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Expertise and Expert Knowledge in Social and Procedural Entanglement

Abstract:
The paper analyzes, on the basis of Ryle's concepts of knowledge *that* and knowledge *how*, both objectified (verbalized, justified and verified) forms of expert knowledge and the performative (procedural, interactional) nature of expertise. Both theoretical and practical aspects of the identified categories are studied from historical and social (institutional) perspectives as phenomena characteristic of post-modern information society. In virtue of the selected social examples an epistemological model of performative expert knowledge and expertise is constructed in which crucial elements are distinguished: experts' cognitive attitudes and dispositions, intellectual skills, intuition and mistakes as well as types of interactional versus contributory expertise. Also considered are the epistemological consequences derived from the research concerning expertise in psychiatric treatment where both expert knowledge and expertise fall into line with institutional requirements (medical or juridical) as well as procedures (correspondence with facts and/or other procedures).

Keywords:
expert knowledge, expertise, interactional expertise, psychiatric expertise, epistemic value, procedures

Introduction

Expert knowledge and expertise are two types of specialized knowledge as well as specific abilities for solving practical problems and making subsequent decisions. In particular, *expertise* – the cognitive-practical ability of gaining, processing and performing specialized knowledge in a social setting – is no less important than the

result of it – *expert knowledge,* which utilizes scientific knowledge (mostly from natural, social and technical sciences) and implements it in particular areas of life. To the main *epistemological* aspects of expert knowledge and expertise discussed in this paper belong the following questions analyzed in subsequent sections:

(1) What types of human experience and practice does expertise and expert knowledge come from? By investigating epistemological conceptions (Ryle 1949/1990) and historical phenomena, one can recognize the two prototypes (models) of expert knowledge – knowledge how and knowledge that (sec. 1).

(2) Regarding expert knowledge, what is the ratio between *objective* and *subjective* aspects of knowledge gained and possessed by experts? Since expert knowledge is not only individual beliefs which expert could have, the *objectified* expertise – verbalized and stated in a verified and socially accepted corpus of structured information and knowledge – is a main feature discriminating it from merely subjective opinions – which in turn layman could have (sec. 3).

(3) What is the structure and function of expert knowledge and how does it differ from scientific knowledge and/or public opinions with regards to information (sec. 2.1 and 2.2)? Expert knowledge and expertise are *performative* as well as *interactional* in their nature (sec. 4), which generally means that they are types of specialized practices that take the shape of propositional (assertive) judgments and manifest in skills and abilities that experts perform while coping with practical problems and making predictions or diagnoses (sec. 5).

(4) If expertise is empirically *recognized* and socially *attributed*, is it an objective or only subjective cognitive disposition? Which of the two circumstances: (a) social acceptance and demands and/or (b) learning and training, make an expert the agent of problem solving and deciding? It also raises the question: do epistemic norms like validity, reliability and truth (mostly applicable to knowledge) also concern expertise, which is especially discussed in psychiatric treatment which depends on medical knowledge but also practices and procedures (sec. 5).

1. Epistemology of Expert Knowledge and Expertise: Gilbert Ryle's Conception

According to the classic *epistemological* differentiation between: (1) knowledge *that* and (2) knowledge *how*, introduced by Gilbert Ryle in *The Concept of Mind*, human knowledge is deeply rooted in and functionally correlated with experiencing the world. Both theoretical, objective knowledge and practical, individual experience are mutually correlated and cannot be in principle separated (only stated as *theme*/*subject* of psychological and/or epistemological analyses), being juxtaposed (but not opposed) as two equivalent aspects of cognitive-behavioral *phenomena* of human experience.

Ryle indicates that the noun-phrase "knowledge that" refers to a sort of *propositional* (i.e., theoretical, declarative, verbalized) agent's knowledge; gained during education, learning and studies; being connected with the verb-phrase "knowing how" – *procedural* knowledge and experience (i.e., instrumental, practical) performed by an agent as his/her innate and intuitive abilities and faculties (e.g., talents, skills). One can define the latter as *expertise* – knowledge entangled in practice – whereas the former would be defined as *expert knowledge* – a sum of declarative statements one could possess thanks to expertise. In fact, Ryle suggests, expertise introduces to knowledge what is demanded in the agent's experience "the ability, or inability, to do certain sorts of things … to know how to perform tasks."[1] When these abilities and their performative acts are formulated as rules and are practiced by the agent (becoming therefore a conscious subject of his/her action and reflection), it finally decides, Ryle observes, that "we are much more concerned with people's competence than with the truths that they learn … we are interested less in the stocks of truths that they acquire and retain than in their

1) Ryle, *The Concept of Mind*, 28. Hereafter referred to parentheticall as CM with page numbers.

capacities to find out truths for themselves and their ability to organize and exploit them, when discovered" (CM, 29). Reflection exhibited by the agent is a sort of intelligence acquired during performance and consists of two things: (1) knowing the rules and criteria, as well as (2) performing them effectively. "To be intelligent is not merely to satisfy criteria, but to apply them, to regulate one's action and not merely to be well-regulated…. an action exhibits intelligence, if, and only if, the agent is thinking what he is doing while he is doing it, and thinking what he is doing in such a manner that he would not do the action so well if he were not thinking what he is doing" (CM, 29). In other words, intelligent expertise, as reflective *knowing how*, is not only a mastery in performing a set of rules governing the expertise's performance (guaranteeing true expert knowledge), it is an agent's self-reflective disposition executed necessarily while coping with some practical issue. It does not mean, Ryle warns, there would be dualism and opposition between (1) mental-cognitive dispositions and (2) behavioral exercises resulting in Cartesian "mythical bifurcation of unwitnessable mental causes and their witnessable physical effects" (CM, 34). Analyzing both knowing how and knowledge that, one should avoid the "myth of ghost in the machine" ("intellectualist legend" dominant in most philosophical and psychological theories) which explains falsely human experience as divided into a substantial mind and (ontologically different) acting mechanical body. Cognition, knowing, knowledge and action (being all together two *aspects* of human experience) are mutually interwoven. Developing and enhancing either practice (i.e., cognitive *acts*, expertise) or knowledge (i.e., intellectual *results*, expert knowledge) they have their inner motifs as well as external rules and criteria.

Goals, intentions and rules governing practice (expertise) are influenced by social factors like learning, educational institutions and traditions. "The ability to apply rules is the product of practice. It is therefore tempting to argue that competences and skills are just habits. They are certainly second natures or acquired dispositions … all second natures are mere habits obliterates distinctions which are of cardinal importance for the inquiries in which we are engaged" (CM, 41–42). These "inquiries" – meant as a spectrum of information, signs, marks and symbols, as well as general theoretical knowledge, which all come to the agent from a social setting and institutions and oblige the agent to absorb them – not only to simply engage reactively but also creatively from his/her cognitive nature. There are nevertheless some differences regarding "engaging," pointed out by Ryle, which knowing *how* and knowledge *that* demand. If the former happens (as procedural knowledge, the acts of learning or training), it requires more complex and long-term processes of learning and cultivating, and if the latter (i.e., propositional knowledge, a content of knowledge) occurs, it demands rather simple and short-term process of conveying what has been learned. This general epistemological principle Ryle states in the following way: "Learning *how* or improving in ability is not like learning *that* or acquiring information. Truth can be imparted, procedures can only be inculcated, and while inculcation is a gradual process, imparting is relatively sudden" (CM, 58). In other words, the process of formulating of expertise (i.e., obeying both propositional knowledge and practice) is a two-aspect activity consisting of: (1) a time spanned process of acquiring, learning and improving procedures, as well as (2) a process of conveying knowledge, over a short-term rather than spread out in time, and repeated from time to time.

Ryle's remarks – behavioral-pragmatic and opposed to psychosomatic Cartesian dualism, underlying moreover the embodiment of cognitive processes and the role of intuition (see sec. 5) – one can interpret a relatively new perspective on propositional knowledge as not separated from practice and expertise. His epistemology depends also on considering in the *knowing* category all circumstances that might not only improve but also disturb and deform its course and results. By saying: "Mistakes are exercises of competences" (CM, 58), the author considers possible situations (typical to both everyday and scientific practices) when knowledge and expertise might be at the same time distorted and improved, which happens mostly in particular social settings like during sentencing verdicts and while formulating political programs or opinions in the public sphere. Briefly

speaking, he has opened a fruitful perspective for analyses of heuristics and biases which have become since the last few decades a topic of widespread study (see sec. 3.1 and 5); Ryle's model of knowing *how* and knowledge *that* helps to summarize studies concerning expertise and integrate them into a more general model.

2. Expert Knowledge and Expertise: Historic-Institutional Perspective

The significance of the two named categories is determined by the historical epochs (e.g., Middle Ages and modern times) in European civilization as well as by their functioning in postindustrial (postmodern) knowledge-based society. History decides what forms of social practice take the shape of expertise and are called "expert knowledge." There are various forms of specialized expert knowledge and expertise as well as subsequent *institutional* and *social* forms, in which they are manifested. In the Middle Ages, when the economy was based on manual labor, the concept of craftsmanship competence was developed in guilds, trade unions and professional corporations. These institutions with partition of labor brought together people specialization in handicrafts as well as their adequate knowledge on the objects and phenomena which became socially significant, becoming the protoplasts of modern experts. Their intellectual and practical skills (elementary "expertise") became important to such an extent that they became subdued to strict procedures of gaining, preserving, transmitting and certifying them; expert knowledge emerged thus from both the "*techne*" and "social."[2] As also Earl Hunt observes: "Because expertise requires motivation and support, society has considerable leverage in deciding what types of expertise will be developed, by varying the extent to which rewards and support are offered for expert compared to journeyman performance."[3] Members of crafts guilds were the first experts due to the knowledge and competences that they possessed and which were evaluated on the basis of their utilitarian and social significance. Early modernity (the rise and development of modern science in the seventeenth and eighteenth centuries) has even more so amplified the processes of monopolization and rigorous (competitive) protection of multi-generational expert knowledge in such fields as medicine, law, crafts and natural science. The practice of qualifying and strictly certifying expert knowledge and skills also appeared, as well as the rigorous competition, in this respect, by the state, academies of arts and sciences, and professional corporations. In the early capitalist era – when empirical and scientific knowledge found their broad application in technology, industry and everyday life – the state, in the public interest of citizens, started to play a major role in certifying expertise through the establishment of standards, examination forms and confirming expert knowledge. Expertise itself became the subject of teaching and training, gaining in this way the status of a *profession* as well as important social role. Social circumstances influenced cognitive and intellectual, potential abilities. Expertise also became the topic of independent methodological, psychological and sociological studies as well as epistemological inquiry, within which theoreticians (experts on experts) tried to consider and examine an array of important problems.

2.1. Expertise in the Information Society

The increasing role of experts in democratic and liberal societies shows that new epistemic categories of expert knowledge and expertise became more and more significant; they compete with classic categories of truth, true and justified beliefs and/or reliability of them. There are two, partially interwoven and correlated, social-cognitive tendencies describing and explaining this fact. First of all, in the structure of so called information society

2) For more detailed analysis see Hetmański, "Expert Knowledge," 11–20.

3) Hunt, "Expertise, Talent, and Social Encouragement," 35.

(networked society, knowledge-based society, knowledge economy, etc.) the possession and usage of information and knowledge still increases. As it makes access to independent sources of information a vital issue of liberal participation in civil society, the status of expertise becomes more and more important. Being well informed and possessing online access to databases is conceived as an indispensable right of citizens. Many independent, alternative, and not controlled open sources of information (e.g., private or state press agencies, social media, NGOs, etc.) appear, whereas traditional ones (e.g., national or state press agencies) have either disappeared or lost their status and previous significance. Almost everyone becomes an expert in the areas of experience he or she acknowledges as their own expert knowledge. As Reiner Grundmann remarks: "it lays out that the emergence of the knowledge society has led to a proliferation of, and dependence on expertise. It has led to a loss of trust to scientific experts while in the same time generating forms of expertise that are not based on professional accreditation or scientific reputation."[4] Information and knowledge in society undergo economic and mercantile tendencies of supply and demand; knowledge, cognitive skills and abilities gain both economic and political prices, becoming a valuable good and commodity. Experts, auditors and advisors become social and political leaders and advisers, answering to increasing social interest in well-tailored and widely advertised short opinions and advice concerning everyday issues. "Experts combine knowledge with its interpretation, and most crucially with an action orientation, making abstract knowledge actionable, or advising clients on how to act in absence of certain knowledge."[5] Suspicion about official scientific expert knowledge, connected with political and corporate lobbies, additionally strengthens this tendency and makes non-certified, unofficial, unjustified, unwarranted expertise so popular.

The second, concurrent tendency (which also strengthens the increasing role of postmodern, postindustrial expertise and new forms of expert knowledge) has a rather *subject*-dependent nature, not so much objective as the first one. It consists in *attributing* the cognitive value and personal merit of the development of expertise to the distinguished individuals and groups recognized and accepted as knowledgeable leaders in the information society. The *agent*-oriented form of this tendency – that it is not knowledge alone but an individual cognizer and adviser who stands now in the center of expertise and any research on it – realizes itself in the shift from objective, empirically and institutionally warranted criteria of expertise toward subjective, *psychosocial* qualifications of experts including their rhetoric and communicative abilities instead of epistemological value of propagated knowledge. In this tendency, rather *knowing* how (e.g., how to promote the offered advices) than *knowledge* that is centrally exposed (and even exhibited for sale). The objective aspect of knowledge (in the Popperian "third-world") becomes dominated by the subjective one (his "second-world"); not the question *what* and/or *how* but *who* possesses and delivers the expert knowledge brings to focus both the public and researchers' attention. Karin Jensen and coauthors, referring to this question, remark that "expert knowledge is generally contested and branded with uncertainty. This is partially related to the emergence of information society, which paves the way for extensive distribution of knowledge and information that is open to all without necessarily having gained the endorsement of professional and institutional authorities."[6] Shortly speaking, everyone can be an expert in an information society without any sufficiently objectified justification (i.e., from the state, specialized expert bodies, or the government's warrants and certifications); only individual declaration, social-political attribution or other people's assessments (e.g., internet popularity, number of clients, "likes/hates" quantified parameters at social media, etc.) matter. The main symptom of this civilization change is a shift from traditional institutions of expertise like self-governing bodies, professional accreditation toward the internet, social media

4) Grundmann, "The Problem of Expertise in Knowledge Society," 31.

5) Ibid.

6) Jansen, Lahn and Nerland, *Professional Learning in the Knowledge Society*, 2.

and popular portals with blogs offering commonsensical advising and popular expertise in lifestyle. A population of possible experts and their clients spreads out, whereas their minimal, epistemologically diminished standards expand. "In contemporary society the reliance on expertise – Grundmann remarks – is ubiquitous, with people being both potential providers and clients of expertise."[7] One can become an expert according to the market system of demand and the supply. There is thus an increasing population of non-certified experts who compete with those who are certified, absorbing public interest because of their simplified expert knowledge concerning seriously troublesome civilization issues like health, climate changes, and migrations; their radical opinions are close to conspiracy theories. There are many ubiquitous and open databases which guarantee unlimited access and usage of information and elementary knowledge, what finally comes about is that almost everyone can become an expert on the matters he/she voluntarily recognizes as cognitively valuable and methodologically justifiable. Traditional epistemic standards of expert knowledge – reliability and truthfulness – more or less change and even disappear, whereas the new ones – recognition, popularity, acceptability – come into being deciding who and how someone is estimated as an expert.

2.2. Knowledge and Mistakes in Expertise

In making specialized decisions the proper amount of information as well as its proper quality is needed. Not only sufficient information (e.g., the number of significant cues, access to rich and open databases) is demanded, but also high quality of information (e.g., convincing evidences and testimonies, verified facts) is no less important a criterion of expertise and successful decision making. Moreover, not only does access to information and its value decide what kind of expertise the expert has, but also *selection* and the ability to *choose* among gathered information. No less important is ignoring and omitting irrelevant information among gathered data. "Knowing what information to ignore may be as important as knowing what to attend to. In that sense, assigning zero weight to irrelevant information is a proper use of information. Thus, a complete measure of the amount of information used would reflect both what experts decide to use and what they decide not to use."[8] This means that not only the amount of information is what really matters in expertise, but also the proper *cognitive attitude* toward the possessed information. Especially, selection and evaluation of possessed information makes an agent a well-trained expert. Absorbing and ignoring information is no less important in making proper decisions. Information and knowledge possessed by the expert are thus highly contextual and depend on the particular problem the experts cope with.

Context and social settings decide, not so rarely, that expertise is not always correct or true. Expert performances are open to failures and mistakes no less than it happens with scientific knowledge and their methods. It is brought about more by subjective (agential) than objective reasons and resolves rather into procedural mistakes like lack of attention or sensibility to rare facts. "This suggests that experts may make important decisions without adequate attention to the complete set of cues. If so, then it should not be surprising to find that expert decisions are often seriously flawed."[9] But not only cognitive mistakes made by experts result in their bad expertise; not every flawed reasoning or calculation result in false judgments and opinions. Generally, the social setting – place and time of expertise as well as its institutionally determined procedures – decides how much the experts' decisions are in danger of being failures and mistakes (see sec. 5).

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7) Grundmann, "The Problem of Expertise in Knowledge Society," 30.

8) Shanteau, "How Much Information Does an Export Use?" 77.

9) Ibid.

3. Structure of Expert Knowledge and Cognitive Functions of Expertise

There is no specificity *per se* of expert knowledge and expertise as such. There is no typical and exemplary theoretical-practical knowledge one could simply define as "expert knowledge" or "expertise," such as: a priori knowledge (e.g., exemplified by arithmetic), empirical knowledge (e.g., in inductive natural sciences) or hermeneutic knowledge/method (prevailing in biblical studies or literary studies and critical theories). Nevertheless, the implicit *structure* of expert knowledge and expertise – meant as a limited set of beliefs, judgments, procedures and practices which they consist of – situates both of the categories between scientific and commonsensical knowledge. One can define thus expert knowledge as satisfying two epistemological and methodological requirements in which: (1) the level of fact, descriptive and true justified statements about facts, and evaluative, predictive or prognostic judgments, as well as (2) the second level (meta-level) of statements referring to them and self-referring statements (estimating their prognostic value); are properly discriminated and implemented in a particular expertise. In principle almost all examples of expert knowledge, even those in which subject-oriented and performative (interactional) criteria prevail (see sec. 4), still satisfy these conditions.

3.1. Types of Expert Competences and Performance

Abilities and skills represented by the expert, and that accompany expert knowledge, such as acquiring experience, inferring, justifying as well as communicating, (i.e., persuasion and rhetoric skills), do not always assume a homogenous form. They can differ with respect to the two different circumstances: (1) personal predispositions of the expert and (2) types of knowledge they provide. Diversity within the field of expert knowledge and skills assumes the form of degrees, levels of complexity and sophistication. Generally, in the already elaborated classifications[10] the several degrees and types of experts are distinguished: from the complete ignoramus through a novice, trainee to a full expert or even a master; these classifications correspond partially with historical stages (periods and epochs) of the emergence of expertise as such in the Western world and also its institutionalized forms.

In this classification there are assumed three general criteria that determine, and at the same time differentiate, expertise as well as the types of cognition and abilities which are appropriate for it: (1) the field of *knowledge* and *experience* which is distinguishable due to the discipline of knowledge and science to which expert knowledge refers; (2) *actions* and *dispositions* which the expert has and performs; and (3) forms of undertaken *action* leading to the expertise and *institutions* (meaning them as *modes* of behavior and social organization in which action realizes itself) co-creating expert knowledge in a particular environment. The initial level of an expert is a *novice* – someone who obtained "introductory," "school" knowledge in a given domain and is endowed with the typical and sufficient cognitive and communicative capabilities enabling him or her to obtain expert knowledge to which he or she is only yet aspiring. One can consider also an *aspiring* expert as somebody who is acquainted in a minimal degree with the specifics of a particular domain (informed and undergoing the stage of initiation), who passively acquires knowledge, usually by imitating standardized expert procedures. The next stage, a *trainee*, is already subject to a learning process that is spread out in time, multi-stage, in which the personal relation student-master is crucial because it provides the appropriate opportunity for the trainee to imitate the knowledge and competence patterns of the master; such practice is strongly connected with a particular institution (for example, a guild, chamber of crafts, professional corpo-

10) See Cianciolo et.al. "Tacit Knowledge, Practical Intelligence, and Expertise"; Hoffman, "How Can Expertise Be Defined?"; Hetmański, "Expert Knowledge."

ration with a distinctly "familiar" character). An *apprentice* could have been considered such an expert that has standardized and specialized knowledge in a given field as well as who knows the rules and principles of making it, at the same time is efficient in carrying out tasks (orders and instructions), but is not necessarily self-reliant; he or she is an apprentice that is just becoming self-reliant in relation to institutions that certify (approve and guarantee) expert status.

An *expert*, in the basic meaning of the term, (as an *ideal type*) is distinguished on account of his or her knowledge correlated with a particular domain of arts and science, having knowledge that is built upon the experience of a trainee and apprentice (whom he or she must have been earlier). He or she is already fully proficient in all the cognitive dispositions and skills specific for a particular domain, knows them all as well as uses them freely and interchangeably depending on a particular task and institutional requirements. Apart from that, the expert is authorized to formulate (relatively) constant and credible opinions and professional expert judgments accepted by the general public and other experts; in this respect he or she is a licensed and certified expert. He or she approximates the level of (relative) excellence in his or her area of expertise; specializes in various sub-domains of expert knowledge, issuing not only standard but also atypical expert judgments. He or she conducts a calculation of their own cognitive efforts, minimizing it and maximizing the intended effects; sometimes he or she overestimates this "calculus," underestimating especially the mistakes committed. His or her specialized skills and dispositions – more and more general, yet at the same time becoming narrow and routine – become at times the source of distinct cognitive errors. His or her social position, that is licensed as well as certified by specialized institutions (state-run and/or autonomous, corporate), becomes a factor no less important than the content and scope of his or her knowledge; one also becomes an expert on the basis of tradition and custom, not only one's knowledge by itself. Competing with other experts, including those with other methodologies, standards and values, becomes a factor that determines the essence of complete expert knowledge.

Finally, in specific cases, after a long period of functioning, the expert reaches the level of *mastery*, possessing the complete knowledge about a given domain, however with the awareness of its complexities and limitations, as well as showing the highest level of his or her abilities and skills. His or her judgments and opinions become rules, standards and ideals of expert knowledge. He or she is authorized to tutor both an apprentice and an expert as well as to license their knowledge and competence; he or she supervises institutions of general certification and becomes an expert for experts, approved by the vast majority of specialists.

In all of the above mentioned cases the agent's abilities and cognitive dispositions undergo constant change and development from simple acts and processes, well trained and embodied (automated) rules toward more complex, intuitive and reflective methods of coping with problems.

3.2. Two Models of Expert Knowledge and Expertise

The variety of expertise and different types of expert knowledge one can find in almost all areas of private and public life are studied and modeled in the sub-discipline of cognitive science termed generally "expertise and expert performance."[11] Most researchers put the stress on the performative aspect of expertise and concentrate on the agents' cognitive activities taking part in expertise and experts' performative actions.[12] In the newest studies[13] two approaches on expert knowledge and cognitive dispositions that condition it, as well as the social

11) See Ericsson, Charness,Feltovich and Hoffman, eds. *The Cambridge Handbook of Expertise and Expert Performance*; Ericsson, Hoffman, Kozbelt and Williams, eds. *The Cambridge Handbook of Expertise and Expert Performance* (second edition).

12) See Kołtun, *Can Knowledge be (a) Performative: Performativity in the Studies of Science*.

13) See Chi, "Two Approaches to the Study of Expert's Characteristics," 21–30.

position and role of an expert, are dominant. In the first one, based on empirical and laboratory quantitative methods (for example, questionnaires), selected experts are examined in comparison with other specialists from the same or another, even very different, realm of knowledge. The assumption in this research is the thesis that expertise is rather a unique sort of knowledge and cognitive ability, different than the methods and epistemic qualities typical for scientific knowledge. A comparison of knowledge and competence of the experts is made, from the side of one or several criteria, such as the time required to resolve a problem, memory resources and the ability to operate it, the range of the received results, the level of acceptance by others, and so forth. In this approach one formulates the thesis about the innate disposition for becoming an expert; this approach basically *absolutizes* expertise as such. In the second approach (also empirical) the experts are examined in comparison with non-experts like novices, apprentices, regular, naively thinking people. The initial assumption in this case is that expertise is gradable and essentially grows out of the novice's knowledge. Studies show that there is a continuum of expert knowledge and competences. The purpose of this inquiry and theoretical approach is to elaborate the methods and rules of teaching and improving expertise; this approach *relativizes* expertise. Both approaches, if one does not seek as many differences as there are similarities, are not targeted as such at recognizing the otherness of expert knowledge, but rather at the factors which decide about its development and improvement. As Michelene Chi writes: "the goal is to understand how experts become that way so that others can learn to become more skilled and knowledgeable."[14] It is more crucial to answer the question, how does expert knowledge function and develop, not only what it is *per se*.

In the inquiry on expertise the issue is not only about its general definition, what is much more important is the issue of apprehending the phenomenon from the perspective of the practical application of the hitherto acquired *knowledge* about expertise. What is the *prototype* of expertise, what is the *model* on account of its general character that shall allow the improvement of the analyzed phenomenon? Which of these most essential traits, despite their natural differentiation with respect to the conditions of functioning of the specific types of expertise, can be, nonetheless, susceptible to modeling and operationalization in order to improve it in a practical and socially significant manner? What conclusions may be inferred from the expert knowledge for its own development? "The prototype view of expertise maintains that expertise is relatively domain specific and that the attributes of experts may be specific to a time and place.… Importantly, the prototype view of expertise recognizes the diversity of skills that can lead to successful performance, and that expertise can be thought to exist in degrees rather than in an all-or-none fashion."[15] The versatility of levels of sophistication and differentiation of knowledge and expertise as well as their continuity, points to the fact that in the framework of the epistemic and institutional conditions in which one makes expert judgments, one can construe a prototype and a model of expertise as such; one must only define its boundary conditions, including, especially, its general advantages and disadvantages.

4. Performative and Interactional Aspect of Expertise

There is, as Harry Collins remarks,[16] a crucial difference between "socially acquired knowledge and its practicing." If most of all cognitive (generally linguistic and communicative) abilities and skills possessed by experts are results of *socialization*, some of them differ in regards to the scope and nature in their performative expertise. Social immersion does not cause the same effects in knowledge which one can acquire in social settings. In both

14) Ibid., 23.

15) Chianchiolo et al. "Tacit Knowledge, Practical Intelligence, and Expertise," 614.

16) Collins, "Interactional Expertise as a Third Kind of Knowledge," 125–143.

cases of expertise and practicing a crucial role is played by language. "Being able to speak a language is a social skill, but the new point is that it is, not the same social skill as being able to practice the corresponding physical activities; crucially, the latter is not necessary for the former."[17] One can acquire language (e.g, its grammar or literary style) without practicing and communicating in the community of its users; being a good expert is not the same as being a practitioner. Being immersed in the linguistic culture and social patterns pertains to a subject (an actor) in a practical domain, to expertise rather than the expert knowledge as such, practice itself. The first case might be called, Collins suggests, "interactional expertise," which differs from what might be called in turn "contributory expertise." *Interactional* means acquired by an agent through participating in a linguistic discourse (its vocabulary and rhetoric procedures), while *contributory* means knowledge gained and submitted (contributed) by him or her to the body of previously existing expert knowledge. Both participating and contributing are social activities, but only the former is expertise (i.e., taking a part in a discourse) while the latter is having an expert knowledge.

There is thus "a third kind of knowledge," Collins suggests, which consists in practicing both formal (algorithmically, learned and trained) and informal (tacit, practiced) rules and norms of specific knowledge and experience. The third kind of knowledge (opposed to the prevailing – widely used – subjective-objective discrimination) is only interactional expertise, not contributory knowledge; it is "the ability to converse expertly about a practical skill or experience, but without being able to practice it, learned through linguistic socialization among the practitioners."[18] It is a skillfulness widely distributed among both scientists and, as Collins insists, "a large range of other actors" such as laymen (experts-advisors) who have nevertheless some elementary training and practice.

As Collins and Robert Evans remark: "Because high-level expertise is hard to acquire … making judgments about experts in the absence of specialist expertise is an inevitable feature of modern society."[19] This sociopolitical tendency, which is specifically of the postmodern, information society (readiness to formulate unjustified judgments and thus take a position reserved previously to the masters), implies a certain theoretical consequences. In particular, it raises a problem of criterion of what is expert knowledge and what are differences (if there are any) between specialized, objectified and unique knowledge of an expert – and ubiquitous, individual, and dispersed knowledge of a layman. "As the difference between the two is determined by the nature of the group – Collins and Evans remark – and not the nature of expertise, it is, crucially, a sociological not an epistemological distinction."[20] But are they only distinctions, to put the crucial question, or epistemological *criteria* of the expertise? Any possible distinctions between experts' knowledge are descriptive *facts* and do not cause dilemmas in their interpretation; both the amount of information and its applicability in current cases decide how expert knowledge is evaluated. Only *epistemic criteria* of the knowledge's value – truth, credibility, reliability, verifiability or falsehood – may bring about the serious epistemological problems. If expertise in different domains of life is generally – as many social researchers remark – the result of typical (learned and trained) abilities in reasoning, deciding and predicting; as well as ubiquitous (acquired and accepted) specialized knowledge functioning in social groups; then there are no external and objective (in other words separate from the sociopolitical interests or cultural context) criteria of their nature and value. And if so, the problem of range and value of expertise still needs interdisciplinary analyses.

17) Ibid., 127.

18) Ibid., 125.

19) Collins and Evans, "A Sociological/Philosophical Perspective on Expertise."

20) Ibid.

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There is significant situation in which sociological and epistemological criteria being mutually entangled, reveal a significant (ambiguous and even paradoxical) feature of expertise as such. Recognizing "interactional expertise" – a case in which social researchers show cognitive (linguistic) "immersion" of experts in the community they study – Collins and Evans intriguingly say that "it is possible to acquire an understanding of practice through deep immersion in the corresponding spoken discourse without actually engaging in the practice."[21] Experts can namely choose, deliberately and (partially) reflectively, the view-point of the subjects (in other words, reliable experts) they investigate and on which they become the specialists (experts on experts); in other words, they "justify their research on the basis that they understand the actors' perspective without practicing their practices." It occurs that one can be the expert without knowledge acquired through a long process of education and training, only just through immersing in it, being merely trained in vocabulary and elementary procedures. The phrase "the basis that they understand" is however, somehow ambiguous, implying that interactional expertise can be both effective and fragmentary to some extent. The question arises then: are researchers/experts really able to understand the other actors' perspective and methodologies being not involved in their complete knowledge and/or cognitive interests and, what is really important, mistakes they may inevitably, and even in necessary way (see sec. 1), undergo and underlay? Interactional expertise is not the same thing as being a well-trained practitioner in a domain of chosen research; if only the latter is a true expertise, the former is merely methodological expertise. It is not enough to take part in the current and prevailed *discourse* with only overall understanding of the fields and subfields of knowledge, what really matters is a fully reflective process of acquiring and understanding all of the levels of expertise and expert knowledge.

5. Expertise in Psychiatry

The expert knowledge and expertise in psychiatry – considered in the paper both as therapeutic activity and scientific discipline – shows how much its performative aspect plays a crucial role in its structure and functioning. Psychiatric treatment demands active engagements of doctors and specialists no less than patients and their families, whose performative activity is the same range and value as possessed knowledge; knowledge that and knowledge how (sec. 1) plays here a crucial role. A short examination of selected literature,[22] reports[23] and pilot studies[24] give a basis for both empirical and epistemological conclusions explaining the real position of an expert (confronted with other medical professions or novices) in psychiatry and what are his/her intellectual skills and practices needed in the problem solving and diagnosing of the patients' illness and/or mental well-being.

Psychiatry, as Craddock, Kerr and Thapar say, is both practical and theoretical discipline shaping its status under many social circumstances – individual and/or groups' expectations and demands, medical service, social regulations, and so forth, – which decide why it is engaged in solving both existential and public problems more than other medical disciplines and public practices. "The role of the psychiatrist – the authors say

21) Ibid.

22) Craddock, Kerr and Thapar, "What is a Core Expertise of the Psychiatrists?"

23) Ennis and Litwack, "Psychiatry and the Presumption of Expertise."

24) Gabriel and Violato, "Problem-Solving Strategies in Psychiatry: Differences between Experts and Novices in Diagnostic Accuracy and Reasoning."

– must inevitably vary over time and place according to the specific service model, statutory, legal frameworks, needs of the population being served and the number and skills mix of other professionals."[25] The psychiatrist's position – as an expert, consultant, and personal advisor – is a result of theoretical knowledge interwoven with personal relations with a patient. Neither scientific knowledge alone, nor clinical practice is sufficient for the psychiatrist's social position. Both certified knowledge and individual practice constitute (in the authors' words) the "core expertise of the psychiatrist" distinguishing it from the other medical professions and positions. Practice *per se*, especially its social rules and social demands, make generally a specialist, the expert, well prepared for making proper health decisions; both learning and training contribute effectively to psychiatric practice. "Practice is based on using best evidence when it is available to guide decision-making – applying scientific knowledge for guidance, placing the well-being of the patient at the heart of all decisions and being pragmatic and eclectic rather than adhering to one particular school of theory."[26] In other words, not only are neurological and biological knowledge "trained in the process of the clinical assessment and diagnosis" needed in psychiatric practice but also a variety of personal skills and abilities which supplement it effectively. There are clinically effective and epistemically reliable cognitive skills which guarantee that the psychiatrist is achieving the state-of-art of his/her practice.

Generally, these *cognitive abilities*, as the authors remark, are: (1) making multisided and careful observations; (2) noting any significant cues and being alert to the presence and relevance of physical health problems; (3) synthesizing information from different sources (verbal, observation, physical examination and appropriate investigation); (4) formulating new research questions based on clinical insights; as well as (5) making critical analyses of prevailing practice. They are also supplemented with more *practical skills* like: (6) evaluating different cues and managing them into one concise diagnosis; (7) considering a range of diagnoses (if they occur) with therapeutic accessibilities and possibilities; (8) advocating for psychiatric service development.

All these cognitive-pragmatic skills cumulate finally into one more general ability which is *problem-solving* – a substantial, complex disposition which every expert should have. Thanks to these skills a reliable expert in psychiatry is able to make reasonable decisions while engaging with patients' mental problems. "Psychiatrists are especially able to make balanced and informed judgments about when to depart from the plethora of managements of protocols and guidelines.… In particular, psychiatrists are equipped to coordinate and oversee situation where treatment involves multiple modalities (e.g., cognitive-behavioral therapy and antidepressants or concurrent treatment for both psychiatric and somatic illness)."[27] Psychiatric practice consists finally on learned knowledge as well as trained experience which together make a psychiatrist a real expert.

Psychiatric expertise reveals its meaning, as the above remarks suggest, in the *social context* when expert's cognitive skills and practical dispositions depend not only on relations with patient but also, if not mainly, on the position his or her expertise has in public opinion and social practice. The social context decides how expert's judgments become not only individual opinion but also official knowledge. The expert's opinions and judgments as structured knowledge are used very often in a process of making-decisions not only in medical treatment but also in the juridical procedures. Then expert knowledge (verbally or written formulated judgments constituting the judicial expertise ordered by the court) is the premise in a process of reasoning coming to a conclusion and becoming a juridical decision. Being not yet personal advice for a patient, it is an official verdict having its status among other documents, being also confronted with other different and exceptional psychiatric opinions which are considered in the final verdict.

25) Ibid, 459.

26) Ibid. 457.

27) Ibid., 459.

In such situations psychiatric opinions are evaluated from an epistemological view-point rather than from a pragmatic (medical) one. Such expertise functions as an *epistemic* fact contributing to other verdicts and procedures. Bruce J. Ennis and Thomas R. Litwack, on the basis of the juridical literature and reports from the courts' verdicts, interestingly remark that in the civil commitment proceedings, where legislators and judges determine when an individual requires hospitalization, the expert psychiatric opinions are neither only one, nor unquestionable presumptions – they are not ultimate conclusions for the verdicts. These opinions are confronted often with the laymen's opinions expressed namely by the jury-box. The authors come therefore to the conclusion that "judges and juries could function quite adequately in a civil commitment proceeding without 'expert' opinion testimony" since "there is little or no evidence that psychiatrists are more 'expert' in making the predictions relevant to civil commitment than laymen; 'expert' judgments made by psychiatrists are not sufficiently reliable and valid to justify non judicial hospitalization based on such judgments … courts should limit testimony by psychiatrists to descriptive statements and should exclude psychiatric diagnoses, judgment, and predictions."[28] Psychiatric expert knowledge, being only descriptive and inductive, is not the same as the juridical verdicts and legal reasoning keeping strictly the abduction line of inferring. In other words, both expert knowledge and expertise in psychiatry have a restricted role in juridical procedures, however, their epistemic value might be (especially from scientific point of view) unquestionable. Controversies in the procedural context – especially when involuntary hospitalization results from opinions given either by doctor and the patient's family, or by jury of laymen without any psychiatric learning – do not mean that epistemic value concerning these opinions differs; they are still formulated opinions but only differ among themselves as regards their role in the procedural undertakings. Their reliability, validity, and correspondence with the facts are in each case the same – they correspond to the recognized facts; nevertheless, one cannot forget that they are only opinions and not legally privileged, final verdicts. Psychiatric opinions, not to mention a psychiatrist's practice, do not belong to a corpus of knowledge to which civil judgments and legal procedures belong.

Being critical of the "current reliance on psychiatric expertise in civil commitment proceedings" (appropriate to Anglo-Saxon precedential system of law, with negotiations between the parts and with their consensual agreement), Ennis and Litwack nevertheless conclude: "psychiatrists are able to reach conclusions that are *reliable*, that is, that other psychiatrists would agree with those conclusions, and that those conclusions are *valid*, that is, that they accurately reflect reality."[29] Neither reliability, nor validity are absolute epistemic categories, their value depends on context, in which they are articulated due to juridical procedure, political standards and social demands. "Validity" refers not to how likely psychiatrists are to agree about a particular judgment (they differ very often among themselves, their opinions do not exceed the laymen or novices' opinions) but to how *accurate* their judgments are, while "accurate" means used properly to the current situation. The question is not whether psychiatric judgments are generally valid *per se*, but whether they are *sufficiently* valid, while "sufficiently" means properly stated and formally located in the system of other judgments. What therefore decides on the value which psychiatric expertise has, are both its *methodological institutional* aspects, in other words methods of preparing the opinions which guarantee reliability of expertise, as well as social acceptance and admissibility these methods and their results gain in social settings (e.g., in courts, social security or insurance companies). If an expert's opinion or judgment is admissible in the procedure – when both its reliability and validity are acceptable as sufficiently made and corroborated by acceptable methods – it gains then a proper meaning, becoming a proper expertise. "Before psychiatrist's conclusory judgment can be considered an admissible expert judgment – much less worthy of special attention – the psychiatrist must employ techniques and

28) Ennis, Litwack, "Psychiatry and the Presumption of Expertise," 696.

29) Ibid., 695.

apply knowledge that have been shown to produce substantially more reliable and valid results than could the techniques and knowledge available to laymen."[30] What really matters are learned and trained expert's skills and methods which are always admissible in a very concrete juridical procedure. Finally, the authors conclude, only society (in other words, its delegated institutions like courts or other judicial bodies) can determine how valid expert's judgment must be and how it can be used as acceptable means in juridical reasoning.

Procedural aspect of expertise focuses the attention of researchers on concrete problem-solving strategies, which is interestingly shown in the pilot research conducted by Adel Gabriel and Claudio Violato[31] who analyzed *diagnostic reasoning* processes used by psychiatrists and consultants in the field of psychiatry as well as clinical clerks who have exposure to clinical psychiatry. In both cases the experts differ regarding their methods of reasoning. People of different scientific-medical knowledge and training in psychiatric treatment were obliged make diagnoses and decisions toward different mental illness problems. Comparing such things like accuracy of diagnoses, analyzed and considered options, number of mistakes, amount of time needed and, particularly, methods of reasoning used by all of them, it occurred (what was obviously evident and expected) that expert psychiatrists make significantly more successful diagnoses than clinical clerks and they are much more organized, make rather fewer mistakes, and utilize significantly less time to access their knowledge and expertise. But what really matters in this research problem (and what actually opposes experts to clinical clerks and novices) are the ways of reasoning during diagnosing and deciding; in most cases, diagnostic reasoning processes are a crucial criterion discriminating psychiatric expertise against a background of other clinical practice. "But novices and experts seemed to use the hypothetic-deductive and scheme-inductive approaches to diagnoses. However, experts utilized hypothetic-deductive approaches significantly more often than novices."[32] In each case (as pilot studies showed), no matter who is diagnosing and making decisions, *categorization* and *classification* of physical illness and mental symptoms play a crucial role in reasoning processes used in arriving at diagnostic decisions and suggested treatment. However clinical reasoning and diagnosing is, as authors admit, "idiosyncratic and varies from clinician to clinician," the experts have a more complex and well organized general knowledge *structure* allowing them a faster access to their knowledge. Well-structured knowledge enables them also to be more efficient in problem solving than it happens to novices and even general clinical clerks who do not have such training and knowledge. Moreover, experts reveal a specific "semantic competence" in diagnosing, which makes evident that not only knowledge matters but also performance of it, particularly, linguistic skills, reasoning and arguing on the subject of decision.

Since superiority of hypothetical-deductive procedures of reasoning over inductive ones is closely connected with the experts' ability in selective use of information (see sec. 3), access to information and its processing plays a crucial role in making decisions in psychiatric treatment. "Corroborating the history given by patients and seeking further information from other sources appears to be crucial to psychiatric diagnosis.… It has also been demonstrated in the psychiatric literature that combining a structured interview with a review of a patient's medical record appears to produce a more accurate primary diagnosis and to identify more secondary diagnoses than routine medical methods."[33] If not all information is accessible in a particular case of reasoning, the psychiatrist is obliged to seek it from different places and sources. Expertise has to be rooted then in hypothetic-deductive procedures (more often than in inductive ones) which secure accurate categorization and reliable diagnosis for psychiatrists in the cases when proper information is lacking. It is why good experts

30) Ibid., 699.

31) See Gabriel and Violeto, "Problem Solving Strategies in Psychiatry."

32) Ibid., 11.

33) Ibid., 14.

in psychiatry perform their diagnoses better (faster and more accurately) than clinical clerks without psychiatric training, not mention novices. Long-term practice, as one of the conclusion from the research tells, makes psychiatry experts not only faster in diagnosing but also more convincing in making decisions. As Gabriel and Violato finally conclude: "Performance is dependent on both the time spent practicing the relevant skills and on the quality of actual clinical practice."[34] In such cases, knowledge *how* evidently prevails over knowledge *that*, additionally, *reflective* practice and performance matter more than learned knowledge.

Conclusion

The abovementioned concepts, theories and positions formulated in an interdisciplinary discussion on expert knowledge and expertise show that they are complex and contextual phenomena which have complex cognitive-intellectual structure and are socially entangled in procedures and public expectations. Epistemological models of expert knowledge and expertise – constructed with regard to historical examples, their post-modern realizations in information society, and examples of psychiatric practice – allow for analysis of these phenomena at two levels: (1) *epistemic*, where co-occurrence of both propositional knowledge and practical skills and procedures in one performative act of expertise occur; as well as on (2) *socio-epistemological*, when the impact of social roles taken by experts in different institutions plays a crucial role. Expertise is thus a type of knowledge and cognitive competence, verbalized and stated in propositional judgments as well as entangled in methods and procedures. It almost assumes shapes of realization suitable not only to expert's knowledge and competence, but also to current social expectations and demands. Psychiatric expertise, as the quoted authors have interestingly showed, is a distinguished example of half-cognitive, half-social phenomenon in which all abovementioned elements – verbal and/or textual verdicts, their epistemic validity (in other words, correspondence with facts, reliability, deductive-inductive characteristics), procedural nature, realization of institutional demands and expectations – take place and mutually correlate.

34) Ibid.

Bibliography:

Chi, Michelene.T. H. "Two Approaches to the Study of Experts' Characteristic." In *The Cambridge Handbook of Expertise and Expert Performance,* edited by K. Anders Ericsson et al., 21–30. Cambridge: Cambridge University Press, 2006. https://doi.org/10.1017/CBO9780511816796.002.

Cianciolo, Anna T., Cynthia Matthew, Robert S. Sternberg, and Richard K. Wagner. "Tacit Knowledge, Practical Intelligence, and Expertise." In *The Cambridge Handbook of Expertise and Expert Performance,* edited by K. Anders Ericsson et al., 613–632. Cambridge: Cambridge University Press, 2006. https://doi.org/10.1017/CBO9780511816796.035.

Collins, Harry. "Interactional Expertise as a Third Kind of Knowledge." *Phenomenology and the Cognitive Sciences* 3, (2004): 125–143. https://doi.org/10.1023/B:PHEN.0000040824.89221.1a.

Collins, Harry, and Robert Evans. "A Sociological/Philosophical Perspective on Expertise: The Acquisition of Expertise through Socialization." In *The Cambridge Handbook of Expertise and Expert Performance*, edited by K. Anders Ericsson, Robert Hoffman, Aaron Kozbelt, A. Mark Williams, 2–32. Cambridge: Cambridge University Press, 2018.

Craddock, Nick, Mike Kerr, and Anita Thapar. "What is the Core Expertise of the Psychiatrist?" *The Psychiatrist* 34, (2010): 457–460. https://doi.org/10.1192/pb.bp.110.030114.

Ennis, Bruce, and Thomas R. Litwack. "Psychiatry and the Presumption of Expertise: Flipping Coins in the Courtroom." *California Law Review* 62, no. 3 (1974): 5–31. https://doi.org/10.2307/3479746.

Ericsson, K. Anders, Neil Charness, Paul J. Feltovich, and Robert R. Hoffman, eds. *The Cambridge Handbook of Expertise and Expert Performance* (1st ed.). Cambridge: Cambridge University Press, 2006. https://doi.org/10.1017/CBO9780511816796.

Ericsson, K. Anders, Robert R. Hoffman, Aaron Kozbelt, and A. Mark Williams, eds. *The Cambridge Handbook of Expertise and Expert Performance* (2nd ed.). Cambridge University Press: Cambridge, 2018. https://doi.org/10.1017/9781316480748.

Gabriel, Adel, and Claudio Violato. "Problem-Solving Strategies in Psychiatry: Differences between Experts and Novices in Diagnostic Accuracy and Reasoning." *Advances in Medical Education and Practice* 4, (2013): 11–16. https://doi.org/10.2147/AMEP.S38372.

Grundmann, Richard. "The Problem of Expertise in Knowledge Society." *Minerva* 55, (2017): 25–48. https://doi.org/10.1007/s11024-016-9308-7.

Hetmański, Marek. "Expert Knowledge: Its Structure, Functions and Limits." *Studia Humana* 7, no. 3 (2018): 11–20. https://doi.org/10.2478/sh-2018-0014.

Hilgartner, Stephen. *Science on Stage: Expert Advice as Public Drama*. Stanford: Stanford University Press, 2000.

Hoffman, Richard R. "How Can Expertise Be Defined? Implications of Research from Cognitive Psychology." In *Exploring Expertise: Issues and Perspectives*, edited by Robin Williams, Wendy Faulkner, and James Fleck, 81–100. New York: Macmillan, 1998. https://doi.org/10.1007/978-1-349-13693-3_4.

Hunt, Earl. "Expertise, Talent, and Social Encouragement." In *The Cambridge Handbook of Expertise and Expert Performance,* edited by K. Anders Ericsson, et al. 31–38. Cambridge: Cambridge University Press, 2006. https://doi.org/10.1017/CBO9780511816796.003.

Jensen, Karin, Leif Christian Lahn, and Monika Nerland. *Professional Learning in the Knowledge Society*. Rotterdam/Boston/Taipei: Sense Publishers, 2012. https://doi.org/10.1007/978-94-6091-994-7.

Kołtun, Aleksandra. *Can Knowledge be (a) Performative: Performativity in the Studies of Science*. Lublin: Wydawnictwo Uniwersytetu Marii Curie-Skłodowskiej, 2015.

Ryle, Gilbert. *The Concept of Mind*. London: Penguin Books, [1949] 1990.

Shanteau, James. "How Much Information Does an Expert Use? Is it Relevant?" *Acta Psychologica* 81, (1992): 75–86. https://doi.org/10.1016/0001-6918(92)90012-3.