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Published in:
Dialectica

DOI:
[10.1111/1746-8361.12083](https://doi.org/10.1111/1746-8361.12083)

2014

[Link to publication](#)

Citation for published version (APA):

Hansson Wahlberg, T. (2014). Institutional Objects, Reductionism and Theories of Persistence. *Dialectica*, 68(4), 525-562. <https://doi.org/10.1111/1746-8361.12083>

Total number of authors:
1

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Institutional Objects, Reductionism and Theories of Persistence

Tobias HANSSON WAHLBERG⁺

ABSTRACT:

Can institutional objects be identified with physical objects that have been ascribed status functions, as advocated by John Searle in *The Construction of Social Reality* (1995)? The paper argues that the prospects of this identification hinge on how objects persist – i.e. whether they endure, perdure or exdure through time. This important connection between reductive identification and mode of persistence has been largely ignored in the literature on social ontology thus far.

1. Introduction

In day-to-day life we routinely quantify over, and refer to, institutional objects such as nation states, governments, laws, corporations, currencies, contracts, etc. The ontological status of institutional objects is far from straightforward, however. One reason for puzzlement about their mode of being is this: if humanity were to disappear, or even if we just stopped *thinking* that there are nation states, corporations and dollar bills, arguably there would no longer be (in whatever sense they “are”) any entities of these kinds (cf. Searle, 1995, p. 11).¹ Contrast this sort of mind-dependence with the mode of existence of stars, animals and electrons (natural objects), or bricks, pieces of paper and cups (artefacts). If we all went into a permanent coma, there would still be stars, pieces of paper and cups. Artefacts may be mind-dependent in the

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¹ In a recent and interesting paper, Brian Epstein (2014) challenges representationalistic or intentionalistic conceptions about institutional reality. Here, however, I follow the lead of tradition (e.g. Searle, 1995; Thomasson, 2003; see Epstein, 2014, for further relevant references). I want to point out, though, that non-representationalists who seek to reductively identify institutional objects with brute objects that they already accept (not leaving institutional objects *sui generis*, cf. Effingham, 2010) will have to deal with problems similar to those I set out in this paper. Moreover, I think that the solutions I suggest within the framework of Searle’s intentionalistic, reductive theory can be adopted (albeit in appropriately modified forms) by non-representationalists. Thus, the current paper should be of relevance to anyone interested in the ontology of institutional objects.

sense that their *coming-into-being* requires intentional thought, not only causally, but logically (Hilpinen, 2004; Thomasson, 2007); but institutional objects seem to be mind-dependent, logically, in a stronger way: some kind of *continual* representational activity appears to be needed in order for there to be nation states, corporations and dollar bills.² Moreover, typical institutional objects seem to require *social* recognition, not merely the recognition of a single individual, and indeed this is why the study of their mode of being is often referred to as “social ontology” (e.g. Thomasson, 2003; Searle, 2010).

What, then, is the ontological status of institutional objects? Do they exist “out there” in the external world, or are they merely shared mental constructs or useful fictions of some sort? If they exist in the external world, how are they related to mind-independent aspects of reality? Can they be reduced to – that is, identified with – natural objects or artefacts that have been ascribed certain functions? Or are they *sui generis* entities distinct from natural/artefactual objects?

In this paper, I investigate the tenability and scope of the externalist, reductive view defended by John Searle in his (1995).³ I join Amie Thomasson (1997, 2003), Barry Smith (2003a) and others in arguing that, although the theory (outlined in Section 2) is plausible in relation to institutional objects such as dollar bills and presidents, it runs into trouble with other kinds of institutional object. However, I show (Section 3) that the problematic class of institutional objects is larger than is typically envisaged. It is not only intuitively abstract institutional objects (i.e. institutional objects that ostensibly have no physical location) that are difficult to accommodate within Searle’s (1995) theory. A great variety of more mundane concrete-looking institutional objects are also difficult to handle. In demonstrating this, I rely on the endurance theory of persistence (also known as three-dimensionalism) typically, if tacitly, presumed by social ontologists. My argument also relies on Leibniz’s Law (LL), and I defend its applicability to institutional objects against a kind of scepticism about such application encouraged by remarks made by Searle (Section 4). In Section 5, I ask how

² John Searle can be read as suggesting that there is no distinction between institutional objects and most artefacts in this regard (1995, 11, 20–1). If he does hold this, I think he is wrong (see below, n. 6, for some discussion). For convenience, and as long as no important questions are begged by my doing so, I will often refer to natural objects and artefacts as exclusively “mind-independent” or “brute” (abstracting away possible “status functions” that might have been ascribed to them (see Section 2)); this enables me to operate with a simple, binary contrast: brute vs. institutional. I realize some artefacts may be mind-dependent in the way just indicated in the text. This sort of mind-dependence, which will be largely ignored in this paper, might be dubbed “historical mind-dependence”.

³ I focus on this theory because it has been highly influential. Searle’s (1995) book has contributed strongly to putting social ontology on the philosophical map. However, as I make clear in Section 3, I think that the principal difficulties I identify in Searle’s theory are applicable to any version of reductionism. I should also say that in later writings, Searle moderates his reductionism somewhat (e.g. Searle 2005; 2010); I explain how and why in Section 3.

Searle's theory fares in the light of two, currently popular, revisionary theories of persistence: the perdurance and stage theories (which are varieties of four-dimensionalism). I argue that the prospect for Searlean reductionism improves drastically if either of these theories is adopted, but that the improvement comes at a cost.

Interestingly, it has long since been appreciated within the philosophy of *material* constitution (i.e. the constitution of natural objects and artefacts) that theories of persistence are relevant to issues of reduction (e.g. Rea, 1997; Sider, 2001). This connection between reductive identification and mode of persistence has been little addressed in the literature on social ontology thus far. There are some notable exceptions though: see Copp (1984), Uzquino (2004), Tuomela (2007, 146) and Effingham (2010), in which the application of perdurantism to institutional or social objects is discussed, although not always under that name and often very briefly. Conspicuously, stage theory is completely ignored in these publications. Moreover, none of these authors addresses the tenability of Searle's highly influential reductive theory of institutional objects within the context of various persistence theories. This paper seeks to remedy these oversights and, more generally, to initiate a more thoroughgoing and detailed exchange of ideas between general metaphysics and social ontology.

2. Searle's reductive theory of institutional objects

In this section, I outline in some detail Searle's theory of institutional objects as it is advocated in his pre-2005 writings (i.e. before he accepted "free-standing Y terms" – a notion explained in Section 3), primarily as it is formulated in his seminal book *The Construction of Social Reality* (1995). I also defend a reductive interpretation of Searle's theory. The latter feature of Searle's scheme will be exploited later, in sections 3–5. Readers familiar with pre-2005 Searle, and who are already convinced that Searle's theory is best classified as reductive (an issue which may be a bit controversial), may jump to Section 3.

According to Searle, institutional concepts, such as *dollar bill*, *professor* and *president*, are self-referential (Searle, 1995, 32–4). It is analytically true of a self-referential concept that, if an object in the external world is to fall under it, the object must be regarded as falling under the concept.⁴ Thus, on this view, being represented as an *F* ("*F*" expressing an institutional kind) is logically prior to being an *F* (ibid., 13). Searle takes self-referentiality to explain our intuition that institutional objects are mind-dependent: there would not be any *F*s

⁴ Searle denies that the idea involves vicious circularity (ibid., 52–3).

in the world if we did not *think* that there are *F*s in the world (cf. p. 33).⁵ Hence, professors and dollar bills are indeed external objects, but their being professors and dollar bills is not *intrinsic* to them; this status is *assigned* to them (pp. 9–13).

Searle maintains that institutional concepts express “status functions” (pp. 40–1). Status functions cannot be performed, or had, by an object merely in virtue of its physical properties and abilities; going beyond the physical, they presuppose the assignment of a new status to the object that performs the function in question. Typically, status functions involve, either directly or indirectly, what Searle calls deontic or conventional powers: rights, responsibilities, obligations, duties, entitlements, and so forth (pp. 100, 104–5). The owner of a dollar bill, for example, has the *right* to use it as payment in the US, because dollar bills are legal tender there. Searle seems to regard the observer-relative “status” and its associated status function as being so intimately connected that in many cases he simply speaks of “status functions” rather than “statuses” *and* their associated “status functions”. In what follows I will adopt this way of speaking. For example, I will say that a predicate such as “is president of the US” expresses a status function, not a status with an associated status function. (In many cases it seems that a status in fact is *defined* in terms of its status function; this is acknowledged by Searle (p. 114).)

Since status functions go beyond the sheer physical nature of objects, we must, according to Searle, *continue* to assign the status functions in order for the functions to be successfully had and performed over time (pp. 32, 45). For a status function to be had across time, it is not enough that we assign it to some object once and then forget about the function.⁶

⁵ He allows, however, that a given object, *a*, can be of an institutional kind, *F*, in the absence of our having singular attitudes to *a*. But in such cases Searle holds that we are accepting some general rule to the effect that all entities, *x*, having certain features, *G, H, I...* (exemplified by *a*) count as instances of *F*, which makes them *F*s (32–3, 46). I suppose that codified laws often take this latter, general form.

⁶ It should be noted, however, that for Searle, all functions are “observer-relative” in that they are teleologically, and not just causally, defined. Nevertheless, Searle accepts that many functions can be performed simply in virtue of objects’ physical properties, *once a goal or value has been specified* (pp. 14–5). For example, a heart causes blood to flow through a body, and relative to the goal of survival, it “functions” to pump blood (which is a “nonagentive” function in Searle’s terminology); a screwdriver has certain physical characteristics, and in virtue of these it can be *used for* tightening screws (an “agentive function”) (p. 20). Status functions form a special sub-class of functions whose members are, so to speak, further removed from the mind-independent aspects of reality: they may even be arbitrarily related to the physics of the things in question (pp. 40–2). In spite of his view that non-institutional agentive functions do not go beyond the sheer physics of things (apart from the teleological part), Searle seems to hold that they, too, have to be continuously assigned in order to be had over time (pp. 11, 20–1). His exact reason for holding this is not entirely clear, however. I would maintain, in any case, that the concepts expressed by predicates like “is an urn” and the concepts expressed by predicates like “functions as an urn” should be held apart. The first kind of concept only seems to require a past or present imposition of some agentive function (cf. Thomasson, 1997, 127–130), while the latter may require, if Searle is correct, the present assignment of the agentive function in question. Thus, when an archaeologist discovers an old artefact it can be true to say that the artefact *is* (present tense) an urn, even though it has not been used or

When assigning status functions to objects, we are applying, or accepting (if we are not inventing), specific *constitutive rules*, or systems of such rules (pp. 27–8). Constitutive rules should be distinguished from merely regulative rules, Searle maintains. The latter regulate activities which can exist without the rules, unlike the former, which create the possibility of a new kind of activity, fact or object. For example, according to Searle, the rules of chess are constitutive. They create the possibility of *chess playing*, which differs from randomly moving pieces of wood around a chequered board (even if such random movements are indistinguishable from genuine chess moves, i.e. moves intentionally governed by the constitutive rules of chess).⁷

Constitutive rules characteristically take the following form (p. 28; see also Searle, 1969, 33–7, for a general discussion):

X counts as Y in context C.

In the case of institutional objects (Searle, 1995, 44), X is a placeholder for an expression referring to some object (or type of object), Y is a placeholder for an expression reporting a status function, and C specifies the context in which the *counts as* relation holds (if the status function is not conferred across contexts).⁸ For example, on Searle’s view, the predicate “is a dollar bill” expresses a status function which is assigned to certain pieces of paper issued by the Bureau of Engraving and Printing under the authority of the US Treasury; these bits of paper *count* as dollar bills and therefore *are* dollar bills. Thus, the existence of dollar bills is dependent on the acceptance of some set of constitutive rules (pp. 45–6); and since an institution is a system of constitutive rules (p. 114) dollar bills are aptly called “institutional objects” (p. 44).

assigned the agentive function *functions as an urn* for centuries. It would be true to say this because the artefact *was* designed to function as an urn – not because the archaeologist now assigns this agentive function to the object. Such a past assignment does not seem to be adequate for the satisfaction of *institutional* kind concepts (on this point I agree with Searle). A person who merely *was once* counted as a prime minister no longer *is* a prime minister (although he or she *is a former* prime minister); an expired dollar bill is no longer a valid dollar bill (strictly speaking, it is merely a former dollar bill, it *used to* carry the relevant deontic powers). Arguably, then, artefactual and institutional kind concepts are different in this respect. However, since the primary topic of this paper is not artefacts but institutional objects, I will not dwell on this subject any further. I refer the reader to Thomasson (1997; 2007) for elaborate defences of the sort of view sketched here.

⁷ See also Searle’s examples of people accidentally going through the moves of American football (Searle, 1969, 35–6). As an example of a regulative rule Searle mentions “drive on the right-hand side of the road” (Searle, 1995, 27); driving can exist without such rules. The distinction between regulative and constitutive rules is criticized by Ruben (1997); for Searle’s reply, see Searle (1997).

⁸ If the term in the X position denotes an event or a process we get an institutional event/process, e.g. a marriage or an election.

In the example above the status function *being a dollar bill* is assigned to an artefact (a piece of paper), which is a mind-independent object (see Section 1). Searle holds, however, that the formula can be iterated so that a new status function is assigned to an object which is already an institutional object (p. 80). For example, the status function *being president of the US* may be assigned to (and only to) a *citizen of the US*. Searle insists, however, that such chains of status function assignment must be grounded in, or start off with, mind-independent, brute objects (pp. 34-5, 55-6, 121, 190-1).⁹

In what sense, now, is Searle's pre-2005 theory reductive? I maintain that it is reductive in the sense that it without exception *identifies* particular institutional objects with particular brute ones. That is to say, I read pre-2005 Searle as defending a token-token identity theory of institutional objects.¹⁰ Admittedly, Searle's formulations are not always crystal clear on this point, but I take him to be denying that an institutional object is an entity distinct from, or an object "over and above", a brute object. In particular, I take him to be denying that an institutional object is merely *constituted* by a brute object, in the sense of "constitution" in which constitution is an asymmetric relation holding between two distinct objects.¹¹ When an object *x* constitutes an object *y* (in the asymmetric sense), typically *x* and *y* fall under different kind predicates (Wiggins, 1968/1997; Fine, 2003). For example, consider

⁹ Searle says, for example: "where there is a status-function imposed on something, there has to be something it is imposed on. If it is imposed on another status-function, eventually one has to reach a rock bottom of something that is not itself any form of status-function. So, for example, [...] all sorts of things can be money, but there has to be some physical realization, some brute fact – even if it is only a bit of paper or a blip on a computer disk – on which we can impose our institutional form of status function." (1995, 55-56) And: "Because the logical form of the creation of socially constructed reality consists in iterations of the structure X counts as Y in C, the iterations must bottom out in an X element that is not itself an institutional construction." (ibid., 191)

¹⁰ Searle is clearly not defending a type-type identity theory: for example, he claims that "just about any sort of substance can be money, but money has to exist in some physical form or other. [...] What is true of money is true of chess games, elections, and universities. All of these can take different forms, but for each there must be some physical realization." (Searle, 1995, 34-5). Since institutional predicates in general cannot be mapped one-to-one with brute ones, classical theory reduction à la Ernest Nagel (Nagel, 1961/1979, Ch.11) is ruled out. Hence, I am not imputing *these* reductive positions to Searle. In the paper, I am using "reductive" and "reductionism" in the sense of, e.g., D.-H. Ruben (1985, Ch. 1).

¹¹ Consequently, I think Frank Hindriks's (2013) reading (see also Epstein, 2014, for a similar interpretation) of Searle is wrong. Hindriks takes constitution to be an asymmetrical relation holding between distinct but suitably related things. He then goes on to say: "It seems plausible to say that the entity described by the X-term constitutes the institutional entity at issue. Searle's use of the term 'constitutive rule' suggests that this is what Searle has in mind." (Hindriks, 2013, 425) However, I do not think we should make too much out of Searle's use of the expression "constitutive" here. I think he is primarily trying to make a distinction between two sorts of rules, the merely "regulative" and the more interesting "constitutive" ones. Searle made this distinction already in 1969 (see above), long before "constitution as non-identity" became such an entrenched notion in the philosophical community (see e.g. the overview and references in Wasserman, 2013; for an early statement of the thesis that constitution is not identity, see Wiggins, 1968/1997). Let me also point out that Hindriks himself indicates that his constitution interpretation of Searle might be wrong. One reason Hindriks gives here is that Searle holds that "an object is a social object 'only under certain descriptions and not others'" (Hindriks, 2013, 425, n. 18). (I will come back to this statement by Searle later in this section and in Section 4.) Also, in his (2012, 106) Hindriks argues that it is plausible that Searle "conceives of the relation between institutional and non-institutional entities in terms of identity" (see also Hindriks, 2008).

the much-discussed case of a piece of clay “constituting” a statue. Those who hold that constitution is not identity *deny* that the piece of clay falls under the kind predicate “statue”. (If the piece of clay fell under the predicate “statue”, then given that constitution is not identity there would be *two* statues co-located at the place and time in question: one statue would constitute another statue.¹²) Thus, the orthodox view among those who hold that constitution is not identity is that the statue is constituted by an entity which is not itself a statue but is merely a piece of clay. By contrast, in Searle’s theory, the brute object X that counts as a Y (a dollar bill, say) is, as a result of this collective act of counting, *itself* a Y. Thus, in a specific case, the particular Y in question (that specific dollar bill) simply *is* the relevant X object (that specific piece of paper). In general, a particular institutional object is numerically identical with a particular brute object.

Of course, not every brute object is an institutional one, on this scheme of things. Only those brute objects that have been assigned a status function are institutional objects. More precisely, only those brute objects that have been assigned a status function of a sort that defines and yields an institutional *kind* of object – e.g. a professor, a dollar bill – are institutional objects. Those objects that have merely been assigned a *characterizing* status function, for example *being married* or *being insolvent*, are not institutional objects – they are merely brute objects with an additional institutional property. (Roughly, kind properties are invoked in answers to questions of the form “What is *x*?”, while characterizing properties are invoked in answers to questions of the form “What is *x* like?” and “What is *x* doing?”. Often, kind properties are expressed by count nouns, while characterizing properties are represented by adjectives and verbs. Searle himself does not distinguish between what we may call “*kind* status functions” and “*characterizing* status functions”, but I see no reason why the classical Aristotelian-Lockean distinction between kind and characterizing properties (see e.g. Strawson, 1959, 168–9; Wiggins, 2001, 8–9; Lowe, 2009, Ch. 2) should not be carried over to the institutional framework.) The key point, however, is that the assignment of a status function (of any sort) to a brute object does not, on Searle’s theory, create a new particular object that exists “on top” of the brute one, although the status function as such is a collectively attributed non-intrinsic “addition” to the brute object (cf. Searle, 1995, 34-35). What happens in such a case is just that an external pre-existing object is represented and

¹² Admittedly, Lynne Rudder Baker, who holds that composition is not identity, denies this entailment. She thinks that the piece of clay is distinct from the statue but that the piece of clay can be said to be a statue “derivatively” (since it constitutes a statue). Moreover: “If *x* constitutes *y* at *t*, and *x* is an *F* at *t* derivatively and *y* is an *F* at *t* nonderivatively – or vice versa – then there are not thereby two *F*s” (Baker, 2007, 38). I do not find her line of reasoning convincing, however.

treated in a new way with the consequence that the object begins to satisfy a new predicate, a predicate expressing a status function. And if the status function defines a new *kind* of object, then the object becomes a new kind of object – a dollar bill, say, in *addition* to being a piece of paper.¹³ Thus, on this theory, an institutional object is *identical* with a pre-existing brute object. It is not identical with the *conjunction* or *sum* of a brute object X and a status function Y. Nor it is identical with the institutional *fact* X's being a Y (X's exemplifying kind property Y).¹⁴ These latter identities would imply that the institutional object contains the brute object as a *proper part* or *constituent*. But then it would not be the brute X object that counts as a Y and consequently is a Y. The institutional object would be something “over and above” the X object (although overlapping it). But as we have seen, Searle explicitly says that the constitutive formula is of the form X (!) counts as Y. Consequently, the brute object X is not a proper part of the institutional object but is identical with it: i.e. the entity satisfying the relevant Y predicate is identical with X.

For similar reasons I think it would be a mistake to interpret Searle as saying that institutional objects exist partly in our minds (this is why I refer to his view as externalist: see Section 1). He sometimes says things like “the attitude we take toward the phenomenon is partly constitutive of the phenomenon” (Searle, 1995, 33); but I think this is simply a misleading and to that extent unfortunate way of expressing the idea that institutional phenomena are in general *mind-dependent*. The key thesis, that there would not be any institutional (kinds of) objects unless we thought there were some, does not entail that proper parts of institutional objects exist in our minds. Where the relevant X objects (certain pieces of paper, say) exist outside our heads, and thus do not overlap with our brains/minds, the corresponding institutional objects (dollar bills) exist wholly outside our minds. This is because it is only the X objects that are counted as institutional objects, not the X objects plus our representations of institutional objects. It is true that institutional concepts are *relational* in the sense that they involve the idea that their satisfiers stand in certain relations to people having certain attitudes to them; but that does not entail that their satisfiers somehow extend beyond themselves into the minds of the people with the attitudes. The monadic predicate “is a father” is clearly relational, but that does not mean that the members of its extension somehow extend beyond themselves to their children.

¹³ Of course, it may be that in some cases the status function is assigned simultaneously with the creation of the brute X object. It need not always be the case that institutional kinds of object arise because pre-existing X objects *change* relationally.

¹⁴ For a thorough discussion of the metaphysics of facts, or states of affairs, see e.g. Armstrong (1997).

Thus, I read Searle as holding that a dollar bill simply *is* a piece of paper. If we name the dollar bill “*a*”, and the relevant piece of paper “*b*”, we have two co-referential names, referring to a single thing. It is *b* (= *a*) which is counted as a dollar bill, and which consequently falls under the present-tensed predicate “is a dollar bill”. Likewise, I take Searle to be holding that the president of the US is identical with a certain US citizen, and that the US citizen is identical with a specific human being, and that, in the end, the president of the US *is* a human being who happens to be counted as the president of the US.¹⁵ Thus we have: the 44th president of the US = Barack Obama. (In fact, I think that any theory that denies this latter identity should be rejected as absurd.) Since the chain of identities (if there is a chain) must terminate in mind-independent objects on this theory, institutional objects are in the end reduced to (in the sense of being token-token identified with) mind-independent ones.¹⁶

True, Searle does not call himself a “reductionist” about institutional objects (although he does regard himself as some kind of naturalist, see e.g. 1995, 5-7, 227-8; 2003, 300). However, as far as I can see this decision is based on his denial that the *intentional acts* of imposing extrinsic status functions to objects are reducible. (Again, status functions, being extrinsic, are not proper parts of institutional objects.) First, he holds that such acts typically are in the we-mode rather than in the I-mode, and that we-mode intentionality (e.g. “We intend to do X”) cannot be reduced to I-mode intentionality (“I intend to do X, and I believe that you intend to do X, and I believe that you believe that I intend to do X ...”) (1990/2002; 1995, 23–26).¹⁷ Second, intentional states cannot, according to Searle, be reduced to brain-states; rather, they are caused by such states (1992). But an irreducibility stance on intentionality can be combined with the view that institutional objects (i.e. the things that are ascribed the status functions) are token-token identical with mind-independent ones. It is because (pre-2005) Searle is committed to the latter thesis that I call his theory reductive.

Moreover, I am fully aware that in his response to one of Barry Smith’s critical articles (Smith, 2003a) Searle expresses dissatisfaction with generic talk about institutional *objects* (a category encompassing entities such as presidents, dollar bills, lawyers, etc.) in contrast with generic talk about institutional and social *facts* (encompassing “entities” such as *Barack Obama’s being the president of the US*) (Searle, 2003). But this dissatisfaction seems to stem

¹⁵ Cf. Searle (2010, 102, emphasis in original): “In the case of presidency, the person is *identical* with the bearer of the Y status function.”

¹⁶ I am not alone in ascribing this sort of reductive view to Searle; see for example Ruben (1997), Thomasson (1997; 2003), and Smith (2003b). Barry Smith, for example, writes about Searle’s theory: “To say that X counts as Y is to say that X provides Y’s physical realization because X is identical to Y. [...] When X counts as Y, [...] X and Y are physically speaking one and the same.” (Smith, 2003b, 18)

¹⁷ It should be noticed, though, that Searle seems to give up this irreducibility stance on collective intentionality in his (2010, 58).

from a worry that talk of institutional objects will give the impression we are discussing a class of objects that are *distinct* from mind-independent ones – which, for Searle, they are not.

He writes:

The notion of a social [institutional¹⁸] object seems to me at best misleading, because it suggests that there is a class of social objects as distinct from a class of non-social objects. But if you suppose that there are two classes of objects, social and non-social, you immediately get contradictions of the following sort: In my hand I hold an object. This one and the same object is both a piece of paper and a dollar bill. As a piece of paper it is a non-social object; as a dollar bill it is a social object. So which is it? The answer, of course, is that it is both. But to say that is to say that we do not have a separate class of objects that we can identify with the notion of social object. Rather, what we have to say is that something is social object only under certain descriptions [e.g. when described as a dollar bill] and not others [when described as a piece of paper]¹⁹ [...] Insofar as we do have a coherent notion of social object, it is derived from the notion of social and institutional facts. Thus there is only *one* object that is *both* a piece of paper and a dollar bill, but the fact that it is a piece of paper is not the same fact as that it is a dollar bill, even though they are both facts about *one and the same object*. [...] Again, when I am alone in my room, that room contains at least the following “social objects”: a citizen of the United States, an employee of the State of California, a licensed driver, and a taxpayer. So how many objects are in the room? There is exactly one: me. (Searle, 2003, 302–303, all emphases mine)

It seems to me, then, that in his 2003 article Searle disavows the notion of institutional object in favour of institutional fact because he wants to discourage us from adopting what he takes to be a misconceived picture of institutional reality: what is true, according to Searle, is that institutional *facts* (of the form *a*'s having status function *F*) are distinct from brute facts (of the form *b*'s having brute property *G*); not that institutional *objects* are distinct from brute

¹⁸ In his response to Smith, Searle is using the wider term “social object”, presumably because that is the expression used by Smith in his critical article.

¹⁹ I think Searle is unnecessarily defensive when he claims that an object is a social/institutional object only under certain descriptions (unless he means merely that an object is institutional relative to the acceptance of a constitutive rule). I do not think he needs to relativize this status to descriptions. *Given* that the object is accepted as having a certain status function it *is* an institutional object, period. There is no contradiction involved in saying that the object is *both* brute and institutional. For the same reason, I do not think Searle should write “The open sentence ‘X is a social object’ is not extensional with respect to substitutability” (Searle, 2003, 303). I discuss these issues in detail in Section 4.

objects (i.e. the object a which is F may very well be identical with the object b which is G – indeed, a must be identical with *some* brute object, according to pre-2005 Searle).²⁰

Indeed, as I have indicated above, I think Searle is committed to the existence of institutional objects – even if he regards institutional facts as being in some sense more fundamental than institutional objects, and even if he sometimes speaks sceptically (but incoherently, I think) about institutional objects being “just placeholders for patterns of activities” (Searle, 1995, 56–7).²¹ By collectively ascribing a certain status function F to a mind-independent object a we create an institutional fact: a 's *being* F (or *an* F). And if the term “ F ” expresses a status function defining an institutional *kind* of object, then “ F ” prescribes what sort or kind of object a is. And if a is collectively prescribed as being an institutional kind of object (a president, say), then a is an institutional kind of object – it is not merely a mind-independent object with a characterizing institutional property. If so, a is *both* an institutional and a mind-independent object. It falls under two different sorts of kind term: “president” (an institutional kind term) and “human being” (a brute kind term).²²

3. Difficulties with Searle's reductive theory

Searle's reductive scheme is plausible, I think, for the kinds of example that Searle focuses on in his pre-2005 writings on institutional reality. We do think of institutional objects such as dollar bills, presidents and lawyers as concrete entities that can be seen, touched and heard, and with the same physical properties as their “realizers” (here I am using “realizers” in a neutral sense, compatible with them being identical with the objects they “realize”). We even take them to have the same temporal properties as their realizers. If some person x becomes a barrister, we do not regard this event as involving the creation of a new particular object, which is somehow constituted by person x . We take the age of the person and the age of the

²⁰ Notice that in papers published after 2003, Searle is happy to talk about social and institutional objects: “We are talking about the mode of existence of *social objects* such as the United States of America, the San Francisco Niners football team, the University of California and the Squaw Valley Property Owners Association” (2006, 12, my emphasis). But see already his (1995): “I said that the form of the constitutive rule was ‘ X counts as Y in C ’; but as I am using this locution, that only determines a set of institutional facts and *institutional objects* where the Y term names something more than the sheer physical features of the object named by the X term.” (pp. 43–44, my emphasis)

²¹ An anonymous reviewer has suggested that Searle is in fact committed to an *eliminativist* theory of institutional objects. I do not think that is correct, however. On Searle's pre-2005 theory, institutional kind predicates are *satisfied*, singular institutional expression such as “the president of the US” *refer*, and existentially quantified statements such as “ $(\exists x)$ (x is a dollar bill)” are *true*. However, I agree that the ontology implied by Searle's theory of “free-standing Y terms” (explicitly defended from 2005 and onwards) is unclear; see section 3.

²² Entity a will no doubt fall under other kind terms as well: “person”, “female” (or “male”), “animal”, “mammal”, and so on. Which of these terms express brute kinds, and which do not, is of course up for debate (cf. Searle's discussion of “human being” in his 2010, Ch. 8). In the text I have assumed for brevity's sake that “human being” expresses a brute kind.

barrister to be the same. Likewise, if the person were to cease to be a barrister in the future, we would not regard this as the death or ceasing to be of an institutional object, the barrister. Prima facie, the current referent of “the barrister”, i.e. the person, would still exist, but no longer *as* a barrister: she would no longer satisfy the present-tensed “is a barrister”, but she would still be in existence. Because, prima facie, the barrister and the person have the same properties (temporal or otherwise), Leibniz’s Law – the principle that says that if *a* and *b* are numerically identical then whatever is true of *a* is true of *b*, and vice versa – does not seem to threaten their identification. Hence reductionism appears to be well-suited to such cases.

If reductionism holds for *all* institutional objects, then the “creation” and “annihilation” of institutional objects should be understood on the model of (relational) *qualitative change*, not on the model of *substantial change*. That is to say, if reductionism holds in general, it follows that there are no token institutional objects which go in and out of existence as the result of human attitudes and decisions. What happens is merely that certain mind-independent, pre-existing objects begin and cease to satisfy certain relational *predicates* (the institutional ones) as a result of human attitudes. For example, as mentioned in the introduction, if humanity were to disappear, or to stop thinking that there are dollar bills, there would no longer be any dollar bills, i.e. there would no longer be any objects of that *kind* (i.e. the *type* would no longer be instantiated); but the *particular* pieces of paper that once were the dollar bills – the token entities once satisfying “is a dollar bill” – would still exist. Thus, if reductionism about institutional objects is true in general, then institutional count-nouns are without exception, in David Wiggins’s terminology (Wiggins, 2001, 30), mere *phased-sortals*: they do not express persistence conditions, but only a temporary phase in the object’s career – i.e. an object can begin, and cease, to be of institutional kind *F*; it need not always be of kind *F*.

However, reductionism about institutional objects across the board is hard to defend. In many cases there does not seem to be a suitable mind-independent X object with which the alleged institutional object can be identified. Thus, Amie Thomasson (1997; 2003) and Barry Smith (2003a) have pointed out that some institutional objects are ostensibly *abstract*, i.e. without a spatial location.²³ And if they are abstract, they cannot be identified with brute physical objects that are spatially located. Smith mentions money represented in computers: the money is not *in* the computer, and the money represented need not exist externally in the form of concrete currency (Smith, 2003a, 287-288). And Thomasson upholds that entities

²³ Cf. D-H Ruben, who claims: “Not all social substances are even occupiers of space – e.g., the Red Cross does not have any obvious physical location, although its headquarters does” (Ruben, 1985, 14).

such as laws and corporations (I take it that she is talking about corporations as legal subjects, not their employees, share holders, etc.) are abstract, not concrete, entities (Thomasson, 1997, 121; 2003, 273).²⁴ In consequence of their criticisms, in later writings (2005; 2006; 2010) Searle has admitted that his original theory is inapplicable to such abstract institutional objects. He now says that “we have to allow for the attachment of status functions to abstract entities” (2010, 95). Using the terminology of Smith (2003b), Searle maintains that there can be constitutive rules with “free-standing Y terms” (2005, 15; 2010, 97–101). That is, he thinks that we can create particular institutional objects of kind Y without there being a mind-independent, concrete X object which is counted as being of institutional kind Y. His examples are those mentioned by Thomasson and Smith, more specifically, corporations and electronic money.²⁵

²⁴ Concerning corporations, Frank Hindriks (2013) disagrees. He holds that a corporation has an *institutional* location in space, typically the address of the designated office, which may be different from the physical location of its members (pp. 423-4). On his view, a corporation is non-identical with but (non-standardly) *constituted* by its members. I find it unclear, however, how the mere having of a postal address could make an entity concrete. After all, natural persons usually have addresses too; but it is not in virtue of having an address that a particular person is a concrete entity – the concreteness of a natural person is intimately bound up with him or her having a physical location, a location which is determined by the physical locations of the person’s proper parts. (Note that the putative person associated with the postal address may in fact have passed away – not being physically located at all (the particles that used to compose the person might e.g. be spread out in the sea) – or even be fictitious, e.g. in a fraud.) Moreover, as Julian Cole (2014) points out, particular corporations – i.e. *token* juridical persons (as opposed to “the corporation” as an institution, which presumably is a set of constitutive rules (cf. Hindriks, p. 429; Searle, 1995, 114; 2010, 10)) – can “exist” without having any members at all, a fact which renders Hindriks’s constitution account of instantiated token corporations problematic (see especially Cole, 2014, §3.3).

I should also mention in this connection that Thomasson includes literary works, computer programs, works of music, wall-paper patterns, governments, and universities within the category of abstract social objects (Thomasson, 1997, 121, 123). But literary works, computer programs, works of music, and wall-paper patterns are arguably not *as such* institutional (nor even social) objects, although some specific and very original type-examples of such artefacts may be governed and protected by copyright law. Moreover, governments (cabinets) are, intuitively, *concrete* institutional objects scattered in space: they are localised where, and only where, their (scattered) members are localised (see below for extensive discussion). Legally, governments are generally not even juridical persons, although states are. Modern universities might qualify as abstract institutional objects (particularly so if incorporated), but arguably the latin expression *universitas magistrorum et scholarium* (roughly, a community of teachers and scholars) picks out a concrete entity (some kind of group); moreover, it seems clear that university *campuses* are physically located institutional objects. However, I readily admit that the boundary line between abstract and concrete examples of institutional objects is hard to draw in a precise way.

²⁵ For example, he writes: “The laws of incorporation in a state such as California enable a status function to be constructed, so to speak, out of thin air. Thus, by a kind of performative declaration, the corporation comes into existence, but there need be no physical object which is the corporation. The corporation has to have a mailing address and a list of officers and stock holders and so on, but it does not have to be a physical object. [...] An equally striking example is money. The paradox of my account is that money was my favourite example of the ‘X counts as Y’ formula, but I was operating on the assumption that currency was somehow or other essential to the existence of money.” (Searle, 2005, 15-16) It is not altogether clear, however, what the ontological status of these abstract institutional “objects” is, in Searle’s view. About corporations, for example, he writes: “there is an entity Y, the corporation, that has the function, even though the entity is, as they say, a ‘fictitious’ entity” (2010, 100). And about money he writes: “It is, for example, a mistake to treat money and other such instruments as if they were natural phenomena like the phenomena studied in physics, chemistry, and biology. The recent economic crisis makes it clear that they are products of *massive fantasy*” (2010, 201; my emphasis). Does Searle

I want to argue, however, that it is not just intuitively abstract institutional objects, that seem to resist Searle's original "X counts as Y" formula. Some rather more mundane, concrete-looking institutional objects that seem to consist entirely of concrete entities, such as persons and/or buildings, are also awkward for Searle. The examples I have in mind include governments (cabinets), boards of directors, committees, football teams, campuses, schools and hospitals.²⁶ Unless we are concerned with incorporated versions of such objects (such as the football club *Manchester United F.C.*), football teams, governments and campuses seem to be concrete entities localised in space – although they may of course be more or less scattered spatially.

A first problem is that, although the relevant institutional objects (governments etc.) are conceptualized as units in these cases, the underlying, mind-independent level appears to consist of mere *pluralities* (i.e. several distinct things). This is problematic because the X term in Searle's formula seems to refer to a single thing or unit: he writes "X counts", not "the Xs count". However, since a single thing (such as a committee) cannot be identical with many things (such as several persons) (*pace* Baxter, 1988; see e.g. Russell, 1903, Chs. VI, XVI; van Inwagen, 1994; Byeong-Uk, 1999; Hansson Wahlberg, forthcoming a), I think Searle is, in fact, well-advised putting the formula the way it is stated – at least, if the aim is reductive identification.²⁷

Consequently, Searle needs to find mind-independent concrete *units* to which the singular X term refers in these cases. But what are they? I see the following *prima facie* possibilities: they might be a) sets, b) groups, c) variable embodiments, or d) mereological sums or fusions of distinct objects. Of these alternatives, I think d) is, in the end, the only option. Mereological sums of distinct objects are supposed to be *concrete* wholes or units that exist *independently* of human attitudes (Leonard and Goodman, 1940; Goodman, 1966; Simons, 1987). Moreover, according to the thesis of unrestricted mereological composition, any existing objects, no matter how disparate and otherwise unrelated, have a sum. Given this, a sum of a plurality of suitable objects will always be available to serve as the referent of the

think of corporations and electronically represented money as things (or masses – "money" is often used as a mass term and not as a count-noun) with external existence or not? Interesting as this question is, I will not be pursuing it here.

²⁶ Cf. Ruben (1997). However, Ruben does not explicitly distinguish between abstract and concrete institutional objects. Rather, he alleges that many kinds of institutional object resist Searlean reductionism. Some of his examples are concrete-looking and some abstract-looking. He does not go into details in the article cited.

²⁷ Could Searle say "the Xs count as a unit U", and then "U counts as Y"? He might try, but it would be quite bold to suggest that because we count a plurality of objects as a unit, they *are* a unit. I think I can understand how we can assign status functions to objects via rules of the form X counts as Y; but the idea of creating true units of pluralities through such formulas is of a different magnitude.

X term in an act of status function assignment of the kind we are concerned with. Admittedly, many philosophers are hostile towards arbitrary mereological sums (e.g. Simons, 1987; Mellor, 2006/2012), although there are those who happily endorse them (Goodman, 1966; Lewis, 1991; Lowe, 2009, Ch. 7). Howsoever may be, sums of distinct objects are, as far as I can see, the only available theoretical candidates for the X role in the problematic cases at issue.

What is wrong with alternatives a)-c)? Well, it is highly dubitable that they are concrete and mind-independent entities. (For reasons of space, here I will confine myself to indicating the main obstacles – obviously, these issues deserve much more elaborate discussions.) Consider sets. The received wisdom holds that sets are abstract entities (e.g. Quine, 1960, Ch. 7; Goodman, 1966, 34-7). Nikk Effingham (2010) has recently challenged this standard view in relation to certain impure sets.²⁸ He holds that a set whose members are ordered pairs whose first coordinate is an instant of time and whose second coordinate is a set of concrete entities is co-localised in space with the relevant concrete entities at the relevant instants (p. 257). However, Effingham's thesis seems fairly arbitrary, if not outright *ad hoc* (Ritchie, 2013, 167). Effingham appears to be defending it simply because he wants to identify institutional objects and groups with sets (rejecting extant alternatives) – no independent reasons for the thesis are given. He says merely that the view is *expedient* in that it allows us to identify institutional objects and groups with sets (Effingham, 2010, 258). But we want to know, for example, why a set of the form $\{ \langle t, \{xs\} \rangle, \langle t', \{ys\} \rangle, \dots \}$ is located in spacetime but a set of the form $\{ \langle \{xs\}, t \rangle, \langle \{ys\}, t' \rangle, \dots \}$ is not. The asymmetry seems arbitrary and ungrounded. (Effingham's, I think unhelpful, *tu quoque* response is that similar arbitrariness problems affect those who identify binary relations with sets of ordered pairs of the form $\langle a, b \rangle$ rather than $\langle b, a \rangle$ (p. 264).) An additional problem, acknowledged by Effingham (p. 263), is that ordered pairs can be defined in various ways, in terms of distinct set-theoretical constructions (e.g. à la Kuratowski, Weiner, or Putnam). Depending on what definition is used (a decision which again appears arbitrary), institutional object will be identified with different sets. Effingham suggests that this second difficulty (which, he points out, plagues all theories that identify things from various categories with sets of ordered pairs) can be handled if some theory analogous to mathematical structuralism is adopted: "it is the

²⁸ Penelope Maddy (1990, 58-60) has challenged this view for *all* sets with physical members (or more correctly, sets that have physical objects within their transitive closure). However, as Effingham points out, only his restricted location thesis enables institutional objects and groups, when they are identified with sets, to change group-members (although not set-members) over time without being co-located with instants (i.e. hyperplanes in space-time); for the details, see Effingham (2010, 256-8).

structure and not the things instantiating that structure, that structuralists take to be important” (ibid., 264-5). The idea as applied to institutional objects and groups is then: “So, just as the mathematical structuralist believes in reified structures, identifying numbers with places in that structure (places that can be filled by a wide variety of different things, including sets) the setist [someone endorsing Effingham’s position vis-à-vis groups] can make a similar move, reify the structure and identify groups with places in that structure” (p. 265). However, this structuralist move does not explain how structures and their places which *themselves* seem to be abstract entities – indeed, they seem to be universals (cf. Shapiro, 2010) – can be localised. Is Effingham suggesting that groups/places in structures are universals that are instantiated by certain token sets localised in space? If so, then we are simply back to the first unanswered problem: why are certain impure sets spatially localised while others are not?²⁹

Disregarding the specifics of Effingham’s ad hoc-like theory, it can even be questioned that sets are mind-independent entities. Karel Hrbacek and Thomas Jech characterize sets as follows:

Sets are not objects of the real world, like tables or stars; they are created by our mind, not by our hands. [...] The human mind possesses the ability to abstract, to think of a variety of different objects as being bound together by some common property, and thus to form a set of objects having that property. The property in question may be nothing more than the ability to think of these objects (as being) together.” (Hrbacek and Jech, 1999, 1)

I conclude that it is highly doubtful that sets (or places in structures instantiated by sets) can serve as the sought for brute and concrete X objects.

Groups (this is an option apparently championed by Searle – see his 1995, 97, 104; see also Uzquiano, 2004, 147) seem to be concrete entities but they are troublesome for a number of reasons. First, they are typically not treated as metaphysical units by philosophers and social scientists – at least, not by those working in the methodological individualism tradition.³⁰ Second, realists about groups sometimes distinguish between groups in the sense

²⁹ Katherine Ritchie (2013, 268-271) also adopts a structuralist theory of (changeable) groups. But she holds that suitably interrelated *individuals* (i.e. not sets) ”jointly realize” group-structures consisting of nodes (places) and relations holding among nodes. When individuals at a time thus ”realize” the relevant (abstract?) group-structure, a concrete group-unit of the relevant kind comes into existence: ”Once a group structure is realized a group, G, exists.” (ibid., 270). I discuss groups and the issue whether they are brute below.

³⁰ See List and Pettit (2011) for a historical survey, but also for an opposing, realist view. It should be noted that, in some texts, Searle appears to *deny* that there are groups in a substantive sense. In his (1990/2002), Searle says, for example, that “society consists of nothing but individuals” (p. 96), and he writes that his “constraints are

of “mere collections” which cannot survive any change of membership and groups which can survive such changes (e.g. List and Pettit, 2011, 31). Groups of the first kind simply bring us back to earlier proposals, because this notion of a group appears to involve the idea either of a set (in which case the problems mentioned above apply³¹) or of a sum of people. Little would be gained by the appeal to the specific notion of a group, then. Groups that can survive membership change are usually characterized in terms of people having some kind of group-attitude to the members of the group: to be such a group is to be (recurrently) regarded as such a group (see e.g. Ruben, 1985, 21; Gilbert, 1989, Ch. IV; cf. Ritchie, 2013, 260). So the second notion of a group appears to be self-referential in Searle’s sense.³² The problem with this is that groups conceived in this way may very well be informal institutional objects, in particular if they involve a deontology of commitments, obligations and rights, which they seem to do, either directly or indirectly (cf. Gilbert, 1990). But if they are institutional objects, and if we are to hold on to Searle’s “X counts as Y”, there must be some mind-independent, concrete unit that can be counted as a group. And the only candidate for this brute, concrete role, I suggest, is, again, a sum of persons. So we are simply back with sums of distinct objects. But even if groups in the second sense do not qualify as (informal) institutional objects, they definitely are not exclusively mind-independent since they require recurrent recognition over time (see e.g. Gilbert 1989, 209-10, 219-21), which goes against Searle’s token-token reductionism vis-à-vis institutional objects.³³

In passing, let me add that I think that the proposal of grounding, say, a government in a pre-existing group of people (in the second sense) gets things back to front. In a well-functioning democracy, at least, it is because the relevant persons have become members of the same government that the persons involved may form a group in the second sense. Alternatively, consider national football teams. We also need to note that groups in the second

close to ‘methodological individualism’” (ibid.). However, he also says that he is “anxious if possible to avoid sinking into the morass of the traditional disputes” (ibid.). I do not think he can avoid this.

³¹ Note, however, that Effingham holds that sets can change their group-members although they cannot change their set-members (Effingham, 2010, 256).

³² List and Pettit think it is logically possible for there to be groups in the second sense without anyone having such group-attitudes. However, they write that “we are not aware of any examples of new group agents coming into existence among human beings in this way” (List and Pettit, 2011, 33). One can question how realistic List and Pettit’s view of “group agents” really is. They use Daniel Dennett’s “intentional stance” (Dennett, 1987) as a vehicle for defining and discovering group agents (List and Pettit, 2011, 19–24, 32), but it is debatable what features of the world are discovered when this stance is adopted (e.g. Churchland, 1988; Searle, 1988).

³³ Of course, if a group is ascribed a genuine, institutional status function (e.g. *being a board of directors*), then, as a result of that ascription, the group cannot be an exclusively brute object (cf. Section 2 and 4). In discussing whether we have found an exclusively brute X object we always have to think away the relevant institutional status function Y – but I take this qualification to be implicitly understood in this discussion (see footnote 2).

sense will in any case not do for campuses, schools and hospitals consisting as they do of buildings and so forth.

Kit Fine's proliferate theory of variable embodiments (Fine, 1999) might seem to furnish us with arbitrary, spatially localised and changeable objects that are composed of any kinds of object whatsoever (persons, buildings, etc.). Very roughly, a variable embodiment $/F/$ is an object that is constituted by distinct objects at distinct times – more specifically, by distinct, unchangeable “rigid embodiments” (symbolised “ $a, b, c, \dots/R$ ”), which in their turn are composed of objects (a, b, c, \dots , which themselves are rigid or variable embodiments, and so on until we, perhaps, reach mereological atoms) and a “principle of rigid embodiment” (R) (ibid., 65-6 and 69). The relevant rigid embodiments that successively constitute the variable embodiment $/F/$ are picked out by a principle F that itself is a part of $/F/$ (p. 73). The operation $//$ by which the variable embodiment $/F/$ is formed from the principle F is called the “operation of variable embodiment” (p. 69). Fine moreover says that there will be a corresponding variable embodiment $/F/$ for “any suitable function or principle F (taking times to things)” (ibid., my emphasis). Consequently, Fine maintains that his theory is compatible with there being not only common garden things like trees and cars but all sorts of “bizarre” variable and rigid embodiments consisting of various components and relations (ibid., p. 73).

Now, combining Fine's theory with Searle's, the idea is that variable embodiments could serve as Searle's X objects to which the relevant status functions are assigned.³⁴ However, there is a serious obstacle here. Fine's variable embodiments do not seem to be exclusively brute objects: the operation of variable embodiment $//$ by which $/F/$ is formed, and the principle F which is part of $/F/$, do not appear to be brute phenomena (similar worries concern R and the operation of rigid embodiment). Fine likens $/F/$ to a container filled with distinct quantities of water at distinct times and F to the container itself. He then says: “we suppose that the container is not another physical object but something of a more abstract or conceptual nature. Thus the varying contents of the container will be determined by conceptual rather than by physical means.” (p. 69) And:

[A] consequence of our account is that there will be an intensional or conceptual element to the identity of many material objects. For a rigid embodiment $a, b, c, \dots/R$ is to be understood partly in terms of its material components, but also partly in terms of its relational principle R ; and a variable embodiment $/F/$ is to be understood wholly in terms of its functional principle

³⁴ It should be noted that Fine thinks that ascribing something like a status function to an object results in a new, distinct object (*pace* Searle, see Section 2); see Fine (1999, 67-8). Thus Fine himself does not adopt a reductionist theory of institutional objects.

F. Thus these principles, which are intensional or conceptual in nature, are directly implicated in the identity of the embodiments and hence also in the identity of material things that are explained by their means. (Fine, 1999, 73).

Moreover, in response to Kathrin Koslicki's (2007) criticism that Fine's theory involves an implausible superabundance of objects, including absurd "monster objects" of various kinds, he says: "it is not altogether unnatural to suppose that some material objects – perhaps elementary particles and the like – are God-given while the others are the 'work of man'. [...] What goes for material objects in general will go for the rigid and variable embodiments of my theory in particular. Thus it might be supposed that some (perhaps all) of them are introduced while the others (perhaps none) are given." (Fine, 2007, 164-5) But, again, here we are looking for "given" X objects, that is, concrete and exclusively brute objects (exception made for ordinary artefacts, though, as they are understood in Section 1 and footnote 6 – but that sort of mind-dependence is innocent in that it is merely historical and does not involve conceptual parts, like Fine's *F* principles). I conclude, therefore, that Fine's "introduced" variable embodiments do not fit the bill.

Given these difficulties with sets, groups and variable embodiments, I will proceed henceforth on the assumption that the unit to which the status function is assigned in the problematic concrete-looking cases is an arbitrary sum of distinct objects. Such units are supposed to be both concrete and exclusively brute (from now on I will not make use of the cumbersome qualification "exclusively").

However, now that we have found a concrete and brute candidate for the X role, a new problem crops up: typically, governments, committees, campuses, schools, and the like do not have the same temporal properties as sums of persons/buildings. At least, this is the case if the *endurance* theory of persistence is assumed. The endurance theory ("endurance" as used here is a semi-technical term) is the view that objects are three-dimensional and persist through time by being "wholly present" at distinct times as numerically the same entity.³⁵ On this view, objects extend only in the three spatial dimensions and consequently have only spatial parts. In other words, although objects persist, they are not four-dimensional entities, such as processes, which extend over time in virtue of having distinct temporal parts at distinct times (for example, a football match, which is a process, consists of a first and a second half, and these halves can be divided further). Objects persist not by being "spread out" over time like

³⁵ For detailed discussions, see Strawson (1959, Ch. 1), Simons (1987, Part II), Mellor (1998, Ch. 8), Wiggins (2001), and Lowe (2009).

processes (which are only “partly present” at distinct times due to the fact that they, as four-dimensional wholes, extend beyond those times), but by “sweeping” through time, as it were – i.e. the object as a whole is present at the successive times. Moreover, it is numerically the same three-dimensional entity which is wholly present at the successive times. That is to say, endurance involves *strict* identity: the relation that every entity bears to itself and to no one else, which is reflexive, symmetric and transitive, and governed by Leibniz’s Law (LL). However, although endurance involves numerical identity over time, advocates of endurance take this kind of persistence to be compatible with qualitative change: that is, they hold that an enduring object can have different properties, or parts, at different times. There are various strategies for rendering endurance through change compatible with LL, such as postulating time-indexed properties, relativizing the instantiation relation to times, keeping track of tense, etc. (e.g. Simons, 1987; Haslanger, 1989; Merricks, 1994). Hence, the problem advanced below is *not* how endurance through change can be made compatible with LL (I have defended endurance through change at length elsewhere, see Hansson, 2007; Hansson Wahlberg, 2010). Quite the contrary, in setting up the problem, I will assume that institutional objects *can* change over time. The problem, rather, is about how an enduring institutional object with certain temporal properties (e.g. *existed n units of time ago, with distinct parts*) could be identified with a brute enduring object with distinct temporal properties, in face of LL.

Before I present the problem in more detail I want to point out two things. First, the endurance theory is commonly held to be an explication of the common-sense theory of persistence (e.g. Strawson, 1959; Simons, 1987; Mellor, 1998; Wiggins, 2001), while the perdurance and stage theories (discussed in Section 5) are deemed to be revisionary theories (e.g. Quine, 1960, 171).³⁶ Thus, if someone talks about persisting objects, but does not signal that she is adopting a revisionary theory of persisting objects, it is likely that she implicitly or tacitly presumes something like the endurance theory of persistence. Consequently, since most social ontologists, including Searle, do *not* flag that they are adopting a revisionary theory of persistence, we may reasonably assume that they (tacitly) conceive of objects, brute and institutional, as enduring through time.³⁷ However, in what follows I will argue that *if* reductionism is to be upheld for the problematic, concrete-looking institutional objects under discussion, then this tacit common-sense assumption or belief will have to be abandoned.

³⁶ For a dissenter, see Lewis (1988). He thinks that common sense is committed merely to the notion that objects persist in one way or other, not that they endure.

³⁷ Notice that a theory according to which brute objects endure and institutional objects perdure (or the other way round) is incompatible with reductionism.

Second, advocates of the endurance theory who are inclined to accept arbitrary mereological sums of distinct objects will (or should) at most countenance arbitrary sums ($a + b + c + \dots$) whose summands (a, b, c, \dots) exist *simultaneously*. Otherwise the endurantist is in effect postulating perduring-like objects (i.e. objects which are only *partly* present at distinct times, see Section 5) in addition to enduring ones, which would result in a muddled theory. (For example, the desired distinction between objects and processes would be put in jeopardy.)³⁸ Peter Simons calls such sums “SM sums” (Simons, 1987, 184), and Kit Fine denotes them “compound sums” (Fine, 1999, 63). (I should mention that neither Simons nor Fine believes in arbitrary sums.) I will call them *3D sums*.³⁹ Thus, in what follows I shall assume that, on the endurance scheme, mereological composition is restricted in the above sense (i.e. only 3D sums of objects are allowed, and a 3D sum exists when, and only when, *all* of its summands exist), but in other respects I shall assume that composition is unrestricted.

Now, on to the problem.⁴⁰ Consider governments (cabinets). We take them to be capable of persisting (enduring) through the replacement of at least some of their members. At

³⁸ I take this consideration to dispose of Peter Simons’s various SU sums (Simons, 1987, 183-5), Kit Fine’s aggregative sums (Fine, 1999, 62) and Judith Thomson’s some-fusions (Thomson, 1998, 167). Note, however, that these latter sorts of sum are problematic for reasons similar to those discussed below in relation to what I call 3D sums. For example, an SU sum exists when at least one of its summands exists. Clearly, a short-lived committee could not be identified with a SU sum of enduring persons. Notice, moreover, that if e.g. only one summand of a SU sum of distinct objects exists at a certain time then the SU sum is only *partly* present at that time (because only a proper part of the sum exists at the time in question); i.e., such a sum would not itself be an enduring entity (i.e. it would not be wholly present at distinct times, although its proper parts might be) but would be more like a perduring object.

³⁹ More technically, Simons (1987, 184) defines “ c is a SM [3D] sum of a and b ” (for arbitrary objects a, b and c) as follows: $\forall t \forall x (x \text{ } o_t \text{ } c \leftrightarrow \text{Ex}_t a \wedge \text{Ex}_t b \wedge (x \text{ } o_t \text{ } a \vee x \text{ } o_t \text{ } b))$. Here “ $x \text{ } o_t \text{ } y$ ” means “ x overlaps at time t y ”, and overlap at a time is defined as follows: $\exists z (z \text{ is at } t \text{ part of } x \wedge z \text{ is at } t \text{ part of } y)$ (p. 179) (“ x is at t part of y ” is taken as primitive, *ibid.*). “ $\text{Ex}_t x$ ” means that x exists (is located or present) *at time* t (*ibid.*); notice that this notion must be distinguished from existential quantification, expressed by “ $\exists x$ ”, if the latter is unrestricted. (The distinction is of less importance if one is a presentist holding that “ $\exists x$ ” never ranges over non-present objects and that “ $\text{Ex}_t x$ ” can be used sensibly only when $t = \text{now}$). Also, observe that every enduring object is a 3D sum of itself and itself. Consequently, if endurantists accept that some enduring objects can change their parts over time (as I myself accept in this paper), and if they accept 3D sums, then they must accept that at least some 3D sums can change their parts over time (cf. van Inwagen, 2006). However, 3D sums (i.e. objects which are 3D sums of some objects, in the limit case sums of themselves) cannot survive (in the sense of Ex_t) the demise (in the sense of not- Ex_t) of any of its summands; 3D sums are, in this sense, “frail” (Simons, 1987, 184). I should also say that in this paper I will not consider Thomson’s (1983/1997) time-indexed theory of mereological sums (fusions at times). I find the notion of a fusion at a time unclear, and I think Simons’s theory of SM sums is more in line with how endurantists use “mereological sum” in their theorizing (cf. Wiggins, 2001; Lowe, 2009, Ch. 7).

⁴⁰ The problem is analogous to Wiggins’s classic case of a tree (T) and the sum (W) of cellulose molecules constituting T at a certain time t (Wiggins, 1968/1997). Wiggins argues that T and W must be distinct (although T and W are superimposed at t and W constitutes T at t), because T and W have distinct temporal properties. According to Wiggins, constitution cannot be identity, and ordinary enduring objects cannot be reduced to sums of their parts (for extensive discussion, see his 2001; see also Lowe, 2009). See also Ruben (1985, 16) and Uzquiano (2004) for a similar objection in relation to identifying institutional objects with *sets* (but see Effingham’s 2010, for a response). Again, I think sets are doomed to begin with (if we want real and concrete reduction bases), since they are either abstract or fictitious. However, both Ruben (p. 16) and Uzquiano (p. 137) point out that the problem can be generalized to sums (presumably, they mean 3D sums); in this paper, I explicate this difficulty.

time t a certain government g may be “constituted” (here, “constituted” is used in a neutral sense) of a certain 3D sum of people s , and at a later time t' , following a reshuffle, g may be “constituted” of a distinct 3D sum of people s' (so $s \neq s'$). In such a case, I suppose Searle would want to say that, at t , s counts as the government of the country (with the effect that $s = g$), and that, at t' , s' counts as the very same government (with the effect that $s' = g$).⁴¹ Thus, “constitution” turns out to be identity, on Searle’s scheme. But given the transitivity of identity, we should then have $s = s'$, which contradicts the assumption that $s \neq s'$. Moreover, according to LL, if entities a and b are numerically identical, it follows that whatever is true of a is also true of b , and vice versa. But here it is true of g that it persists from t to t' , although this is not true of s – at least, not if some summand of, i.e. person in, s has ceased to be (a minister may have died and been replaced by another one). And of course it is true of g that it was the government at t , although this is not true of s' . Moreover, we do not want to say of g that it came into existence when s did (i.e. when all of the relevant persons were born), nor do we want to say of g that it came into existence when s' did (compare this with the above discussion of the hypothetical barrister). So, given LL, the government can be identified neither with s nor s' . As the reader can easily verify, similar logical problems prevent us from identifying committees, football teams, campuses, schools and so forth with 3D sums of enduring people/buildings.

It seems, then, that sums of distinct objects are, in the end, not suitable reductive bases for the problematic, concrete-looking kinds of institutional entity we have been examining, at least not if the endurance theory of persistence is assumed. And since, for what look like compelling reasons, we have discarded the other mentioned alternatives (sets, groups and variable embodiments) it appears that, given endurantism, reductionism can be true only of a fairly restricted class of institutional objects: entities such as lawyers, dollar bills and presidents, i.e. entities whose temporal properties (at least intuitively) agree with those of their brute realizers. By contrast, institutional objects like laws, corporations, governments, boards of directors, committees, campuses and schools appear to be, at best, *sui generis* entities.

I say *at best sui generis*, because I find the idea that there are *sui generis* institutional (or merely social) objects hard to swallow. If they have external existence then they are

⁴¹ On the standard conception of identity, identity statements with rigid designators are atemporal in the sense that it is, at best, redundant to qualify them with time clauses: if the identity holds between the referents “at some time”, it holds *simpliciter*. Here, I am following the standard conception of identity. For a deviant view, allowing for temporary identities, see Gallois (1998). For criticism of the temporary identities view, see Sider (2001, 165–76).

entities that begin and cease to exist, as token objects, as a result of our attitudes and conventions (although some of them might be “constituted”, or “composed”, of brute objects distinct from themselves). But we can hardly think or stipulate particular things into existence (van Inwagen, 1990, 6-12; Effingham, 2009, 253); nor is it reasonable to hold that we can keep external token objects in existence by merely representing them as still existing (see my 2011 for detailed discussion). For one thing, such extraordinary abilities would appear to involve genuine *action at a distance* (Effingham, *ibid.*; Hansson Wahlberg, 2011), a phenomenon which, for familiar reasons, is problematic in many ways; for example, action at a distance is incompatible with the special theory of relativity (Taylor and Wheeler, 1992). Thus, putative *sui generis* institutional objects certainly have the appearance of being mere shared fictions (cf. Toumela, 1995, Ch. 9).

It should moreover be noted here that *any* theory that seeks to identify institutional objects such as governments, campuses etc. with concrete, brute entities is afflicted with the sort of difficulties discussed in this section. It is not some special peculiarity of Searle’s reductive theory that makes it the case that, for example, a government cannot be identified with a 3D sum of people. Thus, I believe that the results of this section generalize: given endurantism, the class of institutional objects that are reducible to brute objects is severely circumscribed.

4. Leibniz’s Law and institutional objects

At this stage I need to address a potential worry about my reliance on LL (those who are not worried can move on to Section 5). In the preceding section, I took it for granted that LL governs not only mind-independent objects, but institutional ones as well. Alternatively put – explicitly allowing for the reductionist position – I took it for granted that LL is a valid principle irrespective of how the referents are picked out (assuming that referents *are* picked out): as brute objects (e.g. “sum *s*”) or as institutional ones (“government *g*”). This seems harmless enough: how could any pair of objects be identical if something is true of one of them which is not true of the other? LL looks like a principle it is impossible to deny; virtually all analytic philosophers accept it.⁴² However, Searle has repeatedly argued that statements about institutional reality are somewhat peculiar in that they “are not always extensional. They fail such tests as the substitutability of coreferring expressions (Leibniz’s

⁴² Is not LL refuted by the humdrum observation that objects change their intrinsic properties over time? Again, I do not think it is, even if objects are taken to endure through time (see Section 3). For detailed discussions, see my (2007; 2009b; 2010).

Law)” (Searle, 2010, 119; see also Searle, 1995, 28–9). Supposing that Searle is correct about this, does the government argument of the preceding section fail to go through?

It seems not. To begin with, Searle and I mean different things by “Leibniz’s Law”. I take LL to be a *material* principle governing identity: it is about objects in the world and whether or not “they” are identical. For Searle, LL is a *meta-linguistic* principle which can be used to test whether or not a sentence is extensional.

Searle states LL in the following way: “if two expressions [names, predicates, sentences] refer to the same object [individual, property, truth value] they can be substituted for each other in a sentence without changing the truth value of the sentence” (Searle, 1995, 18). A sentence that fails this substitutability test is not extensional but intensional. Many sentences are intensional. Classic examples include modal sentences and sentences reporting beliefs. Now, Searle maintains that sentences predicating functions of objects are intensional, too (1995, 18–9). More specifically, he supports the claim that “X counts as Y in C” is intensional by presenting examples where instances of the schema change truth value when the Y term, standing for a certain status function, is substituted for an allegedly co-referential Y term (ibid., 28–9; 2010, 119). Notice, however, that the failure of “X counts as Y” to satisfy the meta-linguistic version of LL in the way suggested (if we allow for this⁴³) would not show that the material version of LL fails to hold for institutional objects. For there would still be every reason to think that if the items referred to by the singular expressions replacing “a” and “b” in the material version of LL are one and the same object (institutional or not), then whatever is true of “one” is also true of “the other”, and vice versa. For example, if $a = b$, “both” a and b will count as Y if either does and “both” a and b will fail to count as Y if either fails to do so (even if $Y = Y'$).

The application of the material version of LL to institutional object will only be threatened if it can be shown convincingly that the metalinguistic version of LL fails in some cases where co-referring *singular expressions* are substituted within the context of institutional or non-institutional predicates. By disquoting, we would, in effect, have examples of the form: it is true of a that it is F , but it is not true of b that it is F , and yet $a = b$. (Note that “ F ” must be taken to express the same property when annexed to “ a ” as it does when annexed to “ b ” if we are to have a counterexample to the material version of LL (cf. Hawthorne, 2003, p. 110).) But Searle has not shown that there are such cases. True, in his (2003) reply to Smith

⁴³ In fact I find Searle’s examples highly problematic, but there is insufficient room to explain why here. The phenomenon, if genuine, is probably due to the fact that the part “counts as Y” reports some kind of intentional attitude of the agents ascribing the status function to the X object (see Searle, 1995, 29); compare belief reports.

(2003a), when discussing the identity of the dollar bill and the piece of paper in his hand (see above, Section 2), Searle declares: “The open sentence ‘X is a social object’ is not extensional with respect to substitutability” (Searle, 2003, 303). (The idea seems to be that it is true to say “The dollar bill is a social object”, false to say “The piece of paper is a social object”, and yet true to say “The dollar bill is identical with the piece of paper”.) But he says this, apparently, because he thinks that, although the dollar bill *is* the piece of paper, there is a contradiction in saying, in one breath, using only one singular expression: “The piece of paper is a mind-independent object *and* a social (or an institutional) object”. As far as I can tell, he thinks this is a contradiction because he believes that when an object falls under a predicate standing for a mind-independent kind it follows that it is a *non*-social object. (Remember that he wrote: “As a piece of paper it is a non-social object”. He explicitly says: “one and the same thing can be a social object relative to one description, and a non-social object relative to another description” (Searle, 2003, 303).⁴⁴) But, as I argued in Section 2, there is no contradiction *per se* in the notion that an object falls under a predicate standing for a mind-independent kind *and* a predicate standing for a mind-dependent kind. If the piece of paper is a dollar bill – that is, falls under the institutional predicate “is a dollar bill”, in addition to falling under the brute predicate “is a piece of paper” – it is a mind-independent object *and* an institutional object, period. *The fact that it is a brute object does not logically rule out that it is an institutional object too.* Consequently, we are not forced to say (in order to be consistent) that it is only under certain descriptions (e.g. when it is explicitly referred to as a dollar bill) that the referent is an institutional object. And that is all very well, because it leaves the material version of LL unscathed.

But – returning to Searle’s formula “X counts as Y in C” – could there not be instances of the formula in which the X term cannot be substituted for a co-referential term *salva veritate*? By disquotation, we would then have examples of the form: X counts as Y but X’ does not, and yet X = X’. Searle has not offered such examples.⁴⁵ And in fact, I doubt that

⁴⁴ It should be noticed, however, that, strictly speaking, there is only a contradiction here if “x is a non-social object” is taken to mean “it is not the case that x is a social object”. If it means merely that “x is a mind-independent object” there is no contradiction, because, as I argue in the text, it can be consistently said of an object that it is mind-independent *and* social (or institutional). For a general and detailed discussion of the importance of distinguishing different senses of expressions of the form “x is non-F” (importantly, the distinction between “it is not the case that x is F” and “x is G or H or I ... where $G \neq F$, $H \neq F$, $I \neq F$ ” – evidently, the latter interpretation does not logically rule out that x is F in addition to being non-F), see my (2007).

⁴⁵ Moreover, I do not see how such a phenomenon *per se* would refute the government argument in Section 3. As such, all the phenomenon would show is that there are counterexamples to the material version of LL involving institutional truths. It would still need to be shown just why the material version of LL cannot be applied the way it is applied in the specific argument. Just how could it be the case that $g = s$ and $g = s'$ when $s \neq s'$ and g persists

he could and at the same time hold that the singular terms are referring directly to an external object. For it seems to me that the substitution condition can fail only if the X position in the formula is in the scope of “counts as” (which it does not appear to be). In this kind of case the whole formula would merely be a *de dicto* report, or representation, of the content of collective intentionality. It would be more appropriate to state the formula as “Persons P₁, ..., P_n count X as Y in C”. The X term would then not be in a “purely referential position”, as Quine would put it (Quine, 1960, § 30). If “X counts as Y” is a shorthand for “Persons P₁, ..., P_n count X as Y in C”, the truth value of the formula will hinge on what specific X term is used, because the term serves the function of partly representing *the content of peoples’ attitudes* rather than referring directly to an external object.⁴⁶

Thus, if the “X counts as Y” formula is understood in a *de dicto* sense, it should *not* be understood as first specifying an entity X in the external world, and then reporting how *this* entity X (*de re*) is thought of, or treated, or represented, by agents external to it. In consequence, we cannot disquote with the result that we are talking (directly) about an external object X (= X’); rather we are merely reporting the content of intentional attitudes. (The X term may not even have a referent outside the minds of the people thinking about the “X object”; and if the X term does have a referent it may have non-institutional properties quite different from those it is represented as having (cf. Searle, 1958; Putnam, 1975; Kripke, 1980).) And then we will not have counterexamples to the material version of LL, which is about *external* objects, not *representations* of external (or even non-existent) objects.

I conclude that, so far, no good reason has been offered for denying that the material version of LL governs institutional objects (or brute objects picked out as institutional objects).

5. Revisionary theories of persistence to the rescue?

There is another caveat, however. The reasoning in Section 3 assumes that objects persist by enduring. As we saw, objects endure through time if they are wholly present at distinct times as numerically the same three-dimensional entity. I will now argue that once either of the

from *t* to *t*’ but *s* does not and *g* was the government at *t* but *s*’ was not? Merely pointing at some counterexamples to the principle in general will not suffice here.

⁴⁶ Cf. Searle’s own account of the intensionality of many reports of mental states in his (1983, 22–6 and Ch. 7); see also his account of the “aspectual shape” of intentional states in his (1992, 155). Here is an example of what can happen if we understand the formula in the *de dicto* sense: the sheriff and his deputies count Jesse James as a criminal but they do not count Mr Howard as criminal, although Jesse James = Mr Howard. In fact, in Chapter 4 of Searle’s (1995), when the “X counts as Y” formula is analysed in terms of deontic or conventional power, something similar to the above *de dicto* formula figures: “We accept (S has power (S does A))” (p. 104). “S” does not appear to be in a purely referential position in this formula.

revisionary theories of persistence, i.e. the perdurance and the stage theories, is adopted, the anti-reductive conclusion can be resisted – at least, for the second, comprehensive class of problematic objects, i.e. the ostensibly concrete ones (governments, campuses etc.), discussed in Section 3. (To guide the reader, here is brief summary of the overall argument: (1) Searle token-token identifies concrete institutional objects with brute objects; (2) this means that suitable brute X objects must be found for such institutional objects; (3) in cases like governments and campuses, the best candidate for the X role is a sum of distinct objects; (4) this is incompatible with endurantism; but (5) perdurantism and exdurantism arguably allow the identification to go through.⁴⁷)

Consider, to begin with, the *perdurance* theory of persistence.⁴⁸ This theory rejects the endurance theory’s clear-cut dichotomy between objects and processes. According to it, objects are process-like in that they too are four-dimensional, have temporal parts, and persist in virtue of having distinct temporal parts present at distinct times. Consequently, if time is neither chunky nor gunky but consists of instants – as time is represented in current physics – then, according to perdurantism, fundamentally objects have instantaneous temporal parts. In technical jargon, objects and their non-instantaneous proper parts *perdure* through time.⁴⁹ More specifically, advocates of perdurance tend to hold that classical extensional mereology (CEM), developed by Lesniewski (see Simons, 1987) and Leonard and Goodman (1940), captures the mereology of perduring objects (see e.g. Goodman, 1966, 46-56; Lewis, 1986, 210-13, 1991; Sider 2001, 56). CEM is “timeless” in the sense that mereological notions such as “*x* is a part of *y*” are not indexed to times (in contrast to the formal mereologies developed for enduring objects) and entities existing at distinct times are allowed to be parts of cross-temporal wholes. In fact, CEM sets *no* restriction on mereological summation: any objects, no matter how gerrymandered or scattered in space and time, have a mereological sum.⁵⁰ Now,

⁴⁷ Thanks to an anonymous referee for suggesting that this orienting summary be inserted.

⁴⁸ See e.g. Quine (1960, 171), Smart (1963, Ch. VII), Goodman (1966, pp. 127–30), Lewis (1976/1983; 1986, Ch. 4; 1988), and Armstrong (1980). See also Sider (2001) and Hawley (2001) for in-depth discussions of perdurantism, although both Sider and Hawley defend the stage theory of persistence. I should also mention here that it is sometimes claimed that perdurantism and endurantism are “metaphysically equivalent” theories that are “intertranslatable without remainder” (Miller, 2005; McCall and Lowe, 2006; Hirsch, 2009); I argue against this deflationary stance in (Hansson Wahlberg, forthcoming b).

⁴⁹ Cf. David Lewis: “Something *perdures* iff it persists by having different temporal parts, or stages, at different times, though no one part of it is wholly present at more than one time.” (Lewis, 1986, 202)

⁵⁰ In his (1966), Nelson Goodman writes: “Bearing in mind that only individuals [i.e. objects] are values of our variables, we can affirm the *unconditional* statement: [...] $(\exists z) (z = x + y)$ as a postulate or theorem of our calculus” (p. 51, my emphasis). He defines the sum of two individuals ($x + y$) as follows: “The sum of two individuals may [...] be defined as that individual which overlaps just those individuals which overlap at least one of the two” (p. 50). Goodman treats “overlaps” as a primitive term, but it is common to define the timeless “*x* overlaps *y*” as $(\exists z)(z \text{ is part of } x \wedge z \text{ is part of } y)$; that is, *x* overlaps *y* iff *x* and *y* have a part in common. In their (1940), Leonard and Goodman put forth a postulate to the effect that there is a sum or “fusion” of the

perdurantists typically hold that persisting objects are *identical* with the cross-temporal, four-dimensional mereological sums of their temporal parts. Of course, most of the physical objects recognised in daily discourse have temporal parts that are spatiotemporally continuous, causally related and roughly similar to each other (i.e. ordinary objects like trees, cars and persons tend to be continuous “space-time worms”), but the standard perdurantist regards these features as *extra* characteristics that happen to typify the temporal parts of the objects we normally talk about, she does not conceive of them as the uniting factors. The semantics implicit in this theory is that ordinary names refer to, and ordinary sortal or kind predicates (roughly, predicates involving count nouns, such as “is a car”), are satisfied by four-dimensional mereological sums of temporal parts, most typically space-time worms. Moreover, if a kind predicate is true of a certain four-dimensional object, then the predicate is inapplicable to any of its proper parts – this is called the maximality principle. Due to maximality, the perdurantists get the intuitively right number when counting objects diachronically. (How many tomatoes were in the bowl today: one or infinitely many?) Characterizing predicates (roughly, predicates formed from adjectives, such as “is red”) do not adhere to the maximality principle: a proper temporal part of a red four-dimensional segment of a tomato can properly be said to be red. Change of intrinsic properties is held to consist in one proper temporal part of the object, existing at time t , being F (e.g. green) and a non-overlapping proper temporal of the object, existing at time t' , failing to be F (e.g. because it is wholly red); in such cases it is legitimate to say that the object itself (e.g. our tomato) changes from being F at t to not being F at t' , according to perdurantists.

To sum up, perdurantists hold that persisting objects are made up of instantaneous temporal parts (at least given current physics), and they usually endorse unrestricted mereological composition. If this package deal is accepted, a defender of Searle’s reductive theory of institutional objects is in a position to hold that there is, after all, a brute object X with the same temporal properties as our government g (see Section 3) – namely, a *four-dimensional* object that begins to exist precisely when g is formed and ceases to be exactly when g does.

members of *any* non-empty class (p. 48), and they state that “an individual is said to stand in that relation to a class when everything that is discrete from [does not overlap] it is discrete from every member of the class and everything discrete from every member of the class is discrete from it” (p. 47). In his (1966), Goodman jettisoned abstract sets and defined what is often called “general sum” (Simons, 1987, 15) in nominalistic terms (i.e. in terms of individuals satisfying a certain predicate (p. 52)). See also Lewis (1986; 1991) for endorsement of unrestricted mereological composition within a perdurantist metaphysics (cf. Sider, 2001).

However, this four-dimensional object X cannot be a mereological sum of *persons*; rather, it must be a sum of *proper temporal parts* or *segments* of persons. Here is why: *g* began to exist at time *t*, but its ministers predate *t* (although perhaps not *as* ministers, but definitely as persons). The pre-*t* segments of the persons must consequently be excluded from the sum in question; otherwise *g* would have pre-*t* temporal parts and would predate *t* by being partly present at times before *t*. Likewise, most of the ministers will probably outlive *g* (which terminates with an unfavourable election, say). The post-*g* segments of the four-dimensional persons must therefore be excluded from the sum; otherwise *g* would perdure into its non-existent future. Finally, one minister, we stipulated, ceased to be at time *t'* and another person took over that minister's role in the government from that time onwards. So the latter's pre-*t'* segment must be excluded from the sum. We end up with a four-dimensional, perduring object whose persisting spatial parts are perduring proper segments of four-dimensional persons. This spatially scattered four-dimensional object is, given perdurantism, the natural candidate for Searle's brute X object to which "g" refers: during the life-time of *g* the perduring segments of the relevant persons meet on a regular basis, in virtue of their proper temporal parts, and make governmental decisions; the decisions are made within the confines of a perduring building which houses the meetings of the successive governments of the state in question.

It will readily be seen that similar accounts could be given for the other types of problematic, concrete-looking institutional entities mentioned.⁵¹ However, a drawback of this type of reductive account is that, intuitively, we think of governments, committees, schools,

⁵¹ Here I sidestep a somewhat controversial issue about modality. One may object that although an institutional object, such as *g*, and the relevant brute four-dimensional sum of temporal parts *actually* have the same temporal properties they *could* have had distinct temporal properties and hence they must be distinct (since they have distinct modal properties): *g* could have persisted for a longer or shorter time but the relevant sum of temporal parts could not (cf. van Inwagen, 1990b). However, typically a perdurantist will insist that this kind of difficulty is circumvented if modal counterpart theory à la Lewis (1971/1983; 1986, 252-3) is adopted: *qua* government the relevant entity could have perduced for a shorter or longer time because the entity has modal government-counterparts with shorter/longer temporal extent, but *qua* sum-of-temporal parts the relevant entity could not have perduced for a shorter or longer time because the relevant entity does not have modal sum-of-temporal-parts-counterparts with shorter/longer extent (cf. van Inwagen, 1990b; Hawley, 2001, 192; Sider, 2001, 222-4). The predicate "could have perduced for a shorter/longer time" is thus taken to be ambiguous by this kind of perdurantist. When flanked by a subject expression associated with the kind *government* it means *has some modal government-counterpart that perdures for a shorter/longer time*, and when flanked by a subject expression associated with the kind *sum-of-temporal-parts* it means *has some modal sum-of-temporal-parts-counterpart that perdures for a shorter/longer time*. By adopting this type of analysis the standard perdurantists will insist that the modal problem is handled. I want to mention, though, that I express some scepticism about this orthodox line of reasoning in my (2009a). However, the issue is contentious and a full discussion of this intricate modal problem as applied to institutional objects will have to wait for another occasion; in this paper I focus on intra-worldly, temporal questions. Let me just say that I think that the modal issue is similar to but in important respects different from, and more complicated than, the intra-worldly temporal problem of how an object can "exdure" over distinct periods of time *qua* object of this or that kind – see below for a detailed discussion of this latter problem and how it can be solved.

and so on, as consisting of *whole* persons/buildings, not proper parts or segments of persons/buildings. Thus, in each case the X object turns out to be rather different compared to how it is conceptualised by the people ascribing the relevant status function: its parts will typically not fall under all of the kind terms that people think they do. However, a perdurantist can allow, returning to the government example, that it is true to say of a certain four-dimensional person that she is part of *g* at *t* (or *t'*) *derivatively*, in virtue of her having a proper temporal part at *t* (*t'*) which is part of *g simpliciter* (cf. Sider, 2001, 57; cf. also perdurantists' account of change of intrinsic properties, e.g. Lewis 1986; 1988). The fact remains, though, that, speaking *non-derivatively*, the person is *not* part of the government on the perdurance metaphysics – the four-dimensional person merely overlaps the government.⁵² Thus, fundamentally speaking, no proper part of the government *g* is a person, on this reductive account. (Of course, philosophers who have given up on descriptivism, following Putnam (1975) and Kripke (1980), will not be too bothered by this counterintuitive consequence. They will allow that referents of names can have properties that differ greatly from the properties they are believed to have; cf. the end of Section 4.)

This (debatable) shortcoming is avoided if *stage*, or *exdurance*, theory is adopted. Succinctly put, in its orthodox form stage theory retains the metaphysics of the perdurance theory but revises its semantics (Sider, 1996; 2000; 2001, 188-208; Hawley, 2001, 41-64; Haslanger, 2003). The perduring arbitrary sums and space-time worms of perdurance theory are generally accepted,⁵³ but sortal or kind predicates are taken to be satisfied by three-dimensional, instantaneous temporal parts (called “stages” by stage theorists) of such four-dimensional entities, not by the four-dimensional entities themselves. Thus, on stage theory, although a stage can be a banana, a four-dimensional entity cannot. Likewise, an ordinary name is taken to refer to an instantaneous temporal part of a four-dimensional entity, not to the four-dimensional entity (or entities) of which the instantaneous temporal part is a proper part. Although ordinary objects like bananas, guitars and tennis balls exist at one time only on this theory, they can nevertheless be said to persist, stage theorists maintain, because often they have *temporal counterparts* existing at other times. A temporal counterpart is simply an

⁵² See Fine (1999, 64-5) for general criticism of four-dimensional accounts of temporary parthood. An additional worry here is that in CEM the parthood-relation is transitive. Some may object that no (segment of a person's) *arm* or *foot* is a part of a government (e.g. Uzquiao, 2004, 136-137). Personally, I do not share this intuition. Setting the whole-segment issue to the side, I agree that David Cameron's left thumb is not a *member* of the British government, but I do not think it is absurd to hold that his left thumb is a part of that government. Only a part that is an *agent* can be a member of a government.

⁵³ See e.g. Sider (2001, 191); but see Hawley (2001, 52) who argues that a stage theorist need not be committed to such entities, although Hawley herself develops stage theory on the assumption that there are 4-D objects (pp. 41 ff).

object that can be taken to “represent” numerically distinct objects, existing at other times, as existing at its time (this aspect of the theory is analogous to David Lewis’s theory of modal counterparts (Lewis, 1968/1983; 1971/1983)). The technical term for this type of persistence is “exdurance” (Haslanger, 2003). Qualitative change in an exduring object is generally analysed as consisting in an object/stage having temporal counterparts with differing properties. Moreover, stage theorists maintain that an ordinary object typically will stand in many *types* of temporal counterpart relation to other objects. For example, a certain stage may be both a piece of clay and an urn. Within the relevant space-time worm there may be other stages which are pieces of clay and/or urns. If these other stages have the right characteristics and stand in the appropriate relations to the first stage, they will be the first stage’s temporal *urn-counterparts* and *piece-of-clay-counterparts*. (Stage theorists typically want to remain neutral about the exact nature of temporal counterpart relations (Sider, 2001, 194), but I have argued elsewhere (Hansson Wahlberg, 2011) that it is plausible to suppose that they involve spatio-temporal continuity, causation, and relevant similarity relations, at least in cases of ordinary, brute objects.) Our first object (which is both a piece of clay and an urn) can then be said to “persist” or “exdure” – although in various senses, and over different time-intervals – in virtue of having different kinds of temporal counterpart at other times.

Let me illustrate the theory to make it clearer. Consider the following process: a piece of clay is formed into an urn; subsequently the piece of clay is crushed, with the result that the urn is destroyed, although the piece of clay survives the event (even if flattened). Stage theorists will analyse this process as follows (cf. Sider, 2001, 200–1). At some time midway through the process there is a stage that is both a piece of clay and an urn. That is, the piece of clay existing at that time is *identical* with the urn existing at that time. This stage, which is both a piece of clay and an urn, stands in the piece-of-clay-counterpart relation to an earlier stage which is a piece of clay but not an urn – the midway stage does not, therefore, stand in the urn-counterpart relation to the earlier stage. Moreover, the midway stage also stands in the piece-of-clay-counterpart relation to a later stage that is a piece of clay but not an urn; the midway stage thus fails to stand in the urn-counterpart relation to this later stage. If we pick out the midway stage as a piece of clay, we can say that it (*qua* piece of clay) persists through the whole process; it does so in virtue of its earlier and later piece-of-clay counterparts. If we pick out the same stage as an urn, we will deny that it (*qua* urn) persists through the whole process, because there are no urn-counterparts located at the appropriate earlier and later times. There is no contradiction involved in this, however, because, in stage theory, the exact meaning of “persist” (or “exdure”) is context-sensitive: when it is associated with “urn” it

means “has temporal urn-counterparts”, when it is associated with “piece of clay” it means “has temporal piece-of-clay-counterparts”, and when it is associated with “stage” it means “is identical with a non-contemporary stage” (cf. Sider, *ibid.*). Thus, when we say that the piece of clay persists through the whole process but that the urn does not persist through the whole process, then, strictly speaking, we are not predicating and withholding the same temporal property of the subjects (which, on stage theory, are identical). Alternatively, we could (for the purpose of deflecting the worry that if the urn is identical with the piece of clay, then it should be equally true of the urn that it persists in the sense of having temporal piece-of-clay counterparts) introduce distinct persistence-terms that express the various persistence modes (urn-persistence, piece-of-clay-persistence, and so forth) in a context-free way. The latter would allow us to say, using a single subject expression, that the midway stage (explicitly picked out as a stage) urn-persists over a certain interval, piece-of-clay-persists over a longer interval, and does not stage-persist at all.⁵⁴

Thus, according to stage theory, during the relevant time interval of the process infinitely many objects exist in succession (assuming time is dense). All of them are stages, some are pieces of clay, and some are also urns. Since there are many stages to choose from, a name for a persisting object will fail to pick out a determinate referent so long as the name is considered atemporally. It is only when the name is indexed to a time (ideally to an instant) that the name acquires definite reference. If the referent is determined by the time of (possible, instantaneous) utterance, so that the stage simultaneous with the utterance is picked out, then the name will change its reference continuously over time. Such change of reference might be deemed an unattractive feature of the theory, but I will construe the theory along these lines here, following Hawley and Sider (Hawley, 2001, 57-62; Sider, 2001, 193). Also, when counting objects diachronically, the stage theory admittedly delivers a further counterintuitive result. As we have seen, according to stage theory, strictly speaking, an infinite number of pieces of clay and urns exist in succession during the interval in question. Stage theorists suggest, however, that when we count diachronically in daily life, we do not count stages but four-dimensional space-time worms (Sider, 2001, 197); an alternative thesis

⁵⁴ For detailed discussion of this issue, see my (2008). Notice that on the endurance theory, there is just one mode of persistence: being wholly present at other times as numerical the same entity. Thus, endurantists cannot invoke distinct persistence modes to achieve token-token reduction/identification – at least not without abandoning numerical identity in the classical, absolute sense defined by Leibniz’s Law (see Wiggins, 2001, Ch. 1). Let me also mention that I am less confident that a parallel strategy works for the modal problem discussed in note 51. For example, is a theory which says that *g* “government-could” have perdured for a longer/shorter time but “mereological-sum-of-temporal-parts-could not” have perdured for a longer/shorter time tolerable? In general, the analysis and the satisfaction of dispositional predicates become messy and problematic affairs within a reductionistic metaphysics with modal counterparts (see my 2009a; 2009b). But again, this issue is contentious.

(the better one, I think) is that in day-to-day life we do not count by identity but by the appropriate temporal counterpart relation, i.e. by “sameness” in a loose sense (Hawley, 2001, 62-4).

We are finally ready to apply stage theory to the government sample case. By exploiting different sorts of temporal counterparts, the problems discussed in Section 3 dissolve. In more detail, here is how I think an exdurantist would want to analyse the government case: First of all, at time t there is a 3D sum of people, s .⁵⁵ This 3D sum is *qua* stage instantaneous – or, to put it another way, it does not stage-persist. At t , s counts as the government. Moreover, at time t' there is a 3D sum of people, s' , numerically distinct from s . s' too is, *qua* stage, instantaneous. At t' , s' counts as the government. Crucially, s' is one of s 's temporal *government*-counterparts: both count as governments, there is spatiotemporal and causal continuity between s and s' (both s and s' may be spatially scattered, but many parts of s are spatiotemporally and causally continuous with parts of s'), the “same” person is prime minister or president at t and t' , and there has been no election between t and t' , merely a reshuffle.⁵⁶ However, and importantly, s' is *not* a temporal *3D-sum-of-people*-counterpart of s : there is not a temporal person-counterpart in s' for every person in s . A parallel situation obtains for s in relation to s' : s is one of s' 's *government*-counterparts, but s is not a *3D-sum-of-people*-counterpart of s' . Moreover, at t “ g ” refers to s , and at t' “ g ” refers to s' (i.e. “ g ” changes its reference over time). Consequently, at t it is true to say “ $g = s$ ”. It is true to say this even though it is also true to say, at t , “ g will persist to t' , but s will not”. The two utterances (i.e. of “ $g = s$ ” and “ g will persist to t' , but s will not”) are compatible because, although “ g ” and “ s ” are co-referential at t , the latter utterance simply means that g has a government-counterpart at t' , and that s does not have a 3D-sum-of-people-counterpart at t' . (Alternatively, the latter utterance can be taken to mean that g will government-persist to t' and that s will not 3D-sum-of-people-persist to t' .) Similarly, at t' it is true to say “ $g = s'$ ”. It is true to say this even though it is also true to say, at t' , “ g was the government at t , but s' was not”. The two utterances are compatible because, although “ g ” and “ s' ” are co-referential at t' , the latter utterance simply means that g has a government-counterpart at t , and that s does not have a 3D-sum-of-people-counterpart at t which is the government at that time. Finally, there are no suitable government-counterparts existing at times earlier than t , nor at

⁵⁵ s is also a three-dimensional mereological sum in the sense of CEM; stage theory allows entities to fall under many kind terms.

⁵⁶ Naturally, the exact conditions for the government-counterpart relation may differ between different countries. Moreover, it may be that, in the case of institutional objects, the requirements of spatiotemporal and causal continuity are not necessary; see Jansen (2008) for interesting cases. Jansen appears to be tacitly operating within the endurance framework however.

times after the unfavourable election. Thus, at any time of the interval between the formation and the cessation of the government it is true to say things such as “g did not exist at the time when all of the persons in *s* (or *s'*) were born” and “g will cease to exist before any of the persons in *s'* cease to exist”. It would be true to say things such as these although, at any time of the interval, *g* is identical either with *s* or *s'* (“*g*”, “*s*” and “*s'*” indexed to the relevant time).

On stage theory, then, a *prima facie* concrete institutional object like a government turns out to be not only reducible (relative to a time), but reducible to a sum of *people* – which, *ceteris paribus*, might be considered an advantage over the perdurantist account.⁵⁷ The price of such a reduction, however, is a plethora of persistence modes and the notion that names for persisting objects change their reference over time. The price of both kinds of reductionism (the perdurance and stage theory variants) is, obviously, a rejection of the common-sense notion that objects endure through time. I leave it to the reader to decide whether these costs for maintaining the scope of Searle’s reductive theory of institutional objects are worth paying. Notoriously, one man’s *modus ponens* is another man’s *modus tollens*. My aim has chiefly been to make it clear what the alternative conceptions are, since they have been more or less neglected in the literature on social ontology so far.⁵⁸

6. Concluding remarks

I have tried to show that theories of persistence bear on the ontological status of institutional objects. In particular, I have argued that Searlean reductionism (summarised in the schema “X counts as Y in C”) can hold only for a sub-class of institutional objects, assuming endurantism. This sub-class is much smaller than critical writers like Thomasson (1997; 2003) and Smith (2003a) – and Searle himself (e.g. 2010) – have indicated. To escape this stronger anti-reductive conclusion an endurantist-reductionist will have to argue, convincingly, that there are other, more suitable, brute reductive bases than those discussed in Section 3. Else the

⁵⁷ Note also that the exdurance theory allows that an institutional object such as a barrister or a dollar bill can be identified with a certain person/piece of paper even if one insists (in contraposition to the phased-sortal view defended in the beginning of Section 3) that the barrister/dollar bill has persisted (or will persist) for a shorter/longer time than the corresponding person/piece of paper.

⁵⁸ The observant reader may have noticed that in this paper I have not addressed the following classical difficulty facing reductive theories of institutional objects: two apparently distinct institutional objects (e.g. a committee and a football team) can be made up of the same individuals, at all times (Brown, 1905/2008; Quinton, 1976; Ruben, 1985, 15; Simons, 1987, 168; Uzquiano, 2004). Effingham (2009, 260) suggests that in such cases the reductionist may simply bite the bullet and claim that the non-identity of the relevant institutional objects is merely apparent (holding that the predicates “is a committee” and “is a football team” in fact are satisfied by the same thing). Uzquiano (2004, 147) argues that such a move is implausible unless a perdurance theory with modal counterparts is adopted (cf. Effingham, *ibid.*). Uzquiano himself apparently rejects counterpart theory (*ibid.*), but it is in any case unclear how the counterpart move is supposed to solve the *prima facie* difficulty (cf. Ritchie, 2013, 264). At present, I regard this issue as unsatisfactorily resolved. I hope to discuss the problem in a future paper.

endurantist-reductionist will have to adopt either some deviant conception of identity, such as Geach's relative identity thesis (Geach, 1980/1997) or Gallois's temporary identity theory (Gallois, 1998), or some deviant conception of the logic of sortal concepts, such as Burke's dominance theory (Burke, 1994/1997). Merely denying that the material version of Leibniz's Law is applicable to institutional objects (*qua* institutional objects) is not a credible move, I have argued (Section 4). If social ontologists are prepared to give up on endurantism (while retaining the concept of absolute identity defined by Leibniz's Law), the prospects of enlarging the class of reducible institutional objects improve. However, in the case of perdurantism, the reduction base will generally not consist of the sought-for types of object. Rather it will consist of temporal segments of such objects. Stage theory promises to deliver the sought-for reduction, but in doing so it will require a plethora of persistence modes and the notion that names for persisting objects change their reference over time (Section 5). Again, let me stress that the purpose of this paper has been neither to promote, nor to discredit, a specific view of persistence. It has been to initiate a much-needed process of charting hitherto little-explored territories within social ontology.*

REFERENCES

ARMSTRONG, D. M., 1980, "Identity through Time", in van Inwagen P. (ed.), *Time and Cause*, 1980, Dordrecht: D. Reidel Publishing Company.

ARMSTRONG, D. M., 1997, *A World of States of Affairs*, Cambridge: Cambridge University Press.

BAKER, L. R., 2007, *The Metaphysics of Everyday Life*, Cambridge: Cambridge University Press.

* I thank audiences at Lund University (April 2011 and November 2012) and at the University of Gothenburg (June 2011 and September 2012) for helpful comments on earlier versions of this paper. I am especially grateful to Ingvar Johansson, Patrizio Lo Presti, Anna-Sofia Maurin, Paul Robinson, Stefan Schubert, Lena Wahlberg, and three anonymous referees for *dialectica* for their detailed comments. The writing of the paper was funded by the Swedish Research Council (research grant 421-2011-1694).

BAXTER, L. M., 1988, "Many-One Identity", *Philosophical Papers*, Vol. 17, No. 3, pp. 193–216.

BROWN, W. J., 1905/2008, "The Personality of the Corporation and the State (1905)", *Journal of Institutional Economics*, Vol. 4, No. 2, pp. 255-273.

BURKE, M. B., 1994/1997, "Preserving the Principle of One Object to a Place: A Novel Account of the Relations Among Objects, Sorts, Sortals, and Persistence Conditions", in Rea M. C. (ed.) *Material Constitution: A Reader*, 1997, Oxford: Rowman & Littlefield Publishers.

BYEONG-UK, Y., 1999, "Is Mereology Ontologically Innocent?", *Philosophical Studies*, Vol. 93, No., pp. 141–160.

CHURCHLAND, P., 1988, "The Ontological Status of Intentional States: Nailing Folk Psychology to its Perch", *Behavioural and Brain Sciences*, Vol. 11, No. 3, pp. 507–508.

COLE, J. C., 2014, "An Abstract Status Function Account of Corporations", *Philosophy of the Social Sciences*, Vol. 44, No. 1, pp. 23-44.

COPP, D., 1984, "What Collectives Are: Agency, Individualism and Legal Theory", *Dialogue*, Vol. 23, No. 2, pp. 249-269.

DENNETT, D. C., 1987, *The Intentional Stance*, Cambridge, MA: The MIT Press.

EFFINGHAM, N., 2010, "The Metaphysics of Groups", *Philosophical Studies*, Vol. 149, No. 2, pp. 251-267.

EPSTEIN, B., 2014, "Social Objects Without Intentions", in Konzelmann et al. (eds.) *Institutions, Emotions, and Group Agents - Contributions to Social Ontology, Studies in the Philosophy of Sociality*, Vol. 2, 2014, pp. 53-68, Springer.

FINE, K., 1999, "Things and Their Parts", *Midwest Studies in Philosophy*, Vol. 23, No. 1, pp. 61-74.

FINE, K., 2003, “The Non-Identity of a Material Thing and Its Matter”, *Mind*, Vol. 112, No. 446, pp. 195-234.

FINE, K., 2007, “Response to Kathrin Koslicki”, *dialectica*, Vol. 61, No. 1, pp. 161-166.

GALLOIS, A., 1998, *Occasions of Identity – The Metaphysics of Persistence, Change, and Sameness*, Oxford: Oxford University Press.

GEACH, P. T., 1980/1997, “Reference and Generality (Selections)”, in Rea M. C. (ed.) *Material Constitution: A Reader*, 1997, Oxford: Rowman & Littlefield Publishers.

GILBERT, M., 1989, *On Social Facts*, Princeton: Princeton University Press.

GILBERT, M., 1990, “Walking Together: A Paradigmatic Social Phenomenon”, *Midwest Studies in Philosophy*, Vol. 15, No. 1, pp. 1–14

GOODMAN, N., 1966, *The Structure of Appearance*, 2nd ed., Indianapolis: Bobbs-Merrill Company.

HANSSON, T., 2007, “The Problem(s) of Change Revisited”, *dialectica*, Vol. 61, No. 2, pp. 265–274.

HANSSON WAHLBERG, T., 2008, “Can I be an Instantaneous Stage and yet Persist Through Time?”, *Metaphysica*, Vol. 9, No. 2, pp. 235–239.

HANSSON WAHLBERG, T., 2009a, “4-D Objects and Disposition Ascriptions”, *Philosophical Papers*, Vol. 38, No. 1, pp. 35-72.

HANSSON WAHLBERG, T., 2009b, *Objects in Time – Studies of Persistence in B-time*, dissertation, Lund: Media-Tryck. Available online at www.fil.lu.se/person/TobiasHanssonWahlberg

HANSSON WAHLBERG, T., 2010, “The Tenseless Copula in Temporal Predication”, *Erkenntnis*, Vol. 72, No. 2, pp. 267-280.

HANSSON WAHLBERG, T., 2011, “Can Persistence be a Matter of Convention?”, *Axiomathes*, Vol. 21, No. 4, pp. 507–529.

HANSSON WAHLBERG, T., forthcoming a, “Elder-Vass on the Causal Powers of Social Structures”, *Philosophy of the Social Sciences*, available at Online First doi:10.1177/0048393113500213.

HANSSON WAHLBERG, T., forthcoming b, “The Endurance/Perdurance Controversy is No Storm in a Teacup”, *Axiomathes*, available at Online First doi: 10.1007/s10516-014-9233-z

HASLANGER, S, 1989, “Endurance and Temporary Intrinsic”, *Analysis*, Vol. 49, No., 3, pp. 119-125.

HASLANGEER, S., 2003, “Persistence through Time”, in Loux M. J. and Zimmerman D. W. (eds.) *The Oxford Handbook of Metaphysics*, 2003, Oxford: Oxford University Press.

HAWLEY, K., 2001, *How Objects Persist*, Oxford: Oxford University Press.

HAWTHORNE, J., 2003, “Identity”, in Loux M. J. and Zimmerman D. W. (eds.) *The Oxford Handbook of Metaphysics*, 2003, Oxford: Oxford University Press.

HILPINEN, R., 2004, “Artifact”, in Zalta E. N. (ed.), *Stanford Encyclopedia of Philosophy*, <http://plato.stanford.edu/entries/artifact>, retrieved 2011-06-08.

HINDRIKS, F., 2008, “The Status Account of Corporate Agents”, in Schmid B. et al. (eds.) *Concepts of Sharedness – New Essays on Collective Intentionality*, 2008, pp. 119-144, Frankfurt: Ontos Verlag.

HINDRIKS, F., 2012, “But Where Is the University?”, *dialectica*, Vol. 66, No. 1, pp. 93-113.

HINDRIKS, F., 2013, “The Location Problem in Social Ontology”, *Synthese*, Vol. 190, No. 3, pp. 413-437.

HIRSCH, E., 2009, "Ontology and Alternative Languages", in Chalmers D. et al (eds.) *Metametaphysics – New Essays on the Foundations of Ontology*, 2009, Oxford: Oxford University Press.

HRBACEK, K. and JECH, T., 1999, *Introduction to Set Theory – Third edition, Revised and Expanded*, London: Taylor & Francis.

JANSEN, L., 2008, "The Diachronic Identity of Social Entities", in Kanzian C. (ed.) *Persistence*, 2008, Frankfurt: Ontos Verlag.

KOSLICKI, K., 2007, "Towards a Neo-Aristotelian Mereology", *dialectica*, Vol. 61, No. 1, pp. 127-159.

KRIPKE, S. L., 1980, *Naming and Necessity*, Cambridge, MA: Harvard University Press.

LEONARD, H. S. & GOODMAN, N., 1940, "The Calculus of Individuals and Its Uses", *The Journal of Symbolic Logic*, Vol. 5, No. 2, pp. 45-55.

LEWIS, D., 1968/1983, "Counterpart Theory and Quantified Modal Logic," in *Philosophical Papers, Volume I*, 1983, Oxford: Oxford University Press.

LEWIS, D., 1971/1983, "Counterparts of Persons and Their Bodies," in *Philosophical Papers, Volume I*, 1983, Oxford: Oxford University Press.

LEWIS, D., 1976/1983, "Survival and Identity," in *Philosophical Papers, Volume I*, 1983, Oxford: Oxford University Press.

LEWIS, D., 1986, *On the Plurality of Worlds*, Oxford: Blackwell Publishing.

LEWIS, D., 1988, "Rearrangement of Particles: Reply to Lowe", *Analysis*, Vol. 48, No. 2, pp. 65-72.

LEWIS D., 1991, *Parts of Classes*, Oxford: Basil Blackwell.

LOWE, E. J., 2009, *More kinds of Being: A Further Study of Individuation, Identity, and the Logic of Sortal Terms*, Oxford: Wiley-Blackwell.

LIST, C. and PETTIT, P., 2011, *Group Agency*, Oxford: Oxford University Press.

MADDY, P., 1990, *Realism in Mathematics*, Oxford: Oxford University Press.

MCCALL S. & LOWE E. J., 2006, "The 3D/4D Controversy: A Storm in a Teacup", *Noûs*, Vol. 40, No. 3, pp. 570-578.

MELLOR, D. H., 1998, *Real Time II*, London: Routledge.

MELLOR, D. H., 2006/2012, "Wholes and Parts: The Limits of Composition", in *Mind, Meaning, and Reality: Essays in Philosophy*, 2012, Oxford: Oxford University Press.

MERRICKS, T., 1994, "Endurance and Indiscernability", *The Journal of Philosophy*, Vol. 91, No. 4, pp. 165-184.

MILLER, K., 2005, "The Metaphysical Equivalence of Three and Four Dimensionalism", *Erkenntnis*, Vol. 62, No. 1, pp. 91-117.

NAGEL, E., 1961/1979, *The Structure of Science: Problems in the Logic of Scientific Explanation*, Indianapolis: Hackett Publishing Company.

PUTNAM, H., 1975, "The Meaning of 'Meaning'", in *Philosophical Papers Vol. 2*, Cambridge: Cambridge University Press.

QUINE, W. V. O., 1960, *Word and Object*, Cambridge, MA: The MIT Press.

QUINTON, A., 1975-76, "Social Objects", *Proceedings of the Aristotelian Society*, Vol. 76, pp. 1-27+viii.

REA, M., (ed.), 1997, *Material Constitution: A Reader*, Oxford: Rowman & Littlefield Publishers.

RITCHIE, K., 2013, "What are Groups?", *Philosophical Studies*, Vol. 166, No. 2, pp. 257-272.

RUBEN, D-H., 1985, *The Metaphysics of the Social World*, London: Routledge & Kegan Paul.

RUBEN, D-H., 1997, "John Searle's *The Construction of Social Reality*", *Philosophy and Phenomenological Research*, Vol. 57, No. 2, pp. 443–447.

RUSSELL, B., 1903, *The Principles of Mathematics*, Cambridge: Cambridge University Press.

SEARLE, J. R., 1958, "Proper Names", *Mind*, Vol. LXVII, No. 266, pp. 166-173.

SEARLE, J. R., 1969, *Speech Acts – An Essay in the Philosophy of Language*, Cambridge: Cambridge University press.

SEARLE, J. R., 1983, *Intentionality*, Cambridge: Cambridge University Press.

SEARLE, J. R., 1988, "The Realistic Stance", *Behavioural and Brain Sciences*, Vol. 11, No. 3, pp. 527–529.

SEARLE, J. R., 1990, "Collective Intentions and Actions", in *Consciousness and Language*, 2002, Cambridge: Cambridge University Press.

SEARLE, J. R., 1992, *The Rediscovery of the Mind*, Cambridge, MA: The MIT Press.

SEARLE, J. R., 1995, *The Construction of Social Reality*, London: Penguin Books.

SEARLE, J. R., 1997, "Responses to Critics of *The Construction of Social Reality*", *Philosophy and Phenomenological Research*, Vol. 57, No. 2, pp. 449–458.

SEARLE, J. R., 2003, "Reply to Barry Smith", *American Journal of Economics and Sociology*, Vol. 61, No. 1, pp. 299–309.

SEARLE, J. R., 2005, "What is an Institution?", *Journal of Institutional Economics*, Vol. 1, No. 1, pp. 1-22.

SEARLE, J. R., 2006, "Social Ontology: Some Basic Principles", *Anthropological Theory*, Vol. 6, No. 1, pp. 12–29.

SEARLE, J. R., 2010, *Making the Social World: The Structure of Human Civilization*, Oxford: Oxford University Press.

SHAPIRO, S., 2010, "Mathematical Structuralism", in Fieser J. and Dowden B. (eds.), *Internet Encyclopedia of Philosophy*, <http://www.iep.utm.edu/>. Article retrieved 5 March 2014.

SIDER, T., 1996, "All the World's a Stage", *Australian Journal of Philosophy*, Vol. 74, No. 3, pp. 433-451.

SIDER, T., 2000, "The Stage View and Temporary Intrinsic", *Analysis*, Vol. 60, No. 1, pp. 84-88.

SIDER, T., 2001, *Four-dimensionalism: An Ontology of Persistence and Time*, Oxford: Clarendon Press.

SIMONS, P., 1987, *Parts: A Study in Ontology*, Oxford: Oxford University Press.

SMART, J. J. C., 1963, *Philosophy and Scientific Realism*, London: Routledge & Kegan Paul.

SMITH, B., 2003a, "The Ontology of Social Reality", *American Journal of Economics and Sociology*, Vol. 61, No. 1, pp. 285–299.

SMITH, B., 2003b, "John Searle: From Speech Acts to Social Reality", in Smith B. (ed.) *John Searle*, Cambridge: Cambridge University Press.

STRAWSON, P. F., 1959, *Individuals: An Essay in Descriptive Metaphysics*, London: Routledge.

TAYLOR, E. F. and WHEELER, J. A., 1992, *Spacetime Physics: Introduction to Special Relativity*, 2nd ed., New York: W. H. Freeman and Company.

THOMASSON, A., 1997, “The Ontology of the Social World in Searle, Husserl and Beyond”, *Phenomenological Inquiry*, Vol. 21, pp. 109-136.

THOMASSON, A., 2003, “Foundations for a Social Ontology”, *Proto-Sociology: An International Journal of Interdisciplinary Research*, Vol. 18–19, pp. 269–290.

THOMASSON, A., 2007, “Artifacts and Human Concepts”, in Margolis E. & Laurence S. (eds.) *Creations of the Mind*, 2007, Oxford: Oxford University Press.

THOMSON, J. J., 1983/1997, “Parthood and Identity Across Time”, in Rea M. C. (ed.) *Material Constitution: A Reader*, 1997, Oxford: Rowman & Littlefield Publishers.

THOMSSON, J. J., 1998, “The Statue and the Clay”, *Noûs*, Vol. 32, No. 2, pp. 149-173.

TUOMELA, R., 1995, *The Importance of Us*, Stanford: Stanford University Press.

TUOMELA, R., 2007, *The Philosophy of Sociality: The Shared Point of View*, Oxford: Oxford University Press.

UZQUIANO, G., 2004, “The Supreme Court Justices: A Metaphysical Puzzle”, *Noûs*, Vol. 38, No. 1, pp. 135-153.

VAN INWAGEN, P., 1990a, *Material Beings*, Ithaca: Cornell University Press..

VAN INWAGEN, P., 1990b, “Four-dimensional Objects”, *Noûs*, Vol. 24, No. 2, pp. 245–255.

VAN INWAGEN, P., 1994, "Composition as Identity", *Philosophical Perspectives*, Vol. 8, pp. 207–220.

VAN INWAGEN, P., 2006, "Can Mereological Sums Change Their Parts?", *The Journal of Philosophy*, Vol. 103, No. 12, pp. 614-630.

WASSERMAN, 2013, "Material Constitution", in Zalta E. N. (ed.) *Stanford Encyclopedia of Philosophy*, <http://plato.stanford.edu/entries/material-constitution/>, retrieved 2014-03-06

WIGGINS, D., 1968/1997, "On Being in the Same Place at the Same Time", in Rea M. C. (ed.) *Material Constitution: A Reader*, 1997, Oxford: Rowman & Littlefield Publishers.

WIGGINS, D., 2001, *Sameness and Substance Renewed*, Cambridge: Cambridge University Press.