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Knowledge and non-knowledge

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Abstract

The polarization of knowledge and non-knowledge or ignorance has become a distinguishing feature of modernity. Nonetheless, as I will demonstrate in a sociological critique of these positions, it is theoretically and empirically unproductive to insist on an either/or, and to interpret non-knowledge as the opposite of knowledge. This contrariety only leads us into the abyss of an arbitrary, false, and also tiresome antithesis of rational and irrational, or of an unnecessary differentiation between believers and infidels. Undoubtedly, there are significant *asymmetries of knowledge* as a result of the social activity of individuals and groups. Knowledge represents a continuum. Knowledge is context-dependent. It is an anthropological constant that no one can and must know everything. The actually explosive sociological question is, therefore, how in modern society – under different basic conditions – we should approach the problems of the asymmetry of knowledge and, in particular, of knowledge deficits.[1]

[1] Robert Avila translated my essay from a German version. I am grateful to Jason Mast for his critical reading of the text. Volker Meja offered useful editorial advice.

1 Introduction

I begin with quotations from Alfred Schütz and Georg Simmel:

"The outstanding feature of a man's life in the modern world is his conviction that his life-world as a whole is neither fully understood by himself nor fully understandable to any of his fellow-men" (Schütz 1946: 63).

Georg Simmel in turn, emphasizes:

"Our knowledge, as opposed to the totality of experience on which our acting is based, is marked by strange limitations and turn-offs." (1922 [1908]: 385)

My hypothesis on the presumed phenomenon non-knowledge can be summarized well in the sense of Schütz and Simmel, but still more precisely with reference to a formulation by the economist Joseph Stiglitz (2005: 133) on the *invisible hand*, ostensibly operating in the markets: Why is the invisible hand invisible? Because it doesn't exist. Why is non-knowledge difficult to grasp? Because there is no such thing as non-knowledge.

But because I don't want to capitulate already at this point, I will concentrate in this essay on observing scientific discourses, in which it is maintained that something like non-knowledge does exist. The dichotomy knowledge/non-knowledge appears in many discussions on the subject as a performative speech act, which, however, recommends only one side of that which it designates, namely knowledge. I can't sustain my restrictive cognitive interest of merely observing; from time to time, I have to deviate from it, and judge as if non-knowledge exists.

At the same time, I want to draw attention to other terms which are empirically and theoretically more productive than the naked assertion of non-knowledge. Finally, I will point to a number of fascinating, but rarely studied topics, which have to do with the question of the societal function, resp. the societal treatment of apparently insufficient knowledge.

2 Freud and Hayek

I begin with Sigmund Freud's and Friedrich von Hayek's treatment of non-knowledge. Their approach is quite representative for scientific discourse. Both Freud and Hayek recognize that there can be no such thing as a researchable subject "non-knowledge", but, unimpressed, continue in their attempt to study something which doesn't exist. This gives me the opportunity to ask why concerning oneself with the subject of non-knowledge is typical especially for the German-speaking scientific community; is it a sort of eccentricity?

Freud's theory of the dream as a psychic phenomenon, as set forth in his "Introductory Lectures on Psychoanalysis" [*Vorlesungen zur Einführung in die Psychoanalyse*], is based on the primary consideration that the "dreamer himself [should] say what his dream means" (2010 [1924]: 94). Here, a fundamental obstacle apparently stands in the way. Actually, the dreamer is, as a rule, firmly convinced that he doesn't know what his dream means: "The dreamer always says, he has no idea", according to Freud (ibid.). In this case, Freud is confronted with an apparently hopeless situation with respect to a scientific-methodological interpretation of dreams.

"Since he [the dreamer] doesn't know anything and we [i. e., the psychoanalyst] don't know anything, and a third person can't know anything at all, there is probably no chance of finding it [the dream's meaning] out … " Freud (ibid.)

But instead of accepting these findings and giving up, Freud considers another possibility:

"I tell you namely that it is still quite possible, even very probable, that the dreamer in reality does know what his dream means – he just doesn't know that he knows it, and therefore believes that he doesn't know it" (ibid.).

This interpretation seems to be confusing and self-contradictory. Freud even asks himself whether his hy-

pothesis that there are "psychological things in man … which he knows without knowing that he knows them … " (ibid.), might be a *contradictio in adjecto*:

"Where, in which field should proof have been brought that there is knowledge about which a person doesn't know anything, as we want to assume of the dreamer? That would be a curious, surprising fact which would change our conception of inner life which needn't fear comparison. At the same time [it would be] a fact which abolishes itself even in its mere mention, and nonetheless wants to be something real, a contradictio in adjecto." (ibid.: 95)

It follows that one should better abandon this method of dream interpretation. But Freud doesn't. The knowledge doesn't hide after all. One only has to search persistently. Freud writes that the assumption that

"the dreamer's knowledge about his dream exists, but which is only inaccessible for him, so that he doesn't believe in it himself, isn't a pure invention … It is only a matter of making it possible for him to find his knowledge and to communicate it to us." (ibid.: 97)

Von Hayek, confronted with a similar dilemma, decides, just like Freud, to ignore it. In his essay entitled "The Creative Powers of a Free Civilization", in which the lack of knowledge is a question of the distribution of knowledge in markets, von Hayek first notes that any progress in civilization is the result of an increase of knowledge. In the real world, according to Hayek, it simultaneously holds true that "the individual profits from much more knowledge than he is conscious of" and adds,

"this basic fact of man's unavoidable ignorance of a large part of everything that the functioning of a civilization is based on, has found little attention" in science (2005 [1960]: 31).[2]

Our knowledge is far removed from being complete.

The key passage in von Hayek's analysis of the difference between what he calls the boundaries of ignorance, resp. man's unavoidable ignorance and "conscious knowledge" is:

"Our knowledge [is] a subject which is particularly difficult to discuss … We can certainly not discuss something reasonably which we know nothing about." (ibid.: 32)

Von Hayek takes recourse to a kind of "Münchhausen manoeuver":

"We at least have to be able to formulate the questions, even if we don't know the answers … Even if we can't see in the dark, we have to be able to sound out the boundaries of our ignorance." (ibid.)

Nevertheless, as von Hayek emphasizes,

"if we want to understand how society works, we have to try to determine the general nature and the extent of our ignorance" (ibid.).

3 The boom of non-knowledge

But why, in spite of the problems that Freud and von Hayek quite obviously had with the concept of *non-knowledge*, did the term nonetheless experience, in German speaking countries in particular, such resonance in the contemporary cultural and social sciences? Why is the category of non-knowledge increasingly becoming a prominent and trenchant "monetary unit" as the shady side of knowledge in the media, and in the public discourse as well?

The boom of reflection on non-knowledge certainly has to do with the essentially controversial concept of knowledge, as well as with our understanding of the modern condi-

[2] The translations of central concepts of his English essay (into German) chosen by von Hayek are of interest, and are, in my opinion, fully adequately translated as follows: "the boundaries of his ignorance" and "man's unavoidable ignorance" (Hayek 1960: 21) are translated as "Grenzen seines Unwissens" and "unvermeidliche Unkenntnis des Menschen". In other words, there is no reference to non-knowledge.

tions for the production of knowledge, with the societal role often attributed to knowledge, and with the theory of modern society as a knowledge society.

Is the difference between knowledge and non-knowledge an example of the typically static conceptual polarity of old European philosophy? Or is it basically only the widespread culture-critical complaint that the *individual* – in view of the extensive volume of, and new technical and complicated methods of access to existing and growing, objectified *knowledge* in modern societies – disposes over a minute (and probably diminishing) share of all knowledge? Are the widely-discussed findings of the political "ignorance" or "stupidity" of the average voter and the danger for democracy it poses one of the causes for the topicality of the subject of non-knowledge?

It is, on the other hand, unrealistic to assume that the average citizen, including the well-educated contemporary, has (or should have) sufficient technical knowledge in order to be able to intervene, for example, in the complex decision-making of economic questions of the goal conflict inflation/unemployment. Does the concept of non-knowledge basically merely mean the societally necessary *distribution* of knowledge? Does the concept of non-knowledge perhaps refer primarily to the future present, about which we are really only sparsely informed, or hardly know anything? Does the origin of the boom of observations on non-knowledge lie under certain circumstances in an overestimation of the societal role of allegedly unquestioned scientific knowledge and in an underestimation of the societal roles of knowledge?

At this point I would like to emphasize that there are other terms for the societal phenomena perceived as non-knowledge, and with which we can, in my view, better observe how a lack of knowledge (resp. information) manifests itself in modern societies, and how we can deal with knowledge gaps. In any case, *one* key to recognizing the myth of non-knowledge is the concept of knowledge itself, as well as the complicated question of distinguishing between information and knowledge.

4 Knowledge as a societal construct

In the discussion on the concept of non-knowledge, there is often a liberal intermingling of the terms "knowledge" and "information". I assume, on the other hand, that one should distinguish the concept of information from that of knowledge, even if this distinction is difficult to maintain in practice. A lack of information is not "non-knowledge".[3] Just exactly what knowledge is, and how knowledge differs from information, human capital, or other intellectual or cognitive characteristics, is an *essentially controversial question*. Neither the concept of knowledge, nor the manner of the production, the distribution, use, nor the consequences of knowledge are – at least for the scientific observer – foregone conclusions.

I would like to define knowledge as the *capacity for societal action* (capacity to act), as the possibility "to get something going". Knowledge therefore refers to *process* knowledge. Knowledge is a *model of reality*. In 1948 Claude Shannon published a short monograph with the title *The Mathematical Theory of Communication*. In this work, Shannon explains how words and images can be converted into characters and transmitted electronically. He thus contributed to realizing the digital

[3] Wehling (2009: 99) characterizes, for instance, the insufficient information "Does the guest arrive at 5 or 6 pm?" as a case of "non-knowledge". This example is at best vague information, as will be shown more precisely.

revolution.[4] According to Shannon, the expansion of knowledge represents a broadening of the horizon of possibilities. Whether the broadening of the possibilities for action also automatically represents an increase of the possibilities for disappointment (often also understood to be an increase of non-knowledge), has to be regarded as controversial. Insufficient knowledge on the part of an individual or a group accordingly means the inability of these actors to mobilize knowledge, in order to put something in motion.

Knowledge exercises an "active" function in the societal sequence of actions only when action isn't carried out in essentially stereotyped (Max Weber), habitual (= effortless) patterns,[5] or is otherwise regulated to a great extent, i. e., where – for which reasons whatever – leeway and the necessity for decisions make mental effort or exertion necessary.[6] The societal practices in which decisions are possible and necessary, represent the ecology of knowledge, or, more exactly, the ecology of the application of knowledge.

Every implementation of knowledge, not only of great scientific experiments, requires a control of the circumstances of action (initial conditions) through active agents, who, for example, want to carry out laboratory experiments (or a thought experiment). In other words, when

> "scientific knowledge is to be 'applied' in society, adaptation to the initial conditions prevailing there has to be made, or societal practice has to be remodelled according to the standards set by science" (Krohn and Weyer 1989: 354).[7]

5 Information and knowledge

I define information in distinction to the concept of knowledge as follows: the content of information concerns the characteristics of *products or results* (output, condition, supply), whereas the "stuff" that science is made and consists of refers primarily to the qualities of *processes or resources* (input, procedures, business enterprises), which are implemented in processes: knowledge is the capacity to act, while information

[4] Freeman Dyson describes the case of Shannon in a review in *The New York Review of Books* (March 20, 2011): "In 1945 Shannon wrote a paper, A Mathematical Theory of Cryptography, which was stamped SECRET and never saw the light of day. He published in 1948 an expurgated version of the 1945 paper with the title 'A Mathematical Theory of Communication". The version of the year 1948 appeared in the magazine *Bell System Technical Journal*, the institutional publication of the *Bell Telephone Laboratories*, and immediately became a classic: "It is the founding document for the modern science of information. After Shannon, the technology of information raced ahead, with electronic computers, digital cameras, the Internet, and the World Wide Web."

[5] A variant of these thoughts worthy of consideration and quoted by Friedrich von Hayek (2005: 31) can be found in Alfred North Whitehead's (1948: 52) *Introduction to Mathematics*: "Civilization advances by increasing the number of important operations which we can carry out without thinking. Thought processes are like a cavalry attack in a battle – they are precisely limited in umber, need fresh horses, and can only be carried forward at decisive moments".

[6] Niklas Luhmann's (1992: 136) observations on the preconditions for the possibility of making a decision possibly permit a still broader application of knowledge. "One can only decide", as he very plausibly underlines, "when and to which extent it is not certain what will happen." Under the premise that the future is highly uncertain, the lack of knowledge in decision-making processes can extend over many more societal contexts and thereby also to those which are normally characterized by routines and habitual behaviour.

[7] Hans Radder (1986: 675) arrives at a similar conclusion when he points out that material *as well as* social prerequisites have to be met in the long run for a long-term practically successful technical production: "The creation and maintenance of particular social conditions (for example, a bureaucratic and centralist administration in the case of nuclear energy) is necessary in order to be able to guarantee the permanent technological success of a project."

doesn't enable us to set anything in motion.

It is just as important to emphasize from the outset that information and knowledge have, to a limited extent, common attributes. The most important basic common denominator is that neither information nor knowledge can be understood independent of societal contexts. In daily life, as well as in the scientific discourse, the conceptual interchangeability of information and knowledge is prevalent; it is nonetheless remarkable that, in public places, like, for instance, airports, shopping centers, railroad stations, or highway roadhouses, one doesn't find knowledge, but rather information boards. It is probable that the blending of these terms will prevail further in practice, in everyday life as in science, because: who can distinguish between the information and the knowledge society?

6 Observing non-knowledge

With these observations in mind, I try to ascertain what could or could not be meant when one speaks of non-knowledge.

Our actions are guided by knowledge. Knowledge of others and self-knowledge are prerequisites for socialization. There can be no societal actors without knowledge. One is just as far from being unknowing without knowledge as one is naked without a headscarf. A society without secrets is inconceivable. Ignoring knowledge and information is sensible, even rational. A society in which there is total transparency is impossible. Knowledge is never creation out of nothing. Knowledge, or the revision of knowledge, arises out of already existing knowledge (and not out of forms of non-knowledge). The existence of a *non*-knowledge society is just as questionable as that of a speechless human society. We live in a complex society, marked by a high degree of functional differentiation, in which almost all of its members are non-knowledgeable about almost all knowledge. It is useful to ignore information and knowledge. Each individual knows that his knowledge is limited. On the other hand, we profit a great deal from knowledge we aren't acquainted with. Which indicators could we use to characterize a non-knowledge society empirically? Almost half of the American population is convinced that the earth is less than 10.000 years old. Is the American society for that reason a non-knowledge society?

Who or what is the standard of comparison when one speaks of the duality of non-knowledge and knowledge, or of the relationship of knowledge to non-knowledge (as "known unknowns")? Is it the individual, or a collective? Privileging the individual is common. Or, to put it more stringently, does the concept mean a single process, a single quality (information), or the prognosis of an occurrence? How long must (or can) non-knowledge be perceptibly recognizable, in order to be non-knowledge? Can cluelessness, for example, last only for seconds? Does one refer to individual forms of knowledge (or information) which the isolated individual (for instance, as a scientist) or a non-knowledgeable collective doesn't have, and also can not have, because one always proceeds selectively, resp. is forced to filter?

Knowledge, on the other hand, is much rather a *variable* societal phenomenon which lies on a continuum, and points to the existence of the elementary *distribution of knowledge* in complex societies. Knowledge represents a continuum, which one can not simply dissect, and not a clear-cut difference between knowledge and non-knowledge. Knowledge is a total societal phenomenon.

There is no comprehensive knowledge; nobody can know everything. Acting under conditions of uncertainty is commonplace. Knowledge of

these gaps is knowledge, but knowledge of gaps doesn't belong into the category of non-knowledge, if – in case one finds this designation to be productive – it is a case of "negative knowledge". Actually, we can often close this gap quickly, because we know or can find out who might know it – see, for example, the societal role of experts. On the other hand, there are things which (almost) everyone knows, resp. about which almost everyone is *informed.*[8]

There are a number of expressions which – empirically as well as practically – are more productive than non-knowledge, and nonetheless illuminate the horizon of problems about what non-knowledge allegedly comprises. Here, I limit myself to one of these possibilities.

7 Asymmetric information/ knowledge

In an influential article "The Market for Lemons", the economist and later Nobel laureate, George Akerlof, in 1970 paved the way to a systematic analysis of *asymmetric* information through an exemplary analysis of the respective *information* of buyers *and* sellers of used cars. An asymmetric state of information is one of the fundamental characteristics of various classes of participants in the used-car market.

The owner and driver of the used car on sale knows, as a rule, much more exactly the degree of dependability or the history of the car's mechanical problems than the potential purchaser. In a credit agreement, the debtor is guided by certain intentions to repay the credit or not. The lender has, as a rule, no access to this information. The lender can also not be certain that the debtor's investment intentions will actually be profitable. Generally speaking, asymmetric information on the part of market participants should lead to market failure.

Buyers and sellers, lenders and debtors are often conscious of the fact that there is or can be a state of asymmetric information. It follows that, on the part of the buyer or lender, indicators are sought which diminish the mistrust in the information available, (resp. let it be classified) as more or less reliable. Because the conversion charges of the acquisition of relevant information might be high, the more easily accessible information on the seller's or debtor's social reputation will likely be an important indicator for the lender or buyer.

From Akerlof's deliberations and from those of other economists, the following general lesson can be derived for my analysis of the antithesis of information and knowledge: because societal knowledge is not evenly distributed, but is scattered asymmetrically, we have to assume a cognitive-societal functional differentiation in all societal institutions.[9] In science, this is not only perceived as a matter of course, but, as a rule, is also understood to be a functional characteristic of science as an institution. Not every scientist can work on just any question. And every single scientist's role cannot be classified in relation to itself, but only in relation to that of other scientists. It is therefore natural to speak of a cognitive functional differentiation in all societal institutions. In other words, it can, for that reason, only be sensible to speak of a scale of knowledge in groups of actors to asymmetrically-limited knowledge in groups of actors, and not of knowledge and non-knowledge.

[8] As, for instance, the fact that almost every human has two eyes, or that there is such a thing as weather or climate.

[9] In memory research, an extreme example of asymmetric information has recently come under study – to wit, the few people who have a "superior autobiographical memory", that is, the ability to recall every single day of their lives, resp. to remember the occurrences of every single day (cf. Parker, Cahill and McGaugh 2006).

8 On the virtues of non-knowledge

In different societal institutions non-knowledge has its own functional meaning. In an institution like science, it is a state, which has to be overcome – a condition which, in science, acts as an incentive. In a highly-stratified societal institution, for instance, in so-called "total" institutions, differing states of knowledge are a constitutive characteristic feature (a functional necessity), which is defended by all means.

Wilbert Moore and Melvin Tulmin (1949: 787), therefore, in their classical functionalist analysis of the societal functions of "ignorance", point to the widespread opinion that ignorance is the natural enemy of societal stability and of the possibility for orderly societal progress, and that every increase of knowledge automatically increases human welfare. We know that a generally positive public attitude toward new knowledge, which was widespread in the years immediately following World War II, is at present losing ground to growing scepticism with respect to new scientific and technical knowledge.

This adverse view of non-knowledge as a problem area is, however, not uncontested. There is a multitude of convincing references to the virtues/advantages of ignorance, of a lack of knowledge, or of invisibility. Among them are everyday sayings, such as, for example, "Ignorance is bliss", or "What I don't know can't hurt me". The reproach of the radically transparent ("glass") citizen belongs in this category. However, it remains an open question, whether this is a matter of mutual transparency, or primarily of the transparency of the powerless for the powerful. A society, in which complete transparency prevails, is, as Robert K. Merton, emphasized, a "diabolical" society (1965: 345). The practice of a mutually transparent, complex society is unrealistic.

Opposition against an excess of the transparency of one's own behaviour and that of other actors, as Merton (ibid.: 343) also emphasized, is a consequence of certain structural characteristics of societal groups. To these belongs, for instance, the negligence in complying with or in enforcing existing social norms,[10] which is institutionally sanctioned, but in reality also limited. To these also belongs psychologically-determined, variable opposition against a maximum transparency of behaviour (see Popitz 1968: 8). In our society, technical and legal barriers exist, in addition to these conditions for opposition, which make impossible an unlimited investigation of the behaviour and convictions of individual actors – about whom one would like to know everything. The alleged goodwill or the maliciousness of the thought police is irrelevant. For instance: new possibilities for avoiding technically-mobilized monitoring repeatedly turn up.

Heinrich Popitz, on the other hand, points in his observations "On the Preventive Effects of Non-Knowledge", to the *disencumbering* function of limited behavioural information for the system of sanctions.[11] Limiting the available or requested behavioural information –

[10] Inasmuch as the disregard and sanctioning of existing social norms by certain incumbents of societal positions of a group is known, it has to be decided whether "the basic formal structure of a group is being undermined by the observed deviations of behavior. It is in this sense that authorities can have '*excessive knowledge*' of what is actually going on, so that this becomes dysfunctional for the system of social control" Merton (1965: 343; emphasis added).

[11] In this respect, it is not uninteresting to note that the expression of non-knowledge in Popitz's treatise's title doesn't occur a single time in the text. Possibly, the publication's title is the work of the publishing house. Popitz's exposition shows that he rightly avoided the term "non-knowledge", but more guardedly wrote of limited behavioural information or limited transparency of behaviour.

which is simultaneously a relinquishment of sanctioning – is also a sort of "indeterminacy principle of social life", and

> "opens a sphere in which the system of norms and sanctions doesn't necessarily have to be taken literally, but without obviously giving up its claim to validity" (Popitz 1968: 12).

Finally, there is a further (primarily cognitive) function of insufficient knowledge. It has repeatedly been claimed that knowledge arises out of non-knowledge, or that non-knowledge can be transformed into knowledge. Just how this is supposed to happen is, however, scarcely addressed. The hypothesis of the genesis of knowledge out of non-knowledge, so to speak, out of nothing (*ex nihilo*) completely overlooks the societal genealogy of knowledge as, for example, the close interconnections or even intimate relationship between scientific and practical knowledge. The birth of a scientific discipline is no parthenogenesis. The hypothesis of the transformation of non-knowledge into knowledge favours certain knowledge, in that the origin of new knowledge is simply suppressed.

9 The societal-cognitive functional differentiation

In a modern society, with its functionally differentiated cognitive structure, it belongs to the realities taken for granted that the individual, societal groups, or societal institutions, have long since given up the wish for, or the hope of an autarky of their knowledge. Limited knowledge alleviates. Knowledge is unequally distributed. As a rule, managers don't themselves have the technical knowledge of their employed labourers, engineers, or assembly-line workers. In spite of this lack of knowledge, managers still become managers.

Knowledge gaps or incomprehensive forms of knowledge distribution, *not* non-knowledge, are constitutive for functionally differentiated societies. Asymmetrical stocks of knowledge don't lead to society's collapse. A society's ability to act competently is not a function of the knowledge and information of isolated individual actors. A competent actor, for instance, as a politically active citizen, doesn't have to be comprehensively informed as an individual.

A society without this fundamental limitation – that is, a cognitive functional differentiation – is inconceivable. No one has to know everything. This is an elementary fact, which determines society's being as it is. But alone on the basis of this fact one shouldn't conclude that non-knowledge is the opposite of knowledge. A being constantly caught up in non-knowledge can't exist. As Friedrich von Hayek (2005: 36) rightly emphasized, when collective knowledge increases,

> "the smaller the share becomes, that an individual mind can absorb. The more civilized we become, the more relatively unknowing every individual must become about the facts upon which the functioning of a civilization depends. Specifically the sharing of knowledge increases society's non-knowledge of the greatest part of knowledge." (emphasis added)

The abandonment of the possibility of an autarky of knowledge, especially the *individual* self-sufficiency of knowledge, or the conviction of fundamentally limited knowledge (*bounded knowledge*) is connected with costs as well as with benefits. But the loss of autarky – inasmuch as this condition had ever existed, even in traditional societies – is never to be understood as a form of non-knowledge. Societal innovations, such as the market, the scientific or political system, provide for the coordination of knowledge gaps.

Relevant functionally differentiated scales of knowledge[12] differ, for in-

[12] There is a parallel to the argument of the scales of knowledge, namely that of the degrees of property rights, the extent of which is calibrated according to the

stance, according to the respective epoch, the type of society, the pattern of societal inequality, the interests of the dominant worldview, etc. In modern complex societies, the knowledge scale is longer than in traditional societies. The distance to the sources of knowledge is often great. Personal acquaintance with the knowledge producer is not necessary. Only in exceptional cases the knowledge that one doesn't possess, but can obtain, includes the knowledge that was necessary for its production, legitimation, and distribution.

10 Perspectives

The current intense debate among social scientists, with its radical polarization of knowledge and non-knowledge, is like an echo from a lost world, or the wish to be able to live in this secure world. It was a world in which knowledge was reliable, objective, ontologically well-founded, truthful, realistic, uniform, and undisputed. It was a world in which scientific knowledge was unique, and the profane world of non-scientific knowledge was, to a great extent, disqualified. It was a world which favoured the acquisition of more and more knowledge – for instance, for being able to act successfully in practice (*knowledge bias*). However, the world of unquestioned knowledge is lost. Whether this is a real loss, as the talk of the divide between non-knowledge and knowledge apparently suggests, or whether it is an intellectual emancipation remains an open question.

The difference between knowledge and non-knowledge is an old European antithesis with an ancestry in premodern cultures. The old European tradition of a dichotomy of non-knowledge and knowledge makes itself felt especially in the *attribution* of persons or groups to one of these two categories. The unknowing person, or, more generally, social class, is then not only helplessly exposed to the power of knowledge, but is also a pitiable, backward social class. And inasmuch as the occurrence of non-knowledge applies to other societies and cultures, it is foreign – and not one's own – knowledge that is non-knowledge. Ludwig Fleck describes this as follows:

> "Knowledge was at all times system-compatible for the views of the respective participants, proven, applicable, evident. All foreign systems were, for them, inconsistent, unproven, inapplicable, incredible, or mystical." (1980: 34)

These traditional deliberations on the great divide between knowledge and non-knowledge, for that reason, scarcely meet the solution of the dilemma described by Niklas Luhmann:

> "Is the generally-held assumption that more communication, more reflection, more knowledge, more learning, more participation – that more of all of this would bring about something good, or, in any sense, nothing bad, at all justified?" (1992: 154)

The emerging political field of knowledge policy is dedicated to this societal dilemma of the risks of knowledge (Stehr 2003).

We should not insist on an absolute antithesis of knowledge and non-knowledge – there is only less or more knowledge, and those who know something and those who know something else. The practical problem is always to know how much or how little one knows in certain situations. A person is not either knowledgeable or unknowing. A person has more knowledge in one context than in another: a person may know much about tax regulations, but hardly anything about playing golf.

Actors (including scientists) react to complex societal forms by simplifying mental constructs of these relationships. The mental constructs are, in

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labour, need, or performance, resp. the merits of the owner (cf. Neumann 2009).

fact, incomplete, inasmuch as they don't depict reality its full complexity. These simple models change, react to the unexpected, but they are hardly non-knowledge. One of the advantages of liberal democracies is the consciousness that omniscience can be dangerous, and that safeguarding privacy has to remain a form of sanctioned ignorance.

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