Leibniz' Theory of Relations, by Massimo Mugnai, *Studia Leibnitiana,* Supplementa 28. Stuttgart: Franz Steiner Verlag, 1992, 291pp.

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S ince the appearance of Bertrand Russell's *A Critical Exposition of the Philoso- phy of Leibniz*, Leibniz's theory of relations has been a topic of considerable discussion and controversy. Russell himself argued that Leibniz cannot consistently assert both the primary motivation for his denial of relations—that all propositions are of subject-predicate form—and also that relations are to be understood as somehow mental, their foundations being (at the end of the day) guaranteed by the divine mind. For on the one hand, God must know all relational truths about numbers, aggregates, and relations among monads; but on the other hand, any judgment lacking a subject and predicate will be meaningless (CE 14-15).

However else we might assess the value of Russell's misgivings, this part of his discussion has the virtue of distinguishing—if not in these terms—the logical and metaphysical strands running through Leibniz's view of relations. Few discussions of Leibniz on relations since Russell share that virtue: an exception is Massimo Mugnai's important new book *Leibniz' Theory of Relations*. Although concerned primarily to deploy scholastic and late-scholastic sources in clarifying the problem of relations in Leibniz, Mugnai introduces his book with a critique of Russell's argument above (LTR 10). First, why should we suppose that relational propositions say nothing meaningful about the world if, in fact, all propositions are reducible to those of subject-predicate form? And second, it is far from obvious what connection is to be drawn between Leibniz's nominalist treatment of relations (that relations are "the work of the mind") and the subject-predicate constraint.

In connection with the first objection, I suspect that Russell—after restating his view that for Leibniz every proposition has a subject and a predicate—would go on to claim that since propositions are the semantic units taking truth values, anything lacking such a logical form fails the test for being something that is either true or false. Thus Mugnai's objection is perhaps better raised as a challenge to the logic of reduction itself: if, as Russell claims (CE 12ff), we are operating on the hypothesis that all propositions are reducible to those of subject-predicate form, then it is only if the reduction-relation is *not* truth-preserving that we can judge relational propositions as meaningless. What then, exactly, *is* this relation of "reduction?" On the supposition that the reduction of P to Q entails (as it does, in Russell's hands) their logical equivalence, we are yet without any grounds for

collapsing the claim that every proposition is reducible to subject-predicate form into the claim that every proposition has a subject and a predicate: by Leibniz's own reckoning (or so I would argue from passages in the *Nouveaux essais* and elsewhere) the logical equivalence of P and Q does not entail their identity. (I shall return to the issue of reduction.)[1]

There can be no doubt that Leibniz's view of the ontological status of relations follows in the nominalist tradition. Leaving aside positive arguments of the *nominales* (traceable in large measure to Aristotle) for denying existence to relations,[2] two features of this tradition are highlighted by Mugnai: first, that (i) two things are related not by virtue of something real *beyond* the relata and their modifications (accidents), and second, that (ii) whatever reality is to be accorded relations is dependent upon the mind. Thus in the *Ordinatio*, where he is most explicit in responding to Scotistic realism, Ockham had insisted that the similarity and dissimilarity of two individuals "do[es] not require something else than those absolute individuals themselves. Consequently the similarity does not require anything more than the existence of two white things at once, or of two black things, or of two warm things..." (*Ordinatio* I, d. 30, q. IV). Leibniz's own commitment to the second, broadly mental character of relations is well known. After agreeing that Locke's division of objects of thought "into substances, modes and relations is pretty much to my liking" (A.6.6.145) he continues in nominalist fashion[3] by claiming that qualities are just modifications, and that "the understanding adds relations." And while his familiar, later characterizations make out relations as mere "ideal" things, belonging to the *entia rationis*, considerably earlier Leibniz had already insisted that relations arise when at least two things are thought about simultaneously ("Relatio est secundum quod duae res simul cogitantur" (ca. 1680: VE, 145)), that a relation generally is the *concogitabilitas* of two things (VE, 406).

Mugnai's effort to situate Leibniz's theory of relations within the tradition of scholastic (medieval) nominalism focuses on the second, mentalistic aspect of relations.[4] Important here is the extent to which Leibniz's account, like that of Ockham before him, aims to avoid the "subjectivist" implications of the idea that relations depend upon the mind. The intellect itself cannot make Socrates resemble Plato any more than it can render either of them wise or unwise: "the existence of the absolute terms (Socrates and Plato, with their respective characteristics) *in itself* establishes the relation" (LTR 18). In particular, relations are independent of any act of the will. This signals one respect in which Leibniz is, as he himself says, a nominalist only *per provisionem* (Grua 547): however much relations belong to the realm of ideas, Leibniz does not go the conventionalist route of seeing them as things

whose nature is established *ex instituto*.[5] It is here that Leibniz's "conceptualist" departure from thoroughgoing nominalism allows him room to secure a measure of Platonic (i.e. Augustinian) realism. For it is in the eternal mind of God that we must ultimately locate relations: "And finally, there are the relations, which are not created in their own right but result from the creation of other things; their reality does not depend on our intelligence—they inhere without anyone being required to think them. Their reality comes from the divine intellect..." (Notes on Temmik, ca. 1715-16: VE 1083). Leibniz had said as much earlier in the *Nouveaux essais*: "The reality of relations is dependent upon mind, as is that of truths; but they do not depend upon the human mind, as there is a supreme intelligence which determines all of them from all time" (A.6.6.265).

Mugnai's discussion leaves two aspects of Leibniz's account less clear than one might hope. First, while Leibniz explicitly says that the reality of relations as ideas *in mente Dei* are to be located in "the divine intellect alone, without the addition of any free act of will" (VE 1083), both Mugnai and Leibniz offer claims threatening to make relations dependent upon the divine will. According to Mugnai, relations, being the "result" of the existence of individuals (and their accidents), must immediately follow the act with which God creates individuals (LTR 21); relations, we are told, arise "as soon as the *individuals* with their modifications are given" (LTR 26, original emphasis). Similarly Leibniz says that "God not only observes each single monad and all its modifications, but also the relations between them. The reality of relations and truths consists in this" (G,II,438). But surely the existence of individual substances and their modes *is* dependent upon the will of God, and the relevant truths are those contingent propositions dependent upon God's choice to bring about this world rather than some other. We do better, then, to emphasize not what God observes in created substances or what God brings about as actually true, but rather what God conceives in thinking of all possible substances, what God knows in entertaining all possible truths. Relations are "beings of reason," says Leibniz more carefully in the *Nouveaux essais*, because "one can say that their reality, like that of eternal truths and of possibilities, comes from the Supreme Reason" (A.6.6.227). Given Leibniz's inclination to salvage Augustinian realism within a nominalist ontology, to speak of relations themselves is not to speak simply of *instantiated* relations. (Leibniz can distinguish instantiated from uninstantiated relations in terms of true and false propositions—all propositions alike being entertained in the eternal mind of God, and all relations alike being ideal, or mental, precisely insofar as they are conceptual *consequentia* of the divine intellect.[6])

A related obscurity arises in asking how to wed coherently the two highlighted features of traditional nominalism—that

(i) two things are related not by virtue of something beyond the relata and their accidents; and

(ii) whatever reality is to be accorded relations is dependent upon the mind.

We have encountered already from the *Ordinatio* (above) Ockham's emphasis on (i), insisting that "the existence of the absolute terms (Socrates and Plato, with their respective characteristics) *in itself* establishes the relation" (LTR 18). And we have noted Mugnai's claim that this is Leibniz's own view, according to which relations are said to "originate automatically, as it were, as soon as the *individuals* with their modifications (accidents or properties) are given" (LTR 26). Where then arises the place for any contribution by the intellect in (ii)—for any obvious sense in which relations are "dependent upon the mind"? If the relata and their states are sufficient for whatever reality is to be accorded relations, it is unclear what should motivate any role of the intellect as *also* necessary.[7]

Part of the difficulty here may be resolved by reading "possible individuals" (or better, perhaps, "complete concepts of possible individuals") for "individuals," as we have suggested. Whatever difficulty remains would seem to be more pressing for Leibniz than for Ockham: where Ockham emphasizes (i) over (ii), Leibniz's position looks to give equal weight to both. That is, where Ockham is most eager simply to deny the Scotistic realist's claim that real relations entail the existence of something extra-mental inhering *in res* over and above absolute individuals and their simple accidents, Leibniz goes beyond this denial in replacing *res relativae* with something having at least a mental reality.[8] Indeed it is Ockham's explicit view that the denial of real relations as anything distinct from the relata does not bring with it the consequence that relations are thereby anything like beings of reason: unaided natural reason shows relation terms only to signify both relata or else to signify one relatum and connote the other. Thus can he insist (for example) that "Socrates is similar to Plato because of absolute things only, *all else excluded*— whether in extra-mental reality *or in the intellect*" (*Ordinatio* I, d. 30, q. 1, my emphases). If something like this is correct, then Mugnai has over-stated the parallel (and extent of influence) between Ockham and Leibniz in connection with (ii).

There is some evidence that Mugnai is at least sensitive to the difficulty with wedding (i) and (ii) in a single account of the metaphysics of relations. In Chapter VII he attempts to describe the view of "relations as 'merely mental things' and as 'real objective things' at once" (chapter title). This chapter is among the most difficult to understand and summarize, particularly on the heels of the chapter

preceding it. In early portions of that preceding chapter (LTR 93-7) Mugnai reconstructs (with considerably more historical discussion) an account much like that defended by Mates and others,[9] according to which the truth of relational claims is, broadly speaking, determined by monadic states of individual substances. If that is correct, the deep ontological facts serving as truthmakers for relational claims include nothing whatsoever about the role of the mind. That there is any such a role to be played seems to arise only when one supposes—as many scholastics are wont to suppose—that some further metaphysical work is to be done in distinguishing a relation from its foundations, and that since such a distinction can only be one of reason,[10] relations, while "objective", are also "mental". I confess to not understanding this: by my lights, if Mugnai is correct in claiming that according to Leibniz, "the fact that *a* is wiser than *b* arises from the act of thinking *a* and *b* and their respective 'wisdoms' together" (LTR 102), then Mates and Cover (and Mugnai's earlier reconstruction, as best I can understand it) cannot be right about the analysis of claims of the form 'aRb'. However that gets settled, Mugnai's effort in Chapter VII to wed (i) and (ii) as parts of a single account is a task that needs performing: both elements are clearly there in Leibniz and earlier scholastics.

While Leibniz's treatment of relations as mental entails that they can be neither substance nor proper accident, his own reasoning typically looks to run in the other direction: relations, "being neither substance nor accident, are therefore ideal things" (G,VII,401:L,704). Thus Leibniz's route to what Mugnai calls "a basically nominalistic [view], the reality of relations being seen as dependent on 'mind'..." (LTR 17), begins principally from the following thesis, which *realists* can and indeed do accept: no accident can inhere in more than one substance simultaneously. Aquinas believes that "the same accident is not in different subjects" (*Sententiarum*, Liber II, d. 42, q. 1, ar. 1), as does Scotus (cf. *De rerum principio*, q. 17, ar. 2). And Leibniz follows them, insisting that the wisdom in Socrates and the wisdom in Plato are only the same *per speciem* but not the same individual accident, and likewise that the resulting similarity between Socrates and Plato cannot be a single accident. But from this bit of common ground, Thomas goes in one direction and Leibniz in quite another: where Thomas infers that (i) is false— by identifying the *esse-in* of a real relation with its foundation in Socrates and Plato respectively—and thereby rejects (ii), Leibniz infers that (i) is true, and accepts (ii). Why, exactly? What seems yet unexplained is how Leibniz earns (ii)—in particular, why Leibniz, whose Ockham-style endorsements of (i) are nevertheless sympathetic with the general scholastic presumption that any account of relations must recognize some *fundamentum relationis*,[11] should not follow the traditional

Thomistic route in allowing the relation to inhere precisely as (indeed, by virtue of the fact that) the accidental being (*esse-in*) of a real relation inheres. The following may of course be true: on the one hand, Thomas and Scotus unambiguously adopted an *esse deminutum* approach to relations, inferring from "relations aren't substances or proper accidents" not that relations are unreal but rather that they are *not fully real*, that they have a "weaker being"; on the other hand, Leibniz does not unambiguously adopt any such approach. But this does not explain the source of Leibniz's own position. It would begin to mark out Leibniz's departure from the realists only if we read his "mental" as "unreal", though Mugnai represents Leibniz's view as one according to which "the reality of relations is dependent upon the mind" (LTR 17). Leibniz himself says as much. If this characterization of relations as "mental" expresses their mode of being (albeit one apparently less robust than that enjoyed by individual substances or accidents), then we have yet to explain why and in exactly what respect Leibniz did, but the realists did not, insist on viewing relations as mental.[12] Moreover, Mugnai himself claims in a later chapter that since relations have the nature of abstractions, "they have a very 'weak' being, as Leibniz pointed out in a draft of a letter to Des Bosses [cf. G,II,471]" (LTR 120). As contrasted with later medievals, then, neither the position itself nor its scholastic or philosophical genesis emerges as especially transparent.

I promised to return to the issue of reduction. In Chapter IV Mugnai considers "Leibniz's so-called 'reductionism', that is to say the proposal to reduce relational sentences to sentences in a subject-predicate form" (LTR 57). This effort follows Russell's broadly logical (formal) use of 'reduction' as pertaining to sentences of a language, although Mugnai shows that in Leibniz's hands this aspect of his reductionism is more on the level of grammatical analysis. In treating inferences *a rectis ad obliqua*, Leibniz manifests his indebtedness to Jungius' *Logica Hamburgensis*, wherein the inference is treated as a *consequentia simplex* (no middle term explicitly connecting the antecedent and consequent). Mugnai's discussion offers at best a negative conclusion here, based on correspondence between Leibniz and Vagetius (LTR 59-61): a proper analysis of such inferences does not bring with it any analysis of the relations implicit in them. Leibniz's treatment of oblique terms themselves is more rewarding (if more difficult). We noted earlier that a nominalist metaphysic by itself does not entail the rejection of any particular mode of speech. In Leibniz's case, the stated proposal to ban all abstractions (cf. G,IV,147; C,243; C,512-13) and oblique terms (in which relations are implicit: VE,350) emerges from nominalism coupled with his aim to develop an artificial but perspicuous *lingua philosophica*, into which the content and logical structure of

propositions and inferences would be explicitly cast. Mugnai gives a helpfully detailed account of how Leibniz's efforts in the essays on the *characteristica* and on the *grammatica rationis* represent a significantly more moderate position, allowing—perhaps needing—syncategorematic terms to express certain relations as "irreducible" (LTR 65) features of the language. Following the distinction between relations *de comparaison* and *de concourse* (cf. A.6.6.142), Leibniz's reductions (resolutions, analyses) are of two sorts—of symmetric and asymmetric relations. Symmetric forms of 'aRb' reduce simply to the pair Fa and Fb.[13] As Mates and others have noted, asymmetric cases are treated by Leibniz in terms of the *quatenus* connective of reduplicative propositions, expressing the dependence of one truth upon some other(s). Perhaps here above all one can see vestiges of the scholastic view of relations as *intentiones secundae*—as "second-level" items added by the intellect when reflecting upon first-level truths (cf. G,VII,206).

Many contemporary scholars have resisted locating any reducibility thesis in Leibniz. After all, (1) analyses of the first (symmetric) sort fail to expresses any logical equivalence between the relational claim and the first-level monadic truths; moreover, (2) analyses of the second (asymmetric) sort, even if—as Leibniz himself surely did believe—they sometimes express logical equivalences, do so at a cost Leibniz seems to have recognized, namely an ineliminability of *obliquities*. I am uncertain about the cash value of such observations as these. As for (2), why suppose this entails any more than the result that certain grammatical forms (eg, cases) are necessary—in particular, why suppose it entails anything of ontological consequence? What seems most worth asking, particularly in the company of Leibniz, is precisely what he claimed in such contexts to be asking, namely, What are the "truthmakers" of relational claims (in his words, "how certain truths depend upon other truths")? If we take seriously Leibniz's nominalistic hunch that there are only substances and accidents, viewing relations to be ideal but having nevertheless their foundation in things, then it emerges as eminently plausible to see him as claiming that relational truths are determined by (supervene on) monadic ones, *and that's it*. Relational truths reduce to monadic truths precisely in the sense that no two possible worlds monadically alike are relationally different: there is nothing *more* for God to do, in creating a world where these relational propositions are true rather than some others, than for Him to create *these* substances—to instantiate *this* set of complete concepts. True enough: there is no logical equivalence to be found in supervenience. But what of it? Many of Leibniz's own "reductions" (his word) clearly don't aim for them. Some philosophers—operating under the influence of Russell or under a positivistic bias about the propriety of using this word 'reduc-

tion'—may insist that only logical equivalence is worth having, and conclude from (1) either that Leibniz's account isn't reductive after all, or else that he aimed for it but missed the target. The cash value of this stance, resting as it does on a bit of anachronistic conventionalism about language—is too obviously low to deserve our attention. What does deserve attention is Russell's (and Broad's and others') claim that a reduction worth having—an equivalence reduction—simply can't be had. I think that they are wrong: I think that one *can* supply an equivalence reduction of relational to monadic claims. The method can be indicated by example. Help yourself—as did Leibniz—to the resources of an artificial language, and consider the claim *Paris loves Helen*. On a standard extensional semantics for our language, with P for Paris and H for Helen, analyze this claim as the claim that the ordered pair <P, H> falls within the extension R of the relation *loves*. As usual, take R to be a set of ordered pairs. And following the standard Wiener-Kuratowski account of ordered pairs, we take the pair <P,H> to be a set of sets: {{P},{P,H}}. Let F be <P,H>, i.e. {{P},{P,H}}, and let A be {P} and B be {P,H}. Now, construing as usual the possession of a monadic property as membership in a set (it's extension), note now that—remaining quite within the spirit of traditional extensional semantics—given any set S, one may represent a's membership in S with the paradigmatically monadic expression 'Sa'. The claim that *Paris loves Helen* can then be analyzed as a combination of monadic claims thus: AP & BP & BH & FA & FB & RF. (The simplicity of the example is of no consequence. If you like, give yourself a far more subtle, far more complex analysis of a relation that is intensional: appeal to possible worlds or to Montaguesque functions from intensions to intensions. However complex the semantic analysis, as long as it can be given set theoretically, the example provides a recipe for casting any relational claim into combinations (indeed, conjunctions) of purely monadic claims.)[14]

It may be replied that this equivalence reduction can't help Leibniz, because it deploys higher-order claims of a sort no serious nominalist would allow. Perhaps so. But that is no criticism of the exercise as a refutation of Russell, Broad and others; and it is no criticism of Leibniz either, since the transformations he explicitly calls reductions of relational claims don't comprise a class of logical equivalences. Those hunting for an equivalence reduction in Leibniz are looking for the wrong thing in the wrong place.

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[1]As for the second objection, Mugnai argues (LTR 10) that there is no obvious reason why the nominalist and realist alike cannot either accept or reject the subject-predicate constraint on propositions. That seems correct: the nominalist metaphyics

does not straight away entail one or another story about the existence of expressions in relational form. Thus it is puzzling to read Mugnai's later assessment, that if we look beyond Leibniz's purely exploratory proposals about relational claims, "it is reasonable to suppose that Leibniz is consistent with his own 'nominalist' convictions and holds a 'quasi-reductionistic' view of relational sentences" (LTR 12). Why exactly would any thesis about relational sentences be inconsistent with a nominalist metaphysic of relations? Indeed it was the scholastic nominalists above all who resisted the inclination to draw any close connection between linguistic form and metaphysics: while viewing it as mistaken (for example) to construe terms of second intention as terms of first intention, 'man' could be predicated of both Socrates and Plato even if there is no single reality *in res* that it signifies.

[2]Among these, Mugnai seems to have ignored the Ockhamesque argument that appeals to God's omnipotence in creating the prior "absolute" relata without creating anything naturally posterior to it: thus since two white things would be similar even if they were created without their similarity relations, similarity is not anything extramental distinct from its foundation in the relata (cf. *Ordinatio* I, d. 30, q. I).

[3]Thomists and Scotists could have readily accepted that three-part distinction itself; the nominalist of Ockham's and Leibniz's stripe must go on to deny, in particular, Scotistic *res relativae*. Below I will suggest that Leibniz's denial goes beyond Ockham's own, in bringing a positive (if "weak") ontological commitment with it.

[4]Or rather, on the mentalistic aspect of *relationes reales:* from Aquinas onward, it was relatively common to leave to one side the *relationes rationes*, which on all fronts were acknowledged to be dependent upon the mind.

[5]This said, it may still be that relations play a central role in what Leibniz thinks is a *conventionalist* story about degrees of "accidental unity" underwriting our judgment that an aggregate is a unitary thing. Says Leibniz: "Our mind notices or conceives of certain genuine substances which have various modes; these modes embrace relationships with other substances, from which the mind takes the opportunity to link them together and to enter into the account one name for all these things together, which makes for convenience in reasoning" (to Arnauld: G,II,101). Thus Leibniz claims that "...Democritus said very well about them, 'they exist by opinion, by convention'."

[6]"Relatio autem ex substantia et modis resultat nulla propria mutatione, sed consequentia tantum, et aliquo modo Ens rationis dici potest, etsi simul reale sit, quia ipsae res omnes vi summi intellecti constituuntur..." (LH IV, 3, 5c, Bl. 2 r). Another way to put the point above would be something like this. Following Ockham's and Leibniz's dual treatment of "ens" (...*dividatur in ens in potentia et in ens in actu),*

distinguish "essential" from "existential" readings of propositions about (respectively) possible and actual individuals; understand *Plato is similar to Socrates* in its essential reading as eternally true, by virtue of the conceptual content of (say) the propositions *Plato is wise* and *Socrates is wise* (also read essentially). But I am still unclear exactly how to wed this with the latter part of Leibniz's claim (in the Notes on Temmik) that "Duo igitur realisantur per solum divinum intellectum veritates aeternae omnes, *et ex contingentibus respectivae*" (VE 1083, my emphasis).

[7]In a later chapter, Mugnai says that "In reality there exist only individual substances and their absolute properties: if *a* is wise and *b* is wise, then the fact that *a* is wiser than *b* arises from the very nature of the quality "being wise" which is found in *a* and from the particular level of wisdom possessed by *b*." Two sentences later he asserts that "the fact that *a* is wiser than *b* arises from the act of thinking *a* and *b* and their respective 'wisdoms' together" (LTR 102).

[8]If I may so speak, following Leibniz and Mugnai: I am still not sure what it means to speak in that way.

[9]See Benson Mates, *The Philosophy of Leibniz: Metaphysics and Language* (Oxford: Oxford University Press, 1986), Chapter 12, and J. A. Cover, "Relations and Reduction in Leibniz," *Pacific Philosophical Quarterly* 70 (1989), 185-211. Mugnai explicitly notes (in the Introduction) that the main thesis of his book "is very close to that recently expressed by Benson Mates..." (LTR 14).

[10]"...although the relation is not something within the related object itself, distinguished by absolute accidents, it may be something distinguished by a distinction of reason. But it does not follow from this that it is absolutely nothing." Francisco Suarez, *Disputationes Meaphysicae,* II, Disp. X, ii, 24. Thus, according to Mugnai, for Suarez and Leibniz too, "a certain *modus considerandi* contributes to the genesis of the relation, or rather renders it explicit, bringing it forth from the absolute forms which alone are present in the individuals" (LTR 100).

[11]In his marginal notes in Temmik's text, Leibniz admits that "the foundation of the categorical relation seems to be an absolute accident, i.e. a modification."

[12]Indeed, medieval philosophers seemed to deploy the *esse deminutum* taxonomy to designate being in the mind. See p. 216 of A. Maurer,"Ens Deminutum: A Note on its Origin and Meaning", *Mediaeval Studies*, 11 (1950), 216-22.

[13]For some property of which 'F' is a name. It isn't surprising to find the same treatment in Ockham: see *Summa logicae*, ed. P. Boehner *et. al.* (St. Bonaventure: New York, 1974), p. 281.

[14]Thanks to Mark Brown, who saw this latest point more clearly than I did.