Introductory article

Types of Knowledge in Post-Scientistic Society

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ABSTRACT

At times of informational deluge, the man in the street is especially vulnerable to the harmful influence of media, to which not only closed groups of people sharing the same beliefs and views contribute but also bots and trolls spreading fake news in the form of conspiracy theories, misinformation, disinformation and propaganda. This audience without proper education and not reflecting on the information gained, can spread more information of this type. Scholars closed in their own reality, conceived of only their inerrancy not only are unable to support, but also are not conducive to the development of science. They also vilify people having different views and the representatives of other disciplines, which they consider inferior. This introduction presents the value of different types of knowledge, not only the scientific ones, and shows its importance for people who may not have other possibilities to learn and understand true science which indicates the meaning of knowledge, which is accessible for people without an academic education. Different types of knowledge, even the seemingly non-scientific type, are the basics for human development and learning. The key to this development, however, is teaching critical thinking. Essential for any change is also the proper choice of academic powers, appreciating and supporting researchers who really affect science, apart from the closed environment of faithful fanatics, and who are able to do science at a global level.

Keywords: philosophy of science, tacit knowledge, episteme, doxa, experts, pseudoscience, fake news, postmodernism, constructivism

Introduction

The traditional division of knowledge on techne, doxa and episteme has been complemented (or rather re-organised) in the 20th century by the specialists in knowledge management. Back then, more often discussed were explicit knowledge and tacit knowledge, which can be treated as the new approach; however, it is clearly inspired by the thought of ancient philosophers (Jashapara, 2004). The explicit knowledge runs parallel to theoretical knowledge; hence, the tacit knowledge, to some extent, is used for both techne and doxa. Thus, it was a kind of continuation of the same concept over the centuries (concept of freedom: Roubalová et al., 2022).

The turn of the 20th to 21st century broke away from such thinking about knowledge and science. At first, postmodernism appeared, which brought doubt to science in great narrations (including science [Baran, 2003]). Then, there came the time of information manipulation and an explosion of fake news (Svoboda et al., 2024; Tkáčová et al, 2023a,b). This time can be called the time of a post-scientistic society (however, in a different understanding than in Christopher Hill [2007]), the age of stupidity (Marmion, 2018), and the time of doubt about science.

The post-scientist society indeed became more efficient at making science but, together with the flood of information and the previous growth of the knowledge society, in parallel, mechanisms have started to develop , of media manipulation, simulacrums and ordinary scientific frauds projecting the image of science (Sokal & Bricmont, 1998). Frequently even denying common sense.

This puts us in a position of having to redefine knowledge and its status in modern society. We need to rethink where this crisis of science has its source and where the mechanisms of contestation of scientific knowledge come from (Kondrla & Durkova, 2018). Reflection on mechanisms of spoiling and contesting science will let us formulate the first conclusions regarding the ontological status of science as a whole and the possibility of avoiding spoiling science as well as the descent of social groups and whole societies into the depths of madness, foolishness, ignorance or just regular indolence.

Protoscientific Knowledge

Every day, during their active lives, humans collect different experiences, which, thanks to reflection, form a specific pattern. In that way, through communicational learning (Habermas, 1986) or modelling, we gain basic knowledge about the world, which is necessary for natural functioning (Zeb, Ajmal, Pavlíková et al., 2024). This type of knowledge can be called pre-scientific knowledge, commonsense knowledge or tacit knowledge.

Knowledge gained from everyday life is codified in a natural way; it aligns rules and first "theories", for example, personal theories. Reflection is based on logic and experience, it is the basic method of investigating the truth, beginning from the times of *homo habilis*

up to the modern, developed science. There are changing tools and research techniques, procedures are getting more complicated, but the basic method of investigating the truth is still the same and grows out of so-called common sense.

It would be a mistake to ignore commonsense knowledge as being in some way inferior in comparison to scientific knowledge (Such & Szcześniak, 2002). Commonsense knowledge should be perceived as qualitatively the best in illiterate societies, in primitive populaces and in groups separated in any other way from the learned societies. Accusations that this knowledge was full of superstitions, inadequacies, old wives's tales and was unreliable, comes from the fact that societies which use this type of knowledge do not have any possibility to use research tools (Olszewska-Dyzoniziak, 2001). Conjectures and supernatural explanations, in turn, come from the natural aspirations of human beings to look for explanations and the need to formulate the first weak hypotheses. They become belief systems, religions and myths (Eliade, 1968).

In modern society, proto-scientific knowledge can be treated as inspiration for scientific research, especially in the area of the humanities and social sciences (*Geisteswissenschaften*) (Dilthey, 2010). It would be imprudent to ignore, depreciate or lampoon it. Nevertheless, in cases when scientific knowledge clearly denies commonsense, one should rather take a closer look at the research methodology and especially argue the new findings. The lack of reflection on such differences may stem from ignorance or illegitimate conviction of the scholars about their superiority, infallibility, and excellence.

It may seem that the basic role of the modern scholar should be (next to everything that goes with it) effective scientific communication, building the awareness of the functioning of scientific laws, theories and links between scientific knowledge and commonsense knowledge. In many cases, scientific knowledge can (and must be) treated as enhancing or even "a disenchantment" with commonsense knowledge (Weber, 1995). The extension of the belief that "it is just a theory" proclaims that scientific communication failed and is too "sublime" to explain specific phenomena and cases. A conviction that science as a system is too distant from the experience of people may lead to contestation and abandonment of science in favour of what is close and known; it is to return to solutions, explanations, and proto-scientific hypotheses inherited in the social experience.

Artistic Knowledge

Artistic activity, on the one hand, is based on specific knowledge concerning the artistic techniques: devices, matter, forms and expression; on the other hand, on intuition and experiment (Zayas et al., 2023). The first category can be learned, and the second one, in turn, stems from talent, the ability to reflect, which leads to honing the artistic communication between the artist and the audience through the work of art.

Crucial for understanding the process of creating knowledge by the artist is to appeal to intuition, experiment, peregrination, and reflection. Thanks to their sensibility, artists

colour outside what is scientific, towards what science does not yet speak. This way of making science is often an exploration of new sites that have not yet been checked by science and which will become its sphere of interest sooner or later. Thus, some accuracies (especially *Geisteswissenschaften*), which seem obvious or highly probable, are initially defined by science, theatre, film, music, dance and plastic arts.

Artistic values are not only innovative creative techniques but, first and foremost, the truth revealed during the creative act and communication with the audience, during which a reflection of the recipient completes the whole. On preparation, reflexivity, intellectual abilities and empathy depend the interpretation, thanks to which the work of art can be read and re-transmitted in the form of opinions and reviews (Kondrla & Králik, 2016; Pavlikova & Tavilla, 2023). Then the tacit knowledge becomes the explicit knowledge, referring to the categories of Ashok Jashapara. Values and knowledge, written in the work of art, have the opportunity to revive and last in the recipients (Kondrla et al., 2024; Pavlíková & Ambrozy, 2019).

Without artistic expression, on the one hand, we would be condemned to the impoverishment of feelings and emotions and the improvement of knowledge about them; on the other hand, we would not know much about ourselves. Art is a form of exploration of human abilities and frailties, especially useful for learning in everyday life (Králik et al., 2022; Roubalová et al., 2023). In this aspect, it has much in common with the knowledge gained naturally from everyday activities. Thus, it is crucial for personal development, which is highlighted by the theoreticians of lifelong learning. Thanks to participation in cultural activities and contact with the works of art (and reflection), one can properly interpret other cultural texts/cultural scenarios and achieve an increasingly higher level of psycho-moral development.

Taking into account all the mentioned accuracies, artistic knowledge lets us become better people and more aware citizens. Both in the strict intellectual area and on the psycho-emotional plane.

Notional Knowledge

Commonsense knowledge and artistic knowledge are fulfilled by notional knowledge, which is created on the basis of ideas and conceptions which are products of the human brain. In this case, experience and reference to material reality do not clinch the substantiation of theses and judgements. The benchmarks are dogmas, beliefs and axioms. This type of knowledge is characteristic of theology (religious systems) and philosophy.

Speculation on topics of incorporeal reality (directly unexperienced) does not have any possibility of confronting anything else besides statements in frames of the same or different speculative system, which remains speculative/directly unexperienced. It can be the reason to question those scientific disciplines, which refer to the notional knowl-

edge, as exemplified by the last Shanghai university ranking, which did not consider such specialities as theology or philosophy.

The value of philosophical knowledge relies on providing tools for thinking. Abstract categories and terms translate into the ability to organise the chaos/order, which in turn, allows for developing the concepts, perspectives and science schools, methodically testing the reality. Admittedly, philosophical knowledge rarely directly replies to the question "how to do"; it provides the questions thanks to which we are able to notice the real problems and inspirations for research on experiential reality. Without philosophy, we probably would be condemned to deriving accuracies and scientific laws from reality *a posteriori.*

For those who adopt the perspective of empirical and rational science, religious/theological knowledge says a lot about human needs and expectations (sic!). In this sense, notional knowledge is the other type of knowledge that brings us closer to *Geisteswissenschaften* – the phenomenon broadening our understanding of humanity's essence, resulting from an accumulation of notional and artistic knowledge.

Scientific Knowledge

In comparison with other different types, scientific knowledge is the most reliable. At least, it is what we have thought since Karl rather than the properties of scientific Popper (1962). The first seeds of doubt regarding the reliability of scientific knowledge were seeded by Thomas Kuhn (1962), and after him came the postmodern doubt in everything (Baudrillard, 1988). We can assume that today we have nothing more reliable than scientific knowledge. Multiple doubts stem more from science's social reception knowledge. In general, in the process of creating and verifying knowledge, big groups of researchers are engaged, obtaining substantial financial means for complicated often interdisciplinary research. At every stage of research, the third-party reviews (from the project of research to the publication of the results) have to provide additional strict control of the method, reliability and relevance.

Two basic problems with the social perception of scientific knowledge stem from the undereducation of recipients or hoarding the scientists' competencies by themselves. The first problem concerns the regular people, and the second one – the creators of scientific knowledge.

People's perception of scientific knowledge as insufficient (or misleading) is a result of the deficiency of education or deficiency of critical thinking, which is also a result of the low level of education. Obviously, scientific knowledge has its limitations, but this does not mean that it should be rejected in favour of alternative explanations and concepts. The reason for turning to alternative concepts can also be the lack of scientific authorities (Fuerdi, 2004) or inappropriate communication of research results. Communication in specialistic journals must be supplemented by popular science papers, phrased in simple language, and available for a wider audience with secondary

education. Such people interested in science can become the best agents of influence, intensifying the work of scientistic propaganda.

In many ways, the scientists themselves contribute to reducing the meaning of scientific knowledge. The first reason is the so-called conflict of the faculties (*Streit der Fakultäten*), which adopts an especially destructive form. Nowadays, the reduction consists of attempts to declassify scientific disciplines from each other or diminish their importance. In this way, scholars with low self-esteem try to validate themselves, claiming that these are their disciplines, which are more important than the others.

The World of Science is also a kaleidoscope of personalities. Oftentimes, those who have already achieved something hold important positions; they set up groups of supporters, for them the structure of power is more important than the welfare of science. Lech Witkowski (2009) indicates that, for example, in Polish science, the power is not in the hands of the scientific authorities but the scholars with mediocre achievements (so-called third and fourth science league). The result is nepotism, a case system, blocking the scientific promotion of people from beyond the league, and unfair reviews (gentle towards friends, negative towards foes). Combined with the God complex, feudalism, fragile ego, envy, and the sense of permanent inadequacy, the scientific environment becomes a tough work environment – a lethal mixture, an unhealthy cocktail, a feudal court where rule phobias of inadequate and sulks of picklepuss people. The welfare of science no longer matters in such a toxic environment – what counts is power and humility towards the supervisor (Szwabowski, 2019).

Some part of scientific knowledge is low due to the weakness of disciplines. In this context, a new term was forged "parallel science" (Górecki, 2019). These disciplines are being developed in local, national armpits without any influence on global science. They are developing as if in parallel with the real science, reproducing global achievements, undertaking dreamed up issues, which are important only for environments which undertake them; constantly clapping insignificant "chops" of shallow knowledge. Their weakness is testified foremost by the lack of any achievements on a global level – h-indexes close or equal to (sic!!!) zero due to the lack of relevant research results or any publications in significant journals (indexed in Web of Science and Scopus). Such local "scholars" are not able to assess anything that is beyond them. As an example of such scientific disciplines in Poland, the creator can give political science and pedagogy, among others.

Pseudo-Knowledge

The development of network societies and subsequent information folding has brought a rapid spread of pseudo-knowledge/false knowledge (Zeb, Ajmal, Alam et al., 2024). Its sources are different and have different forms.

The first source of pseudoscience are the opinions and beliefs shared by acquaintances, the so-called filter bubble pushed by the halo effect. In general, we function in closed groups of friends and acquaintances with quite similar views. In case of view conflict, blocking or removing dissenters. As a result, over time, the Internet environment of social media and discussion groups become homogenous, and we will not have any opportunity to meet with positions different from ours. In turn, friends and acquaintances will be strengthening our beliefs by sharing similar views and answering in the affirmative on any of our speculations, as echo in a forest. In this way, our views (even if they are fake or contradict reality) become enhanced by similarly thinking societies. Here the constructivist approach comes unstuck.

The second source is manipulations and frauds behind which, in general, is a specific economic or political bag (Sharma et al., 2024). An example can be different types of fake news, escalating in media and the Internet, especially during political campaigns, attempts to influence the electoral process by troll farms, venal journalists writing articles to order, for example, for Russian propagandists, and bots reproducing comments in public online discussions.

The other source of pseudo-knowledge is pseudoscience and parallel sciences. The biggest seedmen of pseudo-knowledge are scholars, who broaden their competencies and speak on subjects beyond their specialisation. In this way misfit scientific reviews are promulgated and imprudent utterances for mass media, which in turn are shared by undereducated people or people acting in bad faith. The brightest examples of such scientific constatations are anti-vax movements, statements undermining the global warming phenomenon, the Q'Anon movement, and so-called Holocaust denial.

Pseudo-knowledge, although it is in opposition to other types of knowledge, is a kind of denial of knowledge and wisdom; it should be the new category due to its meaning. For many people, it is the only acceptable type of knowledge, explaining issues which are the most important to them and presenting the right worldview. As an important element of attitude, leads to the proper behaviour – from the scientific point of view, completely illegitimate and catastrophic as a result. Studies on pseudo-knowledge, the mechanism of its creation, circulation and usage should broaden far beyond psychology and psychiatry. Also, a proper education in the field of critical thinking is not enough. It seems that only a wide, interdisciplinary research approach, engaging, among others, in addition to law, economy and philosophy, will be able to deal with the problem of pseudo-knowledge.

The End

In the post-scientistic world, the flood of pseudo-knowledge places new demands on us. The ability to separate knowledge from pseudo-knowledge becomes a serious challenge for a man in the street, living in a world of new technologies (Pavlikova,

2018). The reference point, the necessary perspective, should be a scientific perspective, but this one should also be tested in some way. Thus, education in the field of critical thinking is essential (Králik, 2017 a,b).

It is worth appreciating the role of commonsense, artistic and speculative knowledge, which in fact have their own weaknesses but, unjumbled with scientific knowledge, provide stronger legitimacy to reading the world. Thus, it seems that attitudes should not be based only on scientific knowledge, which can be unreliable, difficult to acquire or even falsified (the problem of parallel disciplines, falsifying the results, fraudulent reviews) (Krimsky, 2004).

One of the prescriptions on finding oneself in world chaos provides the concept of knowledge management, which highlights the mining of combining, not just knowledge from different fields, but foremost it is based on testing the theoretical concepts in practice with simultaneous building of grounds of theory on practical implications (Latour, 1987). In this way, inductive and deductive reasoning can be combined into one self-powering and self-testing whole (Kondrla et al., 2023). Or maybe it would be better to say that into one whole powered by numerous teams of knowledge workers, made up of representatives of different disciplines, theoreticians and practitioners, humble towards their nescience and colleagues' mistakes, without academic feudalism, braggadocio, wrongheadedness (so as to prove one's right at all costs) and appreciating the contribution of each person engaged in the process of making the knowledge. From those who build the concept of the research to those who clean the laboratories. Or the other way round.

Commonwealths of scholars involve revaluation and a deep change. From the position of a modest representative of one of the parallel disciplines, I observe autoethnographically the lack of humility and even understanding in many other representatives. Actually, the higher the position in local science is, the higher the lack of humility, together with the poor international achievements. Such actions conduce to fossilising and pushing the best out. This way of doing scientific disciplines and such pseudo-commonwealths cannot be the future of global science.

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