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LEIBNIZIAN SOFT REDUCTION OF EXTRINSIC DENOMINATIONS AND RELATIONS

ABSTRACT. Leibniz, it seems, wishes to reduce statements involving relations or extrinsic denominations to ones solely in terms of individual accidents or, respectively, intrinsic denominations. His reasons for this appear to be that relations are merely mental things (since they cannot be individual accidents) and that extrinsic denominations do not represent substances as they are on their own. Three interpretations of Leibniz's reductionism may be distinguished: First, he allowed only monadic predicates in reducing statements (hard reductionism); second, he allowed also 'implicitly relational predicates' such as 'loves somebody' (soft reductionism); third, he allowed also 'explicitly relational predicates' such as 'loves Helen' (nonreductionism). Hard reductionism is problematic with respect to Leibniz's doctrines of universal expression and impossibility (among other things). Nonreductionism, in turn, faces insurmountable problems with Leibniz's doctrine of self-sufficiency and internal identification of substances, as well as with that of individual accidents. The remaining option, soft reductionism, standing between the other two interpretations, arguably avoids at least some of their problems.

1. INTRODUCTION

It seems that Leibniz regards statements (sentences, propositions) involving *relations* between (created) substances, as well as those involving *extrinsic denominations* of substances as improper or 'inaccurate' representations of the world, and that he wishes, accordingly, to reduce such statements to those involving only *individual accidents* or, respectively, *intrinsic denominations*. It is, however, far from clear what, exactly, is to be reduced, and to what extent (if at all).

In Section 2 I shall present (what appears to be) Leibniz's motivations for such reductions (i.e., the reasons for the mentioned inaccuracy), namely, the following: (i) while individual accidents *inhere* in substances, such inherence in two substances does not make sense and thus relations cannot be *real* (in the way accidents are); (ii) statements about a given substance in terms of extrinsic denominations (e.g., 'Paris loves Helen') are not *about* that substance only and thus do not represent that substance as it really is, viz. self-sufficient and independent from other (created) sub-



stances, or, in other words, such statements violate Leibniz's requirement of internal identification of substances.

In Section 3 I shall consider what I call *hard reductionism* (HR, for short), or the attribution to Leibniz a very strong form of reductionism, amounting to the denial of the usage of polyadic (or many-placed) predicates in 'accurate' statements. Various problems in HR are presented, ranging from those related to Leibniz's doctrines of universal expression and impossibility to the weakness of the claim (made by many defenders of HR) that HR is supported by Leibniz's providing some reductions, such as the reduction of 'Paris loves Helen' to 'Paris loves, and by that very fact Helen is loved'.

In view of these problems in HR I turn in Section 4 to *soft reductionism* (SR), according to which Leibniz could allow in accurate statements (what I call) *monadic ascriptions*, even when they contain polyadic predicates – e.g., 'Paris loves somebody'. SR must be separated from *nonreductionism*, which is the view that Leibniz could allow as accurate also polyadic ascriptions *à la* 'Paris loves Helen' (or at least *à la* 'Paris is such that "loves Helen" is true of him'). I shall argue that monadic ascriptions with polyadic predicates (such as 'Paris loves somebody') are in a quite plausible sense about one substance only, and thus, if 'being about one substance only' characterizes intrinsicity, ascribe intrinsic denominations to substances. Against the objection that monadic ascriptions with polyadic predicates do not really represent substances as independent from others (and thus are not accurate after all) it will be argued that the independence Leibniz attributes to substances is to be understood as self-sufficiency in a sense that does not make, say, 'Paris loves somebody' offending.

In the final section I briefly summarize the paper, suggesting that SR as a *via media* between HR and nonreductionism combines the avoidance of the implausibility of the latter with the resources for solving the problems of the former.

2. INDIVIDUAL ACCIDENTS, RELATIONS, DENOMINATIONS, AND REDUCTION

According to Leibniz, 'Caius is wise' is true only if the *modification* of being wise belongs to Caius, or, more precisely, only if *the individual accident Caius's wisdom inheres* in Caius, this accident being a real entity dependent on (the substance) Caius. If 'Paris loves Helen', or 'The *relation* of loving holds between Paris and Helen (in that order)', were treated exactly analogously, it would be taken to be true only if the modification of loving belongs to both Paris and Helen (or to the ordered pair

(Paris, Helen)), or only if the accident *loving* inheres in both Paris and Helen, “having, so to speak, one foot in one and one foot in the other” (G2 517/AG 203, 1716). Leibniz, however, being committed to the doctrine of individual accidents, cannot accept such an account, for it “is contrary to the notion of accidents” (LC 5.47); not only is it impossible for an individual accident to ‘migrate’ or be in two substances at separate moments of time (see, for instance, NE 2.23.28 (A66 224), LC 5.39, LC 5.47) but it cannot inhere in two individual substances at once, or be ‘spread’ over two substances either. Thus, a relation, “being neither a substance nor an accident, must be a mere ideal thing” (LC 5.47) – that is, Leibniz holds that relations are not real, but are merely mental, ideal, phenomenal.¹

As such, ‘Paris loves Helen’ is, for Leibniz, a true statement (that is to say, is true assuming that Paris does love Helen). We could say, however, that on Leibniz’s view it is, as it stands, not ‘philosophically rigorous’, or not an *ontologically accurate* description of (a part of) the world in that it is not entirely in terms of what there really is but refers to a merely ideal or mental thing, namely, the relation of loving. Then, if we wish to give an ontologically accurate way of representing the fact that Paris loves Helen we must engage in *relation reduction*. Since Leibniz frequently states that relations between substances are founded or grounded in, or result or arise from, the individual accidents of the relata (i.e., of those substances which are said to be so related),² it would seem that (e.g.) ‘Paris loves Helen’ is to be ‘reduced’, somehow, to statements attributing only individual accidents to Paris and Helen.

Since the notion of ontological accuracy will be important below (for instance, in the formulations of the competing interpretations of reduction), it may be in need of further clarification. The point is that Leibniz *may* take, say, ‘Caius is wise’ *at face value* (as it were), with a straightforward explanation that this concerns (real entities) Caius and his individual accident *wisdom*, and is true only if the latter inheres in the former. (This does not entail that everybody must take the statement in question at face value, nor that everybody taking it so must accept individual accidents, etc., for other, un-Leibnizian ‘face-value explanations’ are possible.) Then, bearing this in mind, Leibniz cannot take ‘Paris loves Helen’ similarly at face value, since ‘loves’, according to him, would involve objectionable ‘double-inherence’, or seems to refer to an entity that is only ideal; in short, ‘Paris loves Helen’ is in an entirely natural sense ontologically misleading for a nominalist (or conceptualist) such as Leibniz. All in all, Leibniz *can* regard ‘Caius is wise’ as ‘ontologically accurate’ *under* his straightforward interpretation of this as ‘(The individual accident) Caius’s wisdom inheres in (the substance) Caius’, but he cannot regard ‘Paris loves Helen’ directly

in the same manner (due to ‘loves’) but must give some sort of explanation involving reduction.³

For Leibniz, substances (such as Caius, Paris and Helen) are *self-sufficient* and *independent* from each other.⁴ An *intrinsic denomination* of a substance, such as the one expressed by ‘is wise’ in ‘Caius is wise’, is exclusively *about* that substance in the sense of involving no other substances, or, in a word, representing that particular substance in a manner that does not make it appear as dependent on others, or as not self-sufficient. In contrast, an *extrinsic denomination* of a substance, say, Paris’s denomination expressed in ‘loves Helen’, does not represent Paris as he is on his own but only in relation to Helen. Again, extrinsic denominations are, on Leibniz’s view, founded on intrinsic denominations.⁵ And again, we might want to reduce statements with extrinsic denominations to those only with intrinsic denominations, or, as we might call the latter, *notionally* accurate statements. I take it that on Leibniz’s view the *complete individual notion* of a substance, although *involving* every other substance, or *expressing* the whole world, is to be regarded as such an accurate representation of that substance, representing it as self-sufficient or independent – this means that what we have in complete individual notions (in contrast to what can, somehow, be ‘inferred’ from it) are exclusively intrinsic denominations. That is, since each substance is independent, self-sufficient, and like a ‘world apart’, its complete individual notion, representing that substance as it really is, consists strictly speaking only in intrinsic denominations.⁶

Accordingly, Leibniz seems to have two motivations for reduction, an ontological one (deriving from the nature of accidents) and a ‘notional’ one (deriving from the nature of substances as self-sufficient). It should be noted, however, that neither extrinsic denominations nor relations, those notional or ideal entities, are themselves reduced – indeed, it is hard to understand what such a reduction could be. Rather, it seems safest to say, Leibnizian reductions are transformations of sentences or statements containing expressions of extrinsic denominations or relations into accurate ones (i.e., those involving only intrinsic denominations or, respectively, individual accidents) that are equivalent to, or at least entail, the original ‘inaccurate’ ones. (Since for Leibniz propositions are notions, the frequently used locution ‘reduction of propositions’ sounds odd as well.) However, I shall sometimes resort to the fluent (though sloppy) talk of reduction of extrinsic denominations or relations – this should be understood in the light of what I just said.

Judging from the secondary literature, or even from what Leibniz actually writes, it is not entirely clear what, exactly, Leibniz means by ‘denomination’, on the one hand, and ‘relation’, on the other, and how,

exactly, these concepts are related. G. H. R. Parkinson (1965, 43) holds (or it at least “appears” to him) that Leibniz takes denominations “in their accepted Scholastic sense, an extrinsic denomination being a relation, and an intrinsic denomination a [non-relational] predicate”. As my formulations above indicate, I take – following Mates (1986, 218) – denominations to be notions (i.e., concepts), applying or not applying to substances; this seems justified in view of Leibniz’s stating that complete individual notions ‘contain’ or ‘involve’ denominations.⁷ Thus, since relations are ideal or mental (i.e., notional), it seems at least possible to hold the Parkinsonian identity view for relations and extrinsic denominations, that is, these *might* be identified with each other, in contrast to intrinsic denominations and individual accidents which cannot be so identified, due to their ontological disparateness. However, considering the matter in something like a manner made famous by Frege, we could say that, for Leibniz, ‘Caius’ refers to Caius and expresses his complete individual notion, ‘is wise’ refers to an individual accident and expresses an intrinsic denomination, and ‘loves’ refers to a relation – which is for the ‘realist’ something like an accident but for Leibniz an ideal entity – and expresses an extrinsic denomination. From this viewpoint it is perhaps not advisable to declare that what, say, ‘loves’ refers to (a relation) and expresses (an extrinsic denomination) is one and the same entity (even though they are both ideal), but rather that these entities are *parallel*: A predicate expresses an extrinsic denomination just in case it refers to a relation. This approach implies, further, that intrinsic denominations are ‘notions of individual accidents’, or notions expressed by those predicates which refer to individual accidents. I shall accept as a starting point this parallelist view, according to which, to repeat, the distinction between intrinsic and extrinsic denominations matches exactly with the one between individual accidents and relations.

There is a further problem of demarcation between intrinsic and extrinsic denominations (and thus, on the parallelity thesis, also between individual accidents and relations, despite their belonging, for Leibniz, to crucially disparate ontological categories). “An intrinsic denomination of a thing is a characterization of it which involves only the thing itself, whereas an extrinsic denomination relates it to something else” (Remnant and Bennett, in NERB xxxvi) is a paradigmatic rendering of the distinction; it, however, contains the problem that it seems to make, say, ‘loves somebody’ an expression of neither an intrinsic nor an extrinsic denomination, for it seems not to “involve only the thing itself”, i.e., only the person it applies to, but cannot be said to relate that person to somebody (or something) else either, since ‘Paris loves somebody’, for instance, would be true even if self-loving Paris were the only substance in the world. One

of my central claims below is that ‘loves somebody’ could quite naturally be taken as expressing an intrinsic denomination.

Since the issues revolving around complete individual notions, universal expression, independence, and so on, are very important to the general outlook of Leibniz’s metaphysics (more important, I would say, than the question of accidents), and these issues relate to denominations rather than accidents and relations, I shall concentrate on denominations, or the problem of the reduction of statements involving extrinsic denominations to those solely in terms of intrinsic ones. (If the parallelity thesis is taken for granted, this choice of focus is entirely inconsequential.)

3. HARD REDUCTIONISM

Most Leibniz scholars have held the plausible view that Leibniz is committed to *some* kind of reduction of (sentences involving) extrinsic denominations (or relations) to (sentences involving only) their founding intrinsic denominations (or individual accidents, respectively). In the interest of definiteness, let us fix the following as a formulation of what might be called the traditional hard-line view:

- (HR) Leibniz advocates *hard reductionism*, or the view that an accurate description of (at least part of) the world must be given without utilizing *polyadic predicates*.

‘Polyadic’ means here ‘many-placed’ in the standard sense, so that while ‘wise’ in ‘Caius is wise’ (i.e., in ‘ Wc ’) is not a polyadic but *monadic* (or one-placed) predicate, ‘loves’ in both ‘Paris loves Helen’ (or ‘ Lph ’) and ‘Paris loves somebody’ (or ‘ $\exists yLpy$ ’) is *dyadic* and hence polyadic (and thus hard reductionists hold that while ‘ Wc ’ is an accurate description, ‘ Lph ’ and ‘ $\exists yLpy$ ’ are not).

The questions that need to be raised at this point are: Just *who* are the defenders of HR? And, are all of those who appear to have some hard-line view about Leibniz’s reductionism prepared to accept such a *linguistic* formulation as HR is? For some authors who are standardly taken to be hard-liners it is difficult to answer these questions – it is not always entirely evident what, *exactly*, is meant by statements apparently purporting to express Leibniz’s reductionism.⁸ “Every proposition is ultimately reducible to one which attributes a predicate to a subject”, or is of “subject-predicate form” are Russell’s (1937, 9, 13) well-known renderings of Leibniz’s reductionism. According to Parkinson (1965, 45), in turn, Leibniz’s view is that “when one says that A has a certain relation to B , the

proposition asserted is reducible to subject-predicate propositions whose subjects are *A* and *B* respectively”, and according to Rescher (1967, 72) that “whether the relation obtains or fails to obtain between two objects is always derivable from a suitable conjunction of (purely and simply) predicational statements about the objects”. Here we have appeals to “subject-predicate propositions” and (in Rescher’s unmistakably linguistic formulation) “(purely and simply) predicational statements”. However, as Mark Kulstad (1980, 216f.), among others, points out, Leibniz, at least, frequently uses the word ‘predicate’ for (the notion expressed by) ‘conqueror of Darius’ and the like. On the other hand, Russell, Parkinson and Rescher are commonly taken to be hard-liners who at least intend to express something like HR in their formulations. According to C. D. Broad (1975 (1950), 37), in turn, Leibniz’s doctrine is that a true “relational sentence” such as ‘*A* has *R* to *B*’ “is made true by a conjunction of two facts, one entirely about *A* and the other entirely about *B* [... which] facts are of the form ‘*A* has the quality q_1 ’ and ‘*B* has the quality q_2 ’”. This sounds both hard and linguistic and thus is, potentially at least, in line with HR (though one might wonder what it is – in connection with Leibniz’s views – for a ‘fact’ to be “of the form ‘*A* has the quality q_1 ’”).

More recent, and usually more definite, formulations of the received hard-line view can be found, for instance, in Mates (1968, 1986), Burdick (1991), Cover and O’Leary-Hawthorne (1999), and Bennett (2001). Howard Burdick (1991, 2) gives the following, laudably short and clear account: “Leibniz could only justify a purely monadic logic, i.e., one with no relational predicates”. This, I take it, is just another formulation of HR. According to Benson Mates (1968, 352), Leibniz’s view is that “the truth of” all “relational sentences” “is to be reduced somehow to the truth of” sentences “of the form ‘ $\lceil A \text{ is } B \rceil$, where *A* is a singular term and *B* expresses a simple attribute”. In a later publication, Mates (1986, 216, 222), characterizing intrinsic denominations as those that do not make “a reference, via a name or a quantified variable, to some individual or individuals other than” the substance in question (Mates 1986, 218), ascribes to Leibniz the view that “relational propositions are [...] reducible to nonrelational propositions” so that ‘Paris loves Helen’, for instance, is “reducible to some propositions that have the forms ‘Paris is *X*’ and ‘Helen is *X*’, with simple attributes (or ‘intrinsic accidental denominations’) *X*, and that depict those modifications of singulars that are the ground of its truth”; “the predicates”, Mates continues, “of those resulting propositions” are “concepts from the category of Quality, and, above all, not ‘extrinsic denominations’ like ‘lover of Helen’”; further, “on any given occasion of the use of a relational proposition or extrinsic

denomination there will be nonrelational propositions or intrinsic denominations, respectively, that imply it and that are made applicable by the same individual accidents of individuals". These formulations, with their evident linguistic tone, seem to amount to something like HR as well.⁹ In his recent book Jonathan Bennett (2001, 335), after telling us that in 'intrinsic denomination' "'intrinsic' means 'monadic', one-place, pertaining only to the one subject and not involving any other", imputes to Leibniz the view that "the entire fundamental truth about the world could be told in attributions of monadic predicates to monads; where Fx is a monadic truth if neither it nor its contradictory entails the existence of any individual other than x ". Even though Bennett may be aiming at something less linguistic than HR in his formulation, I cannot see what else his "a truth Fx entails $\exists yx \neq y$ " can amount to than "' $Fx \rightarrow \exists yx \neq y$ ' is valid" (in ordinary predicate logic, presumably) – if this is the case, Bennett's account, in view of his usage of 'intrinsic', seems to be something like the 'linguistic' HR after all.¹⁰

Finally, Cover and O'Leary-Hawthorne (1999, 63, 82, 29) take Leibniz as holding that "relational truths have a foundation in what can be predicated individually of the relata"; that "monadic facts simply determine relational ones; reduced relational facts obtain because the monadic, reduced ones obtain"; and, from the viewpoint of individuation, that it is, for Leibniz, "impermissible to bring in individuators of a substance that involve relation, or that make reference to other substances". Even though Cover and O'Leary-Hawthorne (*ibid.*, 68) offer a criterion for what is a 'relational predicate' (the details of their criterion, which they themselves admit to be incorrect(!), need not concern us here), they would probably reject HR as excessively linguistic since they (*ibid.*, 66–70) warn us not to trust language, or linguistic structures, too much; they want to leave "language behind, and move on to the more suitably metaphysical territory of substances and their accidents" (*ibid.*, 69). However, if they thus wish to resist a formulation like HR by saying, for instance, that while questions of predicates relate only to language, those of truths (or facts) concern that "more suitably metaphysical territory", they are obliged (especially in view of their failing to give a proper definition of 'relational predicate') to provide us with a criterion for 'relational (or nonmonadic) truths' (or 'facts'), which they, however, refrain from doing (in the publication I am discussing). They simply do not tell us how to distinguish relational truths or facts from nonrelational (monadic) ones – it is extremely difficult to appreciate something when one is not told what is at issue.

Despite the fact that HR, or some thesis very much like it, seems to have a number of defenders (as we have just seen), it is far from clear

that HR's identification of Leibniz's reduction (of extrinsic denominations to intrinsic denominations, or relations to individual accidents) with the denial of monadic predicates is correct. For one thing, since 'Brutus kills Caesar' (or '*Kba*') contains a dyadic predicate, so does, certainly, 'Tully kills Cicero' (or '*Kui*'), even though Tully is the same as Cicero and thus '*Kui*' unquestionably "pertains only to the one subject and does not involve any other", i.e., gives, for Bennett and others, an intrinsic denomination.¹¹

Secondly, the following point is often made by the opponents of HR: As indicated above, according to Leibniz the complete individual notion of a substance 'involves' every other substance, or expresses the whole world, or, as he also says, from any given complete individual notion one can 'infer' or 'deduce', or it 'leads to', (all truths about) the whole world.¹² However, it is definitely not only intuitively but also demonstrably impossible for there to be a description of Paris and a description of Helen so that (i), neither description utilizes polyadic predicates, and (ii), it is derivable from these descriptions that Paris loves Helen. Thus, the rejection of polyadic predicates seems to amount to denying the possibility of the inference of the whole world from complete individual notions; this inference doctrine, however, is something Leibniz repeats over and over again.

Thirdly, the distinction between possibility and compossibility is crucial to Leibniz's denial of the idea that all possibles are actual (in view of his conviction that a world with all possibles would have the maximal amount of reality and thus would be the most desirable one).¹³ However, as numerous Leibniz commentators have pointed out, we seem to lose this distinction if polyadic predicates are not allowed.¹⁴

The defenders of HR tend to stress (or allege) that despite these problems, there is convincing positive evidence for HR in Leibniz's writings, namely, the fact that Leibniz explicitly offers some reductions of sentences involving extrinsic denominations (or relations) to those solely in terms of intrinsic denominations: First, (a statement containing) *a relation of comparison*,¹⁵ holding between *A* and *B*, "is resolved at length into two, of which one concerns *B* separately, and the other concerns *A* separately; for example, *A* is red and *B* is red, and therefore *A* is similar (in this respect) to *B*" (A64 944 (1688–1690?); see also e.g., A64 11 (1677–1678?) and A64 107/P 13 (1678?)). Secondly, Leibniz gives a special analysis, by means of *reduplication* introducing terms *eo ipso* and *quatenus*, of *relations of connection*, as in A64 114–115/P 14 (1678?): "'Paris is the lover of Helen', that is, 'Paris loves, and by that very fact [*et eo ipso*] Helen is loved'. [...] Or, 'Paris is a lover and by that very fact Helen is a loved one'. 'The sword is the sword of Evander', that is, 'The sword is an article of property in so

far as [*quatenus*] Evander is an owner’.” (See also e.g., A64 643 (1685?) and A64 651–652 (1685–1686?))

The given analysis of ‘relations of comparison’ is, despite its *prima facie* plausibility, problematic. For example (as some sceptics of the tenability of Leibnizian reductions have pointed out), we cannot deduce (C) ‘Caius is similar to Titius’ from the mere (A) ‘Caius is wise’ and (B) ‘Titius is wise’, or, as Cover and O’Leary-Hawthorne (1999, 78) write:

It may be objected that, say, no reduction of (C) to (A) and (B) is workable unless we explicitly add that

(*) For some F , if c is F and t is F , then c is similar to t ,

which vitiates the reduction by its explicitly relational element.

Cover and O’Leary-Hawthorne (1999, 78–80) go on to offer to this problem an eccentric reply. Namely, following Mates (1986, 217–218), they devise a new ‘logic’, one of the leading principles of which is: “If you see that p entails r only in conjunction with q , but do not like the looks of q , then just forget q and say that p entails r on its own.” For seeing that (A) & (B) entails (C) only in conjunction with, e.g., (*),¹⁶ but not liking the looks of the latter (since it contains an ‘explicitly relational element’), Mates and Cover and O’Leary-Hawthorne just discard it and claim that (A) & (B) alone entails (C). We should expect that genuine logicians, such as Leibniz, who are not obsessed to avoid certain kinds of premises on the basis of their ‘looks’, have considerable difficulties with appreciating such new ‘logic’. It seems then that the reductions, given by Leibniz, of statements of ‘relations of comparison’, do not support HR, or at least that Mates and Cover and O’Leary-Hawthorne do not manage, with their ‘new logic’, to show that they do.

Further, in view of Leibniz’s thesis of universal expression, the reduction of (C) ‘Caius is similar to Titius’ to (A) ‘Caius is wise’ and (B) ‘Titius is wise’, does not even work, not at least in the manner Cover and O’Leary-Hawthorne seem to think it does. Leibniz’s account of ‘founding’ – cf. above – is according to Cover and O’Leary-Hawthorne (1999, 81, 82) such that (C), involving extrinsic denominations (or a relation), is “grounded by, arises or results from” (A) and (B), which contain only expressions of intrinsic denominations of Caius and Titius, respectively. Now, Leibniz’s view is that everything in the world, and, consequently, every change, is founded intrinsically in (the complete individual notion of) each substance.¹⁷ Then, supposing Titius changes from not being wise to being so, while Caius is wise before and after this change in Titius, Cover and O’Leary-Hawthorne have no account of the internal change in *Caius*, for even though there is a change in Caius in (extrinsic) terms

of his becoming similar, with respect to wisdom, to Titius, this change is not accounted for by what Cover and O'Leary-Hawthorne say are the intrinsic foundations of 'Caius is similar to Titius', i.e., (A) and (B) – for the changing (B) 'Titius is wise' does not contain an expression of an intrinsic denomination of Caius (according to Cover and O'Leary-Hawthorne), while (A) 'Caius is wise' does contain such a denomination, but, unfortunately, fails to change.

My next, more general, objection to the claim that Leibniz's giving reductions (of sentences involving extrinsic denominations) supports HR, is one often made in the literature, namely, that the real motivation for Leibniz's reductions comes from his aspiration to systematize natural language, or to devise 'rational grammar', and not from any issue pertaining essentially to relations.¹⁸ For example, the passage in A64 107/P 13 (1678?) is often offered as a confirmation that Leibniz reduces 'Peter is similar to Paul' to 'Peter is A now' and 'Paul is A now'. However, that passage goes in full as follows:

All oblique inferences are to be explained by explanations of words. For example, [let us consider the inference] Peter is similar to Paul; therefore, Paul is similar to Peter. Such [an explanation] may be seen from the logic of Jungius. It is reduced to the propositions 'Peter is A now' and 'Paul is A now'.

Leibniz is here concerned with securing the validity of a certain inference pattern and not at all with the reduction of extrinsic denominations to intrinsic ones (nor with that of relations to individual accidents).

Also, the following question might be raised: Do those who appeal to Leibniz's reductions of 'relations of connection' in terms of *eo ipso* or *quatenus* know what Leibniz is talking about, or, at least, is it entirely clear what Leibniz is up to with them? Those reductions seem to introduce intensionality (in the form of reduplication) and thus give rise to complications, which make the issue cloudy.¹⁹ For example, Massimo Mugnai (1992), who tries to trace Leibniz's views on reduplication to scholastic and late-scholastic logicians and to Leibniz's near-contemporaries (such as Jungius) (see Mugnai 1992, esp. Chapter VI), has to admit in the end that he cannot tell what exactly Leibniz means by his *eo ipso* and *quatenus* analyses (Mugnai 1992, 109–110).

Further, *eo ipso* and *quatenus* statements seem themselves to be dyadic, or two-placed, i.e., seem to introduce a relation.²⁰ Even 'Caius is wise and Titius is wise' (or, 'Wc & Wt') is dyadic, breaking, however, naturally apart into two monadic ascriptions. This cannot be said about statements like 'Paris loves, and *eo ipso* Helen is loved'. In A64 944 (1688–1690?) Leibniz in fact seems to say both (i) that a proposition involving a relation of comparison is one which resolves into two propositions about the

relata separately, and (ii) that relations of connection cannot be resolved into relations of comparison.²¹ It appears to follow from (i) and (ii) that statements involving relations of connection cannot be reduced to monadic statements.

Finally, as noticed by many opponents of HR (and even some of those who defend HR),²² the very components in the *eo ipso* and *quatenus* analyses seem relational in the sense of embracing dyadic predicates (and thus not being compatible with HR). That is, in ‘Paris loves, and *eo ipso* Helen is loved’, both ‘Paris loves’ and ‘Helen is loved’ are, according to this objection, just ‘Paris loves somebody’ (or ‘ $\exists yLpy$ ’) and ‘Helen is loved by somebody’ (or ‘ $\exists xLxh$ ’), respectively, i.e., contain a dyadic predicate.²³ Some defenders of HR have envisioned a notion of loving different from that of loving somebody (or that of loving something, if ‘things’ can be loved as well).²⁴ It would seem that with their monadic something they just do not have loving, but some other notion, in mind (since loving is dyadic) – if so, the *eo ipso* analysis we have been discussing is, at least, seriously misleading in calling loving something that is something else.

4. SOFT REDUCTIONISM

In view of all these problems with HR, i.e., with the claim that Leibniz rejects polyadic predicates in accurate descriptions of the world, I think we should admit, on Leibniz’s behalf as it were, the appearance of such predicates in such descriptions. However, this need not, and should not, be taken as implying that such predicates may be used in any way whatsoever in accurate descriptions, but only in what may be termed *monadic ascriptions*, by which I mean predications that are (in a sense) *about* one individual (substance) only, even if they contained polyadic predicates – for instance, ‘Paris loves somebody’ (or ‘ $\exists yLpy$ ’). However, before going into the explanation and justification of this *soft reductionism* I must dissociate this view from what I call *nonreductionism*. This latter is the thesis²⁵ that it is compatible with Leibniz’s views to use, in accurate descriptions, polyadic predicates ‘just in any way whatsoever’, including their usage in *polyadic ascriptions* such as ‘Paris loves Helen’ (or ‘*Lph*’). More precisely, nonreductionists seem to believe that Leibniz could accept as accurate the so-called *explicitly relational predicates* such as ‘loves Helen’, taken as describing Paris. Against nonreductionism it suffices to point out that to assert that ‘loves Helen’ is true of Paris is just to assert that Paris loves Helen, i.e., that the relation of loving holds between Paris and Helen (in that order), which is certainly not an accurate description for Leibniz: ‘Paris loves Helen’ is about both Paris and Helen and thus does not characterize,

in any sense, Paris as he is on his own, or as self-sufficient (i.e., is not a representation of him in internal terms). In short, nonreductionism violates Leibniz's requirement of internal identification of substances.

Soft reductionism, in contrast to nonreductionism, is the view that (in addition to monadic predicates) 'implicitly relational predicates' such as 'loves somebody' are to be allowed in the account of Leibniz's reductionism (while 'explicitly relational predicates' such as 'loves Helen' are to be rejected). Accordingly, soft reductionism may be formulated as follows:

- (SR) Leibniz advocates, or it suffices for his purposes to advocate, *soft reductionism*, i.e., the view that in an accurate description of the world all monadic ascriptions, or ascriptions that are (in the relevant sense) about one substance only, are allowed (irrespective of whether or not such ascriptions utilize polyadic predicates).

In considering Leibniz's views on substances, their independence from, and relations to each other, Cover and O'Leary-Hawthorne (1999, 101) take up Spinoza's definition of substance in E1d3, which goes as follows: "By substance I understand what is in itself and is conceived through itself, i.e., that whose concept does not require the concept of another thing, from which it must be formed." Cover and O'Leary-Hawthorne take this, it appears, to support HR. This is open to censure, not because of the appeal to Spinoza in the examination of Leibniz's conception of substance – on the contrary, it is entirely legitimate to assume that Leibniz and Spinoza have much in common here²⁶ – but because E1d3 certainly does not support HR, but rather the soft reductionist claim that (e.g.) 'Paris loves somebody' is an accurate description. This is because in Leibnizian terms the point in E1d3 is that the complete individual notion of a substance does not 'require' the complete individual notion of any other (created) substance; and no matter how hard one looks, one surely cannot find expressed in 'Paris loves somebody' the notion of any other substance than that of Paris – which indicates that the denomination expressed in 'Paris loves somebody' may be, not only 'involved' in, but actually contained in Paris's complete individual notion, i.e., that it is an accurate description of Paris, expressing one of his intrinsic denominations.

The following passage in the Arnauld Correspondence, though not directly about the reducibility of relations, is here highly relevant (LA 42, my emphasis; cf. LA 54):

When one considers in Adam a part of his predicates, for example, that he is the first man, set in a garden of pleasure, from whose side God fashioned a woman, and similar things conceived *sub ratione generalitatis*, in a general way (that is to say, *without naming Eve*,

Paradise, and other circumstances that *fix individuality*), and when one calls Adam the person to whom these predicates are attributed, all this is not sufficient to determine the individual, for there can be an infinity of Adams, that is, an infinity of possible persons, different from one another, whom this fits.

For simplicity, let us consider ‘Eve is fashioned from Adam’s side’ (or ‘*Fea*’) and ‘Someone is fashioned from Adam’s side’ (or ‘ $\exists x Fxa$ ’). The latter does not *name* any other ‘thing’, and thus does not ‘fix individuality’, and, accordingly, cannot be taken to be *about* any other *substance* – this is shown, among other things, by the fact that no answer can be given to the question: About *which* substance apart from Adam it is? ‘Eve is fashioned from Adam’s side’, on the other hand, is not about Adam only but is also about Eve (since Eve is ‘named’), and Leibniz’s famous (though somewhat problematic) view, deriving from universal expression, is that ‘is one from whose side Eve is fashioned’ can, strictly speaking, be true only of (‘our’) Adam (assuming that it in fact is true only of him) – just because ‘naming Eve’ (i.e., naming ‘our’ Eve) fixes his individuality. In contrast, ‘is one from whose side someone is fashioned’ can be true of many substances, for no naming that fixes individuality is involved – which means that ‘Someone is fashioned from Adam’s side’ is *about* Adam only, i.e., is a monadic ascription, and, accordingly, ‘is one from whose side someone is fashioned’ may be regarded as expressing an intrinsic denomination of Adam.²⁷ In terms of individuation, there is a clear sense in which the entailment that there is some or other substance besides the one to be individuated does not threaten Leibniz’s requirement of internal individuation in the manner a reference to a definite (‘named’) other substance does. For example, using ‘is wiser than Titius’ in the identification of Caius is certainly not internal, while ‘is wiser than somebody’ might be taken to be so, or is, at the very least, less external; it does not fix the individuality of any substance in the manner ‘is wiser than Titius’ does (in view of Leibniz’s doctrine of “infinity of Adams”).

Returning to the Paris-Helen case, one of the questions to be posed to the opponents of SR is, as already indicated: If ‘Paris loves somebody’ (or, ‘ $\exists y Lpy$ ’) is really a dyadic ascription, i.e., about two substances, about which substance, apart from being about Paris, it is? The answer cannot be, “about Helen”, for while ‘Helen is wise’ and ‘Paris loves Helen’, for instance, are about Helen, ‘Paris loves somebody’ is not. The answer cannot be either, “about an ‘indefinite individual’ called ‘Somebody’”, for there are no such ‘indefinite individuals’. To approach the matter from the viewpoint of Leibniz’s question in the Clarke Correspondence (LC 5.47) about dyadic ascriptions such as ‘Paris loves Helen’ (i.e., ‘*Lph*’), viz. the question, “which of them [Paris or Helen] will be the subject” in such an

ascription?, it is clear that ‘ $\exists yLpy$ ’ is not problematic from this point of view either, because the problem Leibniz raises is, in his own words, that “it cannot be said that both of them [...] together are the subject [...]; for if so, we should have an accident in two subjects, with one leg in one and the other in the other, which is contrary to the notion of accidents” (LC 5.47). With ‘Paris loves somebody’ we do not have this problem, since only one ‘leg’, viz. Paris, is presented (again, ‘indefinite Somebody’ is nothing and thus not a ‘leg’ either) – the ‘subject’ is, unquestionably, just Paris. All in all, ‘Paris loves somebody’ (‘ $\exists yLpy$ ’) is not an inaccurate statement but a one-placed, i.e., monadic ascription – it expresses an intrinsic denomination (involving a dyadic predicate).

Perhaps the objection is made that in arguing that ‘ $\exists yLpy$ ’, for example, is a monadic ascription I have been unduly anachronistic in that my point of view is our contemporary, Fregean logic, while Leibniz works within the Aristotelian logical tradition. However, the tables could be turned here: the ‘logic of relations’ in a genuine sense (with the notions ‘monadic’, ‘dyadic’, etc.) was not really devised until 1870s – thus, to construe ‘intrinsic’ in terms of the adicity of predicates is, certainly, anachronistic. In view of Leibniz’s relating intrinsicity to the self-sufficiency and internal identification of substances, the confidence, evident in many recent writings, that Leibniz’s ‘intrinsic’ just means ‘monadic’ in the sense of ‘not involving polyadic predicates’, seems unfounded. In the end, what is important here is Leibniz’s doctrine that what is true about a substance – including truths about its relations to other substances (given by extrinsic denominations) – is fully determined by the intrinsic denominations of that substance. If we find it reasonable to say that monadic ascriptions – including those of the form ‘ $\exists yLpy$ ’ – express such intrinsic denominations, we should just accept this in the interest of Leibniz’s doctrine; from this point of view it seems quite insignificant whether or not the Aristotelian manner of doing logic discourages us to regard monadic ascriptions of the form ‘ $\exists yLpy$ ’ as expressions of intrinsic denominations.

It has been argued above that a monadic ascription such as ‘Paris loves somebody’ may quite reasonably be taken to be *about* one substance only, despite its being ‘implicitly relational’, or containing a dyadic predicate. Thus, if this ‘being about one only’ is the characteristic mark of intrinsic denominations, ‘loves somebody’ may be regarded as expressing such a denomination of Paris. However, it was stated at the outset also that Leibniz’s motivation for the reduction of extrinsic denominations to intrinsic ones comes from independence and self-sufficiency (and these were related to aboutness). It may be objected that, whatever we say about aboutness, monadic ascriptions with polyadic predicates do not involve

merely intrinsic denominations since they represent the substance to which something is ascribed as dependent on others, or at least as dependent on the *existence* of others.²⁸

I can give here only a very brief reply to this objection. In a nutshell, the dependence alluded to in the objection is not of the sort that threatens Leibniz's view of the independence of a substance, which view is really better characterized by 'self-sufficiency' than 'independence'. For one thing, Leibniz is surely talking about causal, and not logical independence between substances.²⁹ A substance's expressing all others means that it is logically dependent on them; but it is, precisely due to this universal expression, as if a 'world apart', or like a 'multiplication of the world', or a 'concentrated world'.³⁰ Indeed, Leibniz frequently offers universal expression as a justification for why we do not need to suppose 'influence' between substances (e.g., in A64 1647/AG 33 (1689?), G2 518-9/AG 204 (1716)). As for the specific question, debated over in the literature, whether a substance's expressing all others entails that these others exist, Leibniz almost always implies that it does;³¹ he states, not only that "our perceptions are always true" (DM 14) and that "every substance represent[s] the whole universe *exactly*" (SN 14, my emphasis), but states also, often enough, that everything in the world would be different if anything were in any other way than it actually is.³² Thus, if we ask, Could Paris be as he is even if Helen did not exist?, Leibniz's reply is, it seems clear, that he could not; if this implies, as it certainly seems to do, that for Leibniz substances are in a sense dependent on (the existence of) others, then we must conclude that Leibniz accepts such dependency (which, to repeat, is not causal in nature).

Finally, Leibniz's very *definition* of expression makes it *impossible* for there to be expression when there is nothing to be expressed. When Arnauld complains that he does not understand what Leibniz means by 'expression' (for instance in his statements that each substance expresses the whole universe), Leibniz defines that term as follows (LA 112):³³

One thing expresses another (in my terminology) when there exists a constant and fixed relationship between what can be said of one and of the other. This is the way that a perspectival projection expresses its ground-plan. Expression is common to all forms, and it is a genus of which natural perception, animal sensation and intellectual knowledge are species. [...] Now, this expression occurs everywhere, because every substance is in harmony with every other and undergoes some proportionate change which corresponds to the smallest change occurring in the whole universe [...].

Thus, simply but conclusively, if Helen did not exist, Paris would not express her because a nonexistent, not being anything, cannot be in a "constant and fixed relationship" with anything.³⁴

5. THE MERITS OF SOFT REDUCTIONISM

In summary, the following points can be made in favour of soft reductionism (SR). It seems clear that nonreductionism is not Leibniz's view, for even though statements like 'Paris is such that "loves Helen" is true of him' are alright in (being at least capable of) being true or false, they are certainly not accurate in the sense portrayed in the beginning of this paper (in Section 2). In contrast, SR is not outrightly implausible in this way; quite the contrary, it is arguable that each monadic ascription of something to a substance is (in a relevant sense) about that substance only and does not represent it in a manner contradicting its self-sufficiency (in the sense explained in the previous section).

Hard reductionism (HR), besides being more poorly supported by Leibniz's writings than one would expect (in view of its being something like the received view), carries with it the insurmountable problems related to universal expression and compossibility: One just cannot 'infer' from statements which are about, say, Adam only, and which contain only monadic predicates, all truths about the world; in fact, one cannot infer from them *any* truths about anything else. Nor can any such statement about one substance be inconsistent with any such statement about some other substance, i.e., impossibility between substances cannot be accounted for if we stick to HR. In contrast, SR, containing relational elements, has the resources for solving these problems.³⁵

NOTES

¹ See also, for instance, LH 4.3.5c 2r, A63 399/DSR 115 (1676), NE 2.12.3–5 (A66 145), NE 2.25.1 (A66 227), NE 2.30.4 (A66 265), G2 486/L 609 (1714), LH 4.8 60r (1715–1716), G2 517/AG 203 (1716).

² See, for instance, LH 4.3.5c 2r, DM 8, LA 95–96, A64 866 (1687–1696?), A64 996 (1688?), C 9/PM 133–134 (c. 1696), G2 239–240/L 526–527 (1702), NE 2.12.5–6 (A66 145–146), NE 2.25.1 (A66 227), SMU 186/204, G2 471 (1712–1713), G2 486/L 609 (1714), LH 4.8 60r (1715–1716).

³ Cf. here Ishiguro (1990, 117–118, 139; 1972, 202–203).

⁴ See, for instance, DM 14, LA 46–47, SN 14, SN 16, T 50, G6 585–586/AG 262 (1712/15), G2 517–519/AG 203–204 (1716).

⁵ See, for instance, A64 308 (1679?), A64 1458 (1680–1684?), DM 8, A64 996 (1688?), A64 1645–1646/AG 32 (1689?), C 8–9/PM 133–134 (c. 1696), G2 240/L 526–527 (1702), G2 249–250/AG 174–175 (1703), NE 2.27.3 (A66 231), LH 4.8 61r (1715–1716). In many of these passages – as well as in A64 1503/L 365 (1683–1686?), A64 1618/PM 77–78 (1688?), NE 2.25.5 (A66 227) – Leibniz expresses the thesis of intrinsic foundation of extrinsic denominations by saying that there are no *purely* extrinsic denominations.

⁶ For ‘world apart’, see, for example, A64 1517/PM 98 (1685–1686?), DM 14, DM 32, LA 46–47, LA 57, LA 126, LA 136, G1 382/WF 52 (1686), A64 1620/PM 79 (1688?), SN 14, SN 16, G4 578/WF 153 (1702), NE 2.12.6 (A66 146), NE 4.10.10 (A66 440), T 291, G2 436/AG 199 (1712), G2 444/AG 201 (1712), M 11, M 51, G2 520/AG 206 (1716).

⁷ E.g. LA 56: “the notion of the individual substance contains [...] all its denominations”. Also, Leroy Loemker (in L 28, 271n4) holds that denominations are, “as the term ‘denomination’ suggests”, “modifications as observed by the mind”. In contrast, Massimo Mugnai (1992, 101) seems to prefer to construe extrinsic denominations as “linguistic expressions which designate relations” (Mugnai implies that Suárez and his scholastic predecessors understand *denominaciones relativae* in this way). Taking denominations as linguistic entities (rather than ideal, mental, notional ones) may well be defensible (though in a manner different from the one proposed by Mugnai): a denomination might be taken to be such a description or characterization of a substance that truly applies to it – ‘is tall’ and ‘loves Helen’ ‘name’ Paris as a tall person and as a lover of Helen, respectively. (Isn’t this, rather than “observed modification”, what the term ‘denomination’ suggests?) If the final judgement about denominations is that they are linguistic items, then treating them as if they were notions (as I shall do) might be interpreted charitably as a way of talking about linguistic items via notions they express.

⁸ As they stand, many of the statements to be quoted shortly may be interpreted in a way that is compatible, not with HR but with ‘soft reductionism’ to be introduced below.

⁹ Though Mates owes us an explanation, how come he thinks that, say, ‘ $\exists yLpy$ ’ contains an expression of an extrinsic denomination of p , even though this by no means follows from his depiction of such denominations as those which “make reference” to other individuals.

¹⁰ Repeating, once again, essentially the same criticism as above, it is to be noted that Bennett should count $\exists yLpy$ as a “monadic truth” (since neither $\exists yLpy$ nor “its contradictory” entails $\exists yp \neq y$), even though the general tenor of his discussion strongly suggests that he is inclined to classify $\exists yLpy$ as a “nonmonadic truth”. (It is one of the objectives of this paper to remove, by providing candid renderings of the competing interpretations of Leibniz’s reductions, uncertainties created by poor formulations by Bennett, Mates (see the previous note), and Remnant and Bennett (see the previous section), among others.)

¹¹ David Wong (1980, 340n2) holds the surprising view that “the truth conditions” of, say, ‘ $\exists xRxb$ ’ “involve essential reference to some individual other than the one explicitly mentioned [i.e., other than b]” (my emphasis). In reality, the truth of ‘ Rbb ’ suffices for the truth of ‘ $\exists xRxb$ ’.

¹² See, for instance, A64 672/PM 95 (1685–1686?), DM 8, DM 13, LA 41, LA 42, LA 46, NE 2.25.10 (A66 228).

¹³ See e.g., G7 303/AG 150 (1697).

¹⁴ See, for example, Hintikka (1969, 260–263).

¹⁵ Leibniz distinguishes between ‘relations of comparison’ (or of ‘agreement’), such as the one ‘Caius is similar to Titius’ says to hold between Caius and Titius, and ‘relations of connection’ (or of ‘concurrence’), like the loving between Paris and Helen. See, for example, A61 285 (1667), A64 336–337 (1679?), A64 944 (1688–1690?), NE 2.11.4 (A66 142), NE 4.1.7 (A66 358).

¹⁶ In fact, *pace* Cover and O’Leary-Hawthorne, the conjunction (A) & (B) & (*) does not really entail (C) – instead of (*) we need rather the following: If for some F , c is F and t is F , then c is similar to t .

¹⁷ For some of Leibniz's statements about change (relevant to the present issue), see A63 523/DSR 83–85 (1676), A64 308n (1679?), A64 1503/L 365 (1683–1686?), A64 1645–1646/AG 32 (1689?), LH 4.8 61r (1715–1716).

¹⁸ See, for instance, Mugnai (1992, Chapters IV–VI), Parkinson (1965, 47–52), Ishiguro (1972, 206–210), Kulstad (1980, 225–226), Wong (1980, 330). Cf. also Mates (1986, 178–182).

¹⁹ This may be compared to the topic of Leibniz's 'infinite analysis'. Even some of those who explicitly admit that they do not know what Leibniz means by his infinite analysis, go on to appeal to it in explaining why Leibniz thinks this or that statement is only contingently true. Arguably, this is not a recommendable way of doing things, for if we do not know what exactly Leibniz means by infinite analysis, we hardly understand (in the proper sense of 'understand') why Leibniz attributes contingency to some statements on the basis of their failing to be finitely resolvable into identities.

²⁰ This problem has been noted previously by Parkinson (1965, 51), Ishiguro (1972, 208), Burdick (1991, 10), and Bennett (2001, 340), among others.

²¹ A64 944 (1688–1690?): "A relation of comparison arises between *A* and *B* from the fact that *A* occurs in one proposition and *B* in another proposition; a relation of connection arises from the fact that *A* and *B* are in the same proposition, which cannot be resolved into a relation of comparison".

²² See, for instance, Parkinson (1965, 51), Hintikka (1969, 263f.), Ishiguro (1972, 200, 207–209; 1990, 121), Kulstad (1980, 219, 226), Wong (1980, 329), Rescher (1981, 63–64).

²³ It could be said that Leibniz's giving *eo ipso* and *quatenus* reductions supports, not HR but rather SR (which is to be introduced shortly): 'Paris loves somebody' might be called a monadic ascription, which, unlike the equivalent 'Paris loves', makes explicit the dyadicity of 'loves'.

²⁴ For instance, Mates (1986, 216), Burdick (1991, 9–11), Cover and O'Leary-Hawthorne (1999, 84–85).

²⁵ Advocated by Ishiguro (1972), Clatterbaugh (1973, 65–73), D'Agostino (1976), Kulstad (1980), Wong (1980), and McCullough (1996, 172–176). (Ishiguro has revised, to some extent, her position in Ishiguro 1990, Ch. VII, esp. pp. 132–137.) It is important to stress the distinction between soft reductionism (to be introduced shortly) and nonreductionism because this distinction is commonly ignored in the literature. For example, Hintikka's (1969) account is usually taken to be a nonreductionist one (e.g., by Rescher (1981, 79n17), Mates (1986, 219), Mugnai (1992, 12, 93), Cover and O'Leary-Hawthorne (1999, 63), and Bennett (2001, 341–342)), which it in fact is not – see especially pp. 263 and 266 in Hintikka (1969), quoted in Note 27 below. In fact, Hintikka (1969) is the most important precursor of the soft reductionist account to be presented below. (Perhaps I should mention here also that I have borrowed the term 'soft reductionism' from Mugnai (1992, 12), though in my usage, unlike in Mugnai's, it excludes nonreductionism.)

²⁶ Even though Leibniz criticizes Spinoza's definition (for obscurity) in A64 1765/L 196 (1678?).

²⁷ Cf. here Hintikka (1969, 263, 266): "what there is [about reduction in Leibniz's writings] seems to point less to a reduction proper of relational *concepts* to non-relational ones than to an attempt to paraphrase relational *statements* (statements saying that a certain relation holds between two or more individuals) in terms of non-relational statements attributing complex predicates (possibly including relations) to these individuals. These predicates, as Mates [1968] rightly emphasizes, must not be defined in terms of the other individuals, for that would trivialize everything"; "relational statements can be reduced to statements

in each of which a complex predicate is ascribed to one and only one of the relata. These complex predicates may still involve relational concepts, although they do not refer to any particular individuals of the universe except the one to which they are attributed.” Cf. also Robert M. Adams’s characterizations of ‘qualitative property’ (or ‘suchness’) in Adams (1979, 7–8).

²⁸ It should be noted, again, that the ‘existence of others’ is really not implied by Paris’s loving somebody. However, ‘Paris loves somebody else than himself’ (or ‘ $\exists y(Lpy \ \& \ y \neq p)$ ’) – which is also monadic – does have this implication.

²⁹ This point is made, specifically in relation to the present issue, by Hintikka (1969, 270–271), D’Agostino (1976, 99), and Burdick (1991, 4–6), among others.

³⁰ For references to ‘world apart’, see Note 6 above; for ‘multiplication’ and ‘concentration’, see DM 9, LA 98, G7 307/AG 154 (1697), G4 518/WF 80 (1698), G4 557/WF 110 (1702), G2 252/AG 177 (1703), NE 3.6.24 (A66 318), G3 465/WF 176 (1704), G2 278/AG 184 (1705), G2 444/AG 201 (1712), M 57, PNG 2, G3 575/L 663 (1714), G3 623 (1714), G6 627/AG 228 (1716).

³¹ Though there admittedly are a couple of (apparently) aberrant passages, e.g., G4 519/WF 81 (1698), G4 530/WF 76 (1705?), G2 496/L 611 (1715). These are extremely rare and certainly cannot justifiably be used – in the manner Cover and O’Leary-Hawthorne (1999, 75–76, 100–102) do – as a basis of an account contradicting Leibniz’s customary statements.

³² See, for instance, DM 30, LA 42, LA 52–53, A64 1639 (1689–1690?), Gr 358 (1695), G2 226/L 524–525 (1701), T 9, T 414–416.

³³ See also A64 1370/L 207 (1677?), T 356–357, C 15/PM 176–177 (c. 1712).

³⁴ This point, with the same justification, has been made also by Ishiguro (1972, 210–212; 1990, 150–151).

³⁵ See Hintikka (1969) for some suggestions.

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