

Vagueness and Social Ontology: Implications of Inquiry Resistant Borderline Cases for Social Ontological Theorising

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Abstract

The aim of this paper is to introduce the philosophical concept of vagueness and use it to critique the explanatory scope of social ontology as developed by the Cambridge Social Ontology Group (CSOG), and scholars sympathetic to it. Specifically, we will refer to one of its core theories, the theory of social positioning, to formulate our critique. This theory proposes that human beings and artefacts occupy social positions within emerging social totalities by virtue of receiving community accepted, interdependent, rights and obligations. Vagueness, here, is to be understood as a matter of indeterminacy in borderline cases that pose non-trivial limitations to social positioning. By this we mean to say that there are instances in social ontological theorising that exclude themselves from proper inquiry due to vague terms found in natural languages. As a consequence of these vague terms, theories in social ontology formulated in such languages face limitations when striving for precisification and accuracy of theories. We further argue that these limitations cannot be overcome, but introduce four theories, namely supervaluationsim, epistemicism, truth degree theories and contextualism, which will allow interested readers to understand why these limitations are present. Finally, we consider the controversial theory of ontic vagueness and outline the implications for social ontology.

Keywords: social ontology, philosophy of economics, social positioning, vagueness, language

Introduction

In recent years social ontology, “a subfield at the intersection of metaphysics and philosophy of social science” (Epstein, 2016, p. 147), has experienced a resurgence in interest among philosophers who consider the nature of social entities and properties serious enough for a thorough investigation. Among the most active and prominent defendants of social ontology in the UK is the Cambridge Social Ontology Group (CSOG),² whose principal contributor, Tony Lawson (1997; 2003,a,b; 2012; 2014; 2015a, b; 2016a, b,c; 2017; 2019), has developed a theory of social positioning that is at the core of the Cambridge project (Faulkner, Pratten and Runde, 2017). This theory of social positioning allows oneself to commit to a reality of social entities emerging from collective practices.³ Beside the work of Tony Lawson, other members of, or scholars sympathetic to, CSOG have provided a number of contributions in the intersection of social ontology and other disciplines such as technology (see, for instance, Faulkner and Runde, 2009, 2013; Faulkner, et al., 2010; C. Lawson, 2017), law (Deakin, 2017), economics (Martins, 2009; Pratten, 2014; Faulkner, Feduzi and Runde, 2017; Lewis, 2017; Peacock, 2017; Morgan, 2015, political economy (Veldman and Willmott, 2017; Düzenli, 2015; Hodgson, 2016), and sociology (Pratten, 2017).

Despite the seemingly extensive contributions that originate from the Cambridge project, some questions about the potential limitations to the proposed explanatory power of developments in social ontology remain open. While some critiques of, for instance, social positioning exist in the literature (see, for example, Ingham, 2017), we are particularly interested in the identification of more fundamental limitations to social positioning and social ontology, especially those which it may not be possible to overcome. Therefore, the aim of this paper is to introduce the philosophical concept of vagueness and use it to critique the explanatory scope of social positioning, and consequently social ontology, specifically by reference to semantic and ontic vagueness as two possible kinds of such limitations, as well as beginning a

conversation about these issues. Vagueness, here, is to be understood as a matter of indeterminacy in (inquiry resistant) borderline cases that pose, in our view, non-trivial limitations to social ontology, such as the collapse of inductive reasoning with a theoretical muteness along such borderline cases, or the hindrance of vague concepts to our efforts in our scientific discourses “to make vague concepts precise in order to make precise our theories of how the world [is]” (Dowding and Bosworth, 2018, p. 4). By this we mean to say that there are instances in social ontological theorising that exclude themselves from proper inquiry due to either: (i) semantic deficiencies in the languages in which our social ontological theories are formulated, (ii) social entities being ontologically vague (see Section ‘But What if it’s the World?’), or (iii) a mixture of both.⁴ We, therefore, argue that social positioning, and ultimately Cambridge social ontology, is characterised at its core by a fundamental theoretical insufficiency.⁵

To support our argument, the paper is structured as follows: The second section will discuss semantic vagueness in the light of CSOG social ontology and outline the non-trivial issues for social positioning. The third section will then outline four prominent sets of theories from the existing literature to explain sources of semantic vagueness: supervaluationsim, epistemicism, truth degree theories, and contextualism. We discuss them in the light of their acceptability for CSOG social ontology and suggest that one of them should be adopted within the Cambridge project. The fourth section will introduce and discuss the controversial idea of ontic vagueness as another potential source of vagueness. The fifth section will summarise the argument of this paper that, independent of what source one might consider for vagueness, (i) it postulates a fundamental theoretical incompleteness for Cambridge social ontology, and (ii) in future, one of the theories discussed on the sources of vagueness should be adopted.

Semantic Vagueness and Social Ontology

Vagueness is considered a prominent semantic feature of natural languages and it is commonly defined by reference to the necessary existence of borderline cases. In other words, an expression or concept is considered vague if we can identify actual or potential borderline cases in our attempts to conceptually describe the world (Graff and Williamson, 2002). The classic examples of such borderline cases are so called sorites paradoxes (derived from the Greek word *soros* meaning ‘heap’) or ‘heaps of sand’. Such a paradox goes as follows: Consider a heap of sand consisting of a number of n grains. We may ask ourselves how many grains we need to remove so that we no longer call it a heap of sand, or, more precisely, what is the number of k grains that gives us the borderline case between a heap and a non-heap ($k-1$ grains)?

These kinds of questions, and this example, may sound trivial but it has non-trivial implications. We can clearly say that one grain in our hand is not a heap, and the same is true for two grains, or three. Five thousand grains are a heap of sand, but so are 4,999 grains. What exact number is k then? We may say it is 30, but how do we defend this number from accusations of arbitrariness? If 30 is a heap, why is 29 not a heap? How could we justify this number? Even after some reflection we cannot really provide any precisification of the vague term in the form of a specific number, and none can be held superior to any other. Indeed, it is generally agreed that no conceptual analysis or empirical investigation can give us k ; the borderline case excludes itself from conclusive inquiry (Graff and Williamson, 2002).

‘So what?’ one might ask. The nature of our language makes k indeterminate, but this is not really an issue, or is it? There are so many vague terms in our languages that if we were too concerned about it, then we would never actually undertake any research, right? While it is true that vagueness is said to be a common semantic feature of languages, we argue that there are specific limitations that are non-trivial. First, vagueness poses some problems for classical, inductive reasoning and, thus, has wider methodological implications. Take, for instance, the following base step: One grain of sand is not a heap ($n=1$). Two grains of sand are not a heap

either ($n=2$). Induction step: For all n , if n grains of sand are not a heap, this is also true for $n+1$ grains. Therefore, 5,000 grains of sand are not a heap. The conclusion is arguably false; however, the induction is valid and denying the base step seems impossible, so we cannot do other than reject the induction step. This, however, will bring us back to the number of k grains at which point we can speak of a heap of sand. The paradox is complete, and therefore we say borderline cases such as this are inquiry resistant. As a consequence of induction breaking down with these inquiry resistant borderline cases, any theory that is (i) applied in the analysis of social phenomena, (ii) is not based on a formal language, and (iii) is methodologically reliant, at least to some extent, on inductive reasoning⁶ will face problems in its ability to explain social phenomena at the borderlines.⁷

Second, arguably there has been a long tradition in philosophy and the sciences, at least in Anglo Saxon research, to aim for conceptual clarity, not least since Wittgenstein (2003) declared clarity of thought to be a central virtue for philosophers (even if this is not always fully achievable). T. Lawson (2014) makes such an argument by saying that social ontology's "essential contribution lies in helping clear the ground a little so that substantive theorising can proceed more fruitfully than would otherwise be the case" (p.24), and in his recent book (2019) he clearly argues that failing to engage in social ontology is the central reason for the failings of mainstream economics. Hence, an explanation of how far this 'clearing the ground' really can go is one of the intended contributions of this paper.

The first and most important question, then, is to what extent can we identify similar borderline cases in social ontology, and if those considerations of borderline cases we find with non-social objects, such as sand, can be found with social entities?⁸ In the next sections, we argue that there are, at least, two ways of identifying inquiry resistant borderline cases in social positioning; when looking at positioning and de-positioning of human beings and artefacts and when looking at the community/collective acceptance required for stability in social positions.

Furthermore, as these borderline cases are at the heart of social positioning, they expose non-trivial limitations to the theory itself.

Vagueness and (De-)Positioning

Within the Cambridge project, social reality, or the social realm, is theorised to be constituted by both human beings and artefacts, which consequently form so called social totalities or communities (T. Lawson, 2016c). As such, everything social is created in relation to the process of social positioning, whereas positioning for humans is defined by the provision of rights and obligations, which themselves require community acceptance, and practical placement within the totality, giving them both positive and negative powers. For instance, a student acquires status or identity as such through community accepted rights and obligations, which stand in relation to rights and obligations of other positions within the totality of the university. T. Lawson (2016a) specifies this by explaining that “the obligations of lecturers to give lectures, set exams, mark them fairly, and so forth, are matched by student rights to attend lectures, sit exams, expect the exams to be marked, and fairly; and so on” (p. 354). Thus, such rights and obligations constitute social relations and, together with positions, they form the organising structure of a community.⁹ In a similar fashion, the positioning of artefacts is defined by T. Lawson as follows:

An artefact becomes (acquires the identity of) a table, cash, passport, and so on, on being collectively accepted / recognised as positioned as such. In this case certain causal features of the positioned objects in question become interpreted as their system functions (2016a, p. 361).

An artefact is then positioned or de-positioned based on, for instance, its “causal features”, which are “interpreted as their system functions” (T. Lawson, 2016a, p. 361). However, T. Lawson (2019) further remarks that a detailed theory of artefacts and their positioning remains

yet to be properly formulated and, hence, there is room for argument about their precise nature within social totalities. The question is, now, how vagueness comes into play here?

Since theories of social ontology are predominately formulated by use of natural rather than formal language, we ought to find a large number of vague expressions here. This in itself is not necessarily a problem as relatively often the use of a vague expression can be more efficient than that of any precisification. ‘Tallness’, for instance, is a vague term that leads to an inquiry resistant borderline case between tallness and non-tallness. However, in the context of normal speech it is probably more informative to say that “‘George is the tall guy over by the window’” rather than “‘George is the guy by the window who is 180.57 cm tall’” (Dowding and Bosworth, 2018, p. 6). However, whereas the use of vague terms allows for efficiency in the context of every day speech, for our philosophical and scientific analysis we arguably aim to more precisely categorise, or carve up, the (social) world, which is, in turn, then limited by the use of vague terms.¹⁰

‘Social positioning’, we argue, is itself a vague expression and we can generate inquiry resistant borderline cases along the line of positioned or de-positioned human beings and artefacts, especially in the context of more informal social positions for the former. In the case of the student, we can develop one agreeable precisification that says an individual is positioned as student by virtue of enrolment,¹¹ whereas in the case of informal positions, such as general community membership, we may not be able to use a single precisification in order to fully cover the extension of the meaning of membership. Instead, we may find a number of different and even conflicting precisifications, of which some might remain vague themselves. Consider, for instance, the CSOG as an example of a community without a formal process for becoming a member, for instance through enrolment, signing a contract or paying a subscription fee. Moreover, the Group’s website provides, among other things, a more or less updated list of “current, regular attendees, Cambridge based (...) formerly regular, currently occasional,

attendees, mostly non-Cambridge based” (CSOG, 2018). The following two issues arise here with regard to vagueness.

First, there are various precisifications of the term/position ‘CSOG member’, each capable of satisfying normative considerations or intuitions to a certain extent, “but none can claim to be the generally superior representation of the vague term” (Dowding and Bosworth, 2018b, p. 7). One precisification could be looking at attendance of the group’s weekly meetings, another might look at publications with reference to the main texts by T. Lawson and other members, another one might look at alignment with the topics mentioned in the introduction, and so on. Second, some, but not all, precisifications might remain vague themselves, despite our best efforts to be precise in our categorisation. Take, for instance, attendance as a precisifying condition for membership. Here, a borderline case can be formulated where k attendances position someone as a CSOG member, whereas $k-1$ attendances means non-membership.¹² Moreover, given the different positions as outlined on the CSOG (2018) website, then the question of being de-positioned from one to consequently being positioned in another might be raised; how can we precisify someone being de-positioned from a “regular attendee” to a “former regular” and so on? However, if we only strive to be efficient and do not care so much about borderline cases, then George can just be positioned as a regular CSOG member in the same way as is the “tall guy over by the window” (Dowding and Bosworth, 2018, p. 6).

In a similar fashion to the positioning of individuals within a community, the positioning of artefacts, too, must be vague. That is to say that the positioning of an artefact as, for example, a chair will also have a number of different precisifications about the artefact being positioned or de-positioned, where we cannot assign explanatory superiority to one or the other, and with some of them ultimately also remaining vague. One, but rather naturalistic, possible precisification about the object positioned as a chair is to consider its molecular composition. An inquiry resistant borderline case then arises when we say that there is “a definite N such

that when I have taken N molecules (...) away the object is still [positioned as] a chair, but such that after I have taken $N + 1$ it is false (or neither true nor false) that it is a chair” (Putnam, 1983, p. 302). Of course, one might object here by saying that positioning of artefacts is not related to a discrete disassembly of a physical object molecule by molecule, thus rejecting this specific precisification. However, there are other precisifications or areas in which the positioning of artefacts may lead to inquiry resistant borderline cases, for instance with regards to the de-/positioning of an artefact as a commodity.¹³ As Weber and Colyvan (2010) show, sorites paradoxes can be formulated without the need to articulate assumptions about order or discrete units. This means that other than the classical sorites paradoxes like the one about heaps of sand, which are “discrete and numerical” and where “there is a natural ordering, in terms of the number of grains of sand and the number of hairs” (Weber and Colyvan, 2010, p. 311), we can formulate those paradoxes in a non-numerical, non-discrete and non-ordered way.¹⁴ This is particularly helpful when the artefact in question undergoes no change in its physical composition of some sort while we observe a change in its positioning; for example, the transition from commodity to privately owned object or something similar.

Vagueness and Community/Collective Acceptance

As mentioned above, one central aspect of social positioning theory is community/collective acceptance of positions for both human beings and artefacts (T. Lawson, 2016a, 2019), although it remains, like the theory of artefacts, in development. In the following section we discuss two interpretations on collective acceptance found in T. Lawson (2019) and Elder-Vass (2012; see also Archer and Elder-Vass 2012) and point out how inquiry resistant borderline cases can be applied here.

For any social position or collective practice to exist, to serve a system function within the totality, and to be stable over time, there must be some kind of collective acceptance. According to T. Lawson (2016c; 2019, p. 51) “collective practices are both condition and consequence of the individual practices they facilitate”, they “are indicative of how it is possible to go on in ways that are currently accepted within a community”, and trust in those positions and collective practices is essential for the stability of society as a whole (Pratten, 2017). For instance, when someone occupies a given social position, such as a teacher at a university or a judge in a court, there is an expectation that a set of rights and obligations will be followed and, equally, a set of rights and obligations for people in other social positions, such as a citizen of a country or a member of a family, exist that they are expected to follow (T. Lawson, 2003a). Without mutual trust in the exercise of those rights and obligations the positions would in all probability collapse, or their system function would be impaired. Furthermore, the interplay between rights and obligations also has implications for the power relationship between members of a community. Such powers are usually performative abilities with causal powers. For instance, a police officer holds the power to arrest suspects, a judge can pronounce a verdict, and doctors can prescribe medication. Consequently, individuals positioned as participants of a certain community come to be the holders of evolving positional powers (T. Lawson 2013a, 2019).

Here, the vagueness analysis, as above, focuses on how precisifications for community/collective acceptance are formulated and if they are subject to inquiry resistant borderline cases. T. Lawson (2019) observes that “the stability of collective practices varies according to the degree of individual acceptance of their legitimacy”,¹⁵ and that “[c]ollective acceptance (...) cannot stably exist without at least some form and degree of generalised *individual acceptance*” (p. 52, italics in the original). Social rules simplified to the form ‘in C, if X then Y’ are, for T. Lawson (2019), the expressions of collective acceptance, where an

activity (X) in a community (C) is ‘determined’ by the content of a collective practice (Y). For example, within a specific community, that is the UK, the way to dress at a wedding (activity X) is generally with an appropriate dress/suit for this kind of occasion (the content of the collective practice Y). Here, T. Lawson (2019) sees it as “interesting to consider how (if at all) the *stability* of collective practices varies according to the degree of individual acceptance” (p.52, italics in the original), but he does not elaborate further on this in any detail. However, to use degrees of individual acceptance as precisification is, in our view, problematic, as it allows for the definition of inquiry resistant borderline cases as illustrated above. By arguing that the legitimacy of positions or collective practices is in one way or the other based on individual acceptance and, in addition, allowing for ‘degree-ness of acceptances’, simply means that no predominate precisification for the differentiation between legitimacy and non-legitimacy can be made and justified; that is, the question of when and exactly how a collective practice loses/gains its legitimacy within the procedural nature of social evolution cannot be answered. Moreover, if one wishes to define a precisification along these lines it cannot escape charges of arbitrariness. That is to say that legitimacy is given at a certain degree of acceptance and can be challenged by reference to other, close degrees of acceptances.

The second account on the relationship between the stability of collective practices and the role of individual participants in these practices, specifically with regards to normativity, is presented by Elder-Vass (2012; see also Archer and Elder-Vass 2012) in his ‘norm circles’, which intend to address the problem of normativity with reference to normative social structures. Norm circles as social structures are stable because they have emergent powers that reinforce and strengthen individuals’ commitment to the norms they endorse; in other words, members exercise and are subjected to a system of endorsement and enforcement of these norms. Stability of the practices then emerges through member’s awareness

that other members of the circle share their commitment. They feel an obligation to them to endorse and enforce the norm concerned, and they have an expectation of others that they will support them in that endorsement and enforcement. In other words, the members of a norm circle share a collective intention to support the norm, and as a result they each tend to support it more actively than they would if they did not share that collective intention. (Archer and Elder-Vass 2012, p. 100)

What Elder-Vass (2012; Archer and Elder-Vass 2012) appears to focus on, in our view, is more of a synchronic theory of social behaviour, whereas an explanation on how these norm circles come into being in the first place remains underdeveloped to the point that inquiry resistant borderline cases can be formulated. While his theory explains why such social structures are stable, we would argue that it cannot explain what degree of endorsement and enforcement, conceptualised in whatever way, will allow us to distinguish between stability and non-stability, or emergence of stability, of the social structure, as there may be groups of individuals which use endorsement and enforcement upon others without successfully creating a stable norm circle. This is not a matter of refinement of the theory, but instead these borderline cases remain incapable of resolution due to their inquiry resistant nature. In other words, considering both examples about collective acceptance, we argue that, ultimately, we remain unable to say which precisification is the “superior representation of the vague term” (Dowding and Bosworth, 2018b, p. 7), so much so that the emergence of such for social structures may, sometimes, remain outside of the reach of our theories.

Sources of Semantic Vagueness

When we cannot avoid the issues of vagueness for social positioning, and social ontology in general, identified above, we propose that social ontologists should explore the sources of vagueness and incorporate these interpretations into their theorising to be able to account for the limitations they face. By doing so, social ontologists may be able to: (i) justify the use of the vague but efficient terms over any precisification due to the issues identified, or (ii) develop better justifications for precisifications suggested for vague terms. Within the philosophical

literature, there are a number of different attempts to identify the sources of vagueness.¹⁶ The most prominent theories regarding sources of vagueness are supervaluationism, truth degree theories, epistemicism, contextualism and nihilism. Obviously, these theories have been both widely criticised and justified in detail. We only wish to present the selection and suggest adoption, once one adopts one of these theories; however, one will also have to deal with the existing criticism.

Truth Value Gaps or Non-Bivalent Truth Values?

Supervaluationists look at vague terms, which can be interpreted in different ways without being misunderstood at the same time (Mehlberg, 1958). The truth/falsehood of statements containing such terms depends on whether they are true or false under every admissible interpretation¹⁷ or precisification. This generates at least two truth conditions within supervaluationism: (i) a statement can be true or false under a specific interpretation/precisification of the vague term in question, while false or true under another, and (ii) it can be supertrue/superfalse under all possible interpretations/precisifications. Williamson (1994) gives the following explanation of vagueness under supervaluationism:

A non-scientific example of a vague term is 'Toronto', for the spatio-temporal boundaries of its denotation can be admissibly drawn in more than one way. Since 'Toronto is in Canada' is true on each admissible interpretation, it is true. Since 'Toronto is in Europe' is false on each admissible interpretation, it is false (p. 145).

As a consequence, under supervaluationism both classical logical reasoning is preserved while it admits truth gaps in statements; that is, borderline statements simply lack any (super)truth value because they are true under some, but false under other, admissible interpretations of the matter.

A different theory, although according to Keil (2013) and Kamp (2013) also reconcilable with supervaluationism, is that of truth degreeeness, which states that there is a gradual transition in truth values of statements and that borderline cases can have truth-values between full truth and full falsity. Sainsbury (1986) and Weber and Colyvan (2010), for instance, have developed such an approach asserting that sorites paradoxes should be treated with gradual truth values of the underlying borderline cases. Sainsbury (1986) justifies his reasons intuitively by saying that:

a sentence containing a vague expression may fail to be completely true and fail to be completely false, yet not be without truth value. Such a sentence represents the world as being in a certain way, so there must be a question of whether it represents correctly or incorrectly (p. 97).

Instead of statements lacking truth-values, here the statement can be more or less true in its representation of the world. Borderline cases disappear and there is no need to ask for a clear cut. Instead, there is a gradual transition of statements being absolutely true and absolutely false.

Ignorance, Context Sensitivity, or Just Giving up on Existence?

An entirely different source of vagueness, as well as an argument for the preservation of classical logical reasoning, is proposed by epistemicism, which Williamson (1994) defends by arguing that borderline cases are indeed bivalent. That is, vague utterances are either true or false, but “[i]t is just that we are in no position to find out which truth-value the vague utterance has” (p. 201). A speaker may simply be ignorant of the facts that would allow her to identify the truth or falsity in borderline cases, hence admitting that there are hidden facts is an important step towards acknowledging that the vagueness of borderline cases is an epistemological phenomena and not a semantic one. Williamson (1994) concludes that “[o]nce

hidden lines are admitted, why should a line between truth and falsity not be one of them” and justifies his epistemic view by saying that it is important “to treat ignorance as an essential feature of borderline cases” (p. 201).

Epistemicism is not the only theory that moves away from a sole focus on the truth status of vague statements. Contextualism provides a set of theories for the source of vagueness in vague statements. Why it is a set of theories is explained by the fact that within contextualism there are a number of different explanations to a shared analysis of sorites paradoxes. Contextualists begin with the following redefinition of a sorites paradox, whereas one is to observe a screen divided into squares with a colour transition from one side to the other (green to yellow (Kamp, 2013) or red to orange (Raffman, 1994)). Looking at one side of the screen and being asked what colour is seen, one would clearly answer green or red, while the same is true for the other side. However, “[a]fter a while your answers “green” [or “black”] will become hesitant, increasingly so, until the point is reached where you either say: “Now I really don’t know what to say anymore,” or else some such thing as “this one really looks more like yellow [or “grey”]”” (Kamp, 2013, p. 279).



Figure 1: Contextualist example of sorites paradox based on Raffman (1994) using a black to grey gradation due to print version requirements

Kamp (2013), who is credited with formulating contextualism, defines this phenomenon as ‘contextual disambiguation’, that is since the usage of predicates is always context-sensitive, any abstractions to achieve generalisability is futile. This means that we experience the problem with vague borderline cases because we try to abstract the use of terms from context dependent applications. For instance, with regard to the term ‘large’, Kamp (2013) explains that “it is only with respect to a given context of use that we can meaningfully ask whether a certain object is

large (...) [d]ifferent contexts resolve these questions in different ways” (p. 281). Therefore, the attempt to generalise the term ‘large’ is impossible. In other words, ‘large’ is not a one size fits all term. Raffman (1994), on the other hand, suggests a different explanation for this contextualist sorites paradox, adding a psychological twist to the story. She specifically refers to our discriminatory and categorical judgements. What appears to be paradoxical is essentially confusion between these two judgment processes. Outlining what is displayed in Figure 1, Raffman (1994) argues that:

your 'looks red'/'looks orange' judgments are the coordinated output of a pair of somewhat independent homunculi - one who categorizes and one who discriminates (that is, makes same/different judgments). As long as you judge the patches singly, your categorizer has free rein: he may, for example, categorize #26 as looking red, #27 orange, #28 red, and #29 and everything thereafter orange. When adjacent patches are judged pairwise, however, your discriminator takes over. Finding a pair to be marginally different, he will constrain his colleague to categorize them identically (p. 47).

Finally, the most counterintuitive position comes from the proponents of nihilism. Most prominent here is Peter Unger (1979), who addresses sorites paradoxes by arguing that *There Are No Ordinary Things*. Considering sorites paradoxes as outlined above, where: (i) there is an object X (for example a stone), (ii) that object consists of a finite but large number of elements (for example atoms), (iii) taking away n elements/atoms the object is still X (a stone), whereas (iv) taking away $n+1$ elements (atoms) the object is no longer X (a stone), and (v) a contradiction arises when inductive reasoning is applied, Unger (1979) suggests “that any adequate response to this contradiction must include a denial of the first proposition, that is, the denial of the existence of even a single stone” (p. 121). Although he qualifies that nihilism only applies to objects “which are not living or alive”, defined as “ordinary inanimate objects” (Unger, 1979, p. 117), the radicalism of this position has raised substantial criticism about its tenability (Williamson, 1994). We would, therefore, argue that nihilism is the least appropriate theory to be included in the Cambridge project due to the fact that it has a (critical) realist

foundation, which presupposed the existence of non-social objects (T. Lawson, 2014). Nevertheless, what about the other theories?

Some Implications

After having rejected nihilism, we wish to outline the implications of the theories introduced above on the sources of vagueness to decide which could be included in the Cambridge, or any other social ontology, project to explain why we cannot find a single predominant precisification for vague terms such as ‘social positioning’ and ‘community acceptance’. Both supervenience and truth degree theories require the adoption of specific, non-binary, truth theories in order to be applied. In the case of the former, statements under social positioning of the form ‘X is positioned as F’ can be: (i) ‘supertrue’/‘superfalse’ if true/false under all admissible interpretation/ precisifications of ‘X is positioned as F’, or (ii) neither true nor false, creating a truth/falsity gap, if there are admissible interpretations/ precisifications where ‘X is positioned as F’ is true and others where it is false. Hence, to say someone is a member of CSOG is only ‘supertrue’ if it is true under all admissible interpretations/precisifications of membership, otherwise we have to accept a truth gap responsible for the paradox we have identified. However, with the proposed inability to find a single predominant precisification for the formula, the paradox remains, and we need to accept truth gaps in our statements about the social realm. Similarly, applying truth degree theories to the formula would lead us to say that ‘X is positioned as F’ can be gradually more true or false depending on the precisifications, thus allowing us to accept the inability to define precise borderline cases that, for instance, allow us to exactly distinguish between membership and non-membership of a group.¹⁸ In other words, to say someone is a member of CSOG is, given a set of criteria derived from a specific

precisification, ‘truer’ or ‘falsier’ depending on how these criteria are met, or to put it another way, some people may be more of a member than others.

Can either of these two theories be reconciled with the CSOG project? We believe this to be the case. First, both theories do not commit one to specific ontological positions, other than the representational nature of statements; hence, they should be implementable in the existing social ontology of, at least, the CSOG project. Secondly, both theories focus on the truth-values of said representational statements, but this, likewise, should not be an issue. Regarding the question of truth, T. Lawson (1997) acknowledges an epistemic-ontic duality for its meaning. In this duality, the “ontic aspect of truth functions to designate the states of affairs expressed, the referents (...) which exist relatively independently of us and by virtue of which our claims are (or are not) true” (p. 241). On the other hand, under the epistemic aspect, “truth functions to designate the truth-values, truth-judgements and truth-claims which are, or could be, made in scientific activity and discourse” (p. 241). It is this duality that specifically creates confusion if a term is used in way that a speaker moves between the ontic and epistemic aspect of its meaning. At first glance, it appears that both supervaluationsim and truth degree theories, due to their focus on the logic of statements, would fall under the epistemic category in T. Lawson’s (1997) truth meaning duality. Yet, T. Lawson (2003b) also “explicitly reject[s] correspondence theories of truth, though not the idea that our theories can *express* or capture reality” (p. 168). Is this rejection of correspondence theories of truth an issue? Not really, as both supervaluationsim and truth degree theories function under different truth definitions. Their sole purpose is to deal with the issues vagueness creates for the bivalence condition in classical logic. As Varzi (2007), for instance, clarifies under supervaluationism, a “statement is true if it is super-true, that is, true on every admissible precisification, and it is false if it is super-false, that is, false on every admissible precisification” (p. 634). This holds true, even with no specific definition for truth, and, therefore, correspondence theories are not required here. Likewise,

truth degree theories do not require a specific truth definition either, as value gradation can be applied to all possible definitions. In the end, supervaluationism requires the acceptance of truth-value gaps, and truth degree theories require acceptance that truth-values are not merely bivalent in statements within the epistemic meaning of truth (T. Lawson, 1994) in order to explain the limitations vagueness poses for social positioning. Whether one is willing to commit to one of these two is a matter of personal conviction.

What if someone does not want to commit to either of these theories but still wishes to find a solution to the problems vagueness poses for social positioning? The third option discussed above is that of epistemicism. Under epistemicism borderline cases in social ontology remain bivalent and are, therefore, solvable in the sense that utterances about social positions are either true or false, but we might be ignorant of the facts that allow us to determine the truth or falsehood of those statements. For instance, to say that X is a member of CSOG is always either true or false but we may never be able to identify the truth or falsehood of this statement because of our ignorance of the necessary facts to make this judgement. Similarly, there might be clear answers to questions to the positioning of artefacts and community acceptance but our overall ignorance of the necessary facts will prohibit us from making a final conclusion. Therefore, for social ontologists, and specifically the Cambridge project, epistemicism appears to be a viable solution as it merely requires one to commit to ignorance of facts. Further, in contrast to the two theories discussed above, treating vagueness as mere epistemic phenomenon would neither require a change to the ontological theories, such as social positioning, nor an analytical engagement with the logic of representational statements about the world. Further, “acknowledging that ignorance as an essential feature of borderline cases” (Williamson, 1994, p. 201) could be used to explain the fundamental limits of vagueness posed to the explanatory power of social positioning. It is not the theory or our language that is the issue, but our capacity to access all the necessary facts that will allow us to solve the identified borderline cases.

Moreover, not all ignorance is temporary. Temporary ignorance implies temporary indeterminacy, which implies the possibility of actually solving current sorites paradoxes. According to Williamson (1994), however, some ignorance is indefinite and, therefore, we will remain ignorant about certain aspects of the social realm. Ultimately, the question of whether or not epistemicism should be considered as an explanation for the issues vagueness creates is not related to the ontological commitments within the Cambridge project, but more to one's epistemological commitments.¹⁹

Similar to epistemicism, contextualism allows us to explain the source of vagueness with less focus on specific ontological commitments. Instead, either a conflict is seen in the use of context-sensitive predicates for generalisations (Kamp, 2013), or the conflict is allocated within our mental faculties (Raffman, 1994). Under Kamp's (2013) 'contextual disambiguation' the truth values of statements of the form 'X is positioned as F' depend on the actual context in which they are uttered, meaning that sometimes 'X is positioned as F' is true, while in other contexts it might be wrong and a generalisation independent of context is futile. This explanation seems workable within the Cambridge project, but raises the question of how context-sensitivity really applies in the case of social positioning. Defining the 'contextual disambiguation' in the case of CSOG membership, for instance, seems rather difficult. What different contexts could possibly allow for n appearances in the weekly meeting to position one as member of CSOG, while other contexts do not, we do not know. Seemingly even more difficult is the psychological approach by Raffman (1994), which argues for a conflict in two decision-making systems within our mental faculties. The social ontology would have to consider the internal struggle of her own discriminatory and categorical judgement systems as the source of her inability to solve the identified sorites paradoxes regarding social positioning. That is to say, the problem of identifying the exact point when an 'X is (no longer) positioned as F' may remain unsolvable if the conflict between the discriminatory and categorical

judgements in relevant contexts cannot be overcome because it is deeply ingrained in the human psyche. Can these considerations occur within the Cambridge project? Certainly, but the question is whether or not the inclusion of psychological aspects into social ontology is a step too far or not.

We have identified four theories that allow us to explain the reasons why vague borderline cases in social positioning occur. While we will remain incapable of solving those borderline cases, we can at least incorporate these explanations into our theorising to clarify the limitations vagueness poses for social positioning. Each theory requires, however, certain commitments. In the case of supervaluationsim it is commitment to truth value gaps, in the case of truth degree theories commitment to non-bivalent truth values, in the case of epistemicism it is commitment to ignorance as a fundamental epistemic phenomena, and in the case of contextualism it is commitment to contextual conflicts. In addition, each theory faces a number of potential criticisms (Williamson, 1994; Graff and Williamson, 2007). Stanley (2003) has shown that there are sorites series that evade the contextualist argument, thus opening an avenue for generating borderline cases that cannot be explained by reference to context-sensitivity. Therefore, it is necessary to consider each of the theories presented with scholarly care. However, the explanatory clarity these theories bring to the issues identified within social positioning is, we argue, a helpful addition. Which theory one wishes to commit to is, of course, determined by one's own preferences. In the light of the Cambridge project itself, we would recommend considering supervaluationsim, epistemicism or truth degree theories, as they seem to come with the fewest requirements to investigate borderline cases in social positioning. Contextualism, on the other hand, requires either the identification of context-sensitivity in each case, which we question is always possible, or some deep reflections on one's own mental faculties, which we would argue is beyond the scope of social ontology in general.

But What if it's the World?

So far we have treated vagueness as a semantic feature of natural languages. Consequently, the theories that explain the vague borderline cases, with the exception of that of Raffman (1994), focus on representational statements about the world. However, what if vagueness is not merely semantic but, instead, is a feature of the world itself? This ontological vagueness, where the objects in the world are vague themselves and not only their representations in our concepts or language (Keil, 2013), has been suggested by a number of authors (Akiba, 2013; Bittner and Stell, 2002; Cobreros et al., 2013; Garrett, 1988, 1991; Galton, 2003; Parsons and Woodruff, 1995; Parsons, 2000; Tye, 1990; Weber, 2013; Varzi, 2001). Such vague objects are currently defined as “a concrete object *o* [...] if, and only if, (a) *o* has borderline spatio-temporal parts and (b) there is no determinate fact of the matter about whether there are objects that are neither parts, borderline parts, nor non-parts of *o*” (Tye, 1990, pp. 535-536). Often cited examples of such a vague object are clouds (Unger, 1980; Keil and Poscher, 2016), which consist of a multitude of water drops with “their density gradually diminishing towards the cloud's edge” (Keil, 2013, p. 155). Other than the classic sorites paradoxes, ontological vagueness is not about classification/representation but the indeterminacy between the ordinary object and its non-object surroundings, that is the edge of the cloud. In addition, Keil (2013) suggests that ontological vagueness can be combined with Unger's (1980) problem of the many, where the “individuation of ordinary objects” (p. 155) leads us to being indeterminate about whether the cloud region itself consists of a multitude of overlapping clouds.

When looking at social ontology, the first question we need to clarify is whether social entities can be ontologically vague or not? For non-social objects, the standard question refers to the indeterminacy concerning the exact spatiotemporal location of said object, but in the case of social entities it may make no sense to ask for the spatiotemporal boundaries. Clearly, the question of where the spatial boundaries of groups or institutions, and so forth, are makes no

sense. On the other hand, if we look at the relationship between certain social entities and their parts, we may identify the source of their vagueness to be ontological. A community, for instance, may have borderline members; that is, we are indeterminate in saying whether or not they belong to that group in the same way we are indeterminate in saying what water droplet is part of the cloud and what is not. If we look at intersectional groups, we might find such borderline members. Another area where we could find ontic vagueness is in the proposed processual nature of all social structures (T. Lawson, 2019). If all social structures, made up of collective practices, are subject to constant processual change, then we may argue that there are cases where we can find indeterminate collective practices. We cannot say whether specific collective practices are necessary or sufficient for specific social structures, even if the practice or the structure is represented by non-vague terms. One might also consider law when looking for ontic vagueness, but according to Deakin (2017, p. 157) law must be considered representational of “particular social referents or objects” and, thus, we would need to look for ontic vagueness in these referents and objects rather than in the relevant legislation. Generally speaking, then, it is the indeterminacy between social totalities and its constituents that seems to be the best candidate for a justification of ontological vagueness. This means we would encounter inquiry resistant borderline cases even if we use a single, non-vague precisification for the phenomena under investigation.

However, ontological vagueness is not without controversy in the literature. Some authors have criticised the idea of ontological vagueness as “not properly intelligible” (Dummett, 1975, p. 111) and argued that “[t]he only intelligible account of vagueness locates it in our thought and language” (Lewis 1986, p. 212), which dismisses ontological vagueness altogether. Eklund (2013) summarises that the so called “semantic theorists”, under which supervaluationsim, truth degree theories, epistemicism and contextualism fall, claim that indeterminacy does not relate to objects themselves but only to their representations, while the “metaphysical theorist

denies precisely this” (p.171). The problem for the latter is, however, that even with real world objects and events having indeterminate boundaries that are not representational or categorical, as in the case of the cloud, their representations and categories themselves are also vague. The cloud classification is itself semantically vague, which brings us to the question of the source of vagueness: “our representation or the things themselves, our language or the world” (Keil and Poscher, 2016, p. 5). Keil (2013) and Keil and Poscher (2016) argue that being a semantic or metaphysical theorist seems to depend on whether someone takes an Aristotelian/robust or Quinean/deflationary ontological position; whereas “the robust ontologist holds that there are real metaphysical joints in nature”, “the deflationary ontologist (...) subscribes to the ‘picture of reality as an amorphous lump’” (Eklund, 2008, p. 383). If reality is seen as such an ‘amorphous lump’ then the question of ontological vagueness cannot arise and all comes down to semantic vagueness and the way we cut this amorphous lump into smaller chunks through categorisation (Keil and Poscher, 2016). If, however, we take an Aristotelian/robust ontological position, the question of the source of vagueness, whether ontological, semantic or a combination of both, may become important.

From our interpretation of, at least, T. Lawson realist’s position (1997; 2003a,b; 2012; 2014; 2016a,b), which seems to suggest such a robust ontology as Eklund (2008) describes, we infer that within his social ontology social entities may be considered vague themselves, and not only our representation of them. This will make ontological vagueness feasible, but just because we accept ontological vagueness does not imply we can dismiss semantic vagueness. Some concepts, nouns, verbs and adjectives remain vague. Consequently, with ontological vagueness now in the picture, we will be unable to say what is to blame for our issues; our language or the object of inquiry, or both. As Keil (2013) argues:

The question of vagueness's ultimate source—our representations or the things themselves? Language or the world? —verges on being silly. Forget about representation for a moment and think of language as a tool: Sugar tongs are perfect

tools for gripping sugar cubes. Now if you try to grip powdered sugar with sugar tongs, and it doesn't work that well, then who is to blame, the sugar or the tongs? (p. 163)

If both ontic and semantic vagueness are accepted, the limitations to social ontology suggested in the previous sections should be understood as originating from the fact that it is the nature of the world we live in, together with the natural languages we use to represent it in our concepts and theories that together prohibit us from solving these borderline case questions. It is not only the language's fault anymore; indeed, we cannot 'blame' language at all according to Keil (2013). That is to say, that accepting both ontic and semantic vagueness makes us not only indeterminate about borderline cases but also indeterminate about the potential source of vagueness. Ultimately, then, vagueness becomes itself vague and any analytical effort in even clarifying the source of vagueness may remain futile.

Conclusion

In this paper we argue that one of the central theoretical elements of T. Lawson's (2003b; 2012; 2014; 2015a,b; 2016a,b, 2017), and in some respect the entire Cambridge Social Ontology project's, work on social ontology, that is, social positioning, is subject to vague terms and expressions and consequent inquiry resistant borderline cases. While the use of vague expressions in everyday language is not necessarily always a problem, as they are quite often more efficient in their use than possible precisification, problems do arise for both inductive reasoning, as well as when precisifications for vague terms are attempted in order to more precisely categorise, or carve up, the (social) world in our philosophical and scientific analyses or discourses. It seems that vagueness demonstrates a trade-off between efficiency and precisification, and that we are not always able to achieve both at the same time. We further argue that in neither the case of social positioning of human beings or artefacts, nor with community/collective acceptance, can we avoid inquiry resistant borderline cases. Thus, there

seem to be genuine limitations to the explanatory detail social ontologists can offer with their theories. It has further been indicated that these issues can be translated to other conceptualisations beyond mere social ontological theorising, for instance when a transitional point between ‘rich’ and ‘poor’ agents/countries is to be specified (Moore, 2006).

A review of the existing literature on semantic vagueness has given us four sets of theories, namely supervaluationsim, epistemicism, truth degree theories and contextualism. Although we accept that this list is not exhaustive, they do allow us to explain the source of vagueness and why it creates inquiry resistant borderline cases. We have shown that all four approaches come with a requirement to commit oneself to certain assumptions about truth-values in the case of truth degree theories and supervaluationsim, epistemic facts in epistemicism, and context-sensitivity or psychological limitations in the case of contextualism. We further argue that each of the theories is, despite the required commitments, ultimately compatible with the Cambridge social ontology, and will allow us to explain why the identified borderline cases are inquiry resistant. Finally, we have introduced the idea of ontological vagueness, which allocates vagueness in the object of inquiry itself. This means we will encounter inquiry resistant borderline cases even if the phenomenon under investigation is represented by a single, non-vague precisification. While ontological vagueness has been criticised in the existing literature on vagueness, the realist undertone of the CSOG project may find the idea of ontic vagueness tenable. This, however, creates further problems as we will then become indeterminate about the sources of vagueness; vagueness itself becomes vague. In the end, independent of where we allocate the source of vagueness and what explanation we prefer, vagueness shows us that we have to live with a fundamental inability to specify semantic representations of social phenomena and entities in social ontological theorising when using natural languages.

We believe that this paper offers the interested reader a satisfactory introduction to the problem of vagueness in the context of social positioning, and social ontology more generally, with an overview of how analytical philosophers have explained semantic and ontic vagueness in the past. This is so interested readers are motivated to consider these issues more seriously, make use of these theories in their own work if needed, and to encourage them to join a conversation about these issues we wish to initiate with this contribution.

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Acknowledgement: We are deeply grateful to the members of CSOG and for the opportunity to discuss ideas about social ontology in the group's weekly meetings. These meetings have been a central inspiration for the development of this paper and without them this work could not have been realised. We also wish to thank the Research and Innovation Development Office (RIDO) at Anglia Ruskin University, which so generously funded the Student Research Taster Internship for Ana Turcitu.

2 Social ontology in the Cambridge Group is understood as the study of the social realm in total (T. Lawson, 2012). This social realm comprises all phenomena whose existence is determined by human beings and their interactions, including their conceptions, and it is mainly shaped by social rules or rights and obligations (T. Lawson, 2014). The purpose of social ontology, then, is to help clarify and/or understand the fundamentals of what exists in social life, its structures and its components.

3 T. Lawson (2016a) argues that this commitment to emerging social entities is the essential difference to, and also advantage over, Searle's (1995; 2003; 2006; 2010) commitment to a reality of institutional facts.

4 It should be noted here that we assume, simplistically, that ontological utterances are about the world without distinguishing their representational nature/kind. We ask the reader to accept that the utterances are about the world, in one way or the other, and that the aim of these utterances is to provide a picture of the world that is as close as possible to reality. Our questions then relate to how far we can go with this. Furthermore, a discussion of the representational relationship between utterances in natural languages and the world remains outside of the scope of this paper; hence, it was not included here. Finally, we omitted a discussion of mathematical models and any isomorphism between model and world here, as we understand mathematical models to be distinct from semantic models, where the former does not necessarily face issues due to vague terms.

5 We intentionally emphasise here the limitations vagueness postulates for Cambridge social ontology to keep the argument consistent and focused. However, we believe that due to the semantic nature of vagueness the analysis is applicable to all social ontologies. Moreover, the limitations of this paper only allow us to develop an in-depth analysis of one approach to social ontology.

6 We apply here Mark Blaug's (1992) definition for induction, describing it "as an argument that employs premises containing information about some members of a class in order to support a generalization about the whole class, thus including some unexamined members of the class" (p. 16). In other words, in inquiry resistant borderline cases these unexamined members evade generalisation. It should be clear that although the logical validity of such arguments is questionable, it is found relatively frequently in everyday research. One could even argue that CSOG social ontology is reliant on inductive reasoning, considering that generalised statements on social positioning and so forth are made without any member having all social phenomena sufficiently examined.

7 Moore (2006) for instance, provides the following examples of sorites reasoning in macroeconomics:

In economics all numerical measurements are "loose" and never precisely correspond to the underlying theoretical concept they purport to measure. The boundary of any empirical proxy to any theoretical concept must always be arbitrarily imposed. Economists have no choice but to make arbitrary judgments when devising empirical proxy measures for any theoretical concept. They are inevitably faced with the question: "Where should I draw the line?" In economics there is frequently no single "right" answer to this question (p. 133).

Furthermore, he clarifies that:

It is a meaningful empirical statement that an individual or a country is "rich" or "poor" in an ordinal and in a cardinal sense. It may be possible to refute such statements empirically. But it is not possible either to specify nonarbitrarily the precise empirical items that constitute "wealth" or "income," or the precise characteristics that divide agents into different economic categories. We will never be able to formulate a nonarbitrary definition of "rich" or "poor" (Moore, 2006, p. 133).

8 In the following we wish to use the word 'social entities' as denominating all components within the social realm, such as positions, artefacts, institutions, groups, communities and so on.

9 Moreover, T. Lawson (2016a) defends in length his "emergentist account grounded in collective practice", stating it is "the more explanatory powerful" (p.382) theory in comparison to Searle (1995, 2003, 2010). The interplay between rights and obligations also has implications for the power relationship between members of a totality. Human beings act in the social realm as a consequence of being "positioned". Individuals, as community members and participants, have imputed rights and obligations according to their social positioning, which include positive and negative powers. For instance, a governmental body has the capability, or accepted power, to create international agreements; therefore, the act is the establishment of the agreement in the pertinent context (Wahlberg, 2018).

10 Dowding and Bosworth (2018) give examples where precisification is not fully achieved because terms in public policy are vague and, therefore, subject to charges of arbitrariness:

We might have a clear idea of what health policy generally means and we are clear, for example, that legislation regulating health insurance constitutes an example of health policy. But is legislation concerning the provision of public housing a health policy? It is not usually considered to be so, but we know that poor housing contributes to ill health. Do we code legislation concerning medical training for teachers or school administrators as education or health policy? What about the provision of nurses in large schools? CAP provides coding frames and coding advice to its teams of coders over such questions, and for comparative analysis we require that coding is consistent across countries and time-frames. But these coding decisions are decisions that enable consistent analysis. They do not reflect real sharp divisions in the policy world and for some questions and comparisons they can be misleading (p. 16).

11 However, one could argue whether or not being enrolled in a university is itself sufficient to be positioned as a student. Attending lectures and participating in university life could be seen as additional requirements.

12 This is to say that regular, that is weekly, attendance gives reasons to believe one is positioned as member of CSOG, assuming, of course, that the community of CSOG agrees. It can also be argued that having never attended makes one a non-member of CSOG, and it is likely to achieve community acceptance by the current members that attending only once makes one a non-member too.

13 Here, for instance, we could explain the de-positioning of an artefact by reference to a change of ownership, for example, if someone bought it. The precisification of this de-positioning, however, might lead to an inquiry resistant borderline case even though 'ownership' is codified in property laws.

14 Weber and Colyvan (2010) use the transition from Hinduism to Australian Football to exemplify the possibility of constructing non-discrete sorites paradoxes, with the former being made up of "ritualistic dress and behaviour, belief in supernatural beings with special powers, the passion-play of good versus evil, and a catalogue of hymns and chants" whereas the latter is made up of "lightly less ritualistic dress and behaviour, belief in players blessed with extraordinary, if not superhuman, powers, the various heroes and villains, and the various chants and team song" (pp.311-312).

15 Earlier, T. Lawson (2016d) explains that "a collective practice is an accepted practice in the sense of being recognised or acknowledged as a currently done way within a specific community" (p.253). Later, he further

distinguishes between “*individual acceptance to participate* in a collective practice and *individual acceptance of the merit or legitimacy* of the practice” (T. Lawson, 2019, p.51, italic in the original), which is differentiated by the former being contingent on the individual’s understanding of the practice, its recognition of the community acceptance, and its willingness to go along with such practices, whereas the latter involves the evaluation “of the practice’s intrinsic merit” (T. Lawson, 2019., p.51).

16 The following examples are illustrative. For a detailed critical discussion of each of these accounts we suggest Graff and Williamson (2017).

17 Admissible interpretations are defined through the distinction between “observational” and “theoretical terms”. Whereas “observational terms drew their meaning from connections to experience defined by ostension; theoretical terms drew their meaning from connections to observational terms and with each other, as defined by a scientific theory”, and where “theoretical vocabulary was at best partially defined in terms of observational vocabulary. If it were totally defined in observational terms, it would not after all be theoretical: more than one interpretation of the theoretical terms would respect all the theoretical and ostensive connections” (Williamson, 1994, pp.143-144).

18 Likewise, we could use those theories to analyse Moore’s (2006) point on the inability to provide a precisification between ‘rich’ and ‘poor’ agents/countries by reference to truth degreeness or truth gaps in these statements.

19 The acceptability of epistemicism could be derived from the fact that T. Lawson (2003b) acknowledges “that our theories can *express* or capture reality” (p.168), but failure to capture reality, that is make reasonable assumptions about what exists, can be grounded in ignorance about the facts of the world.