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Pluralism in Economics and the Question of Ontological Pluralism

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# Pluralism in Economics and the Question of Ontological Pluralism

Imko Meyenburg\*

**Abstract** Within the economic literature on pluralism, much attention is given to methodological pluralism but rarely can something be found on ontological pluralism. This paper discusses possible conceptualisations of ontological pluralism by Tony Lawson, Matti Eklund, Kris McDaniel and Jason Turner. After a critical review of the former two, it is concluded that ontological pluralism is best defined as the view that there are different ways of being, and that the analysis of semantic characteristics of ontological questions and statements is essential.

Keywords: pluralism, ontology, semantics, epistemology

JEL classification: B50, B59

## 1 Introduction

Much has been written about pluralism in the contemporary heterodox, economic literature in the past decades, ranging over definitions of pluralism, its necessity and its application. Especially on the methodological level, a number of like-minded economists are engaging in the quest for pluralism in economics (Caldwell, 1982, 1997; Dow, 1997, 2000, 2004, 2007, 2008, 2014; Garnett, 2006, 2011; Lee, 2011a; b; Mäki, 1997; Negru

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and Bigo, 2008; Negru, 2009, 2010; Samuels, 1997a; b, 1998). Moreover, this campaign is no longer a mere scholastic endeavour, but is now also being joined by motivated, and disappointed with their current curriculum, students from all over the world, as evidenced by media coverage and the formation of pluralistic university societies<sup>1</sup>.

However, despite the students' demand for curriculum change and the scholastic focus on methodological pluralism, with little engagement in what can be called epistemological pluralism (see, for instance, Dow, 2007), there is almost nothing to be found when it comes to ontological pluralism. This comes as a surprise considering the emphasis Chick and Dow (Chick and Dow, 2005) or Lawson (2003, 2004, 2013; Hirsch and DesRoches, 2009) place on ontology in economics. As a result it remains unclear what ontological pluralism is, whether there is a meaningful definition for it, and how it can be, or whether it should be, brought into the general discourse on pluralism.

This paper introduces thoughts on ontological pluralism to stimulate further debate in the wider discourse of pluralism in economics. The aim is to 'thicken' otherwise shallow contributions to ontological pluralism in the heterodox economic literature. Specifically, it will critically discuss contributions by Lawson (2009) and Dow (1997) in section two, before introducing the meta-methodological literature on ontological pluralism by Eklund (2008, 2009), in section three, and McDaniel (2009, 2010a; b, 2013b; a, 2014) and Turner (2010, 2012), in section four, before the latter conceptualisation is chosen and some non-trivial consequences for economics are sketched out in section five.

## **2. Dow and Lawson: a first confusion in ontological pluralism**

Little is said in the pluralist literature about what ontological pluralism could mean. The only times it is even briefly mentioned are by Sheila Dow (1997) and Tony Lawson (2009). Despite their substantive writings on ontology in general, especially by the latter, they seem to care little for ontological pluralism, or have yet to formulate their thoughts in more detail. Dow (1997, p.91) makes reference to ontological pluralism by explaining that “pluralism at the ontological level involves the belief that reality constitutes a plurality of entities (...) In its pure form ontological pluralism denies the existence of unifying forces in nature” equating it with postmodernism. While the former part seems self-explanatory, she certainly owes further clarification when it comes to the latter association. Why ontological pluralism should be equated with postmodernism and the

absence of a uniting force in nature remains unjustified.

Lawson (2009, p.118) delivers little more, both in quantity and quality, when he writes that

ontological pluralism, on one conception, designates the claim that multiple non-overlapping worlds exist (...) [OP1]. A second notion of ontological pluralism has it that our one reality contains an (at least synchronically) irreducible multiplicity of constituents [OP2].

Beside the similarities with Dow's (1997) and his second definition, he also does not further elaborate on these two definitions, obviously due to the fact that he concentrates on a discussion with Davis (2006) about what heterodox economics constitutes. However, ontological pluralism remains unmentioned when he is conceptualising his social ontology later (Lawson, 2004).

There is some evidence that Dow (see, for instance, Chick and Dow, 2005) and Lawson (see, for instance, 2004, 2013) tend to favour the second category [OP2]. In their ideas of open-system ontology, they make frequent references to a complex nature of reality with the existence of emergent, irreducible constituents. While Lawson remains silent on his first definition, Dow (1997) openly opposes the existence of multiple worlds, and with Mäki (1997, p.40) she has an ally in dismissing the first category by arguing that “a plurality of theories does not imply a plurality of worlds”. With regard to this discussion, Kellert, Longino and Waters (2006) generally conclude that where pluralism of perspectives is applied or mentioned, it seldom refers to multiple worlds. Therefore, a multiplicity of (theoretical) perspectives does not imply a multiplicity of worlds. The idea of multiple worlds, however, is made prominent by Lewis (1986) in modal logic, but has not been seriously implemented in economics.

However, both Dow's (1997) and especially Lawson's (2009) definitions remain intellectually unsatisfying for at least two reasons<sup>2</sup>. First, both ontologies fail to deliver a thicker conception of ontology; they just provide a description of what there is. A thick ontology, according to Heidegger (2010, p.10), must engage in meta-ontological inquiry and also clarify “the meaning of being”. In other words, a meta-ontological inquiry asks “are there objective answers to the basic question of ontology”, i.e. “what exists” (Chalmers, 2009, p.77). Hence, while Dow's (1997) and Lawson's (2009) definitions of ontological pluralism cover the ontological question of what there is, they do not provide

a discussion about the meaning of being itself<sup>3</sup>. The provision of a list of all things there are, no matter how complicated, complex, irreducible or whatever they may be, cannot answer the question of being itself (McDaniel, 2009).

In some sense, this point is similar to Dow's (2008) criticism of some positions of methodological pluralism, where she says they are essentially monist by excluding other methodologies based upon specific ontological requirements. She argues that “the argument is being put forward, particularly by critical realists (Lawson, “Reorienting, a”; Lewis) that a pluralist methodology is the best approach to knowledge, is an apparently monist argument at the meta-methodological level” (Dow, 2008, p.86), because pluralism at the meta-methodological level “entails recognition that there might legitimately be other methodological approaches, which is not inconsistent with arguing forcibly for one's own preferred methodology” (Dow, 2008, p.76). Similarly, it seems that their idea of ontological pluralism stems from their own ontological commitment, i.e. open-system ontologies, and the lack of meta-ontological considerations, which may be required for a formulation of ontological pluralism.

Secondly, granting these two concepts of ontological pluralism some validity will cause serious confusion. This confusion arises through the combination of both definitions of ontological pluralism, as they are not mutually exclusive, and contrasting them with their counterparts, ontological monism. The inclusiveness of OP1 and OP2 is obvious, as one can perfectly hold that there is an infinite number of non-overlapping worlds, of which each is complex and has a multiplicity of irreducible constituents. Now, the ontological monist opposition to OP1 is the denial of the existence of multiple worlds [OM1], while the ontological monist opposition to OP2 is the denial of the world being complicated, complex, having a multiplicity of irreducible constituents [OM2], i.e. some kind of radical reductionism. This leaves us with some interesting consequences. The inclusive position would make someone an ontological pluralist pluralist, while Dow (1997), denying the existence of multiple worlds [OM1] but promoting an open-system ontology [OP2] (Chick and Dow, 2005), would be an ontological monist pluralist. Mäki (1997) would fall under OM1, while it remains unclear but likely that he holds OP2, and Lawson (2004) holds OP2, while it is unclear whether he accepts OP1 or OM1. Finally, someone who believes in multiple but reducible worlds would be an ontological pluralist monist.

This muddle is most dissatisfying, to say the least, and without clarification of the

authors discussed we are unable to make further judgements about their meta-ontological commitments or thoughts. Hence, finding a different way to conceptualise ontological pluralism is suggested, namely a meta-methodological inquiry into the semantics of ontological statements, or the question of what are we saying when we say 'something is' (Imwagen, 1998).

### **3. Matti Eklund: the danger of ontological relativism**

With the ontological positions by Dow (1997; Chick and Dow, 2005) and Lawson (2009, 2004) not addressing such meta-ontological questions, it is necessary to extend one's search beyond the pluralist or heterodox economic literature. Matti Eklund (2008, 2009) provides a first definition of ontological pluralism based upon an analysis of works by Eli Hirsch (2002, 2005, 2007, 2008) and Hilary Putnam (1981, 1982, 1987b; a, 1995), two contemporary philosophers in the tradition of Carnap's (1950) denial of the importance of ontology. He summarises ontological pluralism as

a number of different languages we could speak, such that (a) different existence sentences come out true in these languages, due to the fact that ontological expressions (counterparts of 'there is', 'exist', etc.) in these languages express different concepts of existence, and (b) these languages can somehow describe the world's facts equally and fully. (Eklund, 2009, p.137)

Now, both philosophers are said to agree with Carnap (1950) that every ontological disagreement is merely linguistic in nature due to the different expressions used. Eklund (2009, p.142) labels holders of this view as semanticists, defining semanticism as "the view that ontological disputes are merely verbal when the disputants talk past each other, using some of the expressions employed with different meaning". Hence, it is possible to distinguish between philosophers who think that ontological disputes are genuine and those who think they are not.

Hirsch (2002, 2005, 2007, 2008), for instance, introduces the doctrine of quantifier variance (QV) to make a strong argument for the shallowness of ontological disputes<sup>4</sup>. According to QV, existential quantifiers, such as 'there is' or 'exists', have different meanings in different languages and thus, contradictory existential sentences can be formulated in such a way that they come out true in their respective languages. Therefore, any ontological disagreement between speakers of two different languages is

merely verbal in nature. Hirsch (2002, p.59) concludes that

the basic idea of quantifier variance can be nicely formulated by saying that the same (unstructured) facts can be expressed using different concepts of “the existence of a thing”, that statements involving different kinds of quantifiers can be equally true by virtue of the same (unstructured) facts in the world. I am inclined to agree with Putnam that, once we've accepted quantifier variance, there is no point in trying to hold onto language-shaped facts that are in the world independent of language.

To further understand the meaning here, and to avoid confusion, it is necessary to distinguish between conceptual schemes and natural languages. Case (1997, p.11) clarifies the difference, saying that

languages need not to be equated with natural languages. An example drawn from Putnam's discussion of conceptual relativity will help to convey the significance of this remark. To speak the language of the Polish Logician is to employ the conceptual scheme of mereological sums, but not to speak Polish.

Hence, QV addresses such conceptual schemes and not necessarily natural languages. Hirsch (2007, p.370) himself makes reference to philosophers John Locke and Joseph Butler debating whether a tree remains ontologically the same tree after it loses one of its branches, concluding that “the conflicting ontological assertions are true or false depending on whether we speak Lockean or Butlerian English”.

Additionally, Putnam's (1995, pp.304–305) quantifier relativism (QR) similarly argues that “there isn't just one single privileged sense of the word 'object' (...) only and inherently extendible notions of 'objects’”. With the absence of a privileged quantifier, there is no shared meaning between different languages and consequently ontological disputes are shallow. Ted Sider (2003, 2007), among others, disputes this relativism and suggests that there are, at least some, privileged quantifiers in different languages that share the same meaning, which allows ontological disputes to be genuine.

Both quantifier variance and quantifier relativism create some issues for heterodox economics by rendering ontological disputes trivial. Especially if we believe Lawson's (2006) claim that the heterodox critique of mainstream economics is ontological in nature, then QV would make this critique irrelevant as we would only have cases of

economists talking past each other. Moreover, even any ontological dispute between two heterodox economists would suffer from the same fate, a rather unpleasant outlook. Imagine two economists, A and B, from different schools of thought, arguing about the existence of a Darwinian-like mechanism for social evolution. Now, for A, the sentence “a Darwinian-like selection mechanism exists” might come out true, while being false for B, due to the different languages, and consequently existential quantifiers, they use.

As said, it remains possible, however, to avoid becoming a fully-fledged semanticist, to use Eklund's (2009) words, by applying Sider's (2003, 2007) privileged quantifier, thus making ontological disputes between A and B genuine. While the use of a privileged quantifier solves a particular problem, further criticism of QV and QR is developed by Eklund (2009). For a sentence to come out true in A's language but false in B's, the concept of the Darwinian-like mechanism could simply have different meanings in their respective languages. This raises a serious problem for the ontological pluralist, as they are concerned with existential quantifiers and not meanings of concepts. Eklund (2009, p.147) observes here that

intuitively, what she wants to say is that there are different languages, with different existence-like concepts, such that (say) numbers exist in one sense of 'exists' and not the other. But if 'number' automatically means different things in two different languages she does not get to say this.

If the conflict between A and B is a conflict of conceptual meaning, then the issue the ontological pluralist takes is not related to existential quantification at all. Here, one can intervene and argue that the expressed propositions have a shared meaning, yet this raises another issue because “in this reply the propositions are not true or false absolutely but only relative to different concepts of truth” (Eklund, 2009, p.150). Again, the ontological pluralist says nothing about existential quantifiers.

The outlook for Eklund's (2008, 2009) definition of ontological pluralism is not the best, to say the least. One might end up rejecting the validity of ontological disputes, and therefore any heterodox ontological critique of mainstream economics, and/or one will become a truth relativist in one way or another. Moreover, it remains unclear whether one can define ontological pluralism as Eklund (2009) does while avoiding both semanticism and truth relativism, an issue he admits to be unsolved at this moment.

#### 4. Kris McDaniel's and Jason Turner's modes of being

A different approach to ontological pluralism is presented by Kris McDaniel (2009, 2010a; b, 2013b; a, 2014, p.272) and Jason Turner (2010, 2012), for whom ontological pluralism simply means “that there are modes of being, ways of existing, or different ways of to be something”<sup>5</sup>. Here, the ontological pluralist accepts different modes of being, while for the monist everything that exists, exists in one way only. McDaniel (2010a, p.628) justifies these modes of being intuitively by saying that

[w]e quantify over holes, and even count them: we say, for example, that there are some holes in the cheese, seven to be precise. We ascribe features to them and talk as though they stand in relation: that hole is three feet wide, much wider than the tire over there. Holes apparently persist through time, as evidenced by the fact that my sweater has the same holes in it as the last time you saw me wear it. We even talk as though holes are causally efficacious: my ankle was badly sprained because I stepped in that hole in the sidewalk. It seems that we believe in holes. If our beliefs are true, holes must enjoy some kind of reality.

The obvious question at hand is whether we grant holes the same kind of existence as concrete objects, such as the cheese itself, or not. Following the definition above, the ontological monist must agree, while the ontological pluralist says holes have a different mode of being from concrete objects; holes are less real, because they are 'almost nothings', entities which flourish “in the [partial] absence of positive entities” (McDaniel, 2010b, p.628). Holes exist only in the presence of cheese, while ceasing to exist once the 'host' is gone. Such dependency expresses a mode of being that McDaniel (2010b, p.636) calls 'being-by-courtesy', which is “a kind of mode of being that may be defined purely negatively”.

The conceptualisation of ontological pluralism here is done with “the concept of *semantically primitive* restricted quantifier and the concept of *natural expressions*” (McDaniel, 2010a, p.630, 2014). The argument rests upon the idea that, in any natural language, there are restricted and supposedly unrestricted quantifiers<sup>6</sup>. While unrestricted quantifiers in a natural language quantify, or denote, everything there is, restricted quantifiers, as the name suggests, quantify restricted domains; one could say they are more context dependent. For instance, a general phrase such as 'everything is on sale' has

a restricted quantifier, as 'everything is' here maximally applies to saleable objects, goods and services, but not, for instance, celestial objects<sup>7</sup>. Neither the moon, nor abstract entities such as values and norms, are on sale (Uzquiano, 2014).

That being said, a primitive restricted quantifier then becomes primitive by virtue of the language itself that it is uttered in, which sets the limitations of what a quantifier express or can be used for. A language that is inherently limited to concrete objects, for instance, naturally restricts its quantifiers to such entities, while they cannot be used to make existential statement about abstract entities.

Finally, the concept of naturalness categorises expressions in accordance with their ability to “carve nature at its joints” (McDaniel, 2010a, p.630), i.e. they are able to create taxonomies. A taxonomy is more natural the more it classifies entities and groups of entities in accordance with their shared characteristics as found in nature. In this regard, expressions such as 'X is human' is considered more natural than expressions like 'X is a fan of Y' because the classification of human beings is more fundamentally carving nature at its joints than classifications of fan bases<sup>8</sup>.

If these two concepts are now accepted, it becomes possible to discriminate between the ranges these restricted quantifiers cover, in order to present the argument for ontological pluralism. McDaniel (2010a) develops the following reasoning: assuming there are two restricted quantifiers, i.e.,  $\exists_c$ , for concrete entities and  $\exists_a$  for abstract entities, and an unrestricted quantifier,  $\exists$ , in the English language, then  $\exists_c$  and  $\exists_a$  are the fundamental ways of being and  $\exists$  ranges over both of them<sup>9</sup>. Now, with the holes in cheese in mind, one might ask whether  $\exists$  only ranges over  $\exists_c$  and  $\exists_a$ , or if there are entities which “enjoy no fundamental way of being” but instead enjoy “a kind of mode of being that may be defined purely negatively, being-by-courtesy. Being-by-courtesy, represented by ' $\exists_b$ ', can be defined as follows:  $\exists_b \Phi = df. \exists \Phi \wedge (\exists_c \Phi \vee \exists_a)$ ” (McDaniel, 2010a, p.636).

Now, accepting such a rationale,  $\exists_b$  is an example of a quantifier being not or less fundamental, in comparison with  $\exists_c$  and  $\exists_a$ , allowing the focus of ontological pluralism to shift away from the question of what exists to the question of how something exists. Moreover, there is no reason to believe that  $\exists_c$ ,  $\exists_a$  and  $\exists_b$  are the only sub-domains of  $\exists$ . There might be entities that could enjoy modes of being that are neither being-by-courtesy nor fundamental. Relationships could be candidates for such entities, where the

relationship between two entities is in itself an entity that is less fundamental in its mode of being than the initial entities. Hence, the marriage between two human beings enjoys a different kind of being than the two humans. In summary, McDaniel (2010a, p.664) concludes that

[i]f we accept a kind of ontological pluralism that recognizes being-by-courtesy, then we should also accept a kind of pluralism about these relations as well. Just as there are modes of being, some which are degenerative, there are different ways of being identical, kinds of parthood, modes of spatiotemporal relatedness, and so forth.

There are, of course, several possible objections against this kind of ontological pluralism. Jason Turner (2010, 2012) outlines the most prominent of them, of which two exemplary objections shall be discussed here to show how they are formulated and how they are disputed. The first argument says that the differences between ontological pluralism and monism are merely notational, that “for every ontologically plural theory  $T_P$ , there will be an ontologically monist theory  $T_M$  that is a notational variant of  $T_P$ ” (Turner, 2012, p.423). This will make the claim of the ontological pluralist that ontological pluralism is metaphysically better, or more rigorous, than its monist counterpart false. The second argument says that restricted quantifiers are metaphysically misleading and the use of the unrestricted quantifier has to be preferred. Hence, a sentence with a restricted quantifier such as “there is nothing in the fridge” (Turner, 2010, p.9) is metaphysically misleading, because it ignores, for instance, the photons required to make the inside of the fridge visible to the human eye. This point also implies that restricted quantifiers do not range over different kinds of being, but are simply limited in their range to things with the same kind of existence.

With regard to the first argument, Turner (2012, p.423) clarifies that, “theories  $T_1$  and  $T_2$  [are] notational variants of each other iff (i)  $T_1$  can define some of  $T_2$ 's primitive expressions in such a way that every theorem of  $T_2$  is also a theorem of  $T_1$ ; (ii)  $T_2$  does the same thing for  $T_1$ ; and (iii) the languages of  $T_1$  and  $T_2$  are equally metaphysically perspicuous”. Turner (2012) clarifies that if  $T_1$  and  $T_2$  are notational variants, there must be a system of codification  $t$  under which  $T_1$  can be translated to  $T_2$  and vice versa. He concludes that “if  $T_1$  and  $T_2$  are notational variants under  $t$ , then  $t$  preserves logic” (Turner, 2012, p.426). This simply means that if  $\psi$  is a logical consequence of  $\Delta$  in  $T_1$ , and  $T_1$  and

$T_2$  are notational variants, then  $\psi$ 's translation  $\gamma$  is a logical consequence of  $\Delta$ 's translation  $\Phi$  in  $T_2$ . To refute the argument Turner (2012) shows that the preservation of logic between a monist and a pluralist ontological theory is not a given. He writes

For consider the sentence of  $T_M$ :

$$\forall x(x \text{ is concrete } \vee x \text{ is abstract})$$

This is not a logical truth; there is nothing in classical logic that requires everything to be either concrete or abstract. But  $t$  translates into

$$\forall_1 x(\exists_1 y(x = y) \vee \exists_2 y(x = y)) \wedge \forall_2 x(\exists_1 y(x = y) \vee \exists_2 y(x = y))$$

This is a logical truth – a theorem of pluralistic logic. So  $t$  translates a non-logical truth of the monist's language into a logical truth of the pluralist's, in violation of (LR)<sup>10</sup>. (Turner, 2012, p.427)

With regard to the metaphysically misleading character of restricted quantifier, Turner (2010, p.9) offers a possible solution for the argument that he formulates in the following syllogism:

- (i) ' $\exists_1$ ' and ' $\exists_2$ ' are restrictions of ' $\exists^*$ '.
- (ii) If  $\exists$  is an existential quantifier and  $\exists'$  a restriction of  $\exists$ , then  $\exists'$  is more ontologically misleading than  $\exists$
- (iii) Therefore, ' $\exists_1$ ' and ' $\exists_2$ ' are ontologically misleading.

He suggests, following Lewis (2004), looking at the meaning of quantifiers and whether they are considered to be inferential or semantic. The inferential quantifier conforms to the correct inference rule, which Turner (2010) identifies as existential generalisation,  $F(t) \vdash \exists x F(x)$ , and existential instantiation,  $\exists x F(x) \therefore F(c)$  for some element  $c$ . On the other hand, the semantic quantifier  $\exists$  can only make the implication  $\exists x F(x)$  “if there is something that satisfies the open formula  $F(x)$ ” (Turner, 2010, p.10). Now, restriction with regard to the inferential quantifier means that  $\exists'$  restriction of  $\exists$  iff  $\forall F \exists' x F(x) \models \exists x F(x) \wedge \exists F \exists x F(x) \models \exists' x F(x)$ , while in the case of the semantic quantifier  $\exists'$  is a restriction of “ $\exists$  iff  $\exists$  ranges over everything  $\exists'$  ranges over, but not *vice versa*” (Turner, 2010, p.10).

Now, the problem with the inferential quantifier is that it is too easy to construct a quantifier  $\exists^*$  which is even less restricted than  $\exists$  from (ii), an obviously contradictory

situation. This is done with the introduction of a “quasi-name” (Turner, 2010, p.11)  $\alpha$ , which allows the formulation of  $\exists^*$  to range over everything, just like  $\exists$  and  $\alpha$ , and still fulfil existential generalisation and instantiation<sup>11</sup>. Despite the ease of formulating such a 'super quantifier', an objection to this move argues that  $\alpha$  must be a name, otherwise  $\forall t F(t) \vdash \exists x F(x)$  but  $\exists x F(x) \sim \vdash \exists x F(x)$ . Turner's (2010) solution to this critique is to ask what we mean by, or what criteria we apply to, names. He is arguing that  $\alpha$  is an inferential name iff it plays the right syntactic role and  $\alpha$  is a semantic name iff it refers to something other than just itself. In the first case, the problem remains as expressions can easily be formulated in such a way that they fit into the right syntactic role, while the second case can be addressed in the same way (ii) if the semantic quantifier is addressed.

In the case of the semantic quantifier, the pluralist must deny that  $\exists'$  from (i) is such a quantifier at all, and hence  $\exists_1$  and  $\exists_2$  are no restrictions of  $\exists'$ . Why is that so? Turner's (2010) argument claims that ontological monists philosophers use, or believe they use, a quantifier with the semantic value of the fundamental quantifier, so that (i) is true, while the ontological pluralist philosopher has, at least, two candidate semantic values, hence they have  $\exists_1$  and  $\exists_2$ . While the philosopher's quantifier plays a theoretical role, with the aim of uttering most precise existential sentences in opposition to, for instance, ordinary language known to produce imprecise existential claims<sup>12</sup>, he argues that “sometimes many theoretical things each play a given theoretical role, or at least come very close to playing it and not close to any of the others” (Turner, 2010, p.16), and therefore several existential quantifiers can come close to having the semantic value of the one fundamental quantifier.

Here, Turner (2010) makes reference to the Newtonian theoretical concept of mass, as representative of the monist quantifier, and the relativistic concepts of mass, i.e. relativistic mass and proper mass, as representative of the pluralist quantifier. In the same way, Newtonian mass is indeterminate between relativist and proper mass, and the ontological pluralist can say that the monist's  $\exists$  is in fact indeterminate between  $\exists_1$  and  $\exists_2$ , which are almost identical<sup>13</sup>. Remembering that  $\exists$  is a semantic quantifier iff  $\exists x F(x)$ , with the indeterminacy the pluralist can now say that a semantic “quantifier<sub>1</sub>,  $\exists$ , is an s-(un)restriction<sub>1</sub> of another,  $\exists'$ , iff everything<sub>1</sub> ranged over by  $\exists'$  is ranged over by  $\exists$  but not *vice versa*, and similarly for s-(un)restriction<sub>2</sub>” (Turner, 2010, p.20), then (i) can be divided into

(i-S<sub>1</sub>) '∃<sub>1</sub> and ∃<sub>2</sub>' are semantic restrictions<sub>1</sub> of '∃\*'

(i-S<sub>2</sub>) '∃<sub>1</sub> and ∃<sub>2</sub>' are semantic restrictions<sub>2</sub> of '∃\*'

This means that an expression is an existential quantifier<sub>1</sub> iff, as said above, the semantic function satisfies the postfixed formula with 'there is<sub>1</sub>'. However, ∃\* does not have this semantic function and is therefore not a semantic unrestriction of anything, in the same way as the Newtonian mass is not an unrestriction of relative mass as it does not satisfy the relevant postfixed formulas. As a result, the semantic interpretation of (i) is “false on every precisification and hence false *simpliciter*” (Turner, 2010, p.21).

These are two examples of how the ontological pluralist may counter the criticism raised by opponents of ontological pluralism. Turner (2010, 2012) provides further counterarguments to specific criticisms, which shall not be discussed here<sup>14</sup>. The following sections shall attempt to outline and explore the consequences of ontological pluralism for economics.

## 5. Ontological Pluralism in Economics

With ontological pluralism defined as above, i.e. there are different ways of being, the next step is trying to explore the implications of this definition for economics. According to McDaniel (2009, 2010a; b, 2013a; b, 2014) ontological pluralism will allow completely new ontological questions to be asked as well as solving current ontological disputes. The following section will explore how ontological pluralism can solve some ontological disputes and what new questions in economics it can bring to the table. The famous *Homo Economicus* will be used to illustrate an exemplary ontological dispute and how ontological pluralism can solve it. Moreover, a variation of possibilism in connection with ontological pluralism will be used to explore some thoughts on theoretical entities, actuality and natural and social kinds.

It goes without saying that the analytical foundations of modern mainstream economics, i.e. rational choice theory, methodological individualism, markets moving towards equilibrium and so on, are a major hunting ground for heterodox economists and their criticism. Whether we look at Sen's (1977) extensive criticism of the behavioural assumptions about the economic agent, the *Rational Fool*, Simon's (1956, 1957) introduction of bounded rationality and Kahneman's (1994, 2002) subsequent empirical

research on it, or Keen's (2011) attempt to debunk mainstream economics in popular, non-academic writing, to name but a few, the overarching consensus seems to be that the *Homo Economicus* is, due to its inherent characteristics, an inadequate representation of the human being. As a result of this discrepancy between the introspective understanding of our own psychology and the behavioural micro-foundation the *Homo Economicus* lays out for economic modelling, one might conclude that the latter does not exist.

This is, however, an ontologically hasty conclusion, because, as Russell (2009, p.455) remarks, the ontologically rigorous cannot forget that “[f]or if A were nothing, it could not be said not to be; “A is not” implies that there is a term A whose being is denied”. We require the existence of the *Homo Economicus* to ultimately deny its existence, which seems intellectually unsatisfying to say the least. The question is, then, how to solve this problem. A first instinct is to look at classical possibilism and its differentiation between *is* and *being*. Possibilism goes back to the ancient Stoics, who firstly argued that "in the order of nature some things exist, and other things do not exist (...) [a]nd even the things that do not exist are really part of the order of nature” (Seneca, 2015, Letter 85, 15), and David Lewis' (1986) variation possibilism has already been introduced above. There is, however, an issue with this kind of possibilism, which makes Dow's (1997) and Mäki's (1997) rejection of OP1, which is here equated Lewis' (1986) multiple worlds for the lack of better alternatives, a coherent position.

For a (critical) realist ontology Lewis' (1986) central argument that the actual world and the possible worlds are only distinguished by the fact that the former is inhabited by us, is not only unsatisfying but also incoherent, as Bricker (2002) suggests. He makes the argument that there must be

an ontological distinction in kind between the actual and the merely possible. In my opinion, this is the only viable option for the realist. Our conceptual scheme demands that actuality be *categorical*: whatever is of the same ontological kind as something actual is itself actual. To hold then, as Lewis does, that the actual world and the possible worlds do not differ in kind is simply incoherent.

This problem is even further accentuated by Sinhababu's (2008) humorous attempt to use possible worlds to overcome the anxieties of his single life. He argues that with multiple, possible worlds there must be an unknown number of possible girlfriends, “immortal,

with eternally youthful beauty (...) whom I would find extremely physically attractive and lovable” (Sinhababu, 2008, p.256) who are all in love with him. In conclusion, it seems that this kind of possibilism does not bring us very far, yet we need to account for the ontological rigour demanded by Russell (2009).

The intuitively simple solution offered by ontological pluralism is to say that “the merely possible exist in a fundamentally different way than the actual” (McDaniel, 2009, p.315), which satisfies ontological rigour and solves Bricker's (2002) criticism of Lewis' (1986) ontological incoherency at the same time. With the distinction between kinds of being, the ontological pluralist introduces a variation of possibilism, the position “that the merely possible are ontologically on par with the actual” (McDaniel, 2009, p.315), that accounts for the existence of the possible without making it categorically actual. Our dispute may now be satisfyingly solved by saying that the actual world we live in, and which is the primary concern of our scientific endeavour, is not only different from possible worlds by virtue of us inhabiting the former, but is also fundamentally different in its ontological kind. Ontological pluralism offers a compromise between both positions, which might be the best way to solve the dispute.

Coming back to the *Homo Economicus* mentioned at the beginning, and the dispute about its existence, we may be able to apply a similar rationale to this issue and find a solution. Saying that the *Homo Economicus* is a hypothetical or theoretical entity that enjoys a different kind of being than the human it so fundamentally fails to represent satisfies the need for ontological rigour and can allow for the criticism it receives as an analytical foundation for economics. This solution, of course, does require us to generally say that theoretical entities, not only the *Homo Economicus*, have different kinds of being, i.e. to say that there is a restricted existential quantifier which ranges over them. The same applies to the possibilism introduced above, where ontological pluralism for both possible and theoretical entities suggests subtle changes in one's ontological position with more tangible implications for epistemological and methodological questions.

These epistemological implications become clear when we leave the above hypothetical dispute about possible worlds and extend possibilism to possible entities, i.e. things that could be or could have been but are not or were not. Under ontological pluralism possible entities enjoy an adequate kind of being which, however, seems intuitively 'less robust' than the kind of being of the actual (Menzel, 2014). In economics, possible entities could be seen as theoretical predictions based on the theoretical entities

introduced above, e.g. the implications of the *Homo Economicus* or the perfectly competitive market. We are able to arrive at a number of predictions from the perfect competitive market structure about firm behaviour, equilibrium prices and so on, which all enjoy the kind of being of the possible until we find out which of these predictions are on a par with events on the actual markets. For the ontological pluralistic possibilist the sentence 'It is possible that perfect competition exists/leads to...' is true by virtue of its possible, non-actual, kind of being.

This treatment of possible entities, in opposition to actual ones, manifests the essential epistemological differences between the possible and the actual. While we are able to arrive at a priori knowledge of the possible we can only have a posteriori knowledge about the actual (McDaniel, 2009). Whatever we may know about the markets in our economies is dependent on the empirical foundation we have for them. Meanwhile, knowledge about perfect competition can be gained by virtue of the logical implications of the underlying presumptions. These epistemological differences finally translate into different methodological approaches, which is further support for the pluralists' cause in economics. In conclusion, "the merely possible", as McDaniel (2009, pp.315–316) writes,

are grounded by a principle of plenitude that does not govern the actual: at the very least, for every way that something actual can be, there is something possible that is that way. The hypothesis that these epistemological and metaphysical differences are grounded in different ways of existing is both viable and intellectually satisfying.

An additional observation is that when the possible is on a par with the actual, or when the possible becomes the actual by virtue of realisation, this means that entities may be capable of migrating between kinds of being, or even of being ranged over by two or more of these quantifiers, as Turner (2012) claims. Remembering Turner's (2010) solution to the disjunctive quantifier argument with semantic quantifiers and his example of mass, if true, where some things have both relativistic mass and proper mass, while some other things only have relativistic mass but not proper mass, and that the former things have proper mass while being motionless and relativistic mass when moving, a similar thought can be applied to restricted existential quantifiers.

To further illustrate what is meant by shared existential quantifiers and the possibility of migration, Turner (2012) makes reference to Descartes' (1985) distinction

between objective and formal reality, arguing that this is an example of two different kinds of being. Descartes (1985, p.75) argues that the objective and formal reality of the sun is

the idea of the sun is the sun itself existing in the intellect – not of course formally existing, as it does in the heavens, but objectively existing, i.e. in the way in which objects normally are in the intellect.

From this Turner (2012, p.428) concludes that

this interpretation takes [Descartes] as saying that there is one thing – the sun – which has two modes of being: it has the 'the objective', mental one insofar as it exists in a mind, and it has the 'formal', mind-independent one insofar as it exists 'in the heavens'.

Now, in the same sense as the sun enjoys the Cartesian modes of objective and formal existence, and it seems obvious that we need to accept some kind of realism here, other entities may enjoy two modes of being or are capable of migrating between them. Suitable candidates for such modes may be Hacking's (1986, 1988, 1990, 1991, 1992, 1995a; b) natural and social kinds<sup>15</sup>. Natural kinds are usually understood as mind-independent<sup>16</sup> classifications in accordance with the structure of nature, while human kinds are interest, political or ideology-induced classifications (2015). From this differentiation we can arrive at two conclusions.

First, human beings enjoy at least the natural kind mode of being and, as a matter of their participation in the social, they can enjoy and migrate between different social kinds of existence such as nationality, employment, citizen and so on. Here, the socially restricted existential quantifier regarding the unemployed and the quantifier ranging over human beings, together,  $\exists x(x = u) \wedge \forall x(x = h)$ , illustrate how natural and social kinds of being can range over the same entities and that, at least in the case of the social kinds, human beings can enter and exit the range of the unemployment quantifier. Although it seems intuitive to say that socially restricted quantifiers only range over entities already ranged over by the natural restricted quantifier regarding the human being, looking at the current debate about whether to grant animals agency or personhood status shows that socially restricted quantifiers can be extended to range over other domains as well. In essence, the argument brought forward by ontological pluralism here supports the notion that the fundamental difference between *Realität* (i.e. social reality) and *Wirklichkeit* (i.e.

natural reality) also lies in, or is even substantiated by, their different kinds of being.

Finally, the idea of the semantically primitive restrictions of existential quantifiers in a language, which is used to define ontological pluralism (McDaniel, 2010a), may help with understanding why existential utterances differ so much across different cultural and social settings. If we accept that conceptual schemes and languages have a reciprocal relationship, then the conclusion that semantic restrictions do not only occur by virtue of the natural limitations of a language's expressiveness seems reasonable. This, now, can be used as an underlying assumption for the conclusion that restricted existential quantifiers have different ranges depending on the social, cultural or historic setting. Take the following conjunction as an example:  $\forall x(Px \wedge Qx)$  with  $Px$  meaning 'x is a human' and  $Qx$  meaning 'x is a citizen'. This conjunction is true in the Western or modern context but citizenship is defined very differently in different cultural and legal settings. In ancient Greece, for instance, not all human beings had citizenship. In fact, citizenship was an elitist status denied to women and slaves (Shafir, 1998). This example gives an idea of how ontological pluralism may be helpful for investigating existential claims and various possible ontological disputes. Ontological pluralism therefore allows us to thicken ontological inquires in economics and to wonder “what are we asking when we ask “What is there?”” (Imwagen, 1998, p.233).

## **6. Concluding remarks**

In this paper the argument is brought forward that ontological pluralism in the pluralist movement within economics, and in economics more generally, needs to be rethought. This is justified by reference to and rejections of existing attempts to define ontological pluralism by Sheila Dow (1997) and Tony Lawson (2009). The rejection is based on the intellectually unsatisfactory substance and the consequences of their definitions. While Dow's (1997) two defining sentences lack the required rigour to provide a satisfying explanation, Lawson's (2009) definition implies some logically confusing consequences for the discussion of ontological pluralism.

As a consequence of these limitations, the literature on ontological pluralism is discussed, especially by Eklund (2008, 2009) and McDaniel (2009, 2010a; b, 2013a; b, 2014) and Turner (2010, 2012). From this discussion, the latter definition, which argues that “according to ontological pluralism, there are different modes of being- different

ways to exist” (Turner, 2012, p.419), is chosen as it seems most promising for the development of an understanding of ontological pluralism in economics. This kind of ontological pluralism is defended with the use of restricted existential quantifiers, which range over different domains and explain that some entities exist in different ways from others. Concrete and abstract entities were used as primary examples to illustrate the meaning of restricted quantifiers and a rationale is developed that there might be more of such quantifiers (McDaniel, 2010a; b). Furthermore, two prominent criticisms against this kind of ontological pluralism have been introduced and Turner's (2010, 2012) counterarguments are briefly outlined to show how they can be rebutted.

Finally, some implications of ontological pluralism, as defined by McDaniel (2009, 2010a; b, 2013b; a, 2014), for economics are explored; namely a solution to an ontological dispute over the *Homo Economicus*, the introduction of a kind of possibilism, which distinguishes between actual and possible entities and grounds their epistemological differences in different ways of being, and an inquiry into social and natural kinds, where different ways of existence may help with understanding kind-relationships and the impact of cultural and social settings. These examples show that ontological pluralism may allow us to solve some existing ontological disputes and also to engage in completely new ontological questions (McDaniel, 2009, 2010a; b, 2013a; b, 2014). Additionally, values and their relationship to what is valued by human beings may be another question where ontological pluralism may lead to some new insights. Ontological pluralism may also be useful for the discussion of truth pluralism in economics in the future. These are areas which have yet to be explored.

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<sup>1</sup> In the case of the UK, groups such as the Post-Crash Economic Society at Manchester University, The Cambridge Society of Economic Pluralism and the Post-Crash Economics Group at London School of Economics received some media coverage in some notable media outlets (see, for instance, Inman, 2013a; b). Globally active groups, such as Rethinking Economics or the Institute for New Economic Thinking, are also becoming more and more prominent.

2 For the sake of simplicity, we will use Dow's (1997) first and Lawson's (2009) second definition synonymously from now on.

3 This becomes specifically evident in Lawson's (2004, p.2) conceptualisation of social ontology, where he outlines that it is “the study of what is, or what exists, in the social domain; the study of social entities or social things; and (...) the study of what all the social entities or things that are have in common”.

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- 4 He also rejects the referential correspondence theory of truth, which states that the truth conditions of sentences do not depend “on the referential relation between its (non-logical) word and object that exist in the world” (Hirsch, 2008, p.230).
- 5 Turner (2010, pp.3–4) says, in order to define ontological pluralism, “that metaphysics aims to uncover the ultimate structure of reality” and that metaphysicians “want, in short, theories that are *metaphysically perspicuous*. My claim is that we have to use different quantifiers to talk about things in different ontological categories *in order to speak in a metaphysically perspicuous way*”.
- 6 McDaniel (2010a) admits that ontological pluralism can be formulated without the need for the unrestricted quantifier, also because there is some debate on whether or not these actually exist (Uzquiano, 2014). See McDaniel (2009) for a detailed argument.
- 7 Russell (2007) famously endorsed that the relationship of to the north of does not exist in the same way that London and Edinburgh do, while elsewhere (Russell, 2009) claims the universality of existence, saying that something cannot not be if we were to talk about it.
- 8 Hall (2010, p. no pagination) refers to Lewis' (1983) *New Work for a Theory of Universals* as a major contribution of categorising properties of entities with the help of degrees of naturalness and summarises the underlying proposal as in the following:
- Property F counts as more natural than property G just in case some predicate expressing F can be defined, in terms of predicates expressing perfectly natural properties, more simply than can any predicate expressing G.
- However, he remains sceptical whether this proposal generally succeeds, which in turn means that ontological pluralism might need to be formulated without degrees of naturalness. Yet, the question remains of what could be a suitable substitute.
- 9 Fleetwood (2005, p.198) seems to argue that there are, at least, four fundamental kinds of being, i.e. “material, ideal, artefactual, and social” but here the latter three are combined into abstract entities.
- 10 (LR) is the notation for the constraint “If  $T_1$  and  $T_2$  are notational variants under  $t$ , then  $t$  preserves logic” (Turner, 2012, p.426). Please see Turner (2012) for a detailed defence of this argument.
- 11 Turner (2010, p.11) introduces the following definitions to construct such a new quantifier:
- (4)  $[R(\alpha, \dots, \alpha)] =_{df} [P \vee \sim P]$ , where  $P$  is some sentence not containing  $\alpha$ ;
- (5)  $[R(t_1, \dots, t_n)] =_{df} [P \wedge \sim P]$ , where  $P$  is some sentence not containing  $\alpha$  and some but not all  $t_i$  are  $\alpha$ , and
- (6)  $[\exists x F(x)] =_{df} [\exists x F(x) \vee F(\alpha)]$ .
- 12 Here, Turner (2010, p.17) refers to 'ordinary English' existential claims such as “there are three chairs in the lounge” whereas the 'philosophers' English' would, sometimes, claim “there are no chairs”, only particles arranged chair-wise. Hence, the difference between 'ordinary English' and 'philosophers' English' is that “ordinary folk (...) do not want their utterances to be sensitive to the world's ultimate ontological structure” (Turner, 2010, p.18), while the metaphysician wants to achieve this goal.
- 13 It is still debated whether the distinction between relativistic mass and proper mass actually makes sense; there are arguments that relativistic mass is a misconception of Einstein's work and that there is only proper mass (see, for instance, Okuñ, 2009).
- 14 See also Paoletti (2015) for further discussions of possible issues regarding ontological pluralism and

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suitable solutions.

- 15 Ian Hacking (1986, 1988, 1990, 1991, 1992, 1995a; b) is most notably known for his work on social kinds, which he calls human kinds. The focus of the philosophical debate is not whether or not social kinds exist but whether or not they are like natural kinds. Hacking (1986, 1988, 1990, 1991, 1992, 1995a; b) generally holds that they are fundamentally different, while others have argued they are not (see, for instance, Cooper, 2004).
- 16 Here, “an object should be reckoned mind-dependent when, by its very nature, it exists at a time if and only if it is the object or content of some mental state or process at that time (...) even if the object is not the object of any single mental state or act” (Rosen, 2012, p. no pagination).

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