Australasian Journal of Philosophy
Vol. 79, No. 1, pp. 45–61; March 2001

INDIVIDUATION AND INSTANCE ONTOLOGY

D.W. Mertz

I. Introduction

Inherent to substratum realism, bare particulars are the theory's solution to the metaphysical problem of individuation. An individual is assayed as the ontological composite of all of (at least its essential) characteristics, as such repeatable universals or intensions, together with a single and necessarily characterless particular of which the former attributes are ontic predicates. Ontologists who have advocated the posit of bare particulars include D. M. Armstrong, James Moreland, and Gustav Bergmann.[1] Yet, as an account of the unrepeatability of particulars, the posit of these underlying contentless individuators has been challenged with serious objections, objections that turn upon their radical vacuity and indeterminateness.[2] Pressure remains, nevertheless, to salvage the doctrine because of the demand inherent in realism of giving an account of individuation and the failure in this regard of bundle theory, the only alternative within prevailing constituent ontologies. It is incumbent upon realists to give an account of individuation because the universals they admit, regardless of how they are bundled, cannot explain the unrepeatability of particulars at any level.[3] As Aristotle observes, '. . .No substance can consist of universals because a universal indicates a "such", not a "this". . .'(*Metaphysics* 1039a15) Substratum and bundle theories are constituent ontologies, by which is meant theories that assay an entity that has both repeatable and unrepeatable characteristics as a

[1] D.M. Armstrong, *A World of States of Affairs* (Cambridge: Cambridge University Press, 1997), pp. 68, 109; James P. Moreland, 'Theories of Individuation: A Reconsideration of Bare Particulars', *Pacific Philosophical Quarterly* 79 (1998), pp. 251–63, and *Universals, Qualities, and Quality-Instances: A Defence of Realism* (Lanham, MD: University Press of America, 1985); Gustav Bergmann, *Logic and Reality* (Madison: University of Wisconsin Press, 1964), pp. 133–34, 277. In regard to Armstrong, he refers to bare particulars as 'thin particulars'. By this designation he seeks to emphasise his thesis that in extra-conceptual reality there are no particulars without some property attached as an ontic predicate, i.e., there are only states of affairs or facts. A thin (bare) particular is a conceptual abstraction from a state of affairs, as is the property or relation universal, the only other constituent of a state of affairs. Also see Armstrong's *Nominalism & Realism: Universals & Scientific Realism*, Vol. I (Cambridge: Cambridge University Press, 1978), pp. 113ff. The point I wish to emphasise is that Armstrong's thin particulars are for him fundamental and distinct ontological entities, inseparable as they may be from universals, *and* that they are themselves bare of any content or intension—'. . .The thin particular, the particular apart from its properties.' (*States of Affairs*, p. 115)

[2] See, for example, Michael Loux, *Substance and Attribute* (Dordrecht: Reidel, 1978), pp. 140–52.

[3] Nominalists by their own lights have no comparable problem. They accept individuality as an unproblematic primitive and attempt to explain away what are *prima facie* numerically identical but multiply inherent universals as only apparent. Ockham is, for example, explicit in this. See William of Ockham, *Ordinatio*, 2,6, trans. Paul Vincent Spade, *Five Texts on the Mediaeval Problem of Universals* (Indianapolis: Hackett Publishing Co., 1994), p. 172. The argument here is to the contrary—intensions (universals) and predication are primitives, and individuation is the effect of predication.

complex entity with two distinct types of constituents, one type to account for each characteristic. In contrast, non-constituent ontologies, e.g., the trope nominalism of Keith Campbell[4] or the Aristotelian-inspired simple substance realism of Michael Loux,[5] avoid the need for bare particulars by positing a basic ontic unit (e.g., trope, substance) that is internally simple, yet sustains the foundations for two distinguishable aspects of particularity and universality. This requirement of a dual distinction said of a simple entity is for some enigmatic, if not straight-out contradictory. Under prevailing versions of this ontology the particularity of the basic ontic unit goes unexplained; individuality is taken as primitive. Realist versions add universality as an aspect of the unit, nominalist versions deny this. Wanting in both constituent and non-constituent ontologies is a viable account of individuation. I shall offer such an account herein, one that will provide a direct argument for a realist ontology of unit attributes.[6] In the course of the argument I will conclude to the necessity of a non-constituent ontology. The topic of bare particulars will serve as an introduction to this account. For brevity the realist's posit of universals will not be argued for directly. There are, I contend, compelling arguments for realism and I shall not rehearse them here.[7]

In a recent article James Moreland has offered a defence of substratum realism by providing an account of bare particulars that attempts to defuse some of the main objections to them.[8] The defence of realism in this guise is, I contend, misplaced. It will be argued below that Moreland's account continues to have serious difficulties, including leaving bare particulars open to perhaps the most serious of the standard objections, viz., their indistinguishable collapse into a single such particular. An argument for an alternative theory of individuation will then be presented, one based upon the *combinatorial nature* of the predicational state that an n-adic relation with intension or content R has among its relata, $a_1,a_2,..,a_n$. An ontic linking under intension R among a relata set 'is particularised' to an unrepeatable instance R_i. Using a colon locution to designate facts

4 Keith Campbell, *Abstract Particulars* (Oxford: Basil Blackwell, 1990).

5 Loux, *Substance and Attribute*.

6 The ontology of individuated predicates, what I term 'relation instances' and Moreland calls 'quality-instances', is perennial. The doctrine is intimated in Plato and Aristotle, is standard in scholastic ontology in both realist and nominalist forms, and continual in one or the other of these two forms up into contemporary times. Perhaps the presently most widely known form is nominalistic *trope theory*. See Campbell, *Abstract Particulars*; John Bacon, *Universals and Property Instances: The Alphabet of Being* (Oxford: Blackwell, 1995); Peter Simons, 'Particulars in Particular Clothing: Three Trope Theories of Substance', *Philosophy and Phenomenological Research* 59 (1994), pp. 553–75. A critique of Campbell's *Abstract Particulars* is given variously in my *Moderate Realism and Its Logic* (New Haven: Yale University Press, 1996), and a critique of Bacon's *Property Instances* can be found in my review essay 'John Bacon, *Universals and Property Instances', The Modern Schoolman* 74 (1996), pp. 55–62. Persistently, Moreland has argued against the trope version and has provided a theory of, if not explicitly endorsed, an immanent realist version of individuated predicates. See Moreland, *Universals, Qualities, and Quality-Instances*; 'A Critique of Campbell's Refurbished Nominalism', *The Southern Journal of Philosophy* 35 (1997), pp. 225–46; 'Keith Campbell and the Trope View of Predication', *Australasian Journal of Philosophy* 67 (1989), pp. 379–93. I have argued for an alternate realist ontology of unit attributes in *Moderate Realism*. Reinforcing the veracity of this ontology is a powerful concomitant logic, ibid., pp. 199–230. A perfected version of the formal system is found in 'The Logic of Instance Ontology', *Journal of Philosophical Logic* 28 (1999), pp. 81–111.

7 E.g., Armstrong, *Nominalism & Realism*, and Reinhardt Grossmann, *The Categorical Structure of the World* (Bloomington: Indiana University Press, 1983).

8 Moreland, 'Theories of Individuation', pp. 251–63.

and to distinguish them from corresponding propositions, the thesis is stated formally as: If :$R_i(a_1,a_2,..,a_n)$ and :$R_j(b_1,b_2,..,b_n)$, where $a_1 \neq b_1$, or $a_2 \neq b_2$, or. . . , then $R_i \neq R_j$. Instances of the same kind, R_i, R_j,. . ., each share the same content, i.e., universal, R. Relation instances are the primary or basic entities of the resulting ontology, and are sufficient to account for all other complex entities, including the 'thick' particulars of ordinary experience. The argument for relation instances will proceed by showing that there can be no 'ontic distance' between the combinatorial and intension aspects of an ontic predicate, and so they must non-relationally 'coalesce', to speak metaphorically, into a single *simple* entity—a relation instance. This requires that a relation instance, though simple, have two abstractable aspects, each as such partial and incomplete. For an entity to be simple is for it to have an absence of complexity, where the latter means that no relations in the role of ontic predicates are constituents of the entity. This is a crucial but little appreciated point. Relations as 'actually relating' maintain 'ontic distance' among their relata—a real distinction in the containing entity (i.e., fact or state of affairs). Moreland has maintained elsewhere that a non-constituent analysis of basic individuals (his 'quality-instances') is impossible, i.e., that a simple entity cannot contain within itself a real basis for both a repeatable nature and a particularising aspect.[9] Consistently, then, Moreland assays an instance as a complex consisting of a universal, a bare particular, and a tie of predication between the two.[10] In addition to implying the existence of bare particulars, this analysis requires that predication be either a full relation or a lesser intensionless 'tie' between a universal and its subject bare particular. As will be seen below, predication construed as a full relation succumbs to Bradley's Regress, and when construed as a contentless tie it becomes impossible to account for the order or direction of relational facts.[11] *Contra* Moreland, the basic ontic entities of unit attributes can and must be simple. I shall conclude by attempting to clarify how a simple entity with dual aspects is logically possible by giving a relevant geometric analogy.

Realists, we will conclude, need not posit bare particulars in order to account for individuation. Further, bare particulars need not be posited in order to provide a supply of ultimate subjects for properties and relations as 'ways' or 'unsaturated' entities to attach to, contrary to the position of, for example, Armstrong.[12] This position assumes, erroneously on the following analysis, that there must be at some base level a category of

[9] Moreland, *Universals, Qualities, and Quality-Instances*. The analysis is repeated more recently in his 'A Critique of Campbell's Refurbished Nominalism'.

[10] Moreland, *Universals, Qualities, and Quality-Instances*, pp. 168, 170, 191–2. Also his 'Was Husserl a Nominalist?', *Philosophy and Phenomenological Research* 49 (1989), pp. 661–74.

[11] The 'tie of predication' can be used to clarify the distinction among the ontologies discussed here. For Moreland, the tie of predication functions internally to a quality-instance where it combines the bare particular and the universal into what remains extra-conceptually distinct (ontically distanced) but inseparable components of a complex entity. Armstrong absorbs the predicational tie into the universal so that through the 'unsaturated' nature or mode of this nevertheless simple entity, the universal, it ties itself directly to a bare particular so effecting an internally complex state of affairs. In contrast, Campbell eliminates the tie of predication altogether and collapses the individuator and intension needs of his ontology into an internally simple trope, these aspects being Scotus-type abstractions. The trope has no predicational linking internal to it or externally by means of it. Distinct from all of these, the ontic assay advocated herein collapses all three needs of individuator, intension, and predicational tie into a single simple entity—relation instance R_i. The predicational tie is an aspect or mode of R_i directed externally whereby R_i combines itself to or among other subjects, viz., instances or complexes thereof.

[12] Armstrong, *States of Affairs*, pp. 99, 123–4.

non-predicable entities to be subjects for dependent predicable entities. This was one of the roles that Aristotelian substance was intended to fill. On the contrary, though relation (including property) instances are predicable, they are 'substance-like' enough as individuals to be *relata for other instances*, as is the case at some lowest ontic level. Counter to objections (e.g., by Campbell and Armstrong),[13] such a self-sustaining network of only relation instances is possible and can be physically modelled. A complex of relation instances is a whole that can sustain emergent properties and relations not existing at lower levels of complexity. An ordinary 'thick' particular is, then, a system of hierarchical complexes composed of mutually interconnected relation and property instances, cumulatively accounting for both the particular's unrepeatability and its possession of repeatable attributes. The single category of relation instances can 'boot-up' reality on its own. In this we have as an alternative to the defective substratum and bundle theories, what would be aptly characterised as a *network theory*, or in full, *network instance realism*. The former theories labor myopically under the reinforcing assumption that a thick particular is at its essential core some sort of union of its non-relational properties, where the functions of unifier, individuator, and common nature are divided up in a 'division of labor' over distinct types of entities. Unfortunately, so divided these functions cannot then be re-combined into a successful ontology. Under network realism we have the liberating conception of a thick particular composed equally of properties and relations, in the manner of a kind of 'lattice', where every basic component (i.e., relation instances) contributes to the unity, individuation, and nature of the whole.

II. The Problem of Individuation and Bare Particulars

The problem of individuation is the problem of how we are to account for the *unrepeatability* of an entity when absolutely all of its characteristics (properties, attributes), all that can truthfully be attributed to it, are *repeatable*, i.e., multiply exemplifiable or predicable. An initially plausible tack is to posit a single underlying individuator that serves as a unifying subject for the entity's repeatable properties. Crucially, however, this posited individuator would itself have to be completely lacking in content. The reasoning is straightforward: Since all specifications, determinations, or qualification whatsoever predicable of a particular are repeatable, then, when these attributes are abstracted out and tallied on the side of universals, the required individuator must be an inferred residue devoid of any descriptive content. That is, the underlying unrepeatable must be opposed to and other than any possible characterisation—Locke's we-know-not-what. Aristotle himself comes to this characterisation of 'prime matter' (*Metaphysics* 1029a20–33), and because of its extreme vacuity (so empty it could not even be an individuating 'this'), he finds it unsatisfactory, as did philosophers repeatedly thereafter.

It is their radical emptiness that proves fatal to bare particulars. To make this point let us turn to Moreland's analysis. In order to make the issues surrounding the problem of individuation clearer, Moreland asks us to consider what is in effect the 'constituent' analog of the Identity of Indiscernibles. It reads:

[13] Campbell, *Abstract Particulars*, p. 98; Armstrong, *States of Affairs*, pp. 123–4.

(CII) Entities having exactly the same constituents are identical, i.e.,
(x)(y)[(z)(z is a constituent of x ≡ z is a constituent of y) ⊃ x = y].

I agree with Moreland when he asserts that CII is fairly uncontroversial and that 'It is hard to see how two entities could share literally all their constituents in common and still be two.'[14] Indeed, I shall use CII below to help make the case for instance ontology. What specific use Moreland would have us make of CII is not clear from the text. The most obvious application, however, is in an offered example where we are to consider the case of particulars, say red round disks *a* and *b*, sharing all of their pure properties, and yet *a*≠b. Each particular is unrepeatable, a 'this'. (A 'pure' property is one that makes no essential reference to a particular, in contrast, for example, to the impure property of brother-of-Bill.) Each of the shared properties is a universal, i.e., is repeatable, a 'such', as would be any subset of all properties shared by both *a* and *b*. How, then, do we account for the numerical uniqueness and so distinctness of particulars *a* and *b*? By CII what are required are constituents of each of *a* and *b*, and these constituents must be unrepeatable and thus serve to distinguish *a* from *b*. Bare particulars are posited to exactly fit the bill, at least at some lowest ontic level in a hierarchy of individuation. A table, for example, is individuated by its wooden parts, the parts are individuated by their atoms, and so on down 'until we reach bare particulars as ultimate individuators.'[15] Though strictly speaking the red round disks *a* and *b* of Moreland's example would not fall at the lowest level in the hierarchy of individuation, nothing untoward for the present discussion turns on the assumption that their immediate individuator is a bare particular. Moreland assays each disk as a state of affairs consisting in spothood, being round, being red, the tie of predication, and a bare particular. Assuming then that, say, disk *a* is an individual at the next to the lowest level of individuation, the doctrine of bare particulars posits an underlying individuator, p_a, such that *a*'s properties, F, G, H,. . ., are tied to p_a by predication and together with it constitute the full red round disk *a*—accounting for *a* being a 'this-such'.

Important for the challenge to bare particulars that Moreland attempts to parry is an understanding of why and in what sense bare particulars are 'bare'. A bare particular is not bare in the sense of having the potential for existing independently of any properties or relations attached to it. Both Moreland and Armstrong hold that there are no particulars that are bare in this sense—these individuators do not exist outside of some fact or other in which they have some property attached.[16] Rather, a bare particular p_x must be bare in the sense that it cannot have as a constituent of its nature (what makes it to be what it is) any content or intension, i.e., it cannot have a universal as a predicate in the standard sense, as, for example, in the sense that disk *a* is red. This is an important point, for partisans of bare particulars often attempt to fall back on a distinction between a bare particular considered with only properties essential to it, e.g., unrepeatability, and a bare particular plus other properties it just happens to have that together constitute a thick particular, e.g., disk *a*. It is said that when a bare particular is required to be 'devoid of

[14] Moreland, 'Theories of Individuation', p. 252.
[15] Ibid., p. 255.
[16] Ibid., pp. 257–8; Armstrong, *Nominalism & Realism*, pp. 113–14, and *States of Affairs*, pp. 1, 28, 153–4.

content' this is in reference to the latter properties and not those essential to it strictly as an individuator. But this is a mistake. It is a definitional requirement that a bare particular have no repeatable content of any sort, essential or not. If it were otherwise, a would-be bare particular p_x would itself have as a constituent one or more repeatable universals and so be a particular 'thick' enough to be in need of a further posited constituent bare particular, p_x', to found its unrepeatability. This line of reasoning is, of course, a vicious regress; if p_x is composed of one or more repeatable intensions then p_x' would also be so composed, requiring of bare particular p_x' in turn a further individuator, and so on. Bare particulars must be devoid of any 'inherent' qualities and thus simple in themselves. They are 'bare' in the sense that internally they have no intensional content—they must be vacuous ontic points or surds.

Now, as Moreland points out, it is precisely on this characterisation of being intensionless that the concept of bare particulars has been charged with being self-contradictory. For, bare particulars do have properties, and moreover they have them necessarily, e.g., the properties of unrepeatability and simplicity, the property of not having properties (in some sense), and the property of being the constituent of at most one object at a give time.[17] Hence, it is said, the very concept of a bare particular is incoherent. Moreland's response is to make a distinction between two types of ontic predication. In ordinary predication, as when a property F is asserted of a substance *x*, Moreland holds that 'F is *rooted within x*',[18] i.e., F is a constituent of, it 'inheres in', *x*. However, in the case where F is a property of a bare particular, p_x, Moreland theorises that F is 'tied to' p_x. This tie is to be totally external, it is ungrounded in, unconditioned by, capacities or properties (intensions) within p_x.[19] By this tack Moreland attempts to maintain the empty content necessary of bare particulars and yet still allow them to 'have properties'.

In response to Moreland's attempt to save bare particulars I would make the following three points. First, Moreland's tack of positing a distinct type of 'tied to' predication has an *ad hoc* character. There is no independent motivation provided for the tied-to form of predication, it is simply posited in an attempt to save bare particulars from self-contradiction. Moreland adopts the traditional containment model, 'F is *rooted in x*', for all cases of predication in the hierarchy of individuals above the lowest, but then at the lowest level where the subject is a bare particular he switches conveniently to a type of external combinatorial model, 'F is *tied-to x*'. Indeed, the tied-to and rooted-in relations are radically different and contrary attributes—the posited tied-to relation cannot be construed as but a weaker version of the standard rooted-in relation. For as it should be, in all cases of ordinary predication where attribute F is rooted-in subject *a*, F makes a difference to the nature of *a*, even when F is an accident. Whereas, at the atomic ontic level where F is tied-to bare particular p_a, F makes no difference to the nature of p_a because the latter is devoid of all intension or content. The only role for the radical tied-to relation is to save bare particulars. Moreover, as we shall see below when considering Bradley's Regress, this tied-to form of the combinatorial model of predication leads to vicious regress.

Secondly, the 'tied-to' mode of predication is a 'relation' (if 'relation' is the proper characterisation) between a universal, e.g., Round, and a bare particular p_a, where there is

[17] See Loux, *Substance and Attribute*, pp. 147–8.
[18] Moreland, 'Theories of Individuation', p. 256.
[19] Ibid., p. 260.

nothing in the relatum p_a to found the relation. Following Moreland, some relata, e.g., Round, are tied-to p_a contingently, other relata, e.g., Simplicity, are tied-to p_a necessarily. In either case, however, nothing is in relatum p_a (being devoid of all content) to be the source or cause of the Tied-to relation linking it to any universal as the other relatum. The Tied-to relation is completely external in regard to relatum p_a. It makes no difference to the nature of relatum p_a what properties are tied-to it, and so p_a exists independently of any such relatedness. However, if p_a can exist independently of entering into any Tied-to relation, then no such relatedness can be necessary to p_a. In short, all properties of bare particulars are contingent.[20] Hence, we have the situation where properties like Simplicity are both necessary and contingent attributes of p_a. The weakness here can be pressed even further. Because of this radically indifferent and arbitrary 'predication' it is equally possible that the universal Square could be tied-to the relatum p_a. And, in fact, due to the absence of a controlling content for p_a, there is no reason why both Round and Square could not be tied-to p_a, alternately or simultaneously. Hence, absurdly, the same subject can be both round and square. One cannot respond by saying that p_a's having the monadic property *Tied-to-Round* precludes it from being (by the relation) tied-to the contrary universal Square, for this property cannot be a constituent of p_a and if it is externally tied-to p_a then the property's blank association with p_a would provide no basis for excluding the universal Square from being tied-to it.

It might be objected that it is no argument against bare particulars that contrary properties like Round and Square cannot apply simultaneously to them. The claim is that contrary properties are not predicable of the same subject, not because of the nature of the subject, but because of the nature of the properties as contraries. This objection misses the point, but it does so in a instructive way that serves to illustrate in another manner why predication cannot be construed as a *relation*. Consider the shared 'subject' of Triangle in the facts corresponding to 'Round is contrary to Triangle' and 'Square is contrary to Triangle.' Here there is nothing in the natures of Round and Square as contraries that prevents them from being related by the relation Is-contrary-to to the shared relatum Triangle. Indeed, it is the very fact that they are contraries that allows them to enter into this particular relation with the intension Triangle. Hence, it is possible that contrary properties can be related to the same subject. More so in regard to the posited Tied-to relation, for in 'F is tied-to p_a' the tied-to relation obtains independent of the nature of the relata, 'predicate' F or the 'subject' p_a. Hence, both Round and Square can be 'tied-to' a bare particular p_a, and if the Tied-to relation is to be a form of predication, then both contraries can be predicates, i.e., properties, of the same subject, which is absurd.

Note that the same critique would not apply to an ontology of relation instances. At the relevant atomic level of network theory there are only relation instances, where each is both an intension and is predicable of or among other atomic instances. There is no posited Tied-to relation necessary to act as a surrogate for predication, and there are no

[20] Michael Loux makes this point against substratum theory and contrasts it with the opposite but equally unacceptable case for bundle theory—in the former a bare particular must possess all of its properties contingently, whereas under bundle theory a bundle must possess all of its properties necessarily. Loux, *Metaphysics: A Contemporary Introduction* (New York: Routledge, 1998), pp. 105–6. I note that in a relation instance, R_i, the intension R is a necessary aspect but not a predicate of it, whereas the predicational aspect of R_i can be contingent or necessary, depending upon the intension R.

contentless subjects. In an atomic fact, say, :$F_i(G_j)$, the content of the subject, G, controls the predicability of F_i to one of G's instances, and for any content H contrary to that of F, precludes any instance H_k from being predicable of G_j.

Finally, more compelling as a response to Moreland and as a critique of bare particulars is the simple argument based upon CII that there can be at most one bare particular and so only one extant individual. In order to avoid self-contradiction Moreland must rid bare particulars of all internal content and complexity. They cannot have as constituents either intensions or further bare particulars, the only ontic components available at this atomic level. Bare particulars must be constituentless. Consequently, they are all similar in being empty of constituents. But then by CII, which asserts that entities having exactly the same constituents are identical, all bare particulars in having no constituents have exactly the same constituents and so are identical. There is, then, but one individuator and so, absurdly, but one extant thick particular. It is relevant to observe that Leibniz made an analogous argument against space conceived of as dimensionless points.[21] In themselves there is nothing to distinguish one point from another and so they must be identical. In effect, spatial points are but bare particulars reserved as relata for spatial relations. In both cases it will do no good to counter by saying that bare particulars are individuated by their external relations, e.g., Tied-to, or spatial relations. This is so because relations (specifically, relation instances) logically presuppose their relata and the asymmetric relations necessary to distinguish and individuate their relata presuppose distinct relata. Moreland himself concurs, saying 'Neither impure properties nor spatial locations or external relations can do the job required of individuators.'[22]

In sum, Moreland and other philosophers who advocate bare particulars take individuation as a primitive and then posit a type of entity in which to place this basic unrepeatability. The above arguments show that, to the contrary, the concept of bare particulars, and consequently substratum ontology that requires it, is untenable. Moreover, the following will show how individuation is not ontically primitive, but has as its cause the combinatorial nature of predication. Hence, bare particulars are neither needed nor possible. Further, a primary lesson of the above is that an individuator cannot be devoid of content. The following analysis of polyadic predication will show in what manner this is necessary.

III. Individuation by Combinatorial Predication

Key to the realism I am advancing here and its answer to the problem of individuation is the *combinatorial* character of ontic predication and its relationship with a concomitant intension. It is the combinatorial mode that a relation with intension R has in a fact :$R(a_1,a_2,..,a_n)$ that is individuated to that n-tuple of relata. Presupposed by what will be argued here is the thesis that polyadic relations are not reducible to monadic properties. The contrary view was the dominant tradition in Western philosophy starting at least with

[21] Gottfried Wilhelm Leibniz, *Philosophical Papers and Letters,* 2nd edn., ed. Leroy Loemker (Dordrecht: Reidel, 1969), p. 682.

[22] Moreland, 'Theories of Individuation', p. 260.

Plato and Aristotle and running up to the end of the last century.[23] The *locus classicus* for the rigorous correction of this long prevailing reductionist error is Russell's *Principles of Mathematics*.[24] In response to Campbell's challenges, I have recently attempted to reinforce and extend the Russell arguments, and to respond to other reductionist challenges.[25] I shall not rehearse them here. I take these arguments to be compelling and so for the following it will be a premise that relations are full unreducible multi-subject ontic predicates.

Let us turn, then, to an analysis whereby we can sharpen our understanding of the nature of polyadic predication. Let R be a contingent non-symmetric or asymmetric dyadic intension, e.g., Love, and assume initially that both facts :R(*a*,*b*) and :R(*b*,*a*) obtain. Now in addition and by way of contrast to the facts :R(*a*,*b*) and :R(*b*,*a*), consider as a third whole the set {R,*a*,*b*}. The question arises: Do the three complexes have exactly the same constituents? If it is in fact precisely and numerically the same R, *a*, and *b* in each of the wholes, and these only are their constituents, then, by CII, the three complexes must be identical. But this is, of course, not the case. The set {R,*a*,*b*} exists necessarily and so 'eternally', but, since R is assumed to be contingent, neither fact need exist. Included here is the case that for certain R, *a*, and *b*, *a* and *b* are never related by R, yet set {R,*a*,*b*} would still exist. The facts, moreover, can come into and go out of existence independently of each other. How, then, do we account for the difference between the three wholes? It is intuitive that in the facts :R(*a*,*b*) and :R(*b*,*a*) the relation whose intension is R *relates*, i.e., predicationally links, its relata, e.g., *a* loves *b*, and, *b* loves *a*, respectively. Yet, insofar as it contributes to the whole that is the set {R,*a*,*b*}, e.g., {Love,*a*,*b*}, the intension R is simply juxtaposed with *a* and *b*, the set existing even if *a* and *b* were related by relations contrary to R, e.g., *a* hates *b*. It is the actual relating under R that provides the order or 'direction' distinguishing the two facts—in :R(*a*,*b*) we have the relating-*a*-to-*b*-under-R, whereas in :R(*b*,*a*) we have the relating-*b*-to-*a*-under-R. There is no order in the set; {R,*a*,*b*}={R,*b*,*a*}. The insight to be had here is that, first, intension R is not the cause of the constituent unification that synthesises the elements into the set {R,*a*,*b*}, but it is essential to the cause of the type of unity effecting the existence of the facts :R(*a*,*b*) and :R(*b*,*a*) *qua* relation complexes. Hence, we are forced to distinguish a unifying character—a *nexus*, *linking*, or *tie*—of the entity that is R-as-an-ontic-predicate among specific relata. The linking-under-R is in some manner an aspect of each fact, distinguishable by reason, at least, from intension R, but like R, *a*, and *b*, a real characteristic of the facts. R-as-an-ontic-predicate is not simply intension R, it is more; it

[23] For an overview of the tradition in Western philosophy of reducing properties to their relata and the *esse in*/*esse ad* distinction, see my *Moderate Realism*. Also see Mark Henninger, *Relations: Medieval Theories, 1250–1325* (Oxford: Clarendon Press, 1989). Under the classical reduction a relation, e.g., *a* is taller-than *b*, divided without remainder into monadic properties of each relata, Tallness in *a* and Shortness in *b*, each property being what the scholastics would call the relation's *esse in* (being in), but with each having a peculiar *esse ad* (being toward) characteristic—a pointing toward its correlative. The illusion was, presumably, that the *esse ad* aspect could be a kind of 'pointing' without being a 'touching', i.e., without being a completed linking. This is indeed an illusion, the *esse ad* being in truth a surreptitious re-introduction of polyadic predication, and, specifically, a bogus bare linking.

[24] Bertrand Russell, *The Principles of Mathematics*, 2nd edn. (1903; rpt. edn., New York: Norton, 1938), pp. 221ff.

[25] Mertz, *Moderate Realism*, pp. 163–73.

is the linking of specific relata under the concomitant controlling content of R, the latter determining the nature, number, and order of the former combination. The content R is but one of the two aspects that characterise a relating relation.[26]

If we understand these distinctions properly, it is possible to make sense of Russell's assertion,[27] paraphrased as: 'A relation R as it occurs in the fact :R(*a*,*b*) is not identical to R as it occurs in the set {R,*a*,*b*}.' As has been countered (e.g., by Bradley and Grossmann),[28] taken literally the statement is false—the *intension* R is identical in fact and set. But the intension R that is an element of the set is not the relation proper having R as its intension and operative in the fact as unifier. The Russell assertion equivocates on 'R', and so understood is correct when read as: 'The relating relation with R as its intension aspect, which is the unifying cause of the fact :R(*a*,*b*), is not identical to intension R alone without a concomitant but distinct predicational tie, which is R as it occurs in set {R,*a*,*b*}.' Russell did not sufficiently distinguish the partial intension aspect from the full 'relating relation', the latter being a relation proper, the former a 'relation' in a secondary and derivative sense. Bradley in his controversy with Russell identified a relation with its derivative intension, necessarily so under Bradley's adoption of the containment model of predication that eliminates the possibility of simultaneous multi-subject predication.[29] Russell in advocating 'relating relations' was promoting a more general theory of multi-subject predication. If he had been more explicit in making the point that here we have a dual aspected but single entity richer than just the subsumed intension alone, then in his external vs. internal relations debate with Bradley he could have made his case more clearly and forcefully.

It is the case, then, that as ontic predicates, relations (including monadic properties) are what I have termed *ontoglial* (Greek: *glue of being*). They provide the unity of themselves

[26] Relatedly, it is instructive to note how Armstrong has come to endorse a principle of composition close to CII due precisely to the case of states of affairs. Armstrong has rejected the universality of CII in the face of what he takes to be the fact that, though :R(*a*,*b*)≠:R(*b*,*a*), these states of affairs have exactly the same constituents. See Armstrong, 'In Defence of Structural Universals', *Australasian Journal of Philosophy* 64 (1986), pp. 85–91, and *Universals: An Opinionated Introduction*, (Boulder, CO: Westview Press, 1989), pp. 90, 111. Indeed, if in each fact the relating-R is the universal R without remainder, then in both facts we have exactly the same constituents. But then order under R among the relata goes unaccounted for. Because of this, in the recent *A World of States of Affairs* (1997), p. 122, Armstrong concedes to a weakened version of CII involving constituents *plus* organization. In regard to the two facts, :R(*a*,*b*) and :R(*b*,*a*), he now holds that the distinct orderings are accounted for by the fact that 'The terms *a* and *b* are linked to different relation-places in the relation, relation-places that differ in "direction", in the two different states of affairs.' (p. 122) Though his analysis is briefly thus, he observes that it fits well with the Fregean notion of relations having an 'unsaturated' character. Armstrong intends that the unsaturated character of relations (and properties) refer to the cause of the unification between a relation and its relata, what Russell intended by the description 'relating relations'. It is the added ingredient of different 'directions' that distinguished the two facts, and so saves the weakened CII. Unfortunately for Armstrong, the recognition of what are in fact contrary second-order 'direction' properties serves to disprove his thesis that relating-R as it occurs in each fact is numerically the same universal R.

[27] Bertrand Russell, 'Some Explanations in Reply to Mr. Bradley', *Mind* 19 (1908), pp. 373–8.

[28] F.H. Bradley, 'Reply to Mr. Russell's Explanations', *Mind* 20 (1911), p. 74; Grossmann, *Categorical Structure*, pp. 7–8.

[29] An argument for the thesis that the dominate but misleading containment model of predication (where a predicate is 'present in', 'inheres in', is 'immanent in' its subject) implies a monadic reduction of relations can be found in my *Moderate Realism*, pp. 19ff.

with and among their subjects. A further and important point to be observed is that the predicational unity provided by a relation in, say, fact :R(*a*,*b*) is a *rigid linking* of relata *a* and *b* under an intension R. That is, relata *a* and *b* are as such held simultaneously together and apart, unified and separate, and, depending upon the content of R, ordered among themselves. The descriptions 'together and apart', 'unified and separate', and the like, are not offered as enigmatic Zen opposites, but intended in the straightforward and non-contradictory sense of a mediated unification between diverse subjects, analogous to the unity provided by a rod between separated nodes. It is the 'linked but apart' characteristic that is the sustaining principle of diversity prerequisite for complexity, system, or organised plurality, and that prevents the collapse of related entities into a monistic One. For relations, to be is to bond diversely. In this 'bridging of ontological space' relations are the *sine qua non* of all complexity. The simultaneous characteristics of *unified diversity* define the *combinatorial model* of ontic predication—where the predicate is *inter*-subject-ive. An opponent of relational reality, Bradley himself observed that relations are nothing if not conjunctive, and that they must hold their relata both 'together' while also being 'between' them so as to hold them distinct and separate. Blind to any other model of predication than containment—where the predicate is *intra*-subject-ive, Bradley held that these conditions cannot be met since 'together' implies containment and this collapses to zero the ontic distance 'between' the relata. Consequently, he declared relations to be self-contradictory and, ultimately, plurality in general to be illusory.[30]

Turning now specifically to the issue of individuation, it is not difficult to establish that the relating aspect of a relation among a specific set of relata is unique and unrepeatable. First, consider again the facts :R(*a*,*b*) and :R(*b*,*a*), and the fact that :R(*a*,*b*)≠:R(*b*,*a*) for non-symmetric or asymmetric relation R. As noted above, the direction of relating-R is different for each fact. Now these directions are, or at least found, second-order properties of R as it occurs in each fact—as relating-R. Hence, it cannot be numerically one and the same relating-R in each fact. The operative principle here is that the same entity (here a predicate) cannot have contrary second-order predicates. The relating-under-R in :R(*a*,*b*) has a second-order property, i.e., From-*a*-to-*b*, that is contrary to a second-order property the relating-under-R has in :R(*b*,*a*), i.e., From-*b*-to-*a*, and so the two relatings cannot be numerically identical. Alternately as a *reductio*, if the relating-under-R between *a* and *b* were numerically one and the same in all of its facts, then, because R, *a*, and *b* are also numerically the same in all these facts, under CII it would be the case that :R(*a*,*b*) = :R(*b*,*a*). Second and more generally, the relating-under-R is unique and unrepeatable to each fact because the existence sustaining unification under R among one set of relata can obtain while the like unification under R among the other (or any other) set of relata ceases to exist. The loving of *a* for *b* can obtain even if the loving of *b* for *a* ceases, or the loving of *c* for *d*, for any other *c* and *d*, ceased to exist. The love *a* has for *b* is not any other couple's love. Restated as a *reductio*, if it were one and numerically the same unification under R sustaining the existence of each fact, just as for realists it is numerically the same intension R 'in' each fact with ontic predicate R, then by CII not only would there be no possibility of differentiating order among the relata, but, more importantly, all such facts would obtain or cease to exist simultaneously. A content or

[30] F.H. Bradley, 'Relations', in *Collected Essays*, Vol. 2 (Westport, CT: Greenwood Press, 1970), pp. 642ff.

intension R might persist, but all of its relatings, being identical (numerically one), would come into and go out of existence together. All of this is counter-factual. An intension R can be shared, but a union under it among a specific relata set cannot. The union of *a* to *b* under the intension Love is unique to the ordered-pair <*a,b*>, no other ordered-pair can be linked by this particular union. Metaphorically put, though the glue may be chemically the same, different applications require different dabs of it.[31] In general, it is the combinatorial nature of predication which is the cause of the individuation of predicates R_i. In an ontology whose atoms are relation instances, i.e., network realism, all individuation is derivative. Here intensions and predication are the ontic primitives.

The above argument for individuated predication is not to be construed as an analog of an old and fallacious argument against universals. The latter argument is posed and rebutted, for example, in Walter Burley's *On Universals* (1497).[32] It states that, if a universal, e.g., Human, is a constituent that is whole and the same in each individual exemplifying it, e.g., Socrates, then, if one such individual ceases to exist, the contained universal would cease to exist, and hence all other similarly exemplifying humans would likewise cease to exist. A simple response is to observe that a whole can cease to exist without a constituent ceasing to exist, whether the constituent is shared or not with another whole. One sees this is the case of machines that share parts. This is why, in fact, that the containment model of predication can give no clue as to the individuation of predicates. In this regard it is interesting that Burley's response to the argument is to cite passages in the *Metaphysics* (1014a10–23) and *Physics* (195b6–20) where Aristotle is said to refer to particular causes and particular effects. Burley concludes, 'Therefore, Socrates, who is a particular effect, is put together only out of particular causes, namely, out of this matter and this form.'[33] (cf. *Metaphysics* 1071a27–29) That is, Socrates has 'this form' which can be annihilated without the distinct individuated form of, say, Plato ceasing to exist. In contrast to the fallacious argument, the above argument for individuated linkings of ontic predicates turns in a reverse manner on the truth that a whole *qua* whole (e.g., a fact or state of affairs) is annihilated when an essential constituent (e.g., predicational linking) is annihilated.[34]

[31] There is an interesting parallel between my argument for the individuation of attributes and one given by Avicenna in the *Metaphysica* of the *Shifa*. See Michael Marmura, 'Avicenna's Chapter "On the Relative" in *Metaphysics* of the *Shifa*' in *Essays on Islamic Philosophy and Science*, ed. George Hourani (Albany: SUNY Press, 1975), pp. 87–8. An analysis of the argument is given in *Moderate Realism*, pp. 122–5. Avicenna's presentation utilises the then canonical but fallacious property-reduction of relations. It is argued that in the reduction of a relation with intension R to foundational properties P′ and P″ (*esse in*'s) in their respective relata, these properties cannot be identically the same universal (e.g., White, Brother), since they have contrary second-level properties (*esse ad'*s), e.g., Being-toward-P″ a property of P′, and, Being-toward-P′ a property of P″. Thus P′ and P″ must in fact be individuated instances P_n and P_m of the same universal P. If one eliminates from this argument the fallacious property-reduction of relations, then the above directional properties of From-*a*-to-*b* and From-*b*-to-*a* are the distinguishing contrary second-order analogs of Avicenna's *esse ad'*s.

[32] Walter Burley, *On Universals*, trans. Paul Vincent Spade, in *History of the Problem of Universals in the Middle Ages: Notes and Texts*, 1995, pp. 92, 98. Spade's *History* is available as electronic text at *http://www.phil.indiana.edu/~spade/*. Armstrong considers the fallacious argument in *Nominalism & Realism*, pp. 112–13, but to my mind does not successfully answer it.

[33] Ibid., p. 98.

[34] It is interesting that Ockham appeals to this principle but does so, erroneously and *contra* Burley, in support of the argument that, if Human is a universal, then the annihilation of one man would be the annihilation of all men. See William of Ockham, *Ordinatio*, d.2, qq. 4–8, par 68, trans. Paul Vincent Spade, *Five Texts on the Mediaeval Problem of Universals*, p. 124.

Returning to the argument for unit attributes, on the above analysis every relation as it occurs in a fact assays out into two aspects—an intension R and its individuating predicational tie. How are we to understand this distinction? There are two possibilities. The distinction between an intension R and its tie describes either 1) a pre-abstraction real complexity in the fact itself, or else 2) a post-abstraction distinction corresponding to two partial and incomplete aspects, each a limited portion of what in itself is a simple entity. Now the untenability of analysis 1) follows from its forcing us either into a vicious regress or into adopting the bogus 'non-relational tie' theory. To see this assume analysis 1), i.e., that a fact of the form :R(*a*,*b*) has as real and distinct constituents relata *a* and *b*, intension R, and the latter's predicational tie. So construed, the predicational tie under intension R will have R as an additional term or relatum. This is so since the tie, to be a *tie* and to be R's tie, must do the connecting of R to *a* and *b*. Now, clearly the tie cannot itself be an additional and full relation (a tie with its own intension) R′, for otherwise R′ would be the first step in Bradley's vicious regress of further and further relations. In effect, the original fact :R(*a*,*b*) would turn up on this analysis to be identical to the fact :R′(R,*a*,*b*). But, of course, the latter fact is exactly the same kind of entity as the original fact and so would itself dissipate upon the present analysis into the further fact :R″(R′,R,*a*,*b*), and so on, evaporating into the oblivion of a endless regress. Each n+1-subject relation posited to effect the unity that the n-subject relation, upon the present assay, cannot.

Failing on this analysis, we will assume the alternative—that the predicational tie in the fact :R(*a*,*b*) is bare, i.e., has no content or intension. So under the present assumption, for a fact with an *n*-adic intension R, the predicational linking is characterised as both a blank tie, a mere bare togetherness, and one that is *n*+1-adic, e.g., for dyadic intension Love, its tie in fact :Love(*a*,*b*) must be triadic, or for triadic intension Between, its tie in fact :Between(*a*,*b*,*c*) must be four-term. Now I note first that this latter characteristic should render the present assay implausible on the face of it. For, it declares to be a pervasive illusion what we understand when we are cognisant of a property or relation—that the n-subject specification that constitutes part of the very apprehension of any intension R is always false by one term. An intension carries its n-adicity as part of its very meaning. To understand the intension is to grasp the number of subjects the corresponding predicate can have. Yet the present assumption renders this understanding false in every case. One is here reminded of Bradley's monism which declares plurality, the pervasive character of all our experience, to be an illusion. In either case we must suspect the conclusion to be a *reductio ad absurdum* of the respective assumptions.

Beyond this is the further and, I contend, compelling critique deriving from the untenability of the very notion of a bare linking. Here the fact :R(*a*,*b*) is suppose to resolve into three subjects, R, *a*, and *b*, held together by a tie that itself has no content (no intension R′), its content having been separated out as R. This is the 'non-relational tie' theory that some ontologists contend is the proper conclusion in the face of Bradley's regress. But if this is the case, then first, it implies that the unity among R, *a*, and *b* in the fact :R(*a*,*b*) is no different in kind than the unity among them as elements of the set {R,*a*,*b*}. In either case the three terms are simply linked, nothing else about their togetherness is stipulated. On a blank association the unification between the terms is conditioned on nothing but their existence, the natures and characteristics of the terms are irrelevant. In particular, no ordering among the terms is specified. For, as implied in Herbert Hochberg's successful argument against the reduction of order to

sets,[35] and asserted explicitly by Russell,[36] order among relata is always a function of the content or intension R in its conditioning the linking.[37] And having R as one of the linked terms, separate from and thus not conditioning the actual linking, is insufficient to provide any type of ordering. To blankly associate the intension Love with *a* and *b* is to give no clue as to the ordering of who loves who. Even if contentless or blank ordering were possible, the fact that such an ordering in <R,*a*,*b*> exists does not in itself either imply or preclude the ordering in <R,*b*,*a*>, but the predication in the fact :R(*a*,*b*), for asymmetric intension R, precludes fact :R(*b*,*a*). So the would-be blank ordering in <R,*a*,*b*> cannot be equivalent to the predicational tie in fact :R(*a*,*b*). Hence, facts that actually present such ordering are impossible on the present assay. One final point. On the present assumption where the intension R is separated from the now contentless tie, the intension R, having the role of but one of the subjects of the tie, has no bearing on the modal qualities of the tie itself. A bare linking uncontrolled by any content will have the same modal character in every fact. Consequently, we have the absurdity that every fact is either contingent or every fact is necessary. It must be concluded that bare linkings are as bogus as bare particulars, and for an analogous reason—bare linkings are devoid of controlling content.

The above *reductio*s have all been derived from the assumption that in a fact :R(*a*,*b*), which is a complex entity, the distinction between an intension R and its predicational tie describes a further pre-abstraction real complexity in the component R-as-it-occurs-as-a-predicate. It follows, then, that there is no ontic distance, no internal complexity, in R-as-it-occurs-as-a-predicate between an intension and its relating. That is, the distinction between intension R and its predicational tie must, on the contrary, be a post-abstraction distinction consisting in two concepts, each a partial and limited but veridical description of what is in itself a *simple* entity. This is what we are to mean by 'aspects' and each of these distinct aspects must have a real foundation in, be virtual in, the simple entity. Equally significant, as demonstrated above, the predicational tie in a fact is unrepeatable, i.e., individuated, and so the simple entity having as aspects intension R and its predicational tie must itself be individuated. Hence, we conclude to the necessity of internally simple relation instances, R_i. Relation instances are both individuals and sorts, both substance-like and ontic predicates. In a single type of simple entity we have the three fundamental ontic characteristics: repeatability, unrepeatability, and predicational linking. The predicational linking is directed outward for its subject(s), as is necessary for an internally simple entity. In addition to establishing the necessity of the ontology of unit attributes, we have an explanation of the otherwise brute fact Armstrong calls the 'Victory of Particularity'.[38] The term applies to the fact that the predicational combination of

[35] Herbert Hochberg, 'The Wiener-Kuratowski Procedure and the Analysis of Order', *Analysis* 41 (1981), pp. 161–3.

[36] Bertrand Russell, *My Philosophical Development* (London: Allen & Unwin, 1959), p. 67.

[37] The only alternative to knowing relations and their order intensionally is the extensional modeling standard in mathematics. Extensionally, the relation Father-of is the set of all ordered pairs <*a,b*> where *a* is a father and *b* is his child. To know that Father-of is an asymmetric relation using only the extensional model would require examining, for every ordered pair <*a,b*>, every other ordered father/child pair from the first father to the last in order to verify that there is no pair <*b,a*>. An impossible task for finite minds. Yet, anyone who understands (i.e., grasps the intension of) the relation Father-of understands that if *a* is the father of *b* then it cannot be the case that *b* is the father of *a*. Cf. *Moderate Realism*, pp. 169–71.

[38] Armstrong, *Nominalism & Realism*, p. 115; *States of Affairs*, p. 126.

particularity (subject individuals) and universality (predicate universals) always yields particularity (individual state of affairs). Outside the above results it seemed equally plausible that, theoretically, the combination could yield universality. In this regard there is the unaddressed problem of the particularity of a fact whose subjects are universals. The above analysis provides an explanation of the necessity of the Victory of Particularity in all cases—the predicational tie itself is the cause of particularity of the ontic predicate, and consequently of the complex fact of which it is a constituent.

IV. On the Nature of Non-Constituent Wholes

I shall conclude by attempting briefly to clarify how a relation instance as a simple entity can satisfy the above necessitated requirements. It was noted that Moreland has made central to his argument against trope theory the position that simple entities cannot in themselves have what would be the requisite diversity to provide a real basis for a distinction of aspects.[39] My response, based upon the above, is that the atomic ontic unit of relation instance need not have an internal diversity in order to support non-identical aspects, but rather it need have only a nature rich enough to support a distinction of aspects by abstraction. Scholastic philosophers recognised this type of distinction, referring to it as a *distinction of the reasoned reason* (*distinctio rationis ratiocinatae*).[40] The perfections of God were often given as examples. The scholastic Francisco Suarez noted that it is only the distinction itself that results from reasoning, not the terms distinguished. According to Suarez, 'Although the same object is apprehended in each concept, the whole reality contained in the object is not adequately represented, nor is its entire essence and objective notion exhausted, by either form. . . . Things said to be thus distinct are real entities, or rather a single real entity conceived according to various aspects.'[41] Duns Scotus' 'formal distinction' is of this type, where, applied to a unit attribute, the 'thisness' (*haecceitas*) is formally distinct from its intension (*natura*), yet the two aspects do not exist separated in extra-conceptual reality.[42] Campbell rightly appeals to Scotus' formal distinction to explain how a trope can be simple and yet 'have' both a nature and a particularity.[43] A trope 'does not include a duality of being, but two levels of abstraction in considering the case.'[44] Moreland's response is that no such distinction can have a real basis in the subject entity, e.g., a unit attribute. He states: 'If A and B are distinguished by a distinction of reason, then A is identical to B. In general, where there is merely a

[39] See Note 9.

[40] Francisco Suarez, *On the Various Kinds of Distinctions* (*Disputationes Metaphysicae, Disputatio VII, de variis distinctionum generibus*), trans. Cyril Vollert (Milwaukee: Marquette University Press, 1947), I. 4, pp. 18ff. This was in contrast to the *distinction of the reasoning reason* (*distinctio rationis ratiocinantis*) where the intellect distinguishes terms for which there is no foundation in extra-conceptual reality. A standard example is when we distinguish Peter from himself in the identity 'Peter is Peter'.

[41] Ibid.

[42] See Frederick Copleston, *A History of Philosophy* (Garden City, NY: Doubleday, 1962) Vol. 2, pt. II, pp. 231–6. For a description of and references to Scotus' two accounts of the 'formal distinction' see Marilyn McCord Adams, 'Universals in the Early Fourteenth Century' in *The Cambridge History of Late Medieval Philosophy*, eds. N. Kretzmann, A. Kenny, & J. Pinborg (Cambridge: Cambridge University Press, 1982), pp. 411–39.

[43] Campbell, *Abstract Particulars*, p. 56.

[44] Ibid., p. 57.

distinction of reason, identity still obtains.'[45] This is why, according to Moreland, a trope which is a simple entity cannot support the two aspects of individuality and repeatability. In this case the latter aspects would have to be identical—the particular identical to the universal. The assumption here, however, is that the distinguished aspects must each exhaust the nature of the subject entity. But why must this be the case? Why could not the nature of the subject entity be rich enough to support the distinguishing of two aspects, each partial but accurate in its limited extent, like, say, what is seen from two different perspectives of the same object? In viewing, for example, a three-dimensional object, such as a chair, from front and then back, what is presented are different 'parts' of the chair, each partial but contributing essentially to the nature of the whole. Here, of course, what is presented in the different perspectives represents real complexity in the chair, whereas an analog relation instance has no such complexity. The point here is simply that the same subject can be known partially under different but complementary veridical descriptions.

For a closer analogy, one that makes the point that a *simple* entity can sustain real distinctions, consider the following. Consider a circle. It is simple in its continuous closed form. It has no identifiable sub-segments prior to an external conceptual act of segmentation. One cannot say that the circle is in itself already segmented as an infinite set of discrete points. For, no quantity of discrete points can yield a continuous line segment, since no amount of extensionless entities can yield a continuous whole which is essentially extended in at least one dimension. Now conceptually segment the circle. These segments can be semi-circles or unequal segments, nothing in this analogy turns upon their length. These two curves serve as analogs to the intension and predicational tie aspects of a relation instance, the latter represented by the prior unbroken circle. It is the case that both partial curves have a real foundation in the circle—the circle could not exist without their contribution to its being or nature. Yet, the curves cannot be identified as pre-existing anywhere in the continuous circle prior to the conceptual separation. The circle in itself is not pre-divided, it is not complex in the sense of having prior to external division already existing segment components. The segmentation, relative to the complete circle, is a distinction of reason. Once the circle has been conceptually divided, each segment, though not capturing the nature of the whole circle, is accurate unto itself as at least a limited aspect of the circle. In this regard there is no falsification by abstractive analysis. This is how the particularity and universality aspects are relative to their relation instance. Now, to extend the analogy, if one mistakenly thinks that the segments do in fact pre-exist as segments *in* the circle then we end with difficulties analogous to those following from the assumption that unit attributes are internally complex. To provide for their union in a continuous circle the segments must share a single point at each end. Each of the two points is the analog of the unifying tie of predication conceived as itself a distinct constituent of the complex it unifies. Now, each unifying point is either a constituent of both conjoined segments or it is not. Containment is the analog of predication here. If each such point is not a constituent of both segments, similar to a relation intension not itself actually linking its relata, then there is no desired unity. On the other hand, if each point is a constituent of each of the two segments it unites, being the 'end

[45] Moreland, *Universals, Qualities, and Quality-Instances*, p. 68. Also see 'Keith Campbell and the Trope View of Predication', pp. 386–7.

point' of one and simultaneously the 'starting point' of the other, then these segments, which are assumed here to be *in* the circle as distinct, are not really distinct segments after all. They 'butt together' as a continuous whole; there is no 'ontic distance' between them, contrary to the assumption. We must conclude, then, that in a circle we have a whole simple in its continuity but rich enough to be segmented into 'aspects', each curve real but partial to the whole. Yet, the segmentation is external in that the circle is not *per se* a complex consisting of a plural nexus of these segments plus shared and unifying end points. To hold the contrary is to succumb to the fallacy of misplaced complexity. The complexity of the segmented circle is an artefact of analysis relative the unsegmented circle's simple nature. It is in like manner that a relation instance R_i can be an entity with two aspects—a repeatable intension R and an unrepeatable combinatorial state among its relata—yet have no internal complexity, i.e., have no polyadic relation as a constituent.[46]

University of Missouri, St Louis
Email: dmertz@umsl.edu

Received: March 1999
Revised: December 1999

[46] My gratitude to anonymous referees of this journal for their insightful and helpful comments.