Against levels of reality: the method of metaphysics and the argument for dualism

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Abstract

This paper has three objectives: (i) arguing against levels of reality by employing the Lewis-Jackson method for doing metaphysics, also known as the Canberra plan; (ii) showing how this method renders the idea of levels of reality incoherent, but nevertheless leaves the conceptual space open for dualism; (iii) sketching out a concrete proposal for a dualism of mind and matter that relies on normativity and that employs ontic structural realism.

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1.   Against levels of reality: the Canberra plan

Consider how Jackson (1994, p. 25) describes the task of metaphysics:

> Metaphysics, we said, is about what there is and what it is like. But of course it is concerned not with any old shopping list of what there is and what it is like. Metaphysicians seek a comprehensive account of some subject matter – the mind, the semantic, or, most ambitiously, everything – in terms of a limited number of more or less basic notions. In doing this they are following the good example of physicists. The methodology is not that of letting a thousand flowers bloom but rather that of making do with as meagre a diet as possible. … But if metaphysics seeks comprehension in terms of limited ingredients, it is continually going to be faced with the problem of location. Because the ingredients *are* limited, some putative features of the world are not going to appear explicitly in the story. The question then will be whether they, nevertheless, figure implicitly in the story. Serious metaphysics is simultaneously discriminatory and putatively complete, and the combination of these two facts means that there is bound to be a whole range of putative features of our world up for either elimination or location.

This is a paradigmatic statement of what is known as the Canberra plan: metaphysics is ontology, answering the question of what there is in such a way that something is admitted as primitive and that it is then shown how everything else that exists is included in what is endorsed as primitive (location). This implies that the propositions that describe the world in terms of the primitive notions entail all the other true propositions about the world. However, what is primitive does not constitute a fundamental level. There are no levels. There is only one layer of reality that is described in terms of the primitive notions. It is then shown how everything that exists is located in this layer and how its description is entailed by the

description of this lawyer by the primitive notions. If the primitive notions are only physical ones, the result is a position that Shenker (2017) has aptly characterized as "flat physicalism". Hence, this methodology for metaphysics hinges upon the ability to define a precise set of primitive notions: there is no endless way of going down to ever further notions that are primitive relative to other notions.

Let us consider a concrete example of how this can go. What is an ontology that is minimally sufficient to account for our scientific as well as our common sense knowledge about the natural world in the spirit of scientific realism? In Esfeld and Deckert (2017, ch. 1), it is argued that an ontology of the natural world defined in terms of the following two axioms is an answer to this question (one answer, not the only possible answer):

(1) *There are distance relations that individuate simple objects, namely matter points (point particles).*

(2) *The matter points are permanent, with the distances between them changing.*

The reason for singling out the distance relation is that it is the first and foremost candidate for the world-making relation, at least insofar as the natural world is concerned: all and only those objects that stand in a distance to each other make up a world. In other words: distance provides for extension, and extension is generally admitted as being characteristic of the natural world (*res extensa* in Descartes' terms).

If distances are indispensable anyway, one can employ them to individuate the basic objects of which everything else in the physical world is composed: what distinguishes physical objects from one another are their relative positions in the configuration of matter of the universe. No commitment to intrinsic essences is called for; these would not be able to distinguish individual objects anyway. Since the world is not static, but change happens, a second axiom is mandatory that captures change, which then consists in change in the relative distances among the point objects. No commitment to absolute space and time is required: space is the order of what coexists, namely a configuration of matter points individuated by their relative distances; time is the order or measure of change, as Leibniz (1890) maintains, notably in his third and fourth letter to Newton and Clarke. Consequently, the specific notions endorsed as primitive are the ones of matter points, distances and change of the distances. Esfeld and Deckert (2017) provide a detailed account of how one can reconstruct physics – from classical via relativistic to quantum physics, including quantum field theory – on this parsimonious basis, "making do with as meagre a diet as possible" as Jackson puts it. Esfeld (2020, ch. 1) further elaborates on the metaphysical aspects of this view.

Nonetheless, this is just one example of how the Canberra plan can be put to work. Even if it can be argued that these two axioms are sufficient to capture the existing natural science, future progress in science may require going over the metaphysical books. In short, any attempt to implement the Canberra plan depends on the actual science at the time the attempt is made.

Why should one endorse this stance given the scientific knowledge that we have at our disposal? In a nutshell, the argument is this one: consider two possible worlds that agree on the spatio-temporal arrangement of matter, that is, agree on the relative positions of the material objects all the time, that is, throughout all their change. Any such worlds are indiscernible by any scientific means. By the same token, if a theory gets the spatio-temporal arrangement of matter right (that is, the arrangement of fermionic matter according to contemporary physics, as e.g. Bell (1987, p. 175) points out), it has got everything right that

can ever be checked in scientific experiments (see also Maudlin 2019, pp. 49-50). Two theories that agree on the spatio-temporal arrangement of the basic discrete objects cannot be distinguished by any empirical means, whatever else they may otherwise say and disagree on. Agreement in the spatio-temporal arrangement of matter means agreement in the relative distances of objects that are characterized by these distances only. Whatever else a theory may attribute to these objects (such as masses, charges and the like) and whatever else it may pose (such as fields, waves as well as wave functions and the like) is accessible to scientific investigation only in terms of changes in the relative distances among discrete objects with these changes then being conceptualized in terms of attributing masses, charges, wave functions, etc. to these objects. However, reifying these magnitudes to something that the objects possess in and of themselves over and above standing in relations of relative distances that individuate them runs into the type of objection that Leibniz addresses to Newton against absolute space and time, namely the commitment to a surplus structure in the ontology that leads to differences in possible worlds that make no empirical difference and hence no difference that can be investigated by any scientific means.

Hall (2009, § 5.2) makes this point in the following way:

> … the primary aim of physics – its first order business, as it were – is to account for *motions*, or more generally for change of spatial configurations of things over time. Put another way, there is one Fundamental Why-Question for physics: Why are things located where they are, when they are? In trying to answer this question, physics can of course introduce *new* physical magnitudes …

This suggests that the new physical magnitudes – that is, all the variables beyond the primitive variable of relative positions – can be introduced in terms of the role that they play for the change in the relative positions of the discrete physical objects. In other words, all there is to them is their function in the account of the evolution of the relative positions of objects that a theory formulates. This means that these variables are located in the motion of the objects instead of being something over and above relative positions and their change. To put it differently, propositions that employ terms such as "mass", "charge", etc. are true. However, their truthmaker is not an intrinsic mass or charge, etc. that objects have over and above relative positions; their truthmaker is the way in which the objects move, that is, the overall change in their relative positions. To put it in a nutshell, some objects are electrons – that is, have negative charge – because they move electronwise, that is, behave like electrons.

This stance has become known as *Super-Humeanism* (see Esfeld and Deckert 2017, ch. 2.3, and Esfeld 2020, ch. 2). It goes beyond the Humean metaphysics set out, for instance, in Lewis (1986, introduction) in that it defines the Humean mosaic only in terms of distance relations that individuate simple objects. Hence, instead of the natural, intrinsic properties that Lewis poses, there is only one natural relation that is the world-making relation and that individuates the objects. The stock objections against Lewis's Humean metaphysics from quidditism and humility are thus avoided, because there are no natural, categorical properties.

Indeed, functionalism is the solution to the problem of location (or placement, to use the term of Price 2004). The ontology is in any case given by the notions that are admitted as primitive – in the case at hand, the notions of "matter points", "distances" and "change of distances". One then defines everything else in terms of its function in the sense of the role that it plays for that change. That functional role is realized by the ontology as defined by the

primitive notions. Consequently, everything else is thereby located in that ontology and its description is entailed by that ontology, given the functional definitions.

Let us review some stock examples to illustrate this method. Consider water. As we know from scientific investigation, there is no primitive water stuff in the world. Science superseded the ancient view of the four elements earth, water, air and fire. But, of course, there is water in the world: there are things in the world that fulfil the functional role of appearing odourless, colourless, being thirst-quenching through the change in the motion of the parts of our bodies that they bring about. These are configurations of H_2O molecules. Thus, by defining water in terms of its thirst-quenching role – that is, its role for certain motions in our bodies –, we locate water in the ontology of particles that move: certain particle configurations, moving in certain characteristic ways, *are* water.

By the same token, there is no *élan vital*, no *sui generis* life stuff or causal power; but there are organisms in the world. The functional role that defines what it is to be alive in terms of certain characteristic motions such as reproduction and adaptation to the environment is realized by certain configurations of molecules, as we know since the advent of molecular biology in the 20th century. Again, this means that certain particle configurations, moving in certain particular ways, *are* organisms. Life thus is located in certain particle configurations.

Furthermore, according to physicalism, there are no *sui generis* minds; but there are mental states defined by certain functional roles, which in the end are functional roles for the behaviour and thus the bodily motions of persons, realized by certain neuronal configurations. This functionalist stance goes back to Lewis (1966) and has been forcefully argued for by Kim (1998) and others. Again, this means that certain particle configurations – in this case, certain neuronal configurations –, moving in certain particular ways, *are* minds.

The point of Super-Humeanism is to apply this method of location via functional definitions not only to the objects of the special sciences, but already within physics. Consider gravitation: the motion of the objects in the world manifests some salient patterns or regularities. Arguably the most striking of these patterns is mutual attraction. This pattern applies everywhere and at every scale in the universe, from atoms to apples falling from trees and to planetary motion, such as the motion of the Earth around the Sun. This stable pattern enables us to introduce the notion of gravitational mass in order to represent this regular motion: gravitational mass is defined in terms of its function for particle motion, namely the role of mutual attraction. Already Mach, for instance, brings this functional definition of mass out in his *Science of mechanics* when saying that "The true definition of mass can be deduced only from the dynamical relations of bodies" (Mach 1919, p. 241). Russell (1912) makes the same point in his famous paper on the notion of causation.

All the evidence that we have are the dynamical relations of bodies – that is, their motions; these relations manifest certain stable patterns, such as attractive motion. To represent these patterns in a theory, physicists introduce various parameters that are defined by their function for the particle motion. These may be parameters that are attributed to the individual objects and that remain fixed, such as mass, charge, spin, etc., parameters that evolve in time such as energy or a wave function, etc. as well as constants of nature. In short, on Super-Humeanism, not only the laws, but also the dynamical parameters that a theory employs over and above the primitive parameter of relative positions as well as the geometry of space-time come in as a package in order to accomplish the best system – that is, a representation of the motion of matter that strikes the best balance between being simple and being informative.

Lewis (1986, introduction) employs the notion of supervenience: Humean supervenience is the claim that everything else supervenes on the Humean mosaic of matter in motion as defined by the primitive notions. On Super-Humeanism, this is the configuration of point particles of the universe that are individuated by their relative distances and the change in distances. However, for Lewis and Jackson, supervenience means identity as well as *a priori* entailment of the propositions describing everything else by the propositions that describe the world in terms of the primitive notions, given functional definitions of everything else. This is what the analytic, reductive functionalism that is set out in Lewis (1966, 1970, 1972) amounts to. It is therefore recommendable to stick to the notion of identity, because it is simple and clear, and to the method of location through functional definitions, because it is precise.

Identity is symmetrical, whereas supervenience is not. If, for instance, certain particle configurations are identical with the water that there is in the universe by playing the water role against normal background conditions, then the water that there is in the universe is identical with certain particular particle configurations. Nonetheless, despite being symmetrical, this identity amounts to an ontological reduction, which is not symmetrical: everything is particles and their configurations (that is, reduced to particles and their configurations), whereas only some specific particle configurations are water, organisms, etc. Hence, the notion of identity is clear and simple and, yet, does the service for which it is employed here: it expresses how everything else is located in what is described by the primitive notions of there being point particles individuated by relative distances and the change in these distances.

In the current literature, the notion of supervenience is often replaced with the one of grounding (see e.g. the essays in Correia and Schnieder 2012). Applied to our context, grounding is to say that the configuration of matter as defined by relative distances individuating point particles and their change grounds everything else in the sense that it is a sufficient condition for everything else. However, grounding is not identity. The concept of grounding expresses a correlation between something that is designated as fundamental and all the rest and accords ontological priority to what is designated as fundamental. But this correlation, however robust it may be, remains a brute fact. Grounding does not explain anything. By contrast, the method of location via functional definitions yields an explanation: providing a functional definition of something and on that basis showing how that something is realized by what is admitted as primitive as described by the primitive notions answers the question why there is that something and how it comes in given what is admitted as primitive. To come back to one of the stock examples, saying that water is grounded in H_2O molecules does not answer the question why there is water. Providing a functional definition and on that basis showing how H_2O molecules realize the water role in the world so that they are identical with water explains why there is water.

This, then, is the argument against levels of reality: locating everything else in an ontology defined by a minimal set of primitive notions explains everything else by showing how it is identical with something in that ontology. If one renounces on identity as embedded in this conception of location through functional definitions, one is left with brute correlations among a basic level of reality and higher levels of reality, whatever notions one may employ to designate that basic level as fundamental (supervenience, grounding, etc.).

That notwithstanding, there are obviously new features coming up in the evolution of the universe, that is, features that are limited to specific places and times, such as the formation of

water molecules, or the development of organisms, etc. and that are in this sense emergent features of the universe. However, in science, these features are explained in terms of the dynamical laws that apply everywhere in the universe plus special initial conditions, which, again, are special initial conditions of the universe in the last resort. For instance, what is known as the past hypothesis, stating that the initial particle configuration of the universe is one that implements a very low entropy, is crucial in order to give a scientific explanation of why organisms evolve at certain times and places in the universe. More precisely, such a scientific explanation tells us why particle configurations evolve that realize organisms, etc., and the method of location via functional definitions tells us why these configurations are organisms, etc. Hence, they are not new ontological features of the universe: by means of such an explanation, they are located in the particle configuration and its evolution. Thus, far from being opposed to reduction, emergent features in the sense of new features coming up in the evolution of the universe just are the object to which the methodology of location through functional definitions is designed to apply in the first place (although it applies also already to universal physical features such as mass and charge).

2.   The methodology of the Canberra plan beyond the natural sciences

The Canberra plan provides a clear roadmap for both ontology and epistemology. As regards ontology, the task is to set out the ontology in terms of a few notions that are admitted as primitive and then to show how the ontology thus defined includes everything, because all the things that are not described explicitly by the primitive notions are located in that ontology through functional definitions. As regards epistemology, all further notions apart from the primitive ones that define the ontology come in through a definition in terms of a functional role for the behaviour of what is described by the primitive notions. In general, given the description of the world in terms of the primitive notions and such functional definitions of everything else, the propositions describing everything else are entailed by the propositions that describe the world in terms of the primitive notions. The multiple realizability of functional roles does not infringe upon these entailment relations: the issue are sufficient physical conditions, defined in terms of the primitive notions, for these roles to be realized, never necessary and sufficient conditions and thus never biconditionals; this is made clear, for instance, in Chalmers (1996, pp. 42-51) on reductionist explanations, in Esfeld and Sachse (2011, ch. 5) on conservative reductionism and in Hemmo and Shenker (2015) on the emergence of macroscopic regularity.

Thus, on the proposal sketched out in the preceding section, everything in the physical world is identical with a configuration of matter points that is characterized only by the relative distances among the matter points and the change in these distances. Consequently, "matter points", "distances" and "change of distances" are the primitive notions employed to describe the world. The task then is to find out which configurations of matter points are water, genes, organisms, etc. given functional definitions of these things in terms of the role that they play for the motion of matter, that is, in the last resort, the evolution of the distance relations among the matter points.

The Canberra plan can obviously be applied beyond the domain of the natural sciences. The crucial issue is the functional definition of the relevant concepts in terms of their functional role for, in the last resort, particle motion. Consider mental concepts: there is no question any more today of behaviourism, that is, of defining mental concepts directly in terms of a role for

the bodily motions of persons. Nonetheless, functionalism in the philosophy of mind is the successor of behaviourism, as pointed out, for instance, by Lewis (1966, section III). The functional definition of each single mental concept can include other mental concepts; but in the end, the functional definition of the whole cluster of mental concepts is one in terms of their causal role for the behaviour of the person, that is, for the change in the relative positions of the particles making up the person's body and its environment.

This is just a matter of definition. One can simply stipulate that everything else be defined in terms of a causal role for, in the last resort, particle motion. The crucial issue is whether such a definition is convincing, that is, whether it captures the being or the essence of the targeted things. There is no such debate as far as physical dynamical parameters such as mass, charge, etc. are concerned: they are introduced in physics in terms of the role that they play for the particle motion. Generally speaking, functional definitions of this kind are undisputed in the natural sciences. It would be odd, for instance, to postulate a heat stuff to account for thermodynamical phenomena, since these can be defined functionally in terms of changes in molecular motion. By the same token, it would be odd to postulate an essence of water over and above interacting H_2O molecules, or an *élan vital* to capture organisms and their reproduction. Since the advent of molecular biology, the evolution of organisms and their reproduction can be accounted for in terms of molecular biology so that functional definitions in terms of causal roles for, in the last resort, particle motion are vindicated. There is no explanatory gap here between descriptions in terms of molecular motion and descriptions in terms of heat, water, genes, etc.

However, there is a debate when it comes to the mind. One can doubt that functional definitions seize the qualitative aspects of conscious experience (so called qualia, giving rise to what is known as the hard problem of consciousness). Furthermore, one can doubt whether functional definitions in terms of causal roles for, in the last resort, behaviour and thus particle motion capture the rational side of the mind, which includes thoughts, intentions to act and in general deliberations about what one should think and do.

The Canberra plan remains silent on the question as to what extent such functional definitions are successful. It limits itself to setting out a clear methodology for metaphysics or ontology: first, one expresses the ontology in terms of a minimal set of notions that are endorsed as primitive – such as "matter points", "distances" and "change of distances" on the proposal discussed in the preceding section. Accordingly, the ontology endorsed as primitive – that is, as not derived from anything else – then is the one of matter points individuated by the distances among them and the change of these distances. As regards everything else that does not figure explicitly in this ontology, there then are the following three possibilities:

- *Location* in the ontology through functional definitions in terms of a role that is realized in the ontology as defined by the primitive notions. This applies to everything in the domain of the natural sciences.
- *Elimination*: The thing in question does in fact not exist. For instance, it would be futile to seek to locate witches in the ontology, because there are no witches. It is an error to think that certain things (people for that matter) are witches.
- *Further primitives*: If something can neither be located in the ontology as defined by the primitive notions, because a functional definition of it in terms of a role for the behaviour of that ontology does not seize its being or essence, nor be eliminated, because there is

overwhelming evidence of its existence, then that something has to be admitted as a further primitive. Hence, the ontology originally posed as primitive has to be enlarged.

The reasoning is this one: for everything that is a candidate for something real, the thing in question either exists, or it does not exist. If it exists, it either belongs to the ontology as described by the primitive notions, or it is derived from the ontology thus described. Hence, if one is committed to the existence of something without being able to derive it from the ontology as defined by the primitive notions, one has to enlarge the ontology so that it includes this thing as a further primitive.

The latter is at issue when it comes to the mind. If one has reservations about functional definitions in terms of a causal role for behaviour and shrinks back from going for elimination, then one has to endorse further primitives in the ontology when it comes to the mind. Thus, for instance, in the metaphysics that Chalmers (2012) proposes within the methodology of the Canberra plan, he endorses conscious experience as a further primitive beyond the physical ones. It is irrelevant here whether consciousness occurs only at certain places or times. If it exists and cannot be located in what is accepted as primitive, there is no other possibility but to endorse it as a further primitive in the ontology, however rare or abundant its occurrence in the universe may be.

This does not mean that consciousness (or whatever else may be endorsed as further primitive) constitutes a new level of reality with respect to a level of the world that is described by natural science. It just means that there are more primitives in the ontology than the ones admitted by natural science. Of course, one then has to spell out the relationship between these primitives. Employing the notion of levels of reality suggests that this work has been done, while in fact nothing in that respect has been achieved by employing this notion. The same goes for the notion of emergence: it suggests that something has been understood or even explained, while, in fact, no understanding or explanation has been provided. In particular, there is no point in seeking to avoid the debate about further primitives when it comes to the mind by employing a confused notion of emergence – that is, a notion that takes emergence to be opposed to reduction, but bases itself on the trivial sense of the emergence of new features at specific places and times in the universe. The confusion then lies in the suggestion that there can be the emergence of something within a naturalized, physicalist ontology without that something being located in the ontology as defined by the notions that are endorsed as primitive in a physicalist ontology.

3.   Normative functionalism and the ontology of the mind

There are two types of challenges when it comes to the mind: the challenge from conscious experience concerns features of which it is claimed that they do not admit of a functional definition (so called qualia). If this is so, they have to be accepted as primitive: being intrinsic, qualitative features, there is no means available to locate them in an ontology in which they do not figure explicitly in the primitive notions that define the ontology. The challenge from rationality, by contrast, is of another type: there is no question of rationality consisting in qualitative, intrinsic features. The features characterizing rationality admit of functional definitions. But the challenge is that functional definitions in terms of roles for, finally, behaviour and thus the motion of matter are not the correct functional definitions when it comes to the mind, because they miss the normativity that characterizes rationality.

Indeed, the causal role functionalism that allows for the location of everything in the domain of the natural sciences in a primitive ontology of matter in motion is to be contrasted with a normative functionalism according to which the functional definition of mental concepts – insofar as these admit of a functional definition – is an affair of indicating their role in a normative network of justifications, that is, giving and asking for reasons. That normative network constitutes a realm of its own. It is related to behaviour through actions. But the point is that actions are not reducible to behaviour due to the normativity that they involve. Let us assume, at least for the sake of the argument, that this normative functionalism has a point and let us investigate its consequences for the ontology of the mind in the methodology given by the Canberra plan. In other words, let us consider what a dualism without levels can look like.

Normative functionalism was developed even earlier than the causal role functionalism that is standard today, namely by Sellars (1956) in his masterpiece "Empiricism and the philosophy of mind". Sellars (1956) is in the first place concerned with justification. He claims that (a) only something that has itself an epistemic status can justify something that has an epistemic status and that (b) nothing that is given to the mind has as such an epistemic status. The latter idea is what Sellars dismisses as the "myth of the given". Abandoning this myth implies that nothing that the mind of a person takes in from whatever external source can as such justify anything. Thus, for instance, sense impressions, construed as the effects of interactions of a person with the physical environment, cannot, qua being the result of physical *causal* processes, *justify* the beliefs of a person. By the same token, supposedly innate ideas – or ideas entering the mind through a causal relationship with God or a Platonic realm of ideas viz. Popper's world 3 –, cannot as such justify anything. The reason is that, with respect to whatever is given to her mind, the person has to take the attitude of endorsing what is given as a reliable source of knowledge in the circumstances at hand. Only thereby does she confer to it an epistemic status. Nothing comes as such with this status; it acquires this status by the way in which persons use it to form beliefs.

Taking something given as a reliable source of knowledge in the circumstances at hand is a holistic affair. It amounts to forming a belief that is linked up with other beliefs in such a way that the result is an overall coherent system of beliefs. Forming beliefs on the basis of what is given to the mind consists in navigating in what Sellars (1956) calls "the space of reasons". The system of beliefs is in continuous evolution, as new items enter that require adaptations within the system of beliefs to maintain its overall coherence. This system can therefore be related to what Quine (1951) calls "the web of belief" and the procedure of adapting that web set out in his "Two dogmas of empiricism". Rejecting the myth of the given therefore leads to a holism of confirmation and justification in the guise of a coherence theory of knowledge, whereby coherence is the overall coherence with respect to the evidence received from external sources – in other words, the overall system that best explains this evidence.

Moreover, this is a social holism. When a person forms a belief – and be it a simple belief about everyday matters of fact –, she employs at least one concept. She thereby follows a rule that fixes what is correct and what is incorrect in applying the concept. In other words, the rule tells her how she *should* apply the concept. Furthermore, she follows a rule only if she is aware of her employing a concept being subject to a differentiation between correct and incorrect. This is what distinguishes rule-following from mere regularities of behaviour, and this the reason why beliefs are subject to a justification. Rule-following as necessary and

sufficient condition for mastering concepts has been worked out notably by Wittgenstein in the *Philosophical Investigations* (1953, §§ 138-242) and the interpretation of Wittgenstein by Kripke (1982). Wittgenstein's argument is that only social interactions enable a person to distinguish between following a rule correctly and failing to do so. Only the interaction with others creates a distinction between what a person considers to be correct and what is correct in the eyes of others (see in particular Wittgenstein 1953, § 202). That is why a social theory of meaning goes together with a normative theory of meaning (and *vice versa*): the view is that social, normative practices – and only they – determine meaning.

Brandom (1994, part one) spells this view out in terms of meaning being constituted by normative practices of commitment, entitlement and precluded entitlement. For instance, if under appropriate circumstances, a person utters the statement "The animal over there in the water is a whale", she thereby is committed to statements such as "The animal over there in the water is a mammal", she is entitled to statements such as "The animal over there in the water is huge" and she is precluded from being entitled to statements such as "The animal over there in the water is a fish". The meaning of the concept "whale" thus consists in the inferences that its use licences according to the norms of commitment, entitlement and precluded entitlement that are endorsed in a community. Accordingly, Sellars (1956, § 36) defines knowledge through its normative status:

> … in characterizing an episode or a state as that of *knowing*, we are not giving an empirical description of that episode or state; we are placing it in the logical space of reasons, of justifying and being able to justify what one says.

In sum, the rejection of what Sellars (1956) denounces as the "myth of the given" leads to a justificatory, semantic and social holism in the guise of a social, normative theory of meaning.

Dismissing the myth of the given implies freedom of belief. Given the sensory input from the world – and whatever other input –, a person has to make up her mind as to what to believe. Kant already brought this point out by saying

> If an appearance is given to us, we are still completely free as to how we want to judge things from it. (Prolegomena § 13, note III; quoted from the translation Kant 2002, p. 85)

This quotation implies that freedom including the free will of persons concerns not only actions, but also and already beliefs. A person has to make up her mind not only as far as her actions are concerned, but also as far as her beliefs are concerned, and be it beliefs about simple everyday matters of fact. She deliberates about beliefs in the same way as about actions.

The connection between freedom in belief and freedom in action is also brought out by McDowell when he describes what it would take for a wolf to entertain beliefs:

> A rational wolf would be able to let his mind roam over possibilities of behaviour other than what comes naturally to wolves. … [This] reflects a deep connection between reason and freedom: we cannot make sense of a creature's acquiring reason unless it has genuinely alternative possibilities of action, over which its thought can play. … An ability to conceptualize the world must include the ability to conceptualize the thinker's own place in the world; and to find the latter ability intelligible, we need to make room not only for conceptual states that aim to represent how the world anyway is, but also for conceptual states that issue in interventions directed towards making the world conform to their content. A possessor of *logos* cannot be just a knower, but must be an agent too; and we cannot make sense of *logos* as manifesting itself in agency without seeing it as selecting between options … This is to represent freedom of action

as inextricably connected with a freedom that is essential to conceptual thought. (McDowell 1995, § 3)

Freedom in belief thus goes together with freedom in action and *vice versa*. Failing to acknowledge either one of them would be an instance of falling victim to the myth of the given. Deliberation concerns beliefs in the same way as actions. As actions are not imposed on persons by given biological needs and desires, so beliefs are not imposed on them by given sense impressions. The question is "What should I believe?" in the same way as "What should I do?". With this freedom come in norms as the guides for beliefs and actions and thereby also justifications for the beliefs as well as the actions that a person adopts. That is why abandoning the myth of the given has a bearing on ontology: it brings out the freedom of persons both in employing concepts and in deciding how to act.

This freedom implies that persons cannot be located in the ontology of the natural domain. Any scientific theory including natural science as a whole – the scientific image in the terms of Sellars (1962) – is itself conceived, endorsed and justified in the normative web of giving and asking for reasons. When navigating in this web, a person has to presuppose the freedom to make up her mind about what to think and to do as primitive: any belief that she forms, any theory that she adopts is set up by her in exercising this freedom; taking it to be imposed on her from the outside would amount to falling back into the myth of the given.

Hence, one cannot claim that the matter in motion in the world imposes the theory that everything is matter in motion on us, because the theory itself is nothing but a configuration of the matter in motion in the sense that it is nothing beyond the beliefs that persons have, and these are realized by and thus identical with certain particle configurations in their brains. The reason is, again, that any such claim is itself conceived, endorsed and justified in the normative web of giving and asking for reasons. Taking it to be imposed on us by the matter in motion in the world would be an instance of the myth of the given.

Rejecting the myth of the given thereby leads to an argument for persons being ontologically primitive: persons have to take decisions and thus to answer the question what they should do, including which beliefs and theories they should accept. Consequently, normativity is presupposed for the very formulation of a scientific theory. The referents of the theory – whatever the theory poses as existing in the world – cannot impose the acceptance of the theory on persons and justify it. In that sense – as the beings that formulate and justify theories in normative practices of giving and asking for reasons –, persons are primitive: whatever the theory is, persons have to conceive, endorse and justify the theory in question. Consequently, insofar as they formulate scientific theories and the scientific image as a whole, persons cannot be located or placed within what science poses as existing. One may go as far as to say that claiming that the scientific image includes persons as being located in its ontological primitives comes close to a performative contradiction: the content of the claim that everything is matter in motion contradicts its performance as *claim* that is situated in the normative web of giving and asking for reasons in which persons are primitive.

According to the method of metaphysics as set out in the quotation by Jackson at the beginning of this paper (the Canberra plan), there is a close link between epistemology and ontology: if, in the case at hand, the functional reduction of normative notions to the primitive physical notions fails, then not only have the normative notions to be recognized as irreducible and thus epistemologically primitive – that is, they have to be admitted as further primitive notions over and above the physical ones –, but also their referents have to be

endorsed as ontological primitives, since they then cannot be located in the primitive physical entities. That is why epistemological irreducibility implies ontological irreducibility. In other words, there is no third way between either eliminating something or subscribing to an ontological commitment to it. On the Canberra plan, this either is a commitment to that something as ontologically primitive or comes with the obligation to establish how that something is located in what one admits as ontologically primitive by showing how its description can be reduced to a description in terms of the notions originally admitted as primitive. If such a reduction fails for principled reasons, both the notions in question and the entities they refer to have to be admitted as further primitives.

If persons as characterized by the normative attitudes that they adopt to one another are ontologically primitive, they can indeed be conceived in the same way as matter in motion on the proposal sketched out in the first section: both matter and persons are points that are structurally individuated through the relations in which they stand. Matter points are individuated by their position in a web of distance relations. Persons or mind points are individuated by their position in a normative web of rights and obligations, commitments, entitlements and precluded entitlements that concerns beliefs as well as actions. As all there is to the matter points are the distance relations in which they stand, so all there is to the mind points are the normative relations into which persons enter through deliberating about what they should think and do. Hence, neither matter nor minds are characterized by any intrinsic features. The resulting view is a dualism, but not a dualism of any intrinsic features that distinguish minds from matter.

Both the distance relations and the normative relations are in continuous change. The normative relations change through every move that a person makes in her thoughts and actions. As the continuous change in the distance relations provides for an intertemporal identity of the matter points through the trajectories that they thereby trace out, so the continuous change in the normative relations provides for an intertemporal identity of the persons qua mind points.

The difference between matter points and persons or mind points lies in the difference in the relations that individuate them: distances that exist as a matter of fact versus norms that come into being through certain configurations of matter in motion adopting to themselves and others the attitude of taking themselves and the others to be situated in a web of rights and obligations. In adopting such an attitude, certain particle configurations create themselves as persons: in doing so – and only in doing so – are they persons. This difference in the relations implies that the normative relations only exist as long as persons continue to exist by adopting these attitudes. More precisely, the distance relations that characterize and individuate material objects are accessible from a third person perspective, that is, the point of view from nowhere and nowhen that characterizes science. They exist as a matter of fact independently of whether or not anyone conceptualizes them. By contrast, the normative relations that individuate persons qua mind points are accessible only from within participating in the practices that determine them, as pointed out, for instance, by Sellars (1962, section VII). This follows from the characterization of being a person through adopting a normative attitude towards oneself and others: to access the norms that are determined by these attitudes, one has to adopt this attitude towards the beings in question and thereby to participate in the normative practices in question, thus contributing to shaping these norms.

That notwithstanding, there are sufficient physical conditions for persons to come into being. The ability to engage in social, normative practices is located in and thus identical with certain particle configurations. One can formulate a biological explanation of this ability in terms of the enhancement of fitness that cooperation between humans provides (see, for instance, Tomasello 2014). Nonetheless, once these practices come into being, the norms that are determined in them are not located in the sphere of facts. They are not further facts in the world. They exist, as the matter in motion exists; but they are accessible only from within participating in these practices and thereby contributing to shape them. There is no perspective from nowhere and nowhere available to access these practices.

Hence, the difference between persons and matter in motion, between mind points and matter points, is not one in existence or truth conditions. Existence and truth are unequivocal. Either something exists or it does not exist. Either a proposition is true, or it is not true. The difference is one of accessibility: without contributing to shape them in the case of taking note of facts in contrast to accessing norms only by contributing to determine what they are in adopting the attitude of treating oneself and others as persons.

Consequently, we face the problem of how to bring science and what characterizes us as persons together not because our perspective or our knowledge is somehow limited. We can formulate scientific theories that apply to the universe as a whole from a perspective of nowhere and nowhen. Cosmology always did so and continues to do so. These theories (or some successors of them) may be true. The point at issue is that any theory, including a theory of the universe as a whole construed from the point of view of nowhere and nowhen, can be formulated only from within participating in social, normative practices that determine its content. There is no other possibility for a theory or a whole image of the world, whatever its content may be, to be conceived, endorsed and justified. This, then, amounts to an argument to the conclusion that insofar as persons formulate theories, they are ontologically primitive: they cannot be located in anything else that a theory poses as primitive, for posing that something presupposes persons as those beings who conceptualize, endorse and justify the theory in question in their practices of giving and asking for reasons.

However, there is no question here of levels of reality. Quite to the contrary, one blurs the distinction between matter in motion and persons if one talks in terms of different levels of reality on which these are situated. There are not different levels of matters of fact, properties, or objects. Both matter and persons have to be endorsed as primitive, as the method of metaphysics demanded by the Canberra plan brings out (if indeed persons can neither be eliminated nor located in an ontology defined by the primitive notions that characterize matter in motion). But the difference between them is not a difference between levels of reality; it is the difference between facts and norms.

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