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Ignorance and Organization Studies

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"Suppose we want truth: why not rather untruth? And uncertainty? Even ignorance?—"

Nietzsche – Beyond Good and Evil ("On the Prejudices of Philosophers" p.1)

"And only on this now solid, granite foundation of ignorance could knowledge rise so far — the will to knowledge on the foundation of a far more powerful will: the will to ignorance, to the uncertain, to the untrue! Not as its opposite, but — as its refinement!" Nietzsche – Beyond Good and Evil (p. 24)

Abstract

The article discusses ignorance and organization studies, both as a topic of study and a basic problem of organization theory understood as design theory. How should we regard knowledge not yet known? Is the development of knowledge a straightforward illumination of a defined box, or does knowledge also have a dark side, growing even faster than the illuminated side? In this essay, we propose that more extended research into ignorance in organization studies is needed. And since ignorance is a product of inattention, we draw on Herbert Simon's investigation into the science of the artificial. Among the topics we explore are unpredictable environments, the interface between inner and outer environments, vagueness and unspecified ignorance.

Keywords

Ignorance, uncertainty, Simon, inattention, inner and outer environments, interface, vagueness

Introduction

Knowledge is like a sphere, wrote the French philosopher and mathematician Blaise Pascal (1655/1973), the greater its volume, the larger its contact with the unknown. Pascal thereby formulated what we know from everyday experience: The more we know the less we seem to know. Ignorance, from this point of view, is the shadow of knowledge. And being a mere shadow, ignorance is usually ignored. Thus, there is much discussion about our "knowledge society" but hardly any talk of an "ignorance society". We study "knowledge management" but rarely "ignorance management", although surely we manage our ignorance just as much as we manage our knowledge. There are histories of knowledge, but only scattered fragments for a history of ignorance. We study epistemology; the study of knowledge and of knowing, but we do not usually engage in the study of "agnotology"; the study of ignorance and not-knowing. And since the concepts were coined at the same time and viewed as complementary, the study of one would seem to be the corollary to the study of the other.

This neglect of ignorance reflects assumptions about ignorance that are questionable. For instance, Pascal's metaphor is at the very least ambiguous, for it allows at least two distinct and irreconcilable interpretations (Mittelstrass 1996). The first interpretation takes knowledge to be the volume of the sphere. Hence as knowledge grows the area of the unknown – our ignorance – diminishes. Our knowledge grows faster than our ignorance. We may call this the optimistic view. The second interpretation takes knowledge to be the outer limits of the sphere. As knowledge increases the area of the unknown increases. In this interpretation, our ignorance grows faster than our knowledge. We could call this the pessimistic view. It is difficult to say which view is correct, and futile perhaps even to debate the issue. The conundrum indicates however that the relationship between knowledge and ignorance is less straightforward than we like to admit.

A second reason for our neglect of ignorance is a certain uneasiness when it comes to the study of ignorance. For ignorance is often thought to be unworthy of serious attention. Ignorance is typically associated with foolishness and stupidity, as a willful negation of knowledge and hence a negation of the Enlightenment ideals of reflection, critical inquiry and vindication (Alvesson and Spicer 2012; ten Bos 2007). The study of ignorance, in short, is tainted. Who, after all, would want to excel in ignorance, beyond demonstrating humility by quoting the wisdom of Socrates? But ignorance is deemed not only as unworthy of serious attention, but also as unsuitable for scholarly interest. Studying ignorance seems to entail insurmountable paradoxes. How, after all, does one study what one does not know, or that which one does not know one knows? This difficulty is sometimes circumvented by framing the study of ignorance as a study of what others do not know (but that the researcher knows), or what others do not know they know. This solution, however, typically takes us down the well-trodden path of "tacit knowledge" and the less appealing byways of "false consciousness," leading to what Popper once called the conspiracy theory of ignorance (Popper 2002), where we observe merely a relabeling of an established field of questionable value. We are left doubting our ability to frame ignorance as a distinct topic of investigation that will submit to conventional research methods.

These preconceptions about ignorance, however, do not correspond with the way our attitudes toward ignorance – perhaps not always readily acknowledged – have changed. Ignorance is not a homogeneous phenomenon to be evaluated as good/bad or positive/negative, but rather a heterogeneous and irreducible phenomenon beyond such facile assessments. The sheer diversity of ignorance is palpable in the nomenclature of the (as yet) limited number of serious investigations into the phenomenon; for example, "non-knowledge", "unknowledge", "anti-knowledge", "negative knowledge" and "nescience" (with its further subdivisions into specified and unspecified ignorance), to name just a few. In all of these conceptualizations, a central concern is the complex, often disturbing, relationship between knowledge and ignorance, presence and absence, transparency and opacity. Pascal's metaphor merely points to this interface.

The modern knowledge explosion has made knowledge the topic of many fields. The concomitant explosion in ignorance, however, has made no particular mark in any discipline. Ignorance is, as Smithson (2009) noted, a subject without a home. In this essay, we make a case for ignorance as a topic of interest in organization studies.

Ignorance and organizations

The problems surrounding ignorance take on a special meaning when we talk about organizations. Organizations continually make decisions in relation to a more or less unknown outside world (with a horizon of possibilities and threats), the disorder of which is to be converted into organizational order. Organizations endeavour to transform ambiguous states into ordered states. Organization is thus a process that is constantly bound to its opposite state, namely "disorganization" (Cooper 1986).

By linking organization to its opposite, such phenomena as variation, improvisation and surprise open up to a broader understanding. If one acknowledges ignorance, one becomes more receptive to the significance of unknown processes. Instead of talking about knowledge and fulfilled expectations, one might investigate for example ignorance and surprise. Surprise is a fundamental feature of all complex systems, an element which allows the organization to see relevant (if peripheral) information (see Cunha, Clegg, Kamoche, 2006). Surprise indicates ignorance, and as such is not an extrinsic factor to be weeded out, but a resource.

Organizations exist to make decisions about the future. And while naturally one would prefer to predict the future by projecting the "present" to a "present future", a precise scientific definition of "future" would seem impossible. There will always be a difference between ex ante *expectations* and ex post *experiences*. Estimations do not necessarily correspond with actual returns, a fact that any investor can confirm.

But rather than placing a definition on ignorance, the question is how ignorance can be observed. It is like playing the Devil's advocate. For it is from the position of the Devil's advocate that one surveys the broadest vista and makes the sharpest observations. The Devil's advocate is a freely observing "third party" independent of relationships and normality's close-knit bonds. From this purview one sees that all phenomena consist of two parts. For example, money brings people together through exchange (the operative function of money), but it also has a diabolical aspect. For money divides through scarcity. There are those who have money and those who do not. Money thus creates poverty and wealth. Knowledge also brings people together, through our common quest for the truth. But knowledge too has its diabolical aspect, for it divides through ignorance and thus incites us the study of the other side of knowledge. The diabolical opens the way to reflection. This is not to say that a parity exists between knowledge and ignorance. Knowledge is clearly superior to ignorance. But a methodological principle operates within the framework of a reflexive knowledge policy. Ignorance is accorded a legitimate place and one acknowledges its significance for social and individual action. For wisdom is not simply the cumulative increase in knowledge. It is also the insights afforded by the ignorance that accompanies knowledge. It is a question of acknowledging and embracing the excluded possibilities. Only in this way can dogmatic science be subjected to the light of reflection; for example, in our ignorance of human genetics or of the risks of scientific innovation.

One approach to ignorance is through Herbert Simon's classic collection of essays *The Sciences of the Artificial* (1969). These essays can be read as an extension of the ideas proposed earlier by March and Simon in *Organizations* (1958). In *The Sciences of the Artificial*, unworked concepts such as bounded rationality and uncertainty absorption receive a more epistemological treatment.

According to Simon, organization theory as a social science is not adequately described by the distinction "is" and "ought". The natural sciences are concerned with nature and necessity (in terms of security, certainty and stability), while a host of other fields such as architecture, engineering, business and painting, are not. These latter fields are concerned with man-made artefacts, and hence with

contingency (possibility within constraints). They are sciences of the artificial, and as such are concerned not with what is or what ought to be, but with what might be, what Simon calls design (p. 31).

The focus is therefore not necessity but contingency. That is to say, the target is not necessity or chance in terms of security, certainty and stability, but the insights opened up by complexity and uncertainty (understood as different options). Ontological questions relating to what things are must give way to more epistemological questions relating to “What can we know?” or “What are things made for?”. So-called "synthetic processes" that refer to “judgement”, such as Kant’s reflexive questioning in *Critique of Judgement* that asks “How is the judgement of beauty possible?”, thus demand more in-depth study. The same may be said of "intuition", understood as pure, untaught, non-inferential knowledge, and what philosophers call "real life epistemology".

The world of pure science is quite different from the world of specialised professionals. The imperative logic of pure science is insufficient if one wishes to capture the logic of design. Businesspersons cannot be trained solely in operational research, just as engineers cannot be restricted to applied physics or mathematics. Both must supplement their knowledge with the tools of design science; for example, the ability to cultivate possibility thinking. Tomorrow’s share prices cannot be predicted with the precision of the natural sciences. Therefore imaginary possibilities must be included, possibilities that open up new perspectives. The next generation’s decision makers require not only the ability to evaluate knowledge in the form of present options, but also, as Simon puts it, the ability to "experience the world in more and richer ways" (p. 187). The message of Simon’s design science is thus concerned more with the design *process* than the design *product*.

In terms of knowledge sociology, such an approach is in step with von Hayek (1945), "the knowledge of the circumstances of which we must make use never exist in concentrated or integrated form, but solely as the dispersed bits of incomplete and frequently contradictory knowledge which all the separate individuals possess" (p. 37). The goal is not the product but the activity: *bounded*

rationality, but also *unbounded variety*. Through “unbounded variety”, Simon shifts his focus to sciences that are concerned not only with precision and experiments, but also with complex phenomena in the real world. In this sense design can be seen as a form of mental window shopping. Design solutions are sequences of actions that lead toward possible worlds that satisfy specified constraints. They foreground not the end result, but the increase in variation under set conditions.

The moon landing and the success of the "American Constitution" are both results of "bounded rationality." The authors of the American Constitution understood the limitations of their objectives. Their aim was not to produce an ideal race of human beings to people their ideal institutions, but to secure freedom in an ordered society. They saw humanity on its own terms, with its selfishness and its common sense, not as humanity idealized, as in the Soviet experiment. "Unbounded variety", in contrast, expresses the "endless frontier" of science and knowledge. According to Simon, when it comes to generating diversity, the science of design has no limitations. “By combinatorics of a few primitive elements, unbounded variety can be created” (ibid. p. 190).

In order to generate this "variety", organizations must be prepared to become conflict seeking, superstitious, hypercritical and monstrous (Weick 1977). Variation allows one to forget earlier decisions. Should we imitate something or should we warn against it? Simon’s design science can accelerate this kind of possibility-thinking. We can thus acquire a more flexible and innovative way of deciding about the future.

Ignorance and (social) science

The conventional view is that science proceeds by way of converting ignorance into knowledge. The point is to ask questions and find answers, to identify problems and provide solutions. This in turn generates new questions and new problems, and of course new ignorance. Sociologist Robert K. Merton (1987) took this approach when he highlighted the distinction between what he called “functional ignorance”, on the one hand, and a "manifestly dysfunctional kind" on the other.

According to this distinction ignorance is deemed functional when it can be converted into knowledge and thereby dispelled, while it is deemed “dysfunctional” when it cannot. The transformation of ignorance into knowledge takes place through a process of specification. It is "not enough to confess one’s ignorance; the point is to specify it. That, of course, amounts to instituting, or finding, a new worthy, and soluble scientific problem "(p. 8). Science, then, is the art of the soluble.

Specifying ignorance into soluble scientific problems directs the researcher to the standard procedures of research. Ignorance is perceived as a temporary phenomenon, as a temporary absence of knowledge that provokes the normal production of scientific knowledge (for example, when a dispute between experts leads to a solution), which marks the beginning of a progression toward more scientific knowledge.

This is the view of science to which Pascal and many others subscribed. Popper (2002) notes that “[t]he more we learn about the world, and the deeper our learning, the more conscious, specific, and articulate will be our knowledge of what we do not know, our knowledge of our ignorance. For this, indeed, is the main source of our ignorance – the fact that our knowledge can be only finite, while our ignorance must necessarily be infinite” (p.38).

So far so good. But two questions present themselves. First, do the social sciences belong to the art of the soluble? And second, while Popper and Pascal may agree on the relationship between knowledge and ignorance, do they agree on the nature of knowledge? What kind of knowledge is produced by standard research procedures and to what end is it produced?

In *The Logic of Scientific Discovery* (1934/2002) Popper argues that "our knowledge is a critical advice" (p. xxv). There is no infallible criterion for truth, for we can never with absolute certainty know that we were not wrong. As Xenophanes observed, we can always achieve better knowledge in our approach to the truth, but this knowledge will always be affected by assumptions. There will always be a form of *epistemological ignorance* present in scientific enquiry.

Accepting the above, we may identify three forms of ignorance: axiomatic, logical and hermeneutic (Faber et al 1992), and point to the one way of conceiving the use of knowledge. Axiomatic ignorance is usually associated with Popper's (1968) falsification theory. Scientific knowledge tends to be based on assumptions or principles that presuppose that all knowledge can be derived from specific axioms. But while we may demonstrate that theorems derived from axioms conflict with our experience (a posteriori), thus proving them to be false, we cannot prove the axioms by pointing to instances that support them, for the move from some to all is invalid. Verification is impossible. Falsification, therefore, is all that we can hope for.

Furthermore, Popper pointed to a very practical problem, namely that prognoses and assertions of social scientists are made in the very social reality that they attempt to say something about. For instance, a prediction may interfere with the event that it predicts, thereby acquiring the character of a "self-fulfilling" or "self-destructing prophesy." For example, if an expert predicts that a certain bank will crash within a short period of time, depositors will withdraw all their money, thus fulfilling the prophecy. Conversely, the prediction of an economic upturn in a year's time can lead to a postponement of planned investments, thus prompting an economic downturn. But rather than describing what is or what will be, or what should be or ought to be, a more interesting approach might be to search for what could be.

Logical ignorance is often linked to the mathematician Gödel (1931) and his theorem of "incompleteness". This theorem is related to number theory and shows that a logical system can never account for its own consistency *from within*. Truth in such a system is attributed only *from the outside*. Any powerful formal system, in other words, and the statements within this system, are either burdened with contradiction or incomplete. All sciences that employ systems of mathematical logic (such as physics and economics) contain therefore at least one theorem that cannot be proven. Gödel's "incompleteness" thus creates a decision problem (logically), for the truth of a mathematical

statement is "undecidable". And if we cannot dream of a paradox-free mathematics, nor can we dream of a paradox-free social sciences.

We are dealing therefore with paradox. But instead of avoiding paradoxes or declaring them illogical, we can develop them and try to find solutions. Take for example the phenomenon of trust, a well known subject in organizations. Trust, in principle, is an undecidable question. Those who know everything require no trust, while those who know nothing receive no trust (Simmel 1964). Estimations of, for example, a 60% trust rating, are therefore meaningless. Similarly untenable are trust decisions based on the probable advantages of entering into a trust relationship. The point is that trust cannot be determined with absolute precision because it is precisely *imprecision* that determines trust. Deciding whether or not one has trust in another person is a highly uncertain undertaking; it is a leap into the unknown. Such decisions cannot be based solely on calculations of a right or wrong decision (understood as logically right decisions), but must also include calculations of risk. Or rather, not so much calculation as judgement, and not so much justification as responsibility.

Or if we argue that culture provides legitimacy for our actions—for our yeses and no's and our do's and don'ts—how can culture itself be legitimized? Hence, in a very real sense, we act blindly and base actions on ignorance. We return once again to paradox. But paradoxes need not incapacitate us. Indeed, through paradox we can experience the world in a richer or more crosswise way ("diagonios"), a phenomenon that in terms of organizing Karl Weick (2007) calls knowledge "richness".

In his *Philosophical Investigations* (1953), Wittgenstein grappled with the phenomenon of hermeneutic ignorance. While science is based on mathematical sense, when applied to everyday phenomena it must nevertheless use a "common language". The logic (or "grammar") of the concepts of meaning and understanding differs from that of experiential concepts. For Wittgenstein, therefore, it is impossible to construct an ideal language that can escape the ambiguity of the "common language". Scientific statements can never be completely clear or unambiguous. Even when following the safest scientific knowledge, we remain ignorant. For no sooner do we apply a scientific concept,

than we discover that its statements are context-sensitive and must be relativized. The idea of a totally exact science is a myth, for the words that we use cannot be understood or made known with absolute totality. This holds true not only for deductive operations, but also for individual and conventional *judgements*.

This points to our second question: Do the social sciences belong the art of the soluble? For by transforming problems into theories, the social sciences do solve problems. But what kinds of problems do they solve? The sociologist Niklas Luhmann (2005) distinguishes between two kinds of problems: the soluble and the insoluble. Soluble problems are those that dissolve when solved; for example, what is 2 + 2. Insoluble problems, in contrast, are those that do not dissolve when solved, but which remain as problem-generating problems.

Insoluble problems abound. One instance is the fundamental problem of economics; namely, scarcity, a problem of both everyday life and economic theory. Another is the fundamental problem of sociology: How is social order possible? The characteristic feature of insoluble problems is that they do not dissolve when solved. For example, we might grant that economics has solved its problem, for we do after all have an economy. The problem however does not dissolve, but remains problematic in manifold ways. The same is true for the theoretical side of the problem and its derivatives. There exist many economic solutions (we have many economic theories), but when the theories remain contested, the problems remain unresolved.

The problems themselves generate contingency. One cannot deduce a solution from an insoluble problem, nor draw a single solution from multiple solutions. And no single solution is ever perfect, but is always problem-laden and problem-generating. The one single solution, moreover, precludes further possible solutions. But while the problems of the social sciences may be permanent and on-going, they are nevertheless rich resources of contingency. By re-problematizing permanent problems such as complexity, double contingency and decisions, we re-imagine reality and theory. We find solutions to existing problems and new directions toward unseen solutions.

Ignorance might be regarded as an insoluble problem, as a problem that cannot be eliminated but only solved into more acceptable problems. Identifying ignorance as a fundamental problem of organization theory, therefore, might provide a problematic that opens up new vistas of possible interpretations. How do organizations deal with ignorance? A comprehensive enquiry into ignorance could reveal new aspects of organizations and reinterpret old ones. Such research could be a catalyst not only for investigating what organizations are, but also for what organizations can be.

Organizations and ignorance

Organizations are decision-making systems. The precondition of a decision, however, is ignorance. For if there were no ignorance, there would be no need for decisions. This was pointedly expressed by Heinz von Foerster (1981), who declared that we can decide only those decisions that are undecidable, for all else is calculation, and calculations are not decisions (although deciding to use calculation might be a decision). Decisions are thus one of the great insoluble problems of organizations. And like all such problems, decisions are a problem-generating problem.

Decisions provide numerous insights into the ways ignorance is embedded in organizations. For not only do decisions eliminate ignorance and uncertainty from organizations, in manifold ways both individually and collectively they also create them. For instance, central to every decision is what March and Simon (1958/1993) call “uncertainty absorption”. “Uncertainty absorption takes place when inferences are drawn from a body of evidence and the inferences, instead of the evidence itself, are then communicated” (p. 186). Converting data from questionnaires into statistical tables is one example of uncertainty absorption. The different regulatory requirements within society is another. By deciding on one alternative over another, organizations communicate not the uncertainties that produced the choice, but rather the choice itself, thus contributing toward uncertainty absorption.

But if uncertainty may be absorbed, it cannot be eliminated. Indeed it might even be reignited. Like new knowledge in research, decisions create new ignorance and hence the need for new

decisions. Moreover, as Luhmann (2000) argues, while a decision communicates a result (a specific chosen alternative), it cannot but communicate the rejection of alternatives. That is to say, the decision communicates its own contingency. But are rejected alternatives forgotten, or do they remain embedded in the organization's memory as possibilities? Or, in the words of Michel Serres (1980), do they lie in wait as an "inflammatory agent"? This raises the question of organization memory, and more than hints at the positive role of forgetting.

If uncertainty absorption takes place with every decision, and organizations are regarded as decision-making machines, following Luhmann's reasoning we might regard uncertainty absorption as the process of organizations. For example, decisions communicated internally in an organization go typically unchallenged. This may be attributed to many reasons: the relationship between superiors and subordinates, a reluctance to take responsibility, a lack of opportunity, or simply the apathy or the ignorance of those involved. But whatever the reason, decisions that go unchallenged all result in the same ignorance with respect to the quality of the organization's decisions. Due to this lack of internal resistance, over time organizations can create an image of themselves that does not correspond to the reality of their operations. Organizations can perceive themselves as more harmonious and more successful than they really are. They become non-transparent to themselves. Problems related to ignorance and decisions in organizations can thus provide a fruitful area of research.

Luhmann declares that even if it were possible for one to know everything, one could not know everything at the same time (Luhmann 2005). Again, we are faced with a problem that can be approached in multiple ways. First, there is our limited processing capabilities to organize our knowledge, and thereby our ignorance. Moreover, every solution to the problem generates new problems, which may prove soluble or insoluble. Another approach might be in terms of attention. March and Simon radically departed from classical organization theory by making "decision" their central construct. Moreover, the essential requirement for decisions, they maintained, was attention,

perhaps the scarcest of all resources in organizations. The notion of attention raises questions such as: “What do we see and not see?” and “How do we see and not see, and why?"

Exposed as we are to an overwhelming flood of information, we are tasked with the question of coming to terms with it. "The task,” according to Simon (1981), “is not to design information-distributing systems, but intelligent information-filtering systems" (p. 144). Such “filters” would retain important information while allowing unimportant information to pass through. This raises the question however of what constitutes important information. Should we retain only that information we deem important, while allowing all the contrary and serendipitous information to pass through, the very information that triggers surprise and possibility thinking?

Simon’s design science lists three important points regarding the question of ignorance:

(1) Simon’s design science observes organizations and systems from a particular point of reference; namely, from between an inner environment and an outer environment. An artefact represents a meeting point – an interface – between the inner environment, the substance and organization of the artefact itself, and the outer environment, the surroundings in which the artefact operates. Conceptualizing depends largely upon where one draws the boundary. An artefact is the boundary itself, an interface where information and material from the outer and inner environments are exchanged. In order to say something about a system's behaviour, Simon’s design science adopts a form of heuristics that aims to ignore the system as such (internal processes are easy), and to train attention instead on the outer environment. A stimulus to an artefact, therefore, will yield information only about its outer environment, and nothing about the artefact itself. It is here one finds the large combinatorial space ("range", "Spielraum", "latitudo") or what Cooper calls "disorganization".

(2) Based on "the empty world hypothesis", Simon launched his theory of "nearly decomposability condition", which states that "the interactions among the subsystems" internally in organizations "are weak but not negligible" (p. 210). This implies two things. First, one can observe the behaviour of a total system level within an organization without worrying about the level of detail.

Second, one can also do the exact opposite. One can observe a subsystem without taking into account its interaction with the overall system: "intracomponent linkages are generally stronger than intercomponent linkages" (p. 217). In other words, subsystems operate in part independently of the internal processes of other systems. They perform their function "in blissful ignorance" of what is happening elsewhere. This applies for human organs just as much as for companies in a market.

(3) When one abstracts from a system's details, it is important to distinguish the real system from the *simulation* of a system. Only then can one generate an heuristic approach to problem solving where the "big combinatorial spaces" come into view (“range”, “Spielraum”, “latitude”). This question occupied Wittgenstein in *Tractatus* (1922), where “range” is a metaphorical term for the disparity between general propositions and individual facts (4.463). According to Wittgenstein, one must acknowledge that language restricts, especially when it comes to mathematics and grammar. At the same time, however, one must allow that language also opens up, that it is an inclusive “form of life”. Truth conditions confer “range” (Spielraum) on individual facts (5.5262). This links up with Simon’s concept of design as a continuous process, where, like Wittgenstein’s distinction between propositions and facts, "knowledge management" can succeed only if one recognises the *difference* between knowledge and decision. For Simon, the computer exemplifies precisely this difference. For while computers may have unloosed their oceanic volumes in knowledge processing, they cannot calculate the right decision in a given situation (as Weber and Laplace believed). The latter is possible only for the decision maker.

Based on the above reasoning, one might go a step further and claim that if an organization cannot be understood as something substantial, then to enable recognition it must be understood by its "interface" (Baecker 1998). All knowledge is bound to an interface. The organization can thus be conceived as a *form*; as a form of production, of societal order, of hierarchy, of an expert’s planning object or of the employees’ environment. Organizations relate to knowledge in a highly selective

manner. Therefore, while we may never understand exactly *what* is being "screened out", it is imperative that we have a strategy to relate to this information that is passing through the filter.

Ignorance as a relieving mechanism

Pessimists, of course, may be sceptical of ignorance as a generator of knowledge. But as Paul Natorp (1921) observes in his remarks about Plato, Socrates' conception of ignorance is not so much about pessimism as about ignorance as a relieving mechanism. Our daily interaction with people can succeed only if we assume a mutual ignorance about each other (Simmel 1964). We cannot know everything (cognitively), nor should we (normatively). Indeed, we might speak of *ignorance claims*; for example, where one claims the right to forgo predictive gene diagnostics that can impair one's quality of life. In certain contexts ignorance can be "better" than knowledge. This is a normative perspective.

Our concern however is the cognitive aspect of ignorance; that is to say, not only the truth-value of knowledge, but also its range (Spielraum). Ignorance is not merely an objective state, but a *relational* concept. It concerns not only knowledge *about*, but also knowledge *from*. To know something *from* means to have something in an attention-observing horizon (Wehling 2009). This positions a recognition-object as an "epistemic object", where one is unable to articulate the object with absolute totality. The completeness of knowledge is thus replaced by a search for relevant knowledge. For the completeness of knowledge one turns toward the burden of evidence. How much must we know about an object to become masters of reliable knowledge? How many gene-modified plants must we test to be certain they have no harmful effects? Again, it is not calculating and justifying that are foregrounded, but judgement and responsibility.

But the "unconditional reservation" against certainty is actually something positive. As Gadamer (1975) observes, a tension will always exist between the constantly disputed "opinions of the mortal" and the truth. Indeed, for Gadamer, it is this tension that allows us to deal with ignorance as a positive resource. In similar vein, Johannes von Kries (1886), the founder of modern probability

mathematics, considered what he termed “vagueness” a resource. *“Propositia vaga”* differs from *“propositia confusio”* in that vagueness consists not in our imperfect capability of knowing, but in the structure of the facts.

Elaborating upon von Kries’ ideas, John Maynard Keynes (1908) observed that probability is indebted to ignorance. For all probability mathematics is based on a contradiction that teaches us to know that we don’t know. Formal logic, therefore, with its imperative to banish all dispute, should turn knowledge, ignorance, and “rational belief” into a new logical construct called “probable consideration”. For Keynes, all statements are either true or false, but the knowledge they provide depends on circumstances.

An epistemological approach to economic theory will always include language, vagueness of meaning and a state of confidence. Echoing Wittgenstein, Keynes points out that concepts and propositions (which consist of sentences and words) must connect with their use and not merely with metaphysical presumptions and formal premises. This explains why Keynes explored vagueness as an element of probability theory. Opposing the formalists, Keynes regarded vagueness as a resource, as a means of gaining knowledge from the relation between formal and everyday language. Hence, Russell (after his rejection of his own *Principia Mathematica)*, Wittgenstein and Keynes were in fact pursuing the same objective: How does ordinary reasoning and contemporary experience stand in relation to an ordered system of logical relations? According to Keynes, unlike deductive reasoning, inductive reasoning employs ignorance, incomplete knowledge and belief. Acknowledging ignorance, therefore, allows for a new kind of logical relation that cannot be derived from a previous notion. Of its own nature our knowledge of the future is fluctuating, vague and uncertain. Thus, formal symbols and “pretty polite” techniques, as Keynes puts it, can never replace individual and conventional judgements.

Economic decisions and interactions are rooted not in formal exactitude but in the habits of life. In their obsession for marginal costs and revenues, therefore, neo-classical economists overlook

the “whole” and the relevant details of the research. In a “state of ignorance” and uncertainty, formal mathematical probability does not provide enough certainty to make decisions (Keynes 1908, Muchlinski 2012).

The point is that probability is not the same as certainty and truth, and for Keynes this was crucial in his criticism of neo-classical economy. “The fact that our knowledge of the future is fluctuating, vague and uncertain, renders wealth a peculiarly unsuitable subject for the methods of (neo)classical economic theory.” (Keynes 1937, 213f).

Scholarly texts are peppered with this form of vagueness. One “suggests” or “ventures proposals” about notions that scarcely exist but which “might” develop into something. A new way of looking at the world is adumbrated: inchoate, incipient and nascent (becoming), where indeterminacy and vagueness are the operative concepts. Heidegger’s philosophy of existence sought to break with Western Philosophy’s worldview by introducing his indefinite concept of “das Dasein”, presaging something new, beyond ordinariness and humanism. Whitehead’s philosophy of organism quested for a new form of experience that would hold up against the demands of modern-day science. For Whitehead, reality is not a state, but a process, something that happens. Whitehead does not make easy reading, but his writings bring to us a world of possibilities. The same may be said of Luhmann’s sociology of systems, whose self-creating (autopoietic) systems are open because they are closed and which consist not of people but of communications; self-creating and dissolving systems that continually challenge accepted orientations and create new ones.

Conclusions and in-conclusions

From this brief overview we might understand Simon’s design process as a reflexive practice that investigates the *possibilities* that lie at the interface between inner and outer worlds. Design might thus be conceived as a “practice of ignorance”. Through these new interface possibilities we can

generate flexible and variable design solutions. By concentrating our efforts upon *how* we make this world useful or applicable, a new cognitive potential can be liberated. There exists, for example, no ideal chair, for we shift constantly in our seats whatever chair we choose to sit on. This allows great design freedom. Designers can elect to focus on function and make chairs that are designed for comfort, or they can ignore function (we twist and turn in our seats anyway) and focus solely on design as design (Baecker 2000). Design can break down and recombine possibilities and elements, that which we earlier characterized as range (latitudo).

We might conclude then by suggesting that the basic problem of organization theory is ignorance. A central task of organizational theory, then, would be to explore and describe ignorance in its many facets and to recreate displaced ignorance in order to open up new spaces of possibilities. Organization theory would describe what "is" in order to show what "could be". Organization theory would be design.

Note

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