ONTOLOGICAL UNDERPINNINGS IN BUSINESS AND MANAGEMENT RESEARCH

Milla Unkila

ONTOLOGICAL UNDERPINNINGS IN BUSINESS AND MANAGEMENT RESEARCH

Dr. Milla Unkila, Turku University School of Economics

Abstract

Management research is social science, which means that it is subject to the same philosophy of science discussions that concern all research scrutinizing social phenomena. This article outlines six ontological questions and their answer options to highlight the relevance of acknowledging the diverse knowledge and understanding creation foundations from which such research can be conducted. In addition to integrating and distilling wide-ranging philosophy of science discussions into the aforementioned questions and answer options, this educational essay makes two additional contributions: it highlights the problems that emerge from philosophically misaligned research and argues against reproducing the strawmen of 'realist' and 'constructionist' that result from believing in the fictional continuum between objectivist and subjectivist approaches to science.

Introduction

Management research is fundamentally social science. Like in any other field of social science, it is therefore subject to the debate of to what extent social science can or should be pursued with the mechanisms of natural science (Flyvbjerg, 2001; Goldman, 1999; Morgan & Smircich, 1980; Popper, 1974). These debates have intermittently been quite heated, for example in the so called 'science wars' (De Vrieze, 2017; Fuller, 1995; Gould, 2000; Gross & Levitt, 1997) following the divide and continuum between the objectivist and subjectivist ap-

proaches to social sciences as introduced by Burrell and Morgan (1979) in their impactful book.

Currently we are experiencing a 'cold war' phase of this fundamental debate. While the trenches are dug and reinforced, on both sides there is notable uncertainty about the nature of the enemy, and equally profound uncertainty among the researchers of whether there is any point to the war: why should an individual management researcher care about the philosophy, isn't it enough to just do relevant and rigorous research? Can't we just leave the philosophical debates to the philosophers and go on with trying to conduct impactful research with any methods and theories we find useful in our endeavors?

In this essay I argue that the answer to those questions is no: we cannot leave the philosophy of science merely to the philosophers, because already the understandings of what are "relevant" and "rigorous" and "research" are subject to fundamentally philosophical choices every researcher makes – either wittingly or unwittingly. Ignoring the existence of the multitude of philosophical underpinnings leads to research grounded on shaky foundations, misunderstandings, and misleading findings that do not contribute to the accumulation of knowledge and understanding, the purpose of academia.

Examples abound. Ferraro, Pfeffer and Sutton published an article about the performativity of theories (Ferraro, Pfeffer, & Sutton, 2005), which was subsequently challenged by Felin and Foss (2009a). The debate continued in yet two papers (Felin & Foss, 2009b; Ferraro, Pfeffer, & Sutton, 2009), with each of the four papers being diligent, well-argued and excellently executed by high-class scholars. However, due to fundamentally different philosophical underpinnings, the debate, while interesting, yielded little insights into the focal topic of performativity, but degenerated into a scholarly version of bickering about the respective merits and downsides of apples and oranges.

In 2001, Sarasvathy published a highly impactful paper on effectuation that initiated a new stream in entrepreneurship research (Sarasvathy, 2001). The field, the theoretical merits of

effectuation, and the effectuation research were reviewed later by Arend, Sarooghi and Burkemper, and the review published in a top-notch journal (Arend, Sarooghi, & Burkemper, 2015). However, there was a serious problem with review: it ignored completely the specific philosophical underpinnings of the whole effectuation field (Read, Sarasvathy, Dew, & Wiltbank, 2016), which led to misleading conclusions. For example, Arend *et al* (2015) criticized effectuation by questioning the objective abilities of the effectuating entrepreneur, while the key point in the pragmatist effectuation approach is the *perception* of those abilities by the effectuating entrepreneur.

In accounting research, there is a trend of combining the approaches of Actor-Network-Theory (ANT) (Latour, 2005), and institutional theory (IT) (Dimaggio & Powell, 1983; Thornton, Ocasio, & Lounsbury, 2012). While in general positive towards combining insights from diverse theories, in reviewing such literature Modell, Vinnari and Lukka (2017) found out that due to the seriously incompatible philosophical underpinnings of ANT and IT, the findings built on their combination suffered from inconsistencies and illogical theorizing – especially when the philosophical tensions between the approaches were ignored.

To summarize, ignoring the plurality of philosophical underpinnings is not inconsequential. While the examples here highlighted the addressed the implications of such ignorance to the results of academic endeavors, almost equally relevant are the implications to the criteria along which research is evaluated in the review processes, and to the education of the new generations of scholars. In terms of the first aspect, there is for example an ongoing debate about how qualitative research should (not) be evaluated (Alvesson & Gabriel, 2013; Easterby-Smith, Golden-Biddle, & Locke, 2008; Johnson, Buehring, Cassell, & Symon, 2006; Maanen, 1979; Welch & Piekkari, 2017; Welch, Piekkari, Plakoyiannaki, & Paavilainen-Mäntymäki, 2011), in big part calling for an increased understanding of the possible philo-

sophical orientations from which such research can be conducted[1]. In terms of the latter aspect, lacking so far substantive research results on the issue, my experience as a thesis supervisor has attuned me to the problems that emerge when the desire to utilize a fashionable methodology utterly at odds with the philosophical foundations of the theories used, results in at best superficial and at worst profoundly misleading results.

However, it is not the aim of this article to merely (re-)introduce the problem, but to also provide a starting point for (re-)initiating the reflection on the philosophical underpinnings of management research. While there are volumes written about the philosophy of science also in the sphere of management sciences, the research question in this paper simplifies the discussion dramatically: what are the very basic ontological assumptions that each social scientist should be aware of? The question brackets out the abundance of methodological and epistemological choices and perspectives, and instead digs deeper into the very notions of what do we as researchers understand by 'truth' and 'reality', exploring the very ontological options that underlie any scientific endeavor.

The theoretical contribution of this essay takes the shape of what MacInnis (2011) conceptualizes as integration: *"...Integration... takes what is known... and transforms it into something entirely new. Integration draws connections between previously differentiated phenomena, finding a novel, simplified and higher-order perspective on how these entities are related."* MacInnis, 2011 p. 146). The phenomena being here integrated are the ontological choic-

---

[1] In practice, the strawmen created on both sides of the perceived chasm between the objectivist and subjectivist schools have turned out to be problematic in management and business sciences: there are several calls for such scholarly approaches that would enable bridging sets of elements from both – especially in qualitative research. In for example international business (Welch et al., 2011) and information systems (Mingers, 2004; Volkoff & Strong, 2013) research, critical realism (Bhaskar, 1998) is seen as a possible philosophical grounding allowing for a more nuanced option for conducting social science. In turn, in accounting (Kakkuri-Knuuttila, Lukka, & Kuorikoski, 2008; Lukka & Modell, 2010), international relations (Friedrichs & Kratochwil, 2009) and entrepreneurship (Read et al., 2016) pragmatism (Ormerod, 2006) or its kin of evolutionary realism (Alvarez & Barney, 2010; Campbell, 1974) are perceived as offering solutions for the same dilemma.

es reflected in the subsequent epistemological and methodological avenues traversed, and the resulting simplification of those choices takes the form of six ontological questions. It is the aim of this paper to (re-)introduce the alternative ontological choices that each management scholar, reflectively or unreflectively, makes, and thus contribute to the pursuit of such management science that builds on the foundations of logically aligned choices of ontology, epistemology, theories and methodologies.

The article unfolds as follows: the six ontological questions are presented in pairs of two, starting with the very beliefs of the existence of reality, continuing with the beliefs of the nature of reality, and closing with the beliefs of the nature of the reality in regards to humans and society. The discussion summarizes the questions and the respective answer options and highlights a few potential avenues to logically combining the diverse answers, with the conclusion presenting the always present caveats and stepping stones for the future research.

Philosophy is not only for the philosophers. Instead, as professionals in the knowledge-creation business, we business and management scholars must also be clear about what, in our view, constitutes truth and knowledge in the first place. Heeding Kant, who wondered this question profoundly, is therefore a good place to start.

Beliefs of the existence of reality: the fundamental first two questions

Question 1: Is there an independent reality?
Question 2: If reality and its appearance are two different things, are they ontologically same?

While the nature of reality has preoccupied many philosophers, making it possible to start tracing its outlines from several vantages, in this paper the thoughts of Immanuel Kant (1724-1804) are used as the springboard. The famous question "What can I know?" pondered at length by Kant has by no means lost its relevance to the contemporary scholar, and as such, the answers Kant gives merit revisiting.

Kant makes three claims that resonate firmly in all the subsequent branches of philosophy of science: the first is the distinction of things into two categories, the ones we can experience through our senses (e.g. a cat), and the ones we can only conceptualize (e.g. God, to use Kant's own examples). The second distinction is vital, and has since triggered volumes of philosophical debates: regarding the entities that we can through the senses experience, Kant shows that the nature of those entities in themselves is a different thing from the appearances of those entities, which are essentially all that we can through our senses (or contemporary scientific devices) grasp. The third key insight is that in regards to the entities we can experience, our knowledge of those things consists of both the phenomenal part of the specific sensory input of the specific object of our observation, and the noumenal[2] part of the general concepts we have about those objects of observation. (Jankowiak, n.d.; Kant, 2004; McCormick, 2001)

In essence, Kant claims that ultimately, we can only have knowledge about things that can be understood through both phenomenal and noumenal input, which means that regarding the things lacking a physical appearance (e.g. God), we cannot have knowledge, only faith. What furthermore intrigued Kant was the question of which part of this duality of knowledge comes first, the noumenal imaginable concepts, or the phenomenal experience input we glean through focusing our perceptions towards the specific entity we are observing. This question is interesting in the light of the recent 'science wars' mentioned in the introduction, because

---

[2] Kant furthermore distinguishes noumena into positive and negative. The positive noumena is the intelligible understanding of an object that has also the phenomenal appearance, whereas the negative noumena is something intelligible without an object of experiental reference. The latter kind of noumena is however moot, because as noumena refers to the intelligible, not sensible part of the in-themselves-partness of an object, and as that in-themselves part of an object is unreachable but through the possibility of the experiences it yields, the noumenal understanding can never actually depict that which it sets out to do, namely the concept of the thing in-themselves, without the reference point of the phenomenal part of the equation of knowledge. From this insight follows the claim that Kant makes about there being no possibility of having knowledge about the entities lacking sensible (e.g. experiencable) appearance – instead of knowledge, we can only rely on faith (Kant, 2004, p. 132-138).

fundamentally it deals with the dilemma of whether the entity we experience is first formulated in the noumenal realm as a fabrication of the observer resulting in the bracketing of the sensory inputs in the form of experience we then continue to gain knowledge about, or whether the noumenal generalizations, concepts, emerge after the observer has been subjected to the experience through sensory inputs. This question is discussed more in the next subchapter.

In "Critique of Pure Reason" (1781, 2004) Kant argues for his "Copernican" view (Jankowiak, n.d.): as he had previously come to the conclusion that knowledge pertains to entities with both phenomenal and noumenal existence (thus ruling out the possibility of us having knowledge about God, for example), and having distinguished between the objects in themselves and our experiences about them, he claims that as all that we have for building knowledge is based on these phenomenal appearances of our experiences (because we can never reach the objects in themselves, as all we have is the realm of experience), we can focus on all the possible experiences we can conceive to have and based on those, create synthetic a priori knowledge about entities we are yet to experience: "*All principles of the pure understanding are nothing more than a priori principles of the possibility of experience, and to experience alone do all a priori synthetical propositions apply and relate*." (Kant 2004 p. 132)

This notion has a deep impact on the subsequent evolution of pragmatism, especially in the pragmatic maxim as coined by Peirce (Ulrich, 2007), and also on the rise of the social constructionism even later (Berger & Luckmann, 1967). Kant states that while we cannot possess *a priori* knowledge about entities in themselves, we can and do have *a priori* knowledge about the possible experiences those entities provide, which means that essentially, this kind of *a priori* noumenal part of knowledge plays a role in shaping the simultaneous or subsequent phenomenal part of knowledge, which combined becomes the knowledge we can possess about the entity. To put it very simply, our noumenal concepts impact our phenomenal experiences. This has major implications for the faith in the possibility of pure objectivity.

These distinctions between the nature of the entities in themselves, our phenomenal experiences about their appearances and the noumenal concepts we subjectively can come up with resonate vibrantly in the contemporary philosophy of science. A natural scientist can happily claim to being in the business of knowledge-building *á la* Kant, as the objects of his study have a physical representation that can be through senses (and nowadays by sophisticated tools) experienced. However even he is subject to making a stand about Kant's suggestion of the ontology of things, which, extremely simplified, comes down to four basic onto-epistemological alternatives.

He can dismiss Kant and claim that the objects of his observation have a real existence that can be reached through the tools of observation – the entities are real and can be truthfully known about through empirical science. This is the stance of naïve realism and positivist empiricism, leading to and based on what Popper calls "the bucket theory of thinking" (Popper 1974). In this worldview the knowledge flows into us from the real external sources through our senses, and the best way to avoid mistakes is to try to be as passive as possible in the process of receiving the knowledge. Objectivity is equated with as little interference as possible with the externally originated information, with the role of the researcher limited to being the recipient of as unfiltered knowledge as possible.

The second alternative is to interpret Kant's statement as a distinction between ontology and epistemology as advocated in the realm of scientific realism (Niiniluoto, 1999). This "one-world" understanding (Jankowiak, n.d.; Rohlf, 2018) states that ontologically the entities are realities consisting of both the entities in-themselves and their appearances, but due to the fallibility and imperfection of our tools of observation we can never quite capture the truth of the entities through the appearances, which are the only aspects of the entities we can reach – however, with the advances of science and ever developing epistemological understandings, we can continuously in our studies get closer to understanding the real nature of the entities as they are in themselves (Niiniluoto & Saarinen, 2002). This interpretation underlies also for

example Popperian falsification theory of truth (Popper 1974), which states that while we can never prove anything true in the full sense of the correspondence theory of truth[3], we can however progress in science through falsifying previous theories, thus continuously creeping towards the ultimate truth of an entity.

The third alternative is to take the transcendental idealism as the ontological foundation: ultimately the entities in themselves and their appearances are ontologically different (the "two-worlds" interpretation), meaning that the objects of our observations, the appearances don't ontologically correspond to the entities as they in themselves are. However, some of the features of the entities as they are in themselves may have influence on the entities as appearances, which in contemporary philosophies is for example the foundation of Bhaskar's (1998) critical realism[4]: the middle layer between the real and the empirical, the layer of generative mechanisms and affordances is the realm that mediates between the unknowable entities in themselves and the appearances of them we can reach (Collier, 1994; Danermark, Ekstrom, & Jakobsen, 2005; Volkoff & Strong, 2013).

---

[3] Correspondence theory of truth defines "true" as a full correspondence between a statement of an entity and the real existence of that entity. This is problematic for a few reasons: 1) it requires faith in the underlying reality to which something can correspond, 2) "correspondence" in itself is a difficult concept, the nature of which can be debated, as ultimately in forming a statement we utilize different material (abstractions like words, mathematics) than the materials that assumed reality consists of (e.g. genes, atoms, quarks in the physical realm), which means that as the mechanisms through which the two types of entities (statements and reality) come in to being are different (language by collective choices, nature not by our choices), the one can never fully accurately depict the another, and 3) even if we were to dismiss the ontological differences between the statements and the "real" entities, as all we have to go by are the statements, theories, even the most foundational theories are subject to change because the "real" can always surprise us when we come up with more and more sophisticated methods of examining the entities – we can never know if the theory we hold true in this sense actually captures the full extent of the entity in question.

[4] However it should be noted that the understandings of critical realism are quite plural – as is typical with any philosophical -ism – as exemplified for example by Maxwell's (2012) approach, which adheres to the "one-world" interpretation familiar also in scientific realism.

The fourth alternative is to take the most extreme notions of Kant beyond his critical idealism by dismissing any ontologically real existence of entities in themselves. This line of thinking leads to, what has since Edmund Husserl (1859-1938), become known as phenomenological philosophy (Gallagher, 2012). While the branches of it are quite diverse (enter Heidegger, Derrida and the postmodernists), ultimately the ontological disposition is to deny or ignore the existence of any such realities that we cannot through our phenomenal experience of them conceive and through that conception construct.

Taking this perspective towards its most radical stance, solipsism, it means that there is nothing but my individual perceptions of the world around me, no realities but for the ones of my own making. While no serious philosophers have professed to adopting a solipsist view (Thornton, 2004), as an ultimate example of the impossibility of proving any philosophical perspective wrong, it warrants mentioning. As our neural networks are essentially responsible for creating any of the perceptions we receive through external signals, and capable of simulating those perceptions even without any external signals, there really is no way of proving to me that there is anything beyond my individual imaginings. There are no signals we can receive from the outer realm that would not be processed by the same mechanisms fully capable of creating the experience of those signals without those signals (Valtaoja, 2012).

To recapitulate, through discussing Kant we can identify the two first ontological questions: 1) is there an observer-independent reality, and 2) are the experiential appearances of entities ontologically the same or different than the reality of those entities? Kant's third insight, the order of appearance of the noumenal and phenomenal part of knowledge creation leads towards the next two ontological questions.

Beliefs of the nature of reality: the temper-raising next two questions

Question 3: Is reality given or constructed?
Question 4: Is reality substance or process?

Kant was not the first philosopher to ponder the order in which the noumenal understanding and the phenomenal experience of an entity generate a notion of an entity. The classic Eutrypho problem by Plato[5] hits this nail on the head: do we consider an object as valuable, because it has inherent value, or does it have value because we consider it to be valuable (Jezzi, n.d.)? Or in other words: are there real social phenomena independent of our observations of it or are we as observers responsible for constructing the phenomena by for example the use of language (Derrida, 1976), or by the brackets we draw to distill the phenomena from the background (Chia, 1994; Hines, 1988; Weick, 1979)?

This question is at the core of the already mentioned science wars, cleaving apart the 'constructivist' and 'realist' schools of thought, however not limited to approaches under those names. The one thing agreed by the deconstructionist movements lumped together as postmodernism is the staunch faith in the order of appearance: the construction precedes the phenomenon (Derrida, 1978; Foucault, 1978; Lyotard, 1984). On the other side the phenomenon is viewed as given (Godfrey & Hill, 1995; Goldman, 1999; Kwan & Tsang, 2001), preceding any cognitive or social processes shaping it. The debate about the performative power of theories mentioned in the introduction gives a powerful example of the impact of this question in terms of knowledge building: if we believe in the might of the noumenal preconceptions in shaping a phenomenon, the theories indeed carry weight in shaping the environment of action (Ferraro et al., 2005, 2009), whereas if the theories representing the noumenal part merely reflect a pre-existing phenomenon, the impact of the theories on the underlying phenomena is negligible (Felin & Foss, 2009a, 2009b).

However, even after making a choice about the sequential order of noumena and phenomena, there are still additional options that make the concepts of constructivist or realist inaccurate as such. If we choose to take the entities as given, we still need to choose whether or not

---

[5] Originally Plato stated the problem in regards to piety: is something pious because gods love it or do gods love it because it is pious?

we can see the given entity itself, and if not, what is the role of the human perception in shaping then the phenomenal part of that entity? On the other hand, if we take a constructionist stance, how do we view the reality of the outcome: has it gained a semblance of a given realist nature (like a house that remains standing after the builders have left the site), or does it evaporate with the disappearance of the construction processes (like a drawing on the water)?

For example, the difference between Chia (1994) and Weick (1979) highlights the dissimilarities between phenomenological and constructivist answers to this question. While both views agree on the order of noumenal conceptualization and phenomenal experience, and share the notion of life as an unfolding stream of chaotic signals human being are subjected to, in the phenomenological realm the boundary between an agentic experiencer of those signals and the external life constituting of those signals is non-existing, meaning that the cognitive processing of any signals is just another input of elements into the chaotic flow of randomness. On the other hand, in the social constructivism, the distinction between the agent constructing sense of the randomness and the external "shower of inputs" is clear: through the agentic powers of the actor, the stream of chaos becomes constructed into shapes, which subsequently provide the actor with the ability to deal with the unfolding life. In the first approach there is no distinction between the observer and the observed, whereas in the latter the observer in endowed with agentic powers, which in turn has implications for knowledge building.

These questions illustrate also the fuzziness of the concept "realist". For example, it is fully possible to take the existence of an organization as a given, but to acknowledge the impact of human action, interaction and observation in shaping it and the perceptions emerging. This would mean that while adhering to a realist core, the knowledge building efforts would need to be idiographic, focused on the processes of action, interaction and observation. On the other hand, the study of institutions (Dimaggio & Powell, 1983; North, 1990; Powell & DiMaggio, 1991; Scott, 1987, 2008) can give a counter-example: it can be believed that the

institutions are at the ontological core time-specific snapshots of constructionist processes, however having gained enough solidity, givenness, at the moment of the snapshot to yield themselves into objects of even positivist scrutiny.

Embedded in the aforementioned constructionist perspective is the process of observation, which leads towards the debate familiar already to the Greek philosophers Parmenides and Heraclitus (Langley & Tsoukas, 2010; Rescher, 1996, 2000). Are the objects of our enquiry processes or substances? The mainstream paradigm of Western scientific approaches has been on the side of substance, however with more or less active pockets of the process philosophy schools throughout its history (Seibt, 2017). While even the physical objects of natural sciences undergo change given enough time, the substance approach enables an atomistic scrutiny of a given object at the frozen time of observation, which has served the natural sciences excellently. However, there is a growing movement in the social sciences, especially in organization studies, promoting process philosophy, with a threefold claim in terms of its merits in comparison to the substance approaches (Helin, Hernes, Hjorth, & Holt, 2014): first, in regards to social phenomenon, process ontology is assumed to capture the "true" nature of social phenomenon more accurately (see also Weick's discussion (1979) of the necessity of -ing in organizing, managing, leading…), secondly, in regards to knowledge-creation methods regarding familiar social phenomena, process philosophy is claimed to be at least equal to substance-based approaches, and thirdly, through process-based approaches the advocates assert that it is possible to identify and address themes unseen through the substance-based views (Seibt 2017).

While the onto-epistemological branch (Cooren, Vaara, Langley, & Tsoukas, 2014; Howard-Grenville & Rerup, 2015; Langley, Smallman, Tsoukas, & de Ven, 2013; Langley & Tsoukas, 2010; Rescher, 2000) of process philosophy is closely linked to a phenomenological ontology (processes are constructed in the interaction of observation and unfolding, and nothing but this interplay exists) making it impossible to decouple the ontological reality of an

entity from the process of its observation, there are also such branches of process philosophy that can accommodate a more realist ontology. In German Idealism in the turn of the 19th century, process referred to the production of an end outcome, separating the two (act of producing, resulting product), allowing for the possibility of endowing not only the end product with an ontologically given nature, but also envisioning the act of production as an interplay of ontologically real, given elements (Seibt 2017).

The contemporary debate in routines research highlights the tension between the substance and process perspectives aptly (Parmigiani & Howard-Grenville, 2011). The growing stream of process-based routines practice view emphasizes the processes of the emergence, unfolding and change of routines (Feldman & Pentland, 2003; Howard-Grenville & Rerup, 2015; Howard-Grenville, Rerup, Langley, & Tsoukas, 2014; Rerup & Feldman, 2011), whereas the substance-based routines capability view approaches the routines as building blocks of organizational action (Felin & Foss, 2012; Felin, Foss, Heimeriks, & Madsen, 2012; Nelson & Winter, 1982, 2002, 2009). The advances in knowledge building in both camps underline one of the core messages of this article: philosophical choices are philosophical exactly because there are no ways of proving one set of lenses superior to another, however in order to logically create knowledge, the ontological, epistemological and methodological choices need to be aligned, also considering the third and fourth ontological questions here addressed: 3) Is reality given or constructed, and 4) Is reality a substance or a process?

But there is an exception. It may well be that one of the six ontological questions can in the near future be transferred from the realm of philosophy to the realm of provables. In the next chapter, discussing the last two choices this possibility is delved deeper.

Beliefs of the nature of humans and society: the increasingly relevant final two questions

Question 5: Where is (social) reality?
Question 6: Are humans qualitatively unique?

Before moving on to the last question that may yet cease to be a philosophical one, there is one more question that needs outlining. Talking about social phenomena evokes also the question of the location of those entities we observe in social sciences: considering that they can either exist or only have an appearance of existing, be conceived as substances or processes, to have come into being either by construction or by having somehow independently gained realist existence, what is the realm of their existence in relationship to the observer?

Are they objective in the sense that they have such appearances that can be experienced more or less similarly by a set of observers independent of each other? Are they subjective in the sense that their appearances can be experienced only in the mind of a singular individual? Or are they intersubjective, meaning that their appearances are experienced in the interaction between two or more human beings (Cantwell, 2003; Davidson, 2001)?

Karl Popper discusses this theme in his Tanner lectures (Popper, 1979), and argues that indeed, all these three worlds exist and need to be taken into consideration in social sciences. He names the worlds one, two and three, with the first referring to the physical entities (the opus of Romeo and Juliet as a physical object of paper and ink), the second to the psychological processes within an individual (the thinking that drove Shakespeare in the writing of the play), and the third to the shared outcomes of those psychological processes, having potentially a representation in the first world, but gaining meaning through its existence in the third world (the story of Romeo and Juliet immediately known by many through a mere mention, which can be printed in several similar or different books, exist in digital form, or be verbally narrated, play-acted, continuing to exist independently even when the author is dead and no-one is reading the play itself). While Popper claimed being a realist in regards to all realms, there are other options.

Choosing to accept only the first or second world is firmly coupled with specific other answers to the ontological questions, whereas accepting the existence of the third world, or all of them keeps several other alternative answers open. If one accepts only the existence of the

objective realm, that choice is underpinned by a worldview often dubbed as "naïve realism": the reality and its appearance are the same, and it is a given substance (Niiniluoto & Saarinen, 2002). In accepting only the existence of the subjective realm, one is either a solipsist or at the ultimate end of the phenomenological approaches. It is also logically possible to accept the subjective and intersubjective realms and refute the objective, which aligns well with a staunchly social constructionist process perspective. Accepting all three can accommodate a realist perspective to all (as Popper claims), a realist perspective in regards the objective realm and a constructionist to the other two realms (Kakkuri-Knuuttila, Lukka, & Kuorikoski 2008; Lukka & Modell 2010), or a constructionist perspective to all – equally, all three realms can be perceived as substances or processes.

However, the final question casts a different light on many of the previously mentioned questions, including the existence of the three distinct realms. The final question can be framed in many ways: agency vs. structure, voluntarism vs. determinism, free will vs. reductionism – or even in more metaphysical and religious terms as "Is there a thing like a soul and do humans have it?" It is the question pertaining to the nature of human, shared by all social sciences: are humans qualitatively different from other entities of our observation?

As social sciences are fundamentally interested in what humans do, one possible starting point is the discussion of the potential predictability of human behavior. Considering the seeming haphazardness of human action and the experience of free will, can we, and how can we create knowledge about how humans behave in general (MacIntyre, 2013)? Can we break down the actions and behavior of the humans to components objectively observable, as we do with a number of other objects of our scrutiny, or is there something qualitatively different in the human nature, that genuinely enables creativity and surprises and simultaneously renders any prediction efforts ultimately futile?

MacIntyre (2013) widens the scope of the problem beyond the scientific realm by highlighting a paradox embedded in us individuals: in order for any of us to go about our daily

lives with any sense of meaning, we need to rely on generalized predictions about how other people act[6]. At the same time, in order to hold on to the freedom and creativity that makes us feel humans, we need to reserve for ourselves the ability to act unpredictably. The same phenomenon was also identified by Mead (1934), however where MacIntyre talks about the inherent needs of us humans, Mead discusses the nature of the self-identity: our sense of ourselves is a duality consisting of the parts "I" and "me". According to Mead, "I" is the agentic, subjective part capable of making creative decisions that go against the social expectations, whereas "me" is the socially constructed object part, constantly reflecting the expectations of the social environment, the generalized understanding how a person such as myself should in a given setting be and act (Cronk, n.d.; Dionysiou & Tsoukas, 2013; Joas, 1990, 1997; Kuusela, 2001).

Sharing the problem, the diverse social scientific approaches differ on the level of emphasis on either side of this duality of an individual[7]. In social sciences seeking to create macro level knowledge, it seems necessary to reduce individuals into sets of "mes", to seek the dimensions of generalizability and predictability. This quest is essentially what drives the famous "as if" theorizing of Milton Friedman[8] (1953), underpinning the majority of economic research aimed at creating statistical generalizations through dismissing the individual level behavioral variations as negligible counter examples. Considering the Robbins definition of economics as the science exploring human behavior in between ends and scarce means

---

[6] Traffic as an interplay of formal and informal institutions provides a simple example: depending on the nature of the informal institution of the environment as either one where the formal traffic rules are in general obeyed or disobeyed, humans behave in traffic accordingly – they either trust that others obey the rules and drive accordingly, or adapt their driving to fit a more survivalistic environment.

[7] See for example a nice story about the diverse emphasis of entrepreneurship or strategic management studies by Venkataraman and Saravathy (2001).

[8] "…*the relevant question to ask about the "assumptions" of a theory is not whether they are descriptively "realistic," for they never are, but whether they are sufficiently good approximations for the purpose in hand.*"(Friedman 1953, p.153).

(Backhouse & Medema, 2009; Robbins, 1932), the behavior explored consists therefore of the behavior of the "me" objects, which surrender to prediction and statistical generalizations, even a supposition of causality[9].

However, taking this "me" perspective further, we encounter the fundamental question of reductionism: to what extent can the human behavior be traced to cultural evolution born out of biology, reducible to physics, chemistry and ultimately mathematics (Foss, 2011; Niiniluoto & Saarinen, 2002; Winter, 2013)? In other words, is there an "I" at all, such a portion of humanity that is qualitatively different than anything else, something that no natural scientific explanations, however detailed, can ever explain (Packard & Clark, n.d.)?

This choice has long presented a paradox: on the one hand the anthropocentric, humanistic take on the world, the faith in the qualitatively different aspect of the human has been taken for granted in a major portion of social sciences, and on the other hand, in parallel with the notable advances in the natural sciences taking a more mechanistic perspective on the animal of man the reductionist perspective is equally embraced (Powell, 2011). This paradox is vividly coloring the whole realm of human studies, with many of the approaches unwittingly grounded on the assumption of it being in this case possible to make the incompatible compatible, to allow for creativity and surprises, but simultaneously generalize and predict[10].

One of the notable approaches to negotiating these views is presented in the agency and structure -duality view extensively discussed by Giddens (1984): the levels of analysis are the

---

[9] However, since Hume annihilated causality by claiming that only correlations can be proven (Pierris & Friedman, 2013), even highly realist natural scientists have been vary of making causality assumptions. More recently though, the discussions of contrafactual causality have brought to the fore the possibility – and indeed the necessity – of causality understood in a more modern way. By identifying an entity the removing of which prevents certain subsequent events, and zooming in to the mechanisms through which the identified entity has an impact on the subsequent events, we can indeed make contra-factual causality claims (Lewis, 1973; Lukka, 2014; Woodward, 2003) even in the constructionist and phenomenological approaches.

[10] For another illustrative debate, see the discussion about the microfoundations and methodological individualism in (Foss 2011; Winter 2013).

individual (agency) and the society (structure), and the question is, which dominates? The proposed answer is that the agency shapes and is shaped by the structures in which it is embedded, but while this may be valid in terms of an individual and society, when analyzed further, even this answer can stand only if the existence of the free will, true agency is assumed in the first place. If the humans are shaped by the societies produced by cultural evolution underpinned by biology, physics, chemistry and mathematics, free will as a shaper is illusionary. In turn, if humans have the ability to shape the societies to any extent, it requires something not reducible to its biological components.

Another way of attempting to bypass the question can be found in the phenomenological interpretation: there are no predefined categories such as "agency" or "structure", "determinism" or "voluntarism", as all such conceptualizations are merely artificial brackets drawn to make the flowing chaos of life manageable (Chia 1994). However, in dissolving the boundaries between the human-as-observer and the entities being observed, this phenomenological approach dissolves also any such qualities of human that make it distinct from the surrounding environment (Deleuze & Guattari, 1984). In my view this ultimately means another mode of reductionism, one without the anticipation of it ever being possible to break down the flowing entity of all that is into ontologically real building blocks, because the act of doing so is beyond humans embedded in the same flowing entity.

To trace these thoughts further down history, in developing his hermeneutic approach, Dilthey (1833-1911) made a distinction between the "causal nexus of nature" and the "productive nexus of history", the latter being distinctive exactly because of the assumed existence of the reflective free will, the component separating the humans from anything else (Makkreel, 2016; Palmer, 1969). The hermeneutic circle oriented towards the productive nexus of history flows through three tiers of what Dilthey called "life-manifestations", each yielding the interpreter different insights she then processes through her own inner reality and reflects again against the outer sensory experiences (Makkreel 2016). The life-manifestations

consist of the level of general concepts the utterings of which tell nothing about the utterer (e.g. two plus two equals four), the level of actions suggesting some insights about the intentions of the actor (e.g. picking up a hammer), and the level of expressions with the outright aim to exclaim something about the one doing the expressing (e.g. writing a poem – or, indeed, an article).

Dilthey's work highlights the social phenomena residing in the third world of Popper (1979), namely the realm of the intersubjective. While the acts of utterance (stating a calculus, picking up a hammer, writing a poem) are born from impulses within the subjective realm and can be observed in the objective realm, the knowledge about the significance of the act of picking up the hammer, or the intentional experiences evoked through reading a poem reside in the realm of the intersubjective. In this view, the existence of the intersubjective is proof about the qualitatively different nature of man, the "I".

However, if the choice in terms of the loci of realities has been to accept only the objective, also these understandings about the intent represented in the act of picking up a hammer require other explanations. Adhering to reductionism, the reactions to experienced actions have a bio-logical, evolutionary origin: having been exposed to a certain event, the ones surviving it have retained a type of coded knowledge, which can be transmitted verbally or tacitly. In this view, human responsive behavior ultimately results from organic algorithms, formulae that can be both deconstructed and reconstructed – especially in the pursuit of creating artificial intelligence.

What makes this maybe the most intriguing philosophical question of our time, is the possibility that this question may be to an extent answered in the near future (Casti, 2012; Kurzweil, 2016; Wirén, 2018). With the advances in the neurosciences, microbiology, gene research and cybernetics on the one end, and the developments of the computing power, algorithms and datafication, we are closer than ever in finding out whether the approaches of natural sciences succeed in creating an artificial intelligence that possesses such qualities hereto-

fore only encountered in humans (Broussard, 2018; Dreyfus & Dreyfus, 1986; Urban, 2015). Should this happen, many of the here identified philosophical questions become shaded in new ways, if not completely rendered obsolete.

However, as long as this question is not definitely answered, it stands as a standalone question that can accommodate several answers to other ontological questions previously outlined. The faith in an independent reality can just as easily accommodate the perception of an individual as a free agent (like for example Kant and Hegel profess (Popper 1974)), as can the notion of an individual as a victim of structures follow from the worldview of nihilist constructionism (like Nietsche and Foucault ultimately argue (Ahonen, 2001)).

This point was further illustrated by Leonardi and Barley (2010) in discussion pertaining to the ontological assumptions in the constructivist sociotechnical research (Leonardi, 2012). The diverse approaches within the field are positioned along two orthogonal continuums, the first stretching between determinism and voluntarism (the first endowing structure, technology, with the agentic power, the latter the individuals, humans), and the second between materialism (physical entities shape human action) and idealism (ideas, beliefs, norms shape human action). Leonardi and Barley point out that while determinism and materialism, and respectively voluntarism and idealism are often joined, there are no logical obstacles to conducting research based on deterministic idealism or voluntary materialism, as ample examples from these types of research can within their chosen context be found.

In short, in viewing these two last questions (namely 5) where is social reality and 6) are humans qualitatively unique?) the prevalent notion of the continuum in between the objectivist and subjectivist bundles breaks apart in entirety: both the questions of the loci of reality and the uniqueness of man can easily accommodate sets of other answers leading towards the traditional labels of objectivist or subjectivist. Having now outlined the six ontological questions, the following discussion recapitulates the main points and attempts to flesh out the importance of acknowledging them.

Discussion: questions, answers and so what?

While I would naturally encourage management researchers to increase their familiarity with the discussions in the philosophy of science, the core contribution of this article lies in simplifying the complex and myriad philosophical discussions into six such questions that should at least be acknowledged. The ontological questions and the possible answers are summarized in Table 1.

Table 1: Six ontological questions and answer options

Six questions	Ontological choices		
Is there an independent reality?	Yes		
	Yes, but it's different from its appearances		
	No		
If reality and its appearance are distinct, are they ontologically same?	Yes		
	No		
Is reality given or constructed?	Given	And we can see it	
		But we can't see it	
	Constructed	But it becomes given afterwards	
		Nothing but the process of construction exists	
Is reality substance or process?	Substance		
	Process		
Where is (social) reality?	In the objective realm		
	In the subjective realm		
	In the intersubjective realm		
	In all of the above		
Are humans qualitatively unique? (Agency vs structure, voluntarism vs determinism, creativity vs reductionism)	Yes		
	No		
	Yes and no, uniqueness/agency shapes and is shaped by the biology/structure in which it is embedded		
	There is no distinction between agency and structure, humans or anything else or any point to the question as all categories are artificial		

Some of the answers to these questions require specific other answers: for example, in naïve realism there is an independent, given, substance-like reality, which exists in the objective

realm where humans can be studied through reductionism. In terms of epistemological options, these ontological choices support positivistic empirical approaches, often executed through quantitative methods. Interestingly, while this philosophical stance has become increasingly criticized in philosophy (Alvesson & Sköldberg, 2009; Niiniluoto & Saarinen, 2002), it still holds a firm mainstream position in the management sciences.

It should however be stated, that the notion of 'naïve' in this type of realism should not be considered as derogatory: the approach has yielded notable insights in such research where it has been possible to pursue knowledge from the Miltonian "as if"-perspective, accepting a certain loss of nuance and complexity in exchange for painting a bigger picture. Nor is naïve realism naïve in the sense of overt simplicity when for example viewing the Actor-Network-Theory as representing one approach with this type of 'flattened' ontology: ANT offers an alternative view to scrutinizing apparent human action embedded in material surroundings and political power plays (Latour, 2005) without the added complexity of pondering about the complexity of social construction processes in making sense of the apparent human actions. However, it is exactly because of this 'flattened' view of reality that ANT cannot be logically coupled with institutional theory (as mentioned in the introduction), which ultimately views institutions as human constructs, thus taking a noticeably different turn in regards to the first ontological question[11] (Modell et al., 2017).

While it is not the intent of this paper to provide suggestions about the 'right' or 'wrong' answers to these questions, it is however relevant to point out one problematic issue in regards

---

[11] Interestingly, while Latour has been allocated a position in the trenches perceived as anti-scientific in the 'science wars' (De Vrieze, 2017), his Actor-Network-Theory actually adopts the very same flattened ontology as such naïve realist approaches labelled in turn as scientists by the opposition – it is at the same time subjectivist in accepting the effects of human action and intention in shaping the environment, and objectivist in taking the actors, their networks and effects at the face value. This again highlights the misleading nature of positioning the diverse -isms onto the continuum between subjectivist and objectivist end points as proposed by Burrell and Morgan (1979).

to the mainstream position of this naïve realism based empirical positivism: it is exclusive. This means that the knowledge-creation efforts grounded on other choices are often deemed irrelevant and their value is not seen when judged from this perspective (Welch & Piekkari 2017). When this results from a deliberate reflection of the personal underlying assumptions of the reality being studied the problem is not as severe, as ultimately it is just a question of choice, however when the adoption of naïve realism is grounded on taken-for-grantedness, an unreflective assumption of a given, tangible reality, it may needlessly blind the scholar to other possible options of creating valuable knowledge – especially considering the realm of social sciences. If this were to limit only the endeavors of the specific scholar, the loss would not be too vast, however due to the institutional polymorphism, a critical mass on naïve realists may seriously hinder such knowledge-creation that happens in their 'blind spots'.

Equally exclusive in terms of the need to group a set of answers, is the onto-epistemological stream of phenomenological process philosophy[12]: nothing exists but the process of construction, emerging from the intertwined etic and emic elements artificially bracketed into concepts like environment and observer (the etic and emic distinction), agency and duality, objective, subjective and intersubjective – all existing merely to help us humans to navigate the chaotic flow of unfolding life. Again, while not making any claims in terms of right or wrong, this approach, when logically delved deep enough, also has a problematic issue: motivation.

If all the threads of life can only artificially be picked apart, with one deconstruction process equaling another in terms of the outcomes being equally valid (as neither is (Foucault, 1978)), what would be the point in engaging in such a process? Logically traversing this route leads to relativism, which in turn leads to nihilism, which in turn negates the whole meaning

---

[12] Uncannily enough, while the ontological choices in naïve realism or phenomenological process philosophy are worlds apart, they share a distinctly similar epistemological view: it is ultimately the interaction of (environmental) signals and (human, technologically aided) senses that creates knowledge (or the knowledge-artefacts).

of knowledge-building (Foucault & Rabinow, 2000). However, in terms of management sciences, there isn't a need to take this perspective to its ultimate endpoint, as this approach may, along the way, yield relevant insights not visible through other perspectives (a stance adopted for example by Foucault towards the end of his life (Ahonen, 2001; Darier, 1999)). These insights may then even bend themselves to more normative or applied use as proposed in the reflexive approaches (Alvesson & Sköldberg, 2009; Bourdieu & Wacquant, 1992; Spicer, Alvesson, & Kärreman, 2009).

These two examples highlight the boundedness of choices following from either a solid "yes" or "no" answer to the first ontological question. However, answering it with a "yes, but…" opens up a vista of diverse choices, including such with realist undertones and even some with constructionist undertones. Both pragmatism and critical realism allow for several alternative ontological choices, which explains the growing interest in them within management sciences (see footnote 1 for examples). This inclusiveness arises from at least two elements: first of all, both approaches are quite loosely defined, with porous boundaries that allow an array of mutually dissimilar explanations to congregate under one umbrella concept. The second appealing element stems from a fundamental choice in regards to the "real" reality, the core of reality: both approaches bypass the discussion and offer ways to acknowledge the philosophical diversity without needing to make an ultimate stand in terms of what – or if – reality is.

Pragmatism bypasses the nature of reality by explicitly focusing on such effects of it that we can through our senses identify. There are pragmatists who believe in the existence of an immutable core reality (Dewey, 1922; Peirce, 1878; Putnam, 1981), and pragmatists who don't (James, 1907; Mead, 1934; Rorty, 1991). Put simply, pragmatists can deem that a stone is hard based on the effect it has on a car scratched by it – there may or may not be an inherent reality of the stone that mandates its hardness, as its effect (scratch on the car) is enough to allow knowledge-creation.

Critical realism bypasses the nature of reality by stating that yes, it exists, but can never be grasped. In turn, apart from the unapproachable real nature of the stone in the previous example, the stone possesses affordances endowed by its true nature, and those affordances in turn can be turned into experiences that bend to knowledge creation. One of the affordances of the stone (in addition to for example being potentially something to build with, to cast away, to smash) is it being a scratcher, and after that affordance has been realized we can see the outcome and identify not only the realized experience but also that affordance of the stone (Bhaskar, 1998; Collier, 1994; Maxwell, 2012; Volkoff & Strong, 2013).

These short examples highlight how the "yes, but…" answer to the first ontological question can accommodate several other answers in terms of the reality being given or constructed, a process or a substance, of residing in one or all three ontological realms, or being guided by the creative free will or the biological imperative. It falls out of the scope of this article to identify and assess other potential -isms in terms of the logical possibilities with which these questions can be answered, however hopefully highlighting these few has been enough to point out the importance of acknowledging the existence of diverse knowledge-building foundations.

However, these discussions have also hopefully highlighted the misleading categorization of the diverse -isms onto a continuum between the subjectivist and objectivist approaches (Burrell & Morgan, 1979; Morgan & Smircich, 1980), resulting in such strawmen that seem to drive avoidable misunderstandings. Indeed, it is an aim of this article to propose a more nuanced perspective to reflecting on the philosophical foundations of management research.

Conclusion

The questions discussed in this essay are fundamentally philosophical, which means that as-of-today, none of the answer options can be 'proven' right or wrong. However, this does not mean that recognizing the existence of such questions, or the reflection on the personal stand-

point in regards to them can be ignored or dismissed as unimportant. Quite contrary: exactly because it is not (so far) possible to pinpoint once and for all the 'right' answers, being aware of the existence of other possible perspectives from which knowledge or understanding is and can be pursued – with equally valid ontological assumptions – is essential for conducting and reviewing solid research.

The key contribution aim of this essay was to integrate and simplify the cornucopia of philosophy of science discussion to identify the six pivotal ontological choices that the social scientists, including management scholars, need to be aware of. Outlining these questions and their logical answer options is needed in order for a scholar to be able to assess the validity of their own work, or the work of their colleagues: in assessing either, one should be aware of the philosophical foundations on which that knowledge- or understanding-creation effort has been grounded, because misalignment of these philosophical foundations leads to flawed outcomes. Due to reasons of approachability and parsimoniousness, the complex and plural philosophical discussions were simplified and distilled into the six questions with sets of answers presented in Table 1.

This simplification is not unproblematic, and the shortcomings accompanying it require addressing. First of all, the philosophical discussions are wide and deep, and the level of analysis in addressing each of these major questions accounted for no more than dipping few toes in an ocean. Each of the pinpointed questions has generated nuanced answers the merits and shortcomings of which have been debated in volumes. However, as it was the aim of this essay to draw together the set of the most fundamental ontological questions each management scholar should be aware of, and to not participate in the discussions of the truth value of any specific approach, this radical simplification was deemed justified.

Another shortcoming of this essay is simultaneously a call for further research. The diverse epistemological and methodological options logically suited for diverse ontological choices were almost completely ignored, as analyzing them is an endeavor on its own. It could be

highly beneficial to identify and categorize epistemological approaches that would logically fit the chosen ontological presuppositions, and to assess diverse methodological choices accordingly.

Finally, a third potential shortcoming – or maybe a question for the reader. Is it possible to identify other, equally fundamental ontological questions not addressed in this essay? Is the list comprehensive enough? Nevertheless, even if the answer to this final question would be that indeed, there are other equally relevant questions, it is my hope that this essay, with its simple aim and approach, can function as a stepping stone for further research.

It is my firm belief that the world is such a complex place that understanding it even a bit requires viewing the whole from as many philosophical perspectives as possible. All answers may provide relevant insights, however unless the foundations are solid, the value of those insights may well be critically questionable.

References

Ahonen, A. (2001). *Organisaatio, johtaminen ja edistyksen puhekäytännöt: Liikkeenjohdollisen tiedon kentät, kerrostumat ja kulttuurinen paikka*. Turun kauppakorkeakoulu.

Alvarez, S. A., & Barney, J. B. (2010). Entrepreneurship and epistemology: The philosophical underpinnings of the study of entrepreneurial opportunities. *The Academy of Management Annals*, *4*(1), 557–583.

Alvesson, M., & Gabriel, Y. (2013). Beyond formulaic research: In praise of greater diversity in organizational research and publications. *Academy of Management Learning & Education*, *12*(2), 245–263.

Alvesson, M., & Sköldberg, K. (2009). *Reflexive methodology: New vistas for qualitative research*. Sage.

Amabile, T. (2012). *Componential theory of creativity*. Harvard Business School.

Amabile, T., & Khaire, M. (2008). Creativity and the role of the leader. *Harvard Business Review*.

Arend, R., Sarooghi, H., & Burkemper, A. (2015). Effectuation as Ineffectual? Applying the 3E Theory-Assessment Framework to a Proposed New Theory of Entrepreneurship. *Academy of Management Review*, *40*(4), 630–651.

Backhouse, R. E., & Medema, S. G. (2009). Defining economics: the long road to acceptance of the Robbins definition. *Economica*, *76*(s1), 805–820.

Berger, P., & Luckmann, T. (1967). *The social construction of reality: A treatise on the sociology of education*.

Bhaskar, R. (1998). *The Possibility of Naturalism: A Philosophical Critique of the Contemporary Human Sciences (Critical Realism--Interventions)*.

Bourdieu, P., & Wacquant, L. J. D. (1992). *An invitation to reflexive sociology*. University of

Chicago press.

Broussard, M. (2018). *Artificial unintelligence: how computers misunderstand the world*. MIT Press.

Burrell, G., & Morgan, G. (1979). *Sociological paradigms and organisational analysis* (Vol. 248). London: Heinemann.

Campbell, D. T. (1974). *Evolutionary epistemology* (P. A. Schilpp, Ed.). In (pp. 413–462). La Salle, IL: Open Court.

Cantwell, J. (2003). *DONALD DAVIDSON: Subjective, Intersubjective and Objective, Clarendon Press, Oxford 2001.*

Casti, J. L. (2012). *X-events: the collapse of everything*. Harper Collins.

Chia, R. (1994). The concept of decision: a deconstructive analysis*. *Journal of Management Studies*, *31*(6), 781–806.

Collier, A. (1994). *Critical realism: an introduction to Roy Bhaskar's philosophy*.

Cooren, F., Vaara, E., Langley, A., & Tsoukas, H. (2014). Introducing the Fourth Volume of "Perspectives on Process Organization Studies." *Language and Communication at Work Discourse, Narrativity and Organizing*.

Cronk, G. (n.d.). *George Herbert Mead (1863—1931) (In Internet Encyclopedia of Philosophy)* (Vol. 2017). Vol. 2017. Retrieved from http://www.iep.utm.edu/mead/

Danermark, B., Ekstrom, M., & Jakobsen, L. (2005). *Explaining society: An introduction to critical realism in the social sciences*. Routledge.

Darier, E. (1999). *Discourses of the Environment*.

Davidson, D. (2001). *Subjective, intersubjective, objective* (Vol. 3). Oxford University Press.

De Vrieze, J. (2017). *'Science wars' veteran has a new mission*. American Association for the Advancement of Science.

Deleuze, G., & Guattari, F. (1984). *Anti-Oedipus, trans. Robert Hurley, Mark Seem and Helen R. Lane.*

Derrida, J. (1976). Of Grammatology. 1967. *Trans.Gayatri Chakravorty Spivak.Baltimore: Johns Hopkins UP*, 247–272.

Derrida, J. (1978). *Writing and difference*. University of Chicago Press.

Dewey, J. (1922). *Human nature and conduct*. Courier Corporation.

Dimaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, *48*(2), 147–160.

Dionysiou, D. D., & Tsoukas, H. (2013). Understanding the (re) creation of routines from within: A symbolic interactionist perspective. *Academy of Management Review*, *38*(2), 181–205.

Dreyfus, H., & Dreyfus, S. E. (1986). *Mind over machine*. Simon and Schuster.

Easterby-Smith, M., Golden-Biddle, K., & Locke, K. (2008). Working with pluralism: Determining quality in qualitative research. *Organizational Research Methods*, *11*(3), 419–429.

Feldman, M. S., & Pentland, B. T. (2003). Reconceptualizing organizational routines as a source of flexibility and change. *Administrative Science Quarterly*, *48*(1), 94–118.

Felin, T., & Foss, N. J. (2009a). Performativity of theory, arbitrary conventions, and possible worlds: A reality check. *Organization Science*, *20*(3), 676–678.

Felin, T., & Foss, N. J. (2009b). Social reality, the boundaries of self-fulfilling prophecy, and economics. *Organization Science*, *20*(3), 654–668.

Felin, T., & Foss, N. J. (2012). The (proper) microfoundations of routines and capabilities: a response to Winter, Pentland, Hodgson and Knudsen. *Journal of Institutional Economics*, *8*(02), 271–288.

Felin, T., Foss, N. J., Heimeriks, K. H., & Madsen, T. L. (2012). Microfoundations of routines and capabilities: Individuals, processes, and structure. *Journal of Management Studies*, *49*(8), 1351–1374.

Ferraro, F., Pfeffer, J., & Sutton, R. I. (2005). Economics language and assumptions: How theories can become self-fulfilling. *Academy of Management Review*, *30*(1), 8–24.

Ferraro, F., Pfeffer, J., & Sutton, R. I. (2009). How and why theories matter: A comment on Felin and Foss (2009). *Organization Science*, *20*(3), 669–675.

Flyvbjerg, B. (2001). *Making social science matter: Why social inquiry fails and how it can succeed again*. Cambridge university press.

Foss, N. J. (2011). Invited editorial: Why micro-foundations for resource-based theory are needed and what they may look like. *Journal of Management*, *37*(5), 1413–1428.

Foucault, M. (1978). Nietzsche, genealogy, history. *Semiotexte*, *3*(1), 78–94.

Foucault, M., & Rabinow, P. (2000). *Ethics: Subjectivity and Truth: the Essential Works of Michael Foucault, 1954-1984* (Vol. 1). Penguin London.

Friedman, M. (1953). *The methodology of positive economics*.

Friedrichs, J., & Kratochwil, F. (2009). On acting and knowing: how pragmatism can advance international relations research and methodology. *International Organization*, *63*(04), 701–731.

Fuller, S. (1995). A tale of two cultures and other higher superstitions: Paul Gross and Norman Levitt, Higher Superstition: The Academic Left and Its Quarrels with Science. Baltimore, MD: Johns Hopkins University Press, 1994. *History of the Human Sciences*, *8*(1), 115–125.

Gallagher, S. (2012). *What Is Phenomenology?* In *Phenomenology* (pp. 7–18). Springer.

Giddens, A. (1984). *The constitution of society: Outline of the theory of structuration*. Univ of California Press.

Godfrey, P. C., & Hill, C. W. L. (1995). The problem of unobservables in strategic management research. *Strategic Management Journal*, *16*(7), 519–533.

Goldman, A. I. (1999). *Knowledge in a social world* (Vol. 281). JSTOR.

Gould, S. J. (2000). Pathways of discovery. Deconstructing the "science wars" by

reconstructing an old mold. *Science (New York, N.Y.)*, *287*(5451), 25-29,261.

Gross, P. R., & Levitt, N. (1997). *Higher superstition: The academic left and its quarrels with science*. JHU Press.

Helin, J., Hernes, T., Hjorth, D., & Holt, R. (2014). *The Oxford handbook of process philosophy and organization studies*. Oxford University Press.

Hines, R. D. (1988). Financial accounting: in communicating reality, we construct reality. *Accounting, Organizations and Society*, *13*(3), 251–261.

Howard-Grenville, J., & Rerup, C. (2015). *A Process Perspective on Organizational Routines* (A. N. N. Langley & H. Tsoukas, Eds.).

Howard-Grenville, J., Rerup, C., Langley, A., & Tsoukas, H. (2014). *Introduction: Advancing a Process Perspective on Routines by Zooming Out and Zooming In. Sixth Inte*.

James, W. (1907). *Pragmatism, a New Name for Some Old Ways of Thinking, Popular Lectures*.

Jankowiak, T. (n.d.). *Immanuel Kant* (Vol. 2017). Vol. 2017. Retrieved from http://www.iep.utm.edu/kantview/

Jezzi, N. (n.d.). *Metaethics, Constructivism in* (Vol. 2017). Vol. 2017. Retrieved from http://www.iep.utm.edu/con-ethi/

Joas, H. (1990). The creativity of action and the intersubjectivity of reason: Mead's pragmatism and social theory. *Transactions of the Charles S.Peirce Society*, *26*(2), 165–194.

Joas, H. (1997). *GH Mead: A contemporary re-examination of his thought*. MIT press.

Johnson, P., Buehring, A., Cassell, C., & Symon, G. (2006). Evaluating qualitative management research: Towards a contingent criteriology. *International Journal of Management Reviews*, *8*(3), 131–156.

Kakkuri-Knuuttila, M.-L., Lukka, K., & Kuorikoski, J. (2008). Straddling between paradigms: A naturalistic philosophical case study on interpretive research in management

accounting. *Accounting, Organizations and Society*, *33*(2), 267–291.

Kant, I. (2004). *The Critique of Pure Reason*.

Kurzweil, R. (2016). The Singularity Is Near1. *Ethics and Emerging Technologies*, 393.

Kuusela, P. (2001). George Herbert Mead. *Pragmatismi Ja Sosiaalipsykologia.Teoksessa Vilma Hänninen & Jukka Partanen & Oili-Helena Ylijoki (Toim.) Sosiaalipsykologian Suunnannäyttäjiä.Tampere: Vastapaino*, 61–78.

Kwan, K., & Tsang, E. W. K. (2001). Realism and constructivism in strategy research: A critical realist response to Mir and Watson. *Strategic Management Journal*, *22*(12), 1163–1168.

Langley, A. N. N., Smallman, C., Tsoukas, H., & de Ven, A. H. (2013). Process studies of change in organization and management: unveiling temporality, activity, and flow. *Academy of Management Journal*, *56*(1), 1–13.

Langley, A., & Tsoukas, H. (2010). Introducing perspectives on process organization studies. *Process, Sensemaking, and Organizing*, *1*(1), 1–27.

Latour, B. (2005). *Reassembling the social: An introduction to actor-network-theory*. Oxford university press.

Leonardi, P. M. (2012). *Materiality, sociomateriality, and socio-technical systems: what do these terms mean? How are they related? Do we need them?*

Leonardi, P. M., & Barley, S. R. (2010). What's under construction here? Social action, materiality, and power in constructivist studies of technology and organizing. *Academy of Management Annals*, *4*(1), 1–51.

Lewis, D. (1973). *Counterfactuals and comparative possibility*. In *Ifs* (pp. 57–85). Springer.

Lukka, K. (2014). Exploring the possibilities for causal explanation in interpretive research. *Accounting, Organizations and Society*, *39*(7), 559–566.

Lukka, K., & Modell, S. (2010). Validation in interpretive management accounting research. *Accounting, Organizations and Society*, *35*(4), 462–477.

Lyotard, J.-F. (1984). The Postmodern Condition: A Report on Knowledge. 1979. *Trans.Geoff Bennington and Brian Massumi.Minneapolis: U of Minnesota P*.

Maanen, J. Van. (1979). Reclaiming qualitative methods for organizational research: A preface. *Administrative Science Quarterly*, *24*(4), 520–526.

MacInnis, D. J. (2011). A framework for conceptual contributions in marketing. *Journal of Marketing*, *75*(4), 136–154.

MacIntyre, A. (2013). *After virtue (first published in 1981)* (Third edit). London: A&C Black.

Makkreel, R. (2016). *Willian Dilthey* (Vol. 2017). Vol. 2017. Retrieved from https://plato.stanford.edu/archives/fall2016/entries/dilthey/

Maxwell, J. A. (2012). *Qualitative research design: An interactive approach* (Vol. 41). Sage publications.

McCormick, M. (2001). *Immanuel Kant: Metaphysics*.

Mead, G. H. (1934). *Mind, self and society* (Vol. 111). Chicago University of Chicago Press.

Mingers, J. (2004). Real-izing information systems: critical realism as an underpinning philosophy for information systems. *Information and Organization*, *14*(2), 87–103.

Modell, S., Vinnari, E., & Lukka, K. (2017). On the virtues and vices of combining theories: The case of institutional and actor-network theories in accounting research. *Accounting, Organizations and Society*, *60*, 62–78.

Morgan, G., & Smircich, L. (1980). The case for qualitative research. *Academy of Management Review*, *5*(4), 491–500.

Nelson, R. R., & Winter, S. G. (1982). Evolutionary theory of economic change. *An Evolutionary Theory of Economic Change*, 929–964.

Nelson, R. R., & Winter, S. G. (2002). Evolutionary theorizing in economics. *Journal of Economic Perspectives*, 23–46.

Nelson, R. R., & Winter, S. G. (2009). *An evolutionary theory of economic change*. Harvard University Press.

Niiniluoto, I. (1999). *Critical scientific realism*. Oxford University Press.

Niiniluoto, I., & Saarinen, E. (2002). Nykyajan filosofia. *Helsinki: WSOY*.

North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge university press.

Ormerod, R. (2006). The history and ideas of pragmatism. *Journal of the Operational Research Society*, *57*(8), 892–909.

Packard Jr, M. D., & Clark, B. B. (n.d.). On the Mitigability of Uncertainty and the Choice between Predictive and Non-Predictive Strategy. *Academy of Management Review*, (ja).

Palmer, R. E. (1969). *Hermeneutics*. Northwestern University Press.

Parmigiani, A., & Howard-Grenville, J. (2011). Routines revisited: Exploring the capabilities and practice perspectives. *The Academy of Management Annals*, *5*(1), 413–453.

Peirce, C. S. (1878). How to make our ideas clear. *Popular Science Monthly*, *12*.

Pierris, G. De, & Friedman, M. (2013). *Kant and Hume on Causality in The Stanford Encyclopedia of Philosophy* (Vol. 2018). Vol. 2018. Retrieved from https://plato.stanford.edu/entries/kant-hume-causality/

Popper, K. (1974). Avoin yhteiskunta ja sen viholliset (Englanninkielinen alkuteos: The Open Society and its Enemies, suomentanut Paavo Löppönen). *Kustannusosakeyhtiö Otavan Painolaitokset, Keuruu*.

Popper, K. (1979). *Three worlds*. Ann Arbor,: University of Michigan.

Powell, T. C. (2011). Neurostrategy. *Strategic Management Journal*, *32*(13), 1484–1499.

Powell, W. W., & DiMaggio, P. (1991). The new institutionalism in organizational analysis. *Chicago: University of Chicago*.

Putnam, H. (1981). *Reason, truth and history* (Vol. 3). Cambridge University Press.

Read, S., Sarasvathy, S. D., Dew, N., & Wiltbank, R. (2016). Response to Arend et al: Co-Creating Effectual Entrepreneurship Research. *Academy of Management Review.Published Online before Print October*, *30*, 2015.

Rerup, C., & Feldman, M. S. (2011). Routines as a source of change in organizational schemata: the role of trial-and-error learning. *The Academy of Management Journal*, *54*(3), 577–610.

Rescher, N. (1996). *Process metaphysics: An introduction to process philosophy*. Suny Press.

Rescher, N. (2000). *Process philosophy: A survey of basic issues*. University of Pittsburgh Pre.

Robbins, L. (1932). The Nature and Significance of Economic Science. *The Philosophy of Economics*, 113–140.

Rohlf, M. (2018). *Immanuel Kant in The Stanford Encyclopedia of Philosophy* (Vol. 2018). Vol. 2018. Retrieved from https://seop.illc.uva.nl/entries/kant/

Rorty, R. (1991). *Objectivity, relativism, and truth: philosophical papers* (Vol. 1). Cambridge University Press.

Sarasvathy, S. D. (2001). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. *Academy of Management Review*, *26*(2), 243–263.

Scott, W. R. (1987). The adolescence of institutional theory. *Administrative Science Quarterly*, 493–511.

Scott, W. R. (2008). Approaching adulthood: the maturing of institutional theory. *Theory and Society*, *37*(5), 427–442.

Seibt, J. (2017). *Process philosophy in The Stanford Encyclopedia of Philosophy* (Vol. 2018). Vol. 2018. Retrieved from https://plato.stanford.edu/entries/process-philosophy/

Spicer, A., Alvesson, M., & Kärreman, D. (2009). Critical performativity: The unfinished business of critical management studies. *Human Relations*, *62*(4), 537–560.

Thornton, P. H., Ocasio, W., & Lounsbury, M. (2012). *The institutional logics perspective: A new approach to culture, structure, and process*. Oxford University Press on Demand.

Thornton, S. P. (2004). *Solipsism and the problem of other minds*.

Ulrich, W. (2007). Philosophy for professionals: Towards critical pragmatism. *The Journal of the Operational Research Society*, *58*(8), 1109–1113.

Urban, T. (2015). *The AI Revolution: The Road to Superintelligence* (Vol. 2016). Vol. 2016. Retrieved from https://waitbutwhy.com/2015/01/artificial-intelligence-revolution-1-html

Valtaoja, E. (2012). Kaiken käsikirja. *Tähtitieteellinen Yhdistys Ursa Ry*.

Venkataraman, S., & Sarasvathy, S. D. (2001). *Strategy and entrepreneurship: Outlines of an untold story*.

Volkoff, O., & Strong, D. M. (2013). Critical realism and affordances: Theorizing IT-associated organizational change processes. *Mis Quarterly*, *37*(3), 819–834.

Weick, K. E. (1979). *The Social Psychology of Organizing (Topics in Social Psychology Series)*.

Welch, C., & Piekkari, R. (2017). How should we (not) judge the 'quality'of qualitative research? A re-assessment of current evaluative criteria in International Business. *Journal of World Business*, *52*(5), 714–725.

Welch, C., Piekkari, R., Plakoyiannaki, E., & Paavilainen-Mäntymäki, E. (2011). Theorising from case studies: Towards a pluralist future for international business research. *Journal of International Business Studies*, *42*, 740.

Winter, S. G. (2013). Habit, deliberation, and action: Strengthening the microfoundations of routines and capabilities. *The Academy of Management Perspectives*, *27*(2), 120–137.

Wirén, M. (2018). *Strategizing in the new normal: implications of digitalization for strategizing and uncertainty: philosophical and managerial considerations*.

Woodward, J. (2003). *Making things happen: A causal theory of explanation*.

TURUN YLIOPISTO
Kauppakorkeakoulu

ONTOLOGICAL UNDERPINNINGS IN BUSINESS AND MANAGEMENT RESEARCH

Milla Unkila