networked communication". This communication allows for doing and making any type of human needs and aims, including most of human cognitive undertakings. Cognitive processes and their results are realized more and more on the Internet which is the proper environment ("cyberspace") for them, giving them the occasions for reciprocal and mutual exchanges of information, signals, signs, and respectively symbols, intensions, thoughts, emotions, knowledge etc.

Any technology brings about specific cognitive effects and creates new types of cognizer/knower's experience. Digital coding, implemented in the computer systems, gives new possibility of particular and precise presentations of manifold aspects of reality. It makes scientific as well as common cognition and practice more effective as well as suggestive. Models and simulations built on the digital platform are mainly presentations of non-existing and imaginary worlds that come into existence through them. They are results of the pervasive penetration into the different levels of both micro- and macroscopic areas of the world. Thus, the question of their adequacy arises. If they are instruments of successfully conducted scientific or business (management) undertakings that enhance natural cognition, are we really obliged (as traditional epistemology has it) to evaluate them by asking the question of their truth or falsity? Simulation or modeling seem not to fulfill the strict epistemic standards because they are tools for practical rather than simply cognitive tasks. If they work, help to solve important questions, or open new cognitive horizons (producing however, as I want to stress, any amounts of uncertainty), they are sufficiently adequate representations of investigated objects and events. Therefore, the epistemological question seems to be less important or urgent than the practical one, however, it does not imply epistemic carelessness or assent to relativism. In the realm of simulations and simulacra traditional epistemological values and perspectives do not stand, they do not maintain their previous validity.

As a result of technologically mediated cognition and communication, a new type of human experience emerges, especially in these areas of intellectual undertakings where a man is confronted with challenging situations described above. It would be naive and excessive to claim that a person utilizing information technology becomes an entirely new agent ("digital" cognitive subject),

radically different from one relying only on ("analogue") speech, writing, or the print. As we become increasingly involved in complex information technology systems, becoming dependant on them in more and more areas of our lives, possibly even addicted to them, we still remain the agents of simple and natural cognitive undertakings. Computerized tools do not improve or alter our senses and simple intellectual functions (inference, argumentation etc.) but rather our memory, imagination and self-identification. The greatest impact of the tools, particularly interested for psychologists and for epistemologists, can be observed in higher functions and processes of our minds, particularly, in theoretical concepts and philosophical speculations of cognitive sciences and studies on artificial intelligence. These fields of knowledge have created specific myths of an artificial human being (looking back to the legends of the golem) which reflect an understandable desire not only to construct fully functional robots, but also to uncover and conclusively (simply and unambiguously) understand the secret of human thought. As many researchers studying the phenomenon indicate (See Turkle 1996, Hetmański 2005), the visions and theories on artificial intellect have led, in a broad cultural perspective, to a significant change in the human experience of one's own subjectivity and subsequently self-cultural identity. They involve, for instance, identifying the mind with the Turing Machine, reducing cognition to algorithmic calculations and information processing and knowledge to a closed formal system. Eventually, the above results (owing to the wide impingement of those concepts on common thought, particularly via science-fiction literature, computer games and multimedia education) in the specific self-identification of the users of computerized cognitive and communicational tools as cyborgs, avatars or zombies. I believe that this phenomenon belongs not only to the scope of research interest of developmental psychology, pedagogy or mass communication studies, but also epistemology (in particular its type herein referred to as technologized epistemology) which should pay much more attention to the socio-cultural changes that do not leave knowledge unchangeable.

6.2. Knowledge in social context

None of the contemporary epistemologists is able to restrict definitely the meaning of the "knowledge" to only an individual or subjective content. Social as well as cultural aspects of cognition and knowledge become for philosophers more and more distinguished epistemic fact, and not only the troublesome issue. The previous rigorous epistemic definitions and notions gain much more richer meaning. As Nico Stehr and Reiner Grundmann, in their five-volume anthology on knowledge seen from different perspectives, say: "Although knowledge has always had a social function, it is only recently that scholars have begun to examine the structure of society and its development from the point of view of the production, distribution and reproduction of knowledge. In former times,

knowledge was mainly thematized in philosophical discourses under the label of epistemology. [...] Perhaps one of the most pronounced statements about the changed role of knowledge in contemporary societies is Lyotard's assertion that knowledge no longer conforms to the criterion of truth, but rather to the imperative of performance: it has to yield the 'best possible input/output equation.'¹⁰ No matter how persuasive we must find this statement, in analytical terms it narrows our investigations, in that it tends to lose sight of other possibilities. We want to reserve a third, a logically separate, category which we call knowledge as capacity for action. [...] We propose to see knowledge creation as a process of construction and the knowing agents in terms of social groups or networks rather than a single ego. [...] Replacing the single ego with the social, and transfer with construction, leads us to a view of knowledge as social construction."¹¹ The socio-cultural phenomenon of knowledge becomes then the multi-faced category that is (that should be) investigated in different scientific and philosophical disciplines like psychology, anthropology, mass communication studies or sociology.

The civilization's changes concerning knowledge are not the only reason of the opening of epistemology for the social perspective. The classical epistemology's analysis, according to which knowledge was only true justified belief of the individual agent, has undergone its own changes. Most of epistemologists have started with the concept of shared knowledge, group beliefs, or knowledge conveying in communities. As A. Goldman admits: "Proponents of the anti-classical approach have little or no use for concepts like truth or justification. In addressing the social dimensions of knowledge, they understand 'knowledge' as simply what is believed, or what beliefs are 'institutionalized' in this or that community, culture, or context. They seek to identify the social forces and influences responsible for knowledge production so conceived."¹² But the general phrases as "social dimension of knowledge" or "social context of knowledge" tell neither directly nor precisely what type of determination between the "social" and the "knowledge" is in particular case involved. The question of what are mutual correlations between both types of these entities (what ontological relations are involved) is still under investigation and constitutes the core of the social epistemology.

The above questions do not entail only theoretical implications; there are also significant practical consequences one can derive from them. "In particular—A. Goldman says—applied issues in social epistemology commonly involve matters of *institutional design*, where the problem is to configure or re-configure social institutions so as to promote truth acquisition or error avoid-

¹⁰ Lyotard 1984, p. 46.

¹¹ N. Stehr, R. Grundmann (eds.) 2005, *General Introduction*, in: *Knowledge. Critical Concepts*, vol. I–V, London and New York, Routledge, pp. 2–3; 7.

¹² A. Goldman, *Social Epistemology*, Stanford Encyclopedia of Philosophy (internet resource).

ance. Problems of institutional design typically demand inputs from empirical and formal disciplines outside philosophy."¹³ The practical importance of social epistemology lies on the possibility to redesign the information-related institutions that emerge in the social structure during processes of knowledge search. In other words, it seems to be reasonable to expect that the critical analysis (in the sense ascribed above by S. Fuller to the social epistemologist as "interested non-participant in knowledge system") will tell us not only how knowledge socially functions but how to change or modify it, too. The socio-political agents' activity, namely, their reciprocal entanglement in manifold knowledge or information-related social systems, compels them constantly for redesigning the situations and institutions in which they are involved. Shortly speaking, changing agents' meta-theoretical situations is equally important as cognitively participating in them.

The new perspective opened by social epistemology depends on the epistemologists' ability of identifying and evaluating the social processes and events by which agents are involved in the knowledge production and distribution. These are manifold **social-epistemic practices** including speech practices of reporting and arguing, doing as well as using many types of testimonies that function in common or public life, market and non-market communication mechanisms regulating the flow of information, using the information technology tools and systems, assigning scientific credit as well as doing and guiding scientific research, trial procedures or legal adjudications, dissemination political and public information within different communities etc. Most of them are practices where the individual agent's "true justified belief component" is minimized or reduced to the behavioral element (external, not internal). These social and group undertakings are the examples of manifold human activities which classical epistemology has ignored and omitted up to now but which have to be considered as indispensable cognitive doings. Then the vital meta-theoretical question emerges: how to discern between merely psychological or sociological analysis of particular cognitive undertakings as communicating or reporting and epistemological analysis of the "veritistic approach"? Social epistemology has to follow the second pathway and investigate the general terms under which a certain cognitive tasks satisfy the true conditions, and others do not. It is thus disposed towards classical search for non-accidental and significant cognitions as well as true and valuable knowledge, nevertheless without abstracting them from the real social context. But the question whether the recent epistemology's analyses and attitudes drive at such direction is still open.

¹³ Ibid.

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