D. W. Mertz

The Nature and Necessity of Composite Simples, E.g., Ontic Predicates

I. Introduction

Over the history of philosophy entities of a number of kinds have been declared *simple* in their being, and, correlative with this, fundamental in some ontological sense. These include God, souls, (at least some) intensions or universals (e.g., Red^1), ontic predicates both as substantial forms or unit attributes (e.g., Red$^1_1$, Red$^1_2$,..., whether conceived as predicable instances or 'substance-like' tropes), individuating 'bare particulars', spatial points and temporal instances.[1] As typically defined an entity is simple if it *has no proper parts*, *is non-composed*, or *is (actually) undivided and (potentially) indivisible*. Yet, with the exception of simple universals, entities of the above kinds have been analyzed as having *essential but distinct 'aspects'* (controversially so for bare particulars[2]), and this would seem to imply real and internal composition. For example, God is traditionally treated as the coalescence of divine attributes (omniscience, omnipotence, goodness, etc.) and, under the Christian Trinitarian doctrine, identical with three Divine Persons. More generally and found in the tradition has been the thesis that the 'principles of substance'—form and matter—as they compose at least some substances (e.g., Socrates), are one or both simples with yet the dual aspects of being unrepeatable particulars or individuals (e.g., individuated souls, the prime matter of each material substance) having repeatable or universal essences or natures (e.g., Humanity, Non-repeatability). A like analysis was commonly extended to all predicable attributes—properties, accidents, and relations (when admitted)—where each, e.g., this red (Red^1_i), is assayed as a simple ontic predicate composed jointly of an individuating ('thisness') aspect and qualitative/intensional ('suchness') aspect (e.g., Red^1). Unit attributes, particularly in the more telling polyadic form of relations, will be central to the analysis below. Similarly for non-extended simple spatial points that are at best tropes, each with an unrepeatable aspect together

with a repeatable spatial-, extension-relevant qualitative essence necessary to non-arbitrarily found the spatial relations that have them as relata. Likewise for temporal instances. Given, then, any of the above distinctions, it has seemed evident to some philosophers that the 'simples' to which they are attributed must each have an internal or constituent metaphysical diversity necessary to found the distinction, and thus in a strict sense be non-simple. For, the argument would go, if an entity x has even one constituent that is not identical with it, then x is an ontological composite. And crucially, if x is a composite then, *prima facie*, it must have a real internal differentiation and so inherent division—a discreteness/diversity of parts precisely as they each contribute to the reality of the whole—which would render x not simple. This would certainly seem to be the case for wholes whose composition included multiple *individuals* or *particulars*, i.e., unrepeatable entities, as, for example, physical wholes like a wall of stacked stones, or abstract wholes such as the natural number 3 together with its properties as instances: Prime^1_i, Odd^1_j, etc. With this and the further assumption that all entities whatsoever and at any level of analysis are individuals, what is the defining thesis of nominalism, then all composites would be non-simple.

What the above argument denies as a premise is the possibility of an entity with a 'virtual differentiation' of constituents, i.e., an entity where there are non-identical constituents but no inherent divisions or 'ontic discontinuity' marking this non-identity. Stated otherwise, denied is an entity that can have an internal non-identity/distinctness of multiple constituents yet among which there is no numerical differentiation/discreteness as they jointly constitute the whole. If to the contrary there were such an entity then any actual differentiation of constituents could only be 'external' and the result of an act of cognitive abstraction, what has been called in the tradition a 'formal distinction'. A principal source of the formal distinction was and is the analysis of entities held to be composed of both repeatable (intensional, qualitative) and unrepeatable (individuating, particularizing) aspects, what would be every entity whatsoever, with the sometimes posited but bogus exceptions of bare particulars at the one extreme and at the other entities treated as bundles of only repeatable properties. William of Ockham, for example, characterized an entity with supposed formally distinguishable aspects as one where of the constituents "while there are not two things, one is not formally the other."[3] Ockham held the impossibility of such a composite,

saying that "In created things there is no such thing as a formal distinction. All things which are distinct are really distinct and therefore, different things."[4] What I take Ockham to imply by the 'distinct-implies-really-distinct' requirement on constituents is that *distinct* means *discrete* in the sense of a separation or division inherent to the whole. The clarification below is that all internal division is marked by the requirement that one of the constituents have the special causal status of agent unifier among the remaining constituents (e.g., in the tradition a substantial or accidental form) in order to bridge the division and effect what is a manifold whole. In supposed composites whose constituents are only formally distinct there would be no 'ontic distance' between yet distinct constituents that would require an agent unifier to bridge. But on Ockham's and like philosophers' view, lack of 'ontic distance' implies a coinciding identity and so the absence of real composition. Ockham's view is maintained in contemporary ontology by Herbert Hochberg[5] and J. P. Moreland[6].

The opposing thesis recognizes formal distinctions or 'distinctions of reason that have foundations in things' (*a parte rei* = in reality), what are intermediate between 'real distinctions' on the one side and 'merely conceptual distinctions' on the other, the latter having no extra-conceptual bases.[7] With a formal distinction there is a differentiation—a rendering discrete—by intellectual separation of what is founded in and is partial to a fuller reality undifferentiated *in se*—the internally simple subject of selective abstraction. The recognition of the distinction and concomitant entities, or 'aspects', are found in the Scholastics, e.g., with the *distinctio formalis a parte rei* of John Duns Scotus or the *distinctio rationis rationcinatae* and 'modal distinction' of Francisco Suarez and others, a distinction advocated in contemporary ontology by, e.g., Keith Campbell, D. M. Armstrong, and myself.[8] Allowed here are entities that are both in some sense simple—internally undivided—and in some sense composite—having non-identical parts. Scotus advanced the formal distinction in the context of a theory of the union between the repeatable nature (e.g., Man) and the unrepeatable 'individual difference' or '*haecceitas*' ('thisness') that jointly compose a particular (e.g., Socrates). Suarez denied any such distinction in this context but pointed out its necessity between the 'mode' of inherence or *union* of a property and the property (specifically, the intension) as the latter is ontically predicable of a subject.[9] Foundational to the following analysis I shall rehearse an argument of how these contexts are, in fact, the same—that what is ontically predicable is by that very fact

unrepeatable, and that though this unifying and particularized aspect is not discrete/divided from a concomitant intension or quality that delimits its agency, neither is it identical to it. Clarified here will be both the necessity for and the nature of the formal distinction in a context in which it continues to be debated: the nature of the union or nexus between the qualitative and individuating aspects of particulars, what historically has been confused by some with the union between subject individuals and their ontic predicates treated as universals. A clarifying thesis argued herein is that ontology's basic particulars are ontic predicates themselves, where each is a union of what are the formally distinct aspects of a qualitative intension and a combinatorial/unifying act among an *n*-tuple of subjects, the latter being as such unrepeatable, i.e., an individuating aspect. Out of the related analysis there will arise a clarification of our pre-critical concepts of the simple, complex, and composite.

Specifically, it will be argued below that the obscurities concerning the concepts of simple and composite, and relatedly of the formal distinction, turn on a failure to distinguish between two types of wholes. These are: a) the commonly recognized and pervasive plural wholes of joined yet discrete elements, what are *complexes* (*structures, systems*), but what here will be more descriptively termed *articulated composites*, and b) theoretically necessitated non-articulated and internally non-differentiated wholes of yet identity-preserving proper constituents, wholes whose assay is more subtle and what are accurately termed *continuous composites*. Both types of wholes are 'composed' but in distinct ways with the result that complexes are non-simple whereas non-articulated composites are simple. The primary analytic tool for clarifying both types of composites will be the predicable unit attribute, or 'relation instance', R^n_i, what I have assayed in detail elsewhere as, succinctly, an *individuated intensioned ontic combinator*.[10] Outwardly, when combinatorial (ontically predicable) among one or more subjects, an instance R^n_i is the unifying cause (both 'formal' and 'material') of a resultant *atomic* articulated composite, i.e., a fact or state of affairs, and when conjoined with other relation instances via shared relata is a contributing cause of more complicated structures, this up through hierarchies of complexes that constitute the ordinary objects of experience and of science (e.g., an atom, a living body, the universe, the Natural Number System). A complex is 'articulated' at relata, the 'joints', where the relation instances, the 'connecting rods', meet. Directed externally, relation instances have the ontic role of effecting unity-at-a-

distance, i.e., unity among the yet discrete. This analysis explains the fact of structure, what in the Aristotelian tradition and there under the 'tyranny of the monadic' was simply made the effect of a posited 'principle'—monadic *form*, substantial or accidental. The analysis overturns classical and retarding assumptions concerning unification and the nature of polyadic relations, viz., that all elements making up a structured whole must share a *single unifier* as the cause of their collective unity, and, concomitantly, that all ontic predication is *monadic* in intension.[11] Relatedly, relation instances as individuated agent unifiers provide, I propose, non-trivial answers to the Special and General Composition Questions made popular by Peter van Inwagen: respectively, Under what conditions does composition (among the discrete) occur?, and What is composition (among the discrete)?[12] Contrary to what some contend, (articulated) composition is not just a brute fact: the concepts of the so-called 'mereological circle'—of part, sum, and composite—can be analyzed in terms outside of the circle, and this in a way that explains how some entities and not others are 'fastened together'.[13] Indeed, it is not difficult to theorize how a single category of relation instances can effect or 'boot up' all of physical and cognitive reality, starting at what is said to be the purely relational nature of quantum reality—physical simples are instances of quantum and spatial/temporal relations.[14] In a strict and ultimate sense, reality is 'all in the arrangements'. I shall not rehearse the arguments for these extended claims, referring the reader to the given references.

What is relevant herein and founds the above claims is that the analysis demonstrating that, as ontic predicates, relations (including properties in the limiting case) are outward agent combinators, and are individuated as such, also implies an inward nature for relation instances of composite simplicity. Crucial here is the perennial and contradictorially interpreted regress now known as Bradley's Regress.[15] The insight is that relation instances are each 'simple' in more than the crude pre-critical mereological sense of being non-composite. That is, we must give up the naïve definition: x is simple $=_{df}$ x has no proper parts. Observed in the limiting case of monadic properties as far back as Scholastic ontology, a relation instance R^n_i of any polyacity is necessarily assayed as a *continuous composite* of cognitively distinguishable but not discrete constituents, the latter being the correlative aspects of an unrepeatable combinatorial agency (indicated by the subscript 'i') and a specific and delimiting intensional

content, R^n (the superscript indicating the number of subjects required jointly for the intension to characterize, what is specified by the intension itself). The uniqueness of the unifying act of a relation instance as predicable of its relata is precisely the 'thisness' (*haecceitas*) aspect distinguished but unexplainable in traditional ontology. In the following it will be explained how it must be the case that, though such a whole is internally undifferentiated, the identities of each of the constituents as constituents are maintained in their full and essence-specific realities, and so the whole is properly a composite. In other words, though such a whole is not a plurality of articulated parts, neither is it homogeneous—it is not the same throughout. It has been called to my attention that such an analysis was one of the "fundamental innovations" by Gustav Bergmann in his posthumous *New Foundations of Ontology* (1992), where he asserts "A simple is a conjunction of two: one is an ultimate sort [certain intensions]; the other an item [an individual]."[16][my inserts] He implies that this composite is nevertheless 'simple' because the ultimate sort and item components are "totally 'inseparable'" in the sense that it is a "'combination'" but where there is no "tie" to hold them together. This is apparently why such composites are "for good reasons called simples"[17], and deserving of the special designation as each a "Two-in-One".

To anticipate, a heuristic analogy for grasping the concept of a composite simple would be a colored disk whose color differs continuously left to right from red through yellow to green, as in a non-segmented, seamless spectrum color wheel, one of the types used to teach art. The coloring of the whole is not homogeneous yet there are no internal boundaries marking numerically distinct regions of different colors. The disk is, phenomenally, a continuous composite and as such a simple entity. The unity of a continuous whole is a continuum of the yet distinct—a fusion without diffusion, a concretion without an identity-obliterating blending. Characterized as such, the unity of a continuous composite is to be distinguished from what some hold as the only alternative to articulated composition: the erroneous 'absolute unity' attributed by monists to the One. With such an entity the blending of any would-be initial elements is so absolute that the resultant 'reality' has *no composition*, no internal distinction or relations, and where, as Bradley observed, any differentiation by abstraction is necessarily falsification insofar as it supposedly marks a real distinction in the blend.[18] An analogy would be gray paint as the

resultant blend of white and black paint, and in which, phenomenally, the latter colors have ceased to exist.

Succinctly then, principal among the insights to be gained in the following are: a) The term 'simple' is properly defined as the absence of any internal differentiation or division—absence of discreteness of constituents or parts *qua* actually contributing to the being of the whole, as opposed to only external differentiation in the intellect by abstraction. b) Discreteness of constituents, what characterizes an articulated whole, is marked by constituent interposing ontic predicates, i.e., relation (including property) instances. For, it is the nature of a relation instance as an ontic combinator existing 'between' and 'among' its distinct relata to be a rigid connector simultaneously bridging and presupposing/enforcing an ontic division of mutually differentiated and discrete subjects, the instance's character as an inter-subject unifier likewise rendering it differentiated and discrete from its relata. Hence, a necessary and sufficient criterion for an entity being simple is the impossibility of any constituent being ontically combinatorial of another constituent. c) There are entities that have non-identical constituents yet have no internal divisions since none of the constituents are themselves ontic predicates, e.g., relation instances. d) And hence, the term 'simple' is to be seen as not the contradictory of 'composite', but rather as equivocal between the non-composite or 'absolutely simple', e.g., the intension Red^1, and the composite, e.g., the relation instance Red^1_i, the latter properly termed the 'continuously simple'.

II. Historical Context: Realists vs. Nominalists on Continuous Composites

Historically, the controversy over the possibility of continuous composites stems directly from differing accounts of ontology's central *Triple Aspect Problem*[19]: How is it that apparently unrepeatable ('non-communicable') particulars (whether as ordinary 'substances', e.g., Socrates, or as individuated attributes, i.e., instances or tropes) can *possess* apparently repeatable ('communicable') qualitative contents or intensions that characterize them and make up part of their being? How an ontology interprets predicable 'possession' is correlative with its theses on what of the apparent unrepeatable and repeatable aspects of an entity are real. Every individual is of one or more kinds (types, categories), F, G, H,…, and it is as an individual that it is distinct from every other individual of

any kind, and being of kind F it is in some sense the 'same as', and so grouped as like, every other individual of kind F but distinct from every other individual of kind G contrary to F. That we understand this implies that we can at least cognitively distinguish between what is an individuating aspect and one or more qualitative contents or intensional aspects of individual entities. The question is whether there is a real and extra-conceptual distinction in the particular that corresponds to this distinction between abstractions? Essential to their positions, realists are required to admit such real distinctions *a parte rei*, whereas nominalists cannot allow them.

Realists advance a real distinction in recognizing constituent repeatable intensions, but differ on the nature of their union with what individuates the entity they characterize. The standard options exercised by realists have been to construe an ordinary 'thick particular', e.g., an apple, either a) as a bundle of property intensions, b) as intensions predicably attached to an underlying individuating substratum, what must be at some atomic level a bare particular, or c) as a fusion 'tighter' than any ontic predication between the intensional and individuating aspects of an entity. Classically the union described in b) was between a substantial form and prime matter, with all other properties and accidents predicably attached to the resultant substance. Options a) and b) require articulated composites, where for a) the constituent unifier is the posited 'Compresence^2' relation, and for b) the unification is provided either by the predication of the intensions themselves of the substratum, or, when the intensions are considered combinatorially inert, by the classic mediating relation of 'Exemplification^2' or 'Instantiation^2' linking them to the substratum. Option c) is, first of all, negatively motivated by strong arguments against a) and b). They are principally: Against a) there is the fact that any bundle of universals is itself universal and so cannot account for a particular's unrepeatability. Further, bundle theory implies that the Principle of the Identity of Indiscernibles is a necessary truth.[20] Against b) is the following argument. In the context of bare particulars an ordinary thick particular *a* is understood in such a way that at least the intensions P^1, Q^1, …, that are essential to the defining essence of *a* and are ontic predicates of *a*, i.e., where $P^1(a)$, $Q^1(a)$, …, are true, are constitutive of *a* in the sense that *a* is a complex whole consisting of P^1, Q^1, …, as each is non-predicably 'tied-to' the same individuating bare particular p_a, i.e., where it is true that Tied-to$^2(P^1,p_a)$, Tied-to$^2(Q^1,p_a)$, … Significantly, the Tied-to^2

relation implies non-ontic-predication, i.e., for every intension F^1, Tied-to^2(F^1,p_a) $\supset$ $\neg F^1$(p_a). Now, bare particular p_a itself seemingly has properties essential to it, e.g., Unrepeatability^1, Simplicity^1, etc., so that propositions Unrepeatability^1(p_a), Simplicity^1(p_a), etc., are all true. But now the above analysis applies to particular p_a just it did to particular *a*, i.e., p_a is a complex consisting of intensions Unrepeatability^1, Simplicity^1, etc., tied-to some bare particular $p_a{}'$, i.e., Tied-to^2(Unrepeatability^1,$p_a{}'$), Tied-to^2(Simplicity^1,$p_a{}'$), etc. And like before, Tied-to^2(Unrepeatability^1,$p_a{}'$) $\supset$ $\neg$Unrepeatability^1($p_a{}'$), and similarly for Simplicity^1, etc. Now, if $p_a \neq p_a{}'$, there results a vicious infinite regress of further and further bare particulars, $p_a{}''$, $p_a{}'''$, … Alternately, if $p_a = p_a{}'$, then not only would we have the untoward situation of a bare particular being a constituent of itself, but also we would have contradictions such as Unrepeatability^1(p_a) and $\neg$Unrepeatability^1(p_a). The last defense is to say that bare particular p_a has no properties essentially, but this is to say that p_a has no essence/nature, and is thus *no*thing, i.e., it evaporates into incoherence.[21] A related and equally serious problem with bare particulars is their inability to found in a non-arbitrary manner relations (and thus properties) which have them as supposed relata.[22] An additional argument often brought against option b) is Bradley's Regress, though I contend its relevance is indirect: the regress has to do with the link between the combinatorial agency of ontic predicates and their controlling intensions, and the fact that this agency is unrepeatable makes it relevant here, what will be made explicit below. I shall also return below to arguments against bare particulars. The net effect of these arguments is to force realists to conclude that the union between a particular's individuator and its qualifying intensions is one not effected by an interposing ontic predicate, i.e., the union here is not that of an articulated composite. The contradictory nature of these aspects, i.e., unrepeatability vs. repeatability, prevents their identification and requires any entity they jointly make up to be composite, though with a union that can only be a fusion in the manner described above for a continuous composite. Armstrong, for example, concludes that "Obviously, we can and must distinguish between the particularity of a particular, on the one hand, and its properties (and relations), on the other. But it is a distinction without relation."[23] Other realists have called this tighter-than-predicational-unity a 'non-relational tie' (P. F. Strawson[24]) or 'nexus' (Gustav Bergmann, Herbert Hochberg[25]).

Prior to these contemporary views but in stronger and, I propose, more accurate and insightful terms, Scotus described this union between the formalities of a *natura* (*quidditas* ('whatness') or 'specific difference') and a *haecceitas* ('individual difference') making up a particular as a *per se* unity. Here the resultant intension/individuator whole is "one thing which is virtually or pre-eminently as it were two realities".[26] Elsewhere he asserts: "The whole to which this unity belongs is perfect of itself", the two aspects together being "*per se* one", i.e., intrinsically one.[27] In this sense the whole would be simple, what Scotus would seem to imply in distinguishing it in "kind", i.e., as a different species of simplicity, from the "perfect divine simplicity", where, because the attributes of God are each formally infinite, they can include *each other* "through an identity".[28] Importantly, Scotus is explicit in taking the intension/individuator union to be that of a *composite*, though different from composition "proper" which is between "'thing' and 'thing'".[29] As standard composition the latter is presumably of constituents that remain differentiated and discrete in making up a plural whole, an entity that emerges through the mutual contributions of ontically prior parts *qua* differentiated parts. That is, the external differentiation, discreteness, or otherness—as "'thing' and 'thing'"—of the parts from each other is as much a contribution to or a determinate of the essence of this type of plural composite as is the internal essences of the parts. The further insight urged herein is that a differentiation/discreteness of parts *qua* parts of a whole (a standard composite) mutually implies the existence of at least some parts being unifying ontic predicates among other parts of the whole. Scotus would seem to intimate this thesis when he says that "[ontically predicable] form is more principally that by which something is a [proper] composite than the matter is, so it is more principally that by which a composite is one."[30][my inserts] Succinctly, the point I would urge is that discreteness of parts requires a constituent combinator to bridge the ontic gap between them, and conversely, the absence of this unifier among yet distinguishable parts marks a non-standard composite. Prior to this insight and using Scotus' analytic tool of identity, in describing a whole of discrete parts it makes no sense to speak either of identity between the parts, or of the parts melded into identity in the whole. In contrast, Scotus asserts that the "less proper" composition between an intension and an individuator has these two "realities" as "*quasi per se* parts",[31] in the sense that it "includes both of them through an identity." According to Scotus this identity is not between the nature or intension and the individuating difference, but

between them and the including whole. Now, for this to be coherent the identity here can only be between each of these aspects and their respective distinct portion of what, as simple, is nevertheless a non-differentiated (non-divided) 'perfect' whole—what I have labeled above as a continuous composite. Here as with all composite wholes the constituents are ontically simultaneous with the whole, but unlike with articulated composites where the whole emerges from components connected or organized by one or more constituent ontic predicates, in a continuous whole the constituents emerge as differentiated/discrete from the whole as the result of external abstraction—the formal distinction. The analogy here is perhaps of two different visual perspectives on a single object, the different content of each representing in a partial way what in itself is one and the same continuous entity. There are no internal demarcations or ontic gaps between what would otherwise be differentiated parts as they make up the whole, and because of this 'non-otherness' among the parts *qua* parts Scotus was lead to describe their union in the whole in terms of 'identity' (*idem* = same) in the sense that 'sameness' is synonymous with 'non-otherness'. As unbroken and continuous the intension/individuator whole can yet be heterogeneous in having internal distinctions—non-identical constituents—as, say, among the colors in the above given example disk that continuously change from red to green across its surface. Though Scotus asserts it in a different context with a different sense, he would have its analog apply here: "[In some wholes] the distinguished [i.e., non-identical constituents] need not be absolutely diverse [discrete as parts]."[32][my inserts]

Nominalists, by contrast, reject the coherence of the very concept of a continuous composite, and, with the rejection of repeatable intensions under their defining thesis that every entity whatsoever is individual, are not theoretically pressured to posit such composites, or so they think. A nominalist can hold without apparent contradiction, and indeed must hold, the thesis that it is possible to make a cognitive distinction differentiating the particularity and qualitative content of a particular x and yet this differentiation of aspects correspond to no distinction intrinsic to x. That is, a viable nominalism must recognize an atomic ontic level of at least minimally thick particulars—particulars with some qualitative content— that yet have no composition *in re*. The view is explicit in Campbell's defense of nominalistic trope theory: "To avoid such elements [bare or 'thin' particulars], we must deny that in the ontic structure of an individual

is to be found any non-qualitative element."[33] Campbell states elsewhere: "We must construct an ontology which does not accord the particularizing role to one sort of being, while attributing sortedness (quality) to another. We require one item with both roles."[34] These atomic items—tropes—do not simply have natures or intensional contents, they are each a particularized nature but without a duality of being.[35] They are necessarily so in order to found the Resemblance^2 relation among some tropes and not others, and so in turn account for the fact that some tropes and not others are non-arbitrarily 'of the same kind'. The founded Resemblance^2 relation, e.g., as in the fact :Resemblance^2(Red^1_i, Red^1_j), is held to eliminate the need to posit with the realists a numerically identical characterizing constituent in each of the resembling tropes, e.g., Red^1 numerically the same in both Red^1_i and Red^1_j.[36]

Supporting the nominalists' necessary rejection of continuous composites is their appeal to both the pre-critical intuitiveness of the contradictory to Scotus' position that the distinguished do not have to be absolutely diverse or discrete, as well as the putative explanatory success of a nominalist ontology without continuous composites. Important here because of their explicit attention to the first claim are the medieval Scholastics Ockham and Suarez, Ockham a conceptual nominalist and Suarez a resemblance ('similarity') nominalist in the manner of Campbell.[37] For example, against Scotus' analysis Ockham assets that "In creatures there can never be any distinction outside the mind unless there are distinct things; if, therefore, there is any distinction between the natures and the difference, it is necessary that they really be distinct things."[38] And, "Therefore, one should grant that in created things there is no such thing as a formal distinction. All things which are distinct in creatures are really distinct and, therefore, different things."[39] Later and also in the context of criticizing Scotus, Suarez likewise asserts the contradictory of Scotus' thesis. He states, "All objects which we conceive as two entities are either really the same or are really other. If they are really other they are really distinct"[40], where by 'really distinct' he understands differentiated and discrete as "thing and thing"[41], as "two altogether separate things or entities"[42]. Succinctly then, what Ockham and Suarez are asserting is that any real distinction, any non-identity, internal to a single (created) entity x implies x is a plural entity of discrete parts. This implies on the extended analysis herein that to be composite at all is to be an articulated composite or complex in the above precise sense. But even

prior to this explication it implies that the individuating and qualitative aspects of a particular x cannot be distinct (non-identical) in x, for otherwise they would be differentiated and discrete in x and so requiring, on the one hand, the individuator be a bogus bare particular, and on the other and violating nominalist doctrine, that the intension be repeatable, i.e., a universal, since if it were unrepeatable x would have two individuators and hence be two particulars and not one. To the contrary, this latter observation together with the demonstration below that the individuator and qualitative aspects of an ontic predicate cannot be identical will be used to demonstrate the necessity of universals.

The fact that for a nominalist every composite whatsoever is a complex does not mean that the latter would have been defined by the above referenced nominalists (and on the argument below could consistently be defined by any nominalist) in the manner given in the introduction—as networks of entities linked by polyadic and thus interposing relations (even if the relations are treated as individuated attributes or tropes). Such a description was unavailable to Ockham and Suarez, and indeed to most Western philosophers up until recent times. The common assay of entities of yet discrete parts in the influential Aristotelian/Scholastic tradition specified that a single constituent be *in act* as a unifier, i.e., as a combinatorial *agent*, relative to the other constituents (patients) that are *in potency* to its agency (*Meta*. 1045a20-25, b16-21), what was identified as either a single substantial or accidental *form*.[43] As Aristotle rightly observed and the tradition concurred, an articulated whole, e.g., a syllable, flesh, a house, a property qualifying a subject, must have, in order to avoid Bradley's vicious regress, a constituent whose ontic role relative to the whole is other than that of just another element to be unified (*Meta*. 1041a6-b33, 1043b5-14; also see 1045a7-19, 1040b7-10). This constituent must have the nature of a *cause* or *principle* of the unity among the other elements relative to the whole—it must be an *agent unifier* interconnecting the other separated as differentiated elements. Significant however as a source of error, the form when unifying multiple subjects (e.g., secondary matter, as say bodily organs or parts of an artifact) was *never* conceived as a polyadic relation, this witnessed by the fact that forms were always monadic in intension (e.g., Man, House).[44] Though the act/potency account of articulated composites given by Aristotle was in a context where a modern would acknowledge real and interposing polyadic relations, for Aristotle and most of the tradition polyadic relations were

considered necessarily reducible to monadic properties of their relata, this reduction strategy pursued recently by Campbell.[45] Indeed, the distorted Aristotelian act/potency account is precisely the analytic residue of what is the agent-unifier (combinatorial) nature of relations erroneously reduced to single-subject properties of their relata. Specifically, a dyadic causal relation is taken as equivalent jointly to a monadic property of actuality in an agent correlative with a monadic property of potency in a patient. Telling of the error here is the necessity of using 'correlative' or synonymous terms which shows that there is no elimination of cross-subject linking, and for this to be non-arbitrary it cannot be a 'bare linking' and therefore it must be controlled by a polyadic intension. More on this below. The monadic reduction of relations was abetted by the equally insidious and classic containment or inherence model of ontic predication, where a subject is conceived as 'containing' its properties analogous to a jar holding its contents (e.g., Aristotle, *Meta*. 1023a7-16; *Cate*. 15b16-30). The model is plausible if ontic prediction is in every case (in every fact) the qualification of only a single subject, i.e., facts of the form :$P^1(a)$, *and* if what is indeed an inert non-unifying (non-predicable) intension P^1 is confusedly identified with the subsuming unifying predicate $P^1(x)$, for then there is no compelling reason why intension 'ontic predicate' P^1 is any more a unifier for fact :$P^1(a)$ than subject *a* would be. Further, given the maxim that 'Unity is by the (shared or common) unit or one', and the fact that multiple properties are unified together as they characterize a single subject *a*, it is easy to mistake this for proving that *a* is the cause of the unity with each of its properties (like a jar holding multiple stones). The temptation to error in this way is removed when multi-subject polyadic relations are recognized as real and irreducible, for in a relational fact :$R^n(a_1, a_2, \ldots, a_n)$ it is obvious that the polyadic predicate is what is the single 'common unit' among multiple subjects, and so by the maxim must be the cause of the unity effecting the fact. The *locus classicus* for demonstrating the irreducibility of polyadic relations to monadic properties is Bertrand Russell's arguments in *The Principles of Mathematics* (1903)[46], though the full ontological significance of the unreduced inter-relata linking nature of polyadic ontic predicates has yet to be generally appreciated.

Now immediately relevant and telling is the fact that, historically, the agent-unifier nature of ontic predicates was recognized in the limiting case of properties, and, ironically, even by Scholastic nominalists, e.g., Suarez and John Buridan, as forming with its concomitant intension what is

termed here a continuous composite. The two aspects were held to exist virtually and to be distinguished only formally by what was variously called a *distinctio rationis ratiocinatae* (a 'distinction of the reasoned reason'), a *distinctio ex natura rei* (a 'distinction from the nature of the case'), or a 'modal distinction'.[47] A modal distinction exits between an entity and its mode, a principal example given being between a property and its *mode of inherence* in a subject. The mode of inherence of a monadic attribute is its agent-unifier aspect as distinguished from its delimiting intension, and what provides the union of the latter with a subject characterized by the attribute. Buridan calls the causal means of inherence of a unit property a 'disposition', and asserts that "Concerning the whiteness and the stone I say that it is necessary that there be an added disposition so that the whiteness may inhere in the stone…", and that, on pain of Bradley's Regress, no further disposition is needed to connect the first disposition to the stone and the instance of whiteness.[48] Further, Buridan maintains that, though subjects and their properties (which he treats as particulars) can exist apart, not even God can separate the inherence disposition of a predicable property from the property (i.e., intension), for otherwise Bradley's Regress would result.[49] More developed in Suarez, he asserts, "In quantity, for example, that inheres in a substance, two aspects may be considered: one is the entity of the quantity itself [the intension itself], the other is the union or actual inherence of this quantity in the substance."[50][my insert] According to Suarez, here *a particular case* of inherence is a mode of the quantity, i.e., the *union* itself of a property (intension) with its subject is *unrepeatable*, a consequential insight to be developed below. The distinction is "in the real order" but "less than a real distinction", i.e., one "not so great as the distinction between two altogether separate things."[51] That this union between an entity and its mode is very similar to that of a continuous composite as characterized above is evident for Suarez's description: "A mode is not, properly, a thing or entity. Its imperfection is clearly brought out by the fact that it must invariably be affixed to something else to which it is *per se* and directly joined without the medium of another mode, as, for instance, sitting is joined to the sitter, union of the things united, and so of other cases…"[52] Specifically, then, for a property intension and its 'mode of inherence' in (i.e., its ontic predicability of) a subject, they are distinct but 'directly joined without the medium of another mode', i.e., without a further mode of what would be here at least a dyadic (relational) 'inherence'. Suarez also at least implies that if it were otherwise then

Bradley's Regress would result.[53] As 'directly joined' the two aspects are seamless and without ontic gap in the manner of a continuous composite, which stands in contrast to their being a composite of 'really distinct' constituents requiring as such a gap-bridging 'medium of another mode', i.e., an ontic predicate, what results in an articulated composite as defined above. In sum, the important thesis advanced by both Buridan and Suarez is that there are *two types of union involved in ontic predication*: one is the internal union between an intension and its unifying agency ('disposition' or 'mode of inherence') that is 'so tight' as to compose a single undifferentiated entity (i.e., an ontic predicate), and the other is the external union between the latter composite and a subject that is thus characterized/qualified, what jointly form a plural differentiated composite that is a fact. And, in forming such a monadic fact :$P^1(a)$ (the only type then recognized), if the former union is confused with the latter, then the mode of inherence is taken as discrete from intension P^1 just as these two jointly are discrete from subject a, and this requires that the mode of inherence be either a dyadic unifier having P^1 and a as subjects, or that it be a predicably inert subject similar in ontic status in the fact to subject a and requiring a further mode of inherence for P^1 to join itself to the first mode of inherence. With polyadic unifiers disallowed, Buridan and Suarez were left to observe that confusing these two types of union precipitates a vicious regress of further and further presupposed (monadic) modes of inherence. The issues at play here will be made more transparent below.

III. The Nature of Ontic Predicates

The above historical survey has tied the existence and nature of continuous composites to both the problem of individuation and the nature of ontic predication. This is no accident, as we shall now see. For, ontic predication properly understood is an *intension-determined unifying agency*, and it is the combinatorial act here that is for ontology a *principium individuationis*, while in composing an ontic predicate the union between a specifying intension and its concomitant unification to and among subjects is that of a simple continuous composite. An ontic predicate is simple in the straightforward sense of having no internal divisions as evidenced by the absence of constituent agent unifiers, the latter otherwise correlative with plural composition and so internal differentiation.

There are, I shall argue, three principles that explicate the intension-relevant unity that is ontic predication. When generalized to predicates of any number of subjects these principles are as follows:

Principle I:
Constitutive of every fact $:R^n(a_1,a_2,\ldots,a_n)$, for $n \geq 1$, is an ontic predicate, $R^n(x_1,x_2,\ldots,x_n)$, that is the agent/cause of the characterizing predicable unity of itself with its relata, $a_1, a_2,\ldots, a_n$, a unification whose type is to result in a fact, as opposed to a list, set, or mereological sum.

Principle II:
Every ontic predicate $R^n(x_1,x_2,\ldots,x_n)$ has as a constituent an intension R^n whose ontic role is that of delimiting or determining non-arbitrarily the possible n-tuples of relata, $<a_1,a_2,\ldots,a_n>$, that predicate $R^n(x_1, x_2,\ldots, x_n)$ can unify into a fact, but the intension of itself has no causal agency whatsoever as a unifier (it is 'predicably inert' or 'substance-like').

Principle III:
In addition to and distinct from intension R^n, there is constitutive of ontic predicate $R^n(x_1,x_2,\ldots,x_n)$ its actual mode of union, its combinatorial or linking agency, among and to its subjects. The linking aspect of predicate $R^n(x_1,x_2,\ldots,x_n)$ is itself not a further intension in addition to R^n, but a *causal act of unification* that is 'joined' with intension R^n that controls its effects. This joining is the unity of a *continuous composite*, i.e., a union of two distinct entities without the agency of a further interposing ontic predicate or act of unification. Moreover, the unifying act of an ontic predicate is unrepeatable and particular, rendering the containing predicate an individual, i.e., a unit attribute.

The analysis that yields these principles starts first in broadest terms with the fact that a given of our experience is the existence of a myriad of structured wholes—articulated composites—each as such having constituents in one or more *types* or *kinds* of inter-connectedness or organization, e.g., cognitive, physical/mechanical, and social structures. In such complexes, entities *and their mutual qualitative connections ('orderings', relationships, arrangements)* jointly contribute to the

existence and nature (specific essence) of the whole. That is, the being of a structure, whether, say, as a dynamic physical system (e.g., an operating engine) or a static formal one (e.g., the Natural Number System), is a function of the mutual qualitative co-relevance of both the intension contents of the constituent unifying relationships and the compatible natures of their respective subjects, and as the former orders the latter. The simplest such or atomic structured whole would be one instance of one kind of intensioned connection or unification among one *n*-tuple of other constituents. This is a fact or state of affairs, $:R^n(a_1,a_2,\ldots,a_n)$, e.g., $:Red^1(a)$, $:Contiguous\text{-}with^2(b,c)$, $:Owes^3(d,e,f)$ (as in '*d* owes *e* to *f*'), whose arrangement-kind is intension R^n, in the examples, respectively, Red^1, $Contiguous^2$, Owe^3. Here the subjects, a_1, $a_2,\ldots$, a_n, are linked and ordered (if any) into a resultant fact $:R^n(a_1,a_2,\ldots,a_n)$ according to intension R^n, though, on the analysis below, not *by* the intension R^n.

In particular and observed at least as far back as Aristotle (though misconstrued in terms of forms), it is the *prima facie* nature of a polyadic relation that it have the role of a *cause* or *principle*—*an agent*—of the unity of itself with its relata in forming a fact, and by extrapolation a role likewise but less obvious for the limiting case of a monadic property in its fact. To sharpen this intuition, and to prepare for a reply to a previous challenge, consider first causality in general. An agent/cause is so characterized because it 'brings about', is 'responsible for', or 'produces', the existence and nature of a further and distinct reality beyond (non-identical with) itself—the effect. Other entities or 'patients' (e.g., subject relata) may be needed for the effect (e.g., a structured, intension/essence-dependent unification among relata) but their existences and natures independent of the cause are insufficient for the reality of the effect. This is what is meant by an entity having causal 'power': an agent/cause can 'go beyond itself'—in what is a causal 'act'—and be both a sufficient condition for the existence of, and a conditioning or specifying of the nature of—the qualitative content of—a separate reality. In a temporally neutral sense a cause *qua* cause 'goes beyond itself' to produce something different from itself. This is so whether the act is, for example, a single temporal event or an atemporal state as in the unity of a necessary fact (e.g., $:Prime\text{-}divisor\text{-}of^2(3,6)$). A moving billiard ball as cause effects by an act of collision (in the act itself it is a cause in the proper sense) the wholly new reality of the specific motion of a struck billiard ball. In contrast, the 'going beyond itself' nature of a causal agent is absent in the

Humean reduction that treats physical causation as mere temporal succession, or causation in general as mere conjunction. A world of radically isolated and other-indifferent/mutually-irrelevant entities, other than being at most temporally juxtaposed (which itself is a relational structure), is contrary to the pervasive given of our experience that involves the productive nature of causation. More particularly and a key point herein, all relatedness, whether physical or 'metaphysical', involves causation in that all relations as ontic predicates 'go beyond themselves' to form trans-subject unifications, and a Humean universe devoid of causation is a universe without relatedness, which is counter-factual. That motion M_1 is the cause of motion M_2, i.e., that there is a fact :Efficient-cause-of^2(M_1,M_2), is not reducible to the set {M_1,M_2} which lacks any ordering structure, or even to the temporal fact :Precedes^2(M_1,M_2), since in the latter the relation Precedes^2 involves an unreduced causation of its own, as detailed presently. The Humean analysis has the plausibility that it does only in a tradition that reduces relations to properties whose causal nature (as unifying themselves to their subjects) is least obvious.

Consider now specifically what is the necessity and nature of a unifying cause of a plural whole. Just the existence of each of multiple entities is not sufficient for the existence of a whole containing them, contrary to, say, mereological universalism. For, if it were otherwise, since all entities are equal in their status as existents there would be only one whole—the universal whole W—containing everything that exists. Any sub-whole must require something other than just the existences of its elements to differentiate it from W, and hence this something would have to be such as to limit the elements to just those making up the non-global whole. Because extensional existence is not enough to provide it, a whole limited to just certain elements would have to be by other means—what is both a cause of unification among and a delimiting of the union to just these elements. The alternatives are unions by means either a) external to and independent of the qualitative natures of these elements, or b), to the contrary, materially relevant to and so correlative with the internal essences of the elements. In either case, a unifying/delimiting something must 'go beyond itself' in order to link via itself each and all of just the contained constituents. Under a) wholes are the result of arbitrary grouping indifferent to the natures of the grouped entities, what must presuppose as such the free selections and associations (willed or not) of a mind. Here the whole would be either an actual conceptual entity

proprietary to a particular mind, i.e., particular lists, sets, or mereological sums, or the 'Platonic projections' from such: the posited possibilia implied by a formalized theory idealizing the results of these cognitive operations while abstracting away their conceptual origins and extrapolating beyond human limitations, i.e., the entire theoretical realms of such extensional entities implied by set theory and mereology (e.g., see Philip Kitcher[54]). (One might recall here Cantor's appeal to the mind of God to guarantee the realm of infinite sets.[55]) In contrast, under b) a whole exists by a limitation intensionally determined and so internally relevant to the natures of just these entities taken jointly. That is, here there is a particular union controlled in its extent by a specific intension that is qualitatively relevant to the elements mutually and not just singly, and in a way that delimits this relevance to exactly this number of elements. Intuitively, this is precisely the categorical nature of polyadic ontic predicates, i.e., relations-as-they-exist-in-facts, facts being the basic structures of the world, both extra-conceptual and conceptual. For example, in the fact :Prime-divisor-of^2(3,6), the intension Prime-divisor^2 specifies by its very content exactly two relata per its fact-forming role, and where the natures of relata 3 and 6 are mutually pertinent to the intension Prime-divisor^2 only as they are paired, and indeed ordered as paired. It is plausible that even the extensional wholes of type a) above exist via cognitive relations of a limiting type that have specific intensions, e.g., Associated-by-mind-m^2, which are indifferent to the qualitative natures of their relata, as in fact :Associated-by-mind-m^2(cabbage a,square root of 2), again this indifference being a sign of their cognitive status. For the same reason, this cognitive status would also extend to 'trivially essential properties' like Being-colored-if-red or Being-odd-if-identical-to-3 discussed in the context of bare particulars and where the latter in having such properties supposedly signals an unobserved subtly in their characterization as 'bare of properties'. Having a conceptual reality only, with no existence *in re*, these properties tell us nothing about the nature of bare particulars nor somehow make their existence palatable.

In general and fundamentally, it is the intuitive nature of relations that in facts they are trans-subject unifiers—they *act-to-unify* their relata. Even the Aristotelian/Scholastic tradition hostile to polyadic relations observed their causal character in 'going beyond themselves' by classifying them as having uniquely an *esse ad*, or 'being toward' quality, what implies equally a character of being 'toward something' (*ad aliquid*).

The two together imply a completed 'bridging' between related subjects, the basis for the medievals characterizing a relation as an 'interval' (*intervallum*).[56] Indeed, it seems plausible that the interval nature of a relation as an ontic predicate and among discrete relata implies a holding-apart of its subjects even as it holds them linked (together-at-a-distance), on the analogy of a rigid connecting rod, and what is essential to characterizing the resultant as an articulated composite. In this polyadic predicates would not only mark, but also enforce an ontic division between their relata in jointly forming the factual whole. The idea here is that there is no plurality of entities without a discreteness enforced by interposing relations, as there is equally no multi-subject relations without a plurality of discrete relata to be joined. Without multi-subject relations articulated wholes would at best collapse into continuous simples. At any rate, a principle point herein is that a composite free of such internal intermediaries and hence of the divisions they mark is *simple* in a proper sense. Now, as predicable it is a relation's correlative agent-unifier and bridging roles in a fact that Russell, in response to Bradley, characterized as 'actually relating', and what Bradley termed, respectively, a relation's being a 'together' and a 'between'.[57] Bradley thought these two characteristics were jointly impossible because a relation as a 'between' has no unifying agency and so cannot be a 'together', what is purportedly highlighted by the regress argument that bears his name and that we shall consider below. It is the joint combinatorial and interposing roles among relata that is meant by referring to a relation as an 'ontic predicate', what is symbolized here in general form as '$R^n(x_1, x_2, \ldots, x_n)$'. Given relations thus properly defined, *they can occur only in facts*, :$R^n(a_1, a_2, \ldots, a_n)$, in that they presuppose elements to be unified/bridged, i.e., a subject *n*-tuple $\langle a_1, a_2, \ldots, a_n \rangle$. Unification presupposes as mutually dependent both unifier and unified. This causal nature of a relation as its occurs in a fact is reinforced by the correlative classic and extensional maxim that: All unity is by the shared unit or one.[58] In a fact with a polyadic relation, e.g., :$Owes^3(d, e, f)$, it is obvious that what is 'shared across' the other constituents as their common 'unifying thread' is the relation—subjects *d*, *e*, and *f* jointly share the relation having intension Owe^3.

It is additional evidence of the causal-agent nature of ontic predicates that they are in themselves incomplete in a way that makes them ontically dependent on other entities. This is precisely the character a causal unifier would have to have in 'going beyond itself' to effect a whole of which it is

the unity-contributing constituent.   Specifically in regard to a causal unifier, its 'going beyond itself' involves an effected whole of both entities linked ('patients') and the linking agency aspect of the unifier. If in being aware of the whole one abstracts away the entities linked the cognitive remainder is the unifier with its act of unification, what in itself is incomplete and requiring something else in order to exist, viz., the things that it acts upon to unify. That is, to cognitively focus via abstraction just on the ontic predicate $R^n(x_1, x_2, \ldots, x_n)$ of a fact $:R^n(a_1, a_2, \ldots, a_n)$, as such ignoring the fact's particular subjects, a_1, $a_2, \ldots$, a_n, but continuing in the recognition of an agent and its agency that is their unification, is to focus on an entity in itself incomplete as to the conditions for its existence. An analogy would be that in regard to the whole that is an act of hand-clapping (strike and recoil), to abstractly focus on the motion of just one hand is to have something essentially incomplete, what is in need of the motion of the other hand in order to constitute the whole on which its existence depends—there is no clapping without two hands. Further and relevant to **Principle II**, to then abstract away and ignore the linking aspect of ontic predicate $R^n(x_1, x_2, \ldots, x_n)$ is to arrive at the analytic residue of the non-predicable intension R^n. The incompleteness peculiar to ontic predicates has been referenced in the literature as Fregean 'unsaturatedness'[59], Seargent/Armstrong '*ways* that things are'[60], and in part by what the Scholastics meant in recognizing an accident as having a type of being that is being-in-another (*ens in alio*), what they further understood as a defective reality relative to a subject substance whose being is being-in-itself (*ens per se*), the latter held necessary to support the former. I have argued elsewhere[61] that, contrary to the latter Scholastic view which continues to be prevalent today, incomplete ontic predicates (as relation instances) can have as subject relata—be 'completed' by—other incomplete ontic predicates (as relation instances), and this pervasively at some atomic ontic level, what, for example, is apparently needed in an ontology for quantum physics. The mutual completing/support of incomplete/dependent ontic predicates nullifies a supposed vicious regress based upon the false assumption that ultimately incomplete entities must be sustained by a category of substances each with a 'full and complete' self-sustaining reality. It is evidence that the incompleteness of an ontic predicate stems from the predicate's ontically positive 'activity', i.e., its unifying causality, and so derives from a power representing a richness rather than a deficit of being (see Plato's *Sophist* 247e), as such not requiring it be parasitic upon and sharing in some other type of entity

whose 'quantity of being' reaches a threshold of self-sustaining completeness (*ens per se*). Though anomalous to their Aristotelian substance/attribute ontology, the view is in effect the conclusion the Scholastics arrived at in analyzing the Trinity in terms of pure relatedness—each Person a relation between the other two, yet necessarily each Relation without a deficiency of being.

Further in support of **Principle I**, and pivotal to the import of Bradley's Regress argument, is the observation that a fact, $:R^n(a_1,a_2,\ldots,a_n)$, e.g., $:Loves^2(a,b)$, is not identical with an extensional whole, e.g., a list, set, or mereological sum, made up of the very same constituents, say, set $\{R^n(x_1,x_2,\ldots,x_n),a_1,a_2,\ldots,a_n\}$, e.g., $\{Loves^2(x_1,x_2),a,b\}$. First, a fact whose ontic predicate has a contingent intension R^n, e.g., $Love^2$, can come into and go out of existence, or never exist at all, independent of the arbitrarily generated existence of the corresponding list and certainly of the corresponding set that is held to exist atemporally 'always'. Further, with certain polyadic relations, e.g., asymmetric and non-symmetric relations, their intensions, R^n, e.g., $Love^2$ or $Prime\text{-}divisor^2$, determine an order among the remaining constituents of a fact, but there is no ordering in the corresponding sets or sums. For example, if both facts obtain for $a \neq b$, then $:Loves^2(a,b) \neq :Loves^2(b,a)$, though $\{Loves^2(x_1,x_2),a,b\} = \{Loves^2(x_1,x_2),b,a\}$. Finally but most relevant, a fact contains information about the subject relata, a_1, $a_2,\ldots,$ a_n, singly and collectively, that the corresponding list, set, or sum does not, viz., that the subject(s) are characterized by the ontic predicate, and in particular when the latter is a polyadic relation that it *jointly* characterizes the subjects. Fact $:Loves(a,b)$ carries the information that *a* loves *b*, whereas the set $\{Loves^2(x_1,x_2),a,b\}$ does not. So, for every fact $:R^n(a_1,a_2,\ldots,a_n)$ we have a corresponding set with exactly the same constituents, $\{R^n(x_1, x_2,\ldots, x_n),a_1,a_2,\ldots,a_n\}$, but where in the set the togetherness of its particular elements is not a function of their essences or any qualitative aspects of them, but requires only their existences, and the cause of their togetherness is not a constituent of the whole but rather is an arbitrary association ignored in abstraction.

Now relevant to Bradley's Regress argument, for any set $\{R^n(x_1, x_2,\ldots, x_n),b_1,b_2,\ldots,b_n\}$, constituent ontic predicate $R^n(x_1,x_2,\ldots,x_n)$ presupposes for its existence an *n*-tuple of relata that it is agent-combinator for, perhaps even $<b_1,b_2,\ldots,b_n>$ whose constituents are elements of the set. However, the unity of the whole that is the set is itself not the unity

effected by predicate $R^n(x_1,x_2,\ldots,x_n)$ on $\langle b_1,b_2,\ldots,b_n\rangle$, for otherwise the resultant whole would not be the set, but rather fact $:R^n(b_1,b_2,\ldots,b_n)$. And obviously, the unity that is the set's is not that effected by ontic predicate $R^n(x_1,x_2,\ldots,x_n)$ among some other set of relata. Thus, predicate $R^n(x_1,x_2,\ldots,x_n)$ does not have the role of agent unifier for set $\{R^n(x_1,x_2,\ldots,x_n),b_1,b_2,\ldots,b_n\}$. Yet and importantly, this does not mean that $R^n(x_1, x_2,\ldots, x_n)$ does not have this role, and hence the nature of an agent-unifier, in some other whole, i.e., in some fact $:R^n(a_1,a_2,\ldots,a_n)$, and even in a fact $:R^n(b_1,b_2,\ldots,b_n)$. Now, Bradley's Regress proceeds on the contrary assumption: that in comparing fact $:R^n(a_1,a_2,\ldots,a_n)$ with corresponding set $\{R^n(x_1,x_2,\ldots,x_n),a_1,a_2,\ldots,a_n\}$, since both wholes have exactly the same constituents and *ontic predicate $R^n(x_1,x_2,\ldots,x_n)$ is not the cause of the unity of the set, then predicate $R^n(x_1,x_2,\ldots,x_n)$ is not the cause of the unity of the fact*. Consequently, since the fact $:R^n(a_1,a_2,\ldots,a_n)$ requires some constituent unifier, on the assumption that this unifier is a further and implicit relation with intension R'^{n+1}, it is the case that $:R^n(a_1,a_2,\ldots,a_n) = :R'^{n+1}(R^n(x_1,x_2,\ldots,x_n),a_1,a_2,\ldots,a_n)$. But of course, the same analysis applies to the latter fact, and so on to vicious infinite regress. The alternative is to take the requisite unifier to be intensionless or devoid of qualitative content—a 'bare linking', what philosophers have adopted as a response to the regress under the terms 'non-relational tie' or 'nexus'. I shall rehearse below the incoherence of such a concept. Crucially, what motivates the error leading to either fork, and what brings us to **Principle II**, is the failure to differentiate a non-unifying (non-combinatorial, 'non-predicable') intension R^n, e.g., Love^2, with any subsuming unifying ontic predicate $R^n(x_1,x_2,\ldots,x_n)$, e.g., Loves$^2(x_1,x_2)$. An abstracted intension in itself is non-combinatorial in any context—it is causally inert—and if it is identified with the ontic predicate in a fact, then some other constituent of the fact must be found to unify the then 'predicate' (but not 'predicable') intension with the other subjects. This is the road to perdition. However, as we shall see, the prospect of Bradley's Regress returns at the sub-ontic-predicate level in assessing the union between a composing intension R^n and a predicable agency, and it is at this point that we see the rationale for composite simples.

Turning now to the warrant for **Principle II**, consider first that though any arbitrary entities whatsoever are said to form a set or sum, only certain limited combinations of ontic predicates and subject n-tuples form a fact. This is so because the unity of a fact depends upon the non-arbitrary

match or content-determined mutual relevance or qualitative agreement between the predicate's specific intension R^n and the determinate natures of (and order among, if any) the entities in the n-tuple. The dyadic predicate expressed, for example, by 'is a father of', i.e., Father-of^2(x_1,x_2), delimits as its extension pairs including <Philip II,Alexander the Great>, but not <4,5> or <Apple a,Orange b>. It is the intension that sorts ontic predicates into contraries and contradictories, and specifies the formal properties of polyadic relations, e.g., the ordering among relata for asymmetric and non-symmetric relations, or their transitivity or not across relata. The same point is established in the negative: if an ontic predicate has no qualitative constituent or intension determining/delimiting the range and ordering of its unifying causation, then it would be a 'bare unifier', analogous to and as illegitimate as a 'bare particular'.[62] An intensionless unifier would be absolutely uncontrolled and without limitation in its agency, both locally in the sense of allowing anything to be unified to anything else, and globally in requiring either nothing or absolutely everything be unifying at once—total reality—without differentiation into any sub-wholes of sets, facts, or complexes. Not only do ordered wholes, e.g., the spatial system that is the fact :Taller-than^2(a,b), go unaccounted for, but there is no reason why contrary (e.g., Green and Red) or contradictory (e.g., Transparent and Opaque) properties cannot be arbitrarily tied to the same subject, and this is contradictory to the nature of ontic predication.

Further and ontologically crucial is the point that intensions are in themselves non-combinatorial and so are not identical with their subsuming combinatorial predicates. This is seen most clearly in the fact that intensions exist for which there are no corresponding ontic predicates and so facts, e.g., Unicorn^1, Phlogiston^1, or the intensions Spouse^2 or Employer^2 in a world reduced to one extant human that retained the latter as abstractions. Likewise, intensions like Orbiting^2, One-meter-apart^2, and Gravitational-attraction^2 would exist in a possible universe where all physical/spatial entities are annihilated except one suitably reduced or primitive, but where a single intellect remained retaining the intensions as abstractions. In these examples the intension is in itself either a free creation of a mind or the result of an abstractive act with an existence as separated dependent upon that of a distilling and retaining mind, there being no extant agent ontic predicate of which it is the conditioning content. The processes of abstraction from fact to contained agent ontic

predicate, and from the latter to contained agentless intension, are marked by variations on words and phrases in English. We can abstract from a state of affairs or fact, e.g., :$Red^1(a)$, :$Loves^2(b,c)$, :$Father\text{-}of^2(e,f)$, or :$Similar\text{-}to^2(g,h)$, expressed respectively by 'a is red', 'b loves c', 'e is the father of f', and 'g is similar to h', intensions expressed by abstract nouns, e.g., 'red' or 'redness', 'love', 'fatherhood' and 'similarity', that have in themselves no combinatorial nuance or 'mode' in the Scholastic sense, and that stand in contrast to the intermediate abstractions of ontic predicates proper, e.g., $Red^1(x_1)$, $Loves^2(x_1,x_2)$, $Father\text{-}of^2(x_1,x_2)$, and $Similar\text{-}to^2(x_1,x_2)$, expressed in the verb phrases, respectively, as 'is red', 'is in love with', 'is a father of', and 'is similar to'. In addition, the non-predicable nature of intensions is seen from the fact that they do not have the kind of dependence/incompleteness that their subsuming ontic predicates have. Succinctly, this 'substance-like' independence is the prerequisite factual basis for all of the following: the erroneous inference from intensions to Platonic hypostatized Forms; the erroneous assay of ontic predication (corrected herein) as an (inert) intension being a subject, along with the entity(ies) it qualifies, of an (agent) exemplification tie; the initial plausibility of Bradley's Regress; and Russell's correct but undeveloped distinction of contexts where relations 'actually relate' (i.e., are polyadic predicates) and where they do not (what would be the relation intension abstracted from its predicate). Moreover, it is the non-unifying, inert nature of intensions that renders trope theory deceptively plausible, where each trope is an individuated but non-predicable monadic intension. Revealing of its weakness, however, the theory must call upon predicable/combinatorial polyadic relations, and not just the dyadic relations of Compresence^2 and Resemblance^2. Even Campbell in advocating trope theory has maintained that, though Resemblance^2 is (purportedly) monadically reducible as an 'internal' relation, Compresence^2 presents a more difficult case involving at best the 'At^2' relation between a trope and its location which itself is irreducible to properties of its relata.[63] Also identified as irreducible by Campbell is the Referring^2 relation between a term (e.g., 'Paris') and the entity it names (e.g., Paris), and apparently in general any relation of correspondence between elements of a mental state (e.g., the cognitive content that is the 'meaning' of a declarative sentence) and what that state represents (e.g., a fact that is the truth-condition for the declarative sentence).[64] Irreducible relations imply unifying agency by polyadic predicates, though monadic tropes treated as speciously prototypical are not combinatorial/predicable

at all, an embarrassing duality for trope theory considering that we have here what is *prima facie* one category of entities—characterizing qualities—differentiated only by the number n of subjects that are jointly required for them to characterize (their n-adicity).

We now have **Principles I** and **II**, and from them follows important and particularly relevant **Principle III**. With **I** and **II** we know that ontic predicates are agent-unifiers among n-tuples of subjects and so jointly generate facts, but that the predicates' subsumed/constituent intensions that specify and delimit their linkings have no such agency. This implies that for each ontic predicate there is, in addition to its constituent intension, a non-identical remainder of constituent and intensionless unifying or combinatorial act. The combinatorial acts of ontic predicates are the 'ontoglial' (Greek: 'glue of being') essential to the unity of and marking the diversity in a plural universe. Like an intension relative to its ontic predicate, and indeed the predicate relative to its fact, the unifying act of an ontic predicate is recognized via a process of abstraction, but does not otherwise exist separated. Recall there are no 'bare linkings' without intensions, nor are there ontic predicates without subjects to unify. This now brings us to the principle thesis of the essay: The union between the combinatorial aspect, say unifying act U, and the ontically distinct intension aspect R^n of an ontic predicate $R^n(x_1,x_2,\ldots,x_n)$, the latter providing the intensional unity of some fact $:R^n(a_1,a_2,\ldots,a_n)$, is not a function of an agency of act U, or any other constituent unifier U′, whether U′ is itself an intensionless unifying act or an intensioned ontic predicate. When this is established we will have a composite—ontic predicate $R^n(x_1,x_2,\ldots,x_n)$— consisting of act U and intension R^n but without a constituent unifier, and in particular without a constituent unifier interposing and thus registering an internal differentiation between and so a discreteness of U and R^n. Hence, an ontic predicate is a composite but one 'tighter' than an articulated complex. All of this follows, first, from the fact that agency U cannot cause intension R^n to be linked to it, for otherwise intension R^n would have a status in the fact the same as subjects, $a_1, a_2,\ldots, a_n$, whose unity among themselves is likewise via U unifying itself to them. Here the intension R^n of the ontic predicate $R^n(x_1,x_2,\ldots,x_n)$ is stripped from its correlative unifying act U and then made to be a subject ('patient') of U so that $:R^n(a_1,a_2,\ldots,a_n) = :U(R^n,a_1,a_2,\ldots,a_n)$. What is illicit about the latter is not that it precipitates Bradley's Regress, for U is not a further intensioned relation, but rather that U must function as an intensionless unifier or pure

unifying act—a bare linking. And, as noted above, a bare linking has no intension in itself to control its agency and so the natures of its relata are indifferent to it, i.e., bare linking is the arbitrary linking of a list and is contrary to the union forming a fact. Nor could there be a further constituent unifier of the original fact so that $:R^n(a_1,a_2,…,a_n)$ = $:U'(U,R^n,a_1,a_2,…,a_n)$, for U′ would have to be itself either a bare linking, which is impossible, or alternately, an intensioned unifier, i.e., a predicable relation identical in this regard to $R^n(x_1,x_2,…,x_n)$ in the original fact, and this would effect a Bradley-type vicious regress. In sum, the non-identical but correlative aspects of intension R^n and unifying act U constituting an ontic predicate $R^n(x_1,x_2,…,x_n)$, as the latter is the constituent cause of the unity of a fact $:R^n(a_1,a_2,…,a_n)$, form a union without any constituent unifying agent and its agency. This is the unity of a continuous composite, and what makes it a 'tighter' unity than that of an articulated composite whose unity is via constituent agents and their agencies.

In addition to this result two further and significant consequences follow from the above analysis. First, that the agent-unifier/combinatorial-aspect of an ontic predicate $R^n(x_1,x_2,…,x_n)$ is unrepeatable follows in a simple way from the existence of ontic predicates with contingent intensions R^n, e.g., $Love^2$, $Above^2$, Owe^3. Assume to the contrary that the act of unification for facts, say, $:Loves^2(a,b)$ and $:Loves^2(c,d)$, for $<a,b> \neq <c,d>$, is, like the intension $Love^2$, repeatable and *numerically the same* in each. Then, if fact $:Loves^2(a,b)$ ceased to exist, i.e., the act of unification between a and b under intension $Love^2$ ceased to exist, then because it has numerically the same act of unification between c and d, fact $:Loves^2(c,d)$ would likewise cease to exist. This is, of course, counter-factual. It follows, then, that the combinatorial aspect of an ontic predicate is unrepeatable, i.e., individual, and so under what Armstrong calls the 'Victory of Particularity' principle the subsuming ontic predicate inherits this particularity. In short, ontic predicates $R^n(x_1,x_2,…,x_n)$ are unit attributes, what I have symbolized elsewhere succinctly as 'R^n_i', 'R^n_j', 'R^n_k',…, where the shared 'R^n' indicates a common intension content and the different subscripts indicates each instance's unrepeatability. In more explicit form, the example facts would be given as $:Loves^2_i(a,b)$ and $:Loves^2_j(c,d)$, and, for $<a,b> \neq <c,d>$, then $Loves^2_i \neq Loves^2_j$. The present argument corrects a thesis advanced independently by Michael Loux and E. J. Lowe[65] that individuation is via the instantiation of a repeatable substantial form posited as a type of entity specially endowed with the

power to individuate its instances. Observed here is that individuation is via the 'instantiation of any intension' in the sense of following from the predicable or agent-unifier role of relation instances of any kind. Relation instances (including limiting property instances) can in hierarchical fashion jointly account for the existence of all individuals (e.g., 'substances' as iterated complexes of complexes), and hence through them ontic predictability—unifying agency under an intension—is ontology's *principium individuationis*.[66] One of the great virtues of the above analysis and of subsequent relation instances, what gives further warrant to both, is this positive theory of individuation, the alternative to which is an explanatory vacuum in which must be simply posited specious bare particulars.

Secondly, we can now also make good on the promise of an argument for realism: intension or qualitative contents are numerically repeatable—identically the same content in multiple subjects—and thus are universals. This thesis was simply assumed above, *but none of the arguments given turn upon it*. And as noted, Campbell has held that a unit attribute conceived as a non-unifying trope can have a qualitative content abstractable from it and distinct in abstraction from the trope's unrepeatability, but that the trope itself has no internal distinctions. To the contrary and first, it was argued above that for a unit attribute R^n_i its aspects of intension R^n and combinatorial agency U are distinct in composing it for the obvious reason that the latter is a causal entity and the former is not. Now further, if R^n were unrepeatable or individual as is act U, then subsuming instance R^n_i would be composed of two distinct individuals. Then on the principle observed at the beginning of the essay that a whole composed of two or more individuals is internally differentiated/diverse, then some constituent must have the role of unifier among the others, whether this is U or some further implicit entity. But, we have seen the impossibility of these alternatives above. Therefore, intension R^n as a constituent of instance R^n_i is a repeatable entity—a universal.

IV. Results in Context and Replies to Critics

Let us now summarize the major ontological theses advanced herein and their place in the ongoing dialectic, including some attention to the issue of individuated ontic predicates versus bare particulars. First, an ontic

predicate now identified as a relation instance R^n_i is a composite continuous simple, whereas its constituent combinatorial act U is absolutely simple, as is its intension R^n in some (e.g., Red^1), if not in all cases. For any instance R^n_i its intension content R^n is *not* ontically predicable of its individuating combinatorial act U, rather the two only jointly as a continuous whole is so predicable of *n* further subjects. That is and contrary to the tradition, an intension R^n is *not* itself an ontic predicate, and it gives qualitative content to a subsuming ontic predicate R^n_i *not* by being predicable of it. Strictly speaking, to characterize an entity, say the number 3, is to be ontically predicable of it, as in :$Prime^1_i(3)$, but the intension $Prime^1$ of ontic predicate $Prime^1_i$ is not an ontic predicate of the latter, i.e., it is false to say that 'Instance $Prime^1_i$ is prime' since intension $Prime^1$ makes sense only relative to characterizing numbers, and not ontic-predicates/relation-instances. An intension R^n is once-removed from ontic predication. In this regard it is important to be clear on the subtle difference that makes all the difference between individuating combinatorial acts and their theoretical rivals of would-be bare particulars. First and the same for both, whether a particular is taken as individuated by a predicable act (what would be a relation instance) or by a bare particular (what would be an ordinary thick particular), an intension universal, e.g., Red^1, in conditioning that particular is not ontically predicable of its individuator. But contrasting the two, for a relation instance, say Red^1_i, the intension Red^1 conditions the correlative combinatorial act so that it is relevant to the nature of a type of subject, viz., entities that are red (and for some polyadic intensions they order their combinatorial acts as well as specify jointly possible relata, as such having relevance to certain *n*-tuples), whereas with a bare particular p_a the 'predication' of an intension Red^1 of its thick particular *a* reduces to Red^1 being 'tied-to' p_a in a way indifferent and irrelevant to the 'nature' of p_a, what is in effect arbitrary association. Now further, an ontic predicate R^n_i characterizes its *n* subjects *externally* as predicably attached to and among them, in contrast to the traditional inherence model of predication where the predicate's intension is itself the ontic predicate and as such is held to be internally constitutive of the nature of its subject, what as such is necessarily a monadic intension. Importantly, an instance R^n_i predicably attaches to its subjects conditioned on its intension R^n being 'mutually qualitatively compatible with' or 'co-relevant in quiddity ('whatness') with' the essences or natures of its subjects (as ordered if relevant), portions or aspects of the latter grounding or providing the foundation for this attachment. This is how an ontic

predicate, though external to its subjects, is non-arbitrarily 'true of' and carries information about—is 'telling of'—the internal essences of its subjects. This is a generalization and weakening of what is a specious though widely and implicitly held thesis restricted to monadic predicates, viz., the **Inherence Thesis (IT)**: In a monadic fact $:P^1_i(a)$, that portion of the being of subject a that grounds the predicable attachment to it of ontic predicate P^1_i is itself intension universal P^1. In other words, the universal intension aspect of every ontic predicate 'true of' a subject is a constituent of that subject. Here the essence- or nature-conditioned relevance under the weakened externalist assay becomes identity under the narrower internalist view, what is definitive of the inherence model of predication.

Now for those who adopt **IT** it can serve as a premise for arguments against bare particulars, and indeed I had assumed it implicitly in the past.[67] The arguments are built on the assumption that, in conformity to **IT**, an unrepeatable thick individual a is composed of repeatable universals that are constitutive of the ontic predicates characterizing a, along with an unrepeatable particular p_a distinct as such from all these universals but to which the latter are joined (e.g., by a Compresence^2 or Tied-to^2 relation) and which serves to account for the individuality of a. Now, the arguments against the coherence of p_a starts with the observation that it can have no constituent intensions whatsoever, because otherwise it would be itself a 'thick particular' in need of a further posited individuator, p_a', and so on. But then on **IT**, p_a can have no ontic predicates either, for otherwise their intensions would be constituents of it. On the premise that having no ontic predicates implies having no nature and so no being, then p_a evaporates into *no*thingness. Relatedly, p_a is indeed said to have necessarily ontic predicates, e.g., Unrepeatability^1_i, Simplicity^1_j, etc., but even these have repeatable intensions, e.g., Unrepeatability^1 is a universal, which by **IT** would have to be constitutive of p_a, a contradiction. So bare particular p_a dissipates into non-being, and it is in this sense that all bare particulars are 'identical'—all are absolutely mutually indistinguishable in their ontic vacuity.[68]

Though these arguments stand in full force against inherence theorists who adopt **IT**, because I reject it on the above analysis I must forgo them. The same analysis, however, shows by other means why bare particulars are untenable. The only way an advocate of posited bare particulars can hope to avoid the above conclusions is by adopting an

externalist assay of ontic predication argued herein. This is in effect the tack adopted recently by James Moreland and Timothy Pickavance in dividing ontic predication into two types of relations: the standard 'Rooted-in^2' relation (equivalent to the usual Exemplification^2 relation) between the properties of a thick particular a and a itself, and, at a lower level, the 'Tied-to^2' relation between the properties of a and its bare particular, p_a.[69] All such attempts are, however, doomed to failure. First, I simply note that ontic predication cannot be identified with any particular relation(s), for all relations (including monadic properties) of whatever intensions are all equally cases of ontic predication, and to otherwise make this reduction is to identify an aspect of every relation with the whole of a particular relation (or relations). The plausibility of this identification turns on the fact that the chosen relation(s) exercises that very aspect that was to be explained in all relations—a combinatorial act guided by an intension, i.e., ontic predication. In other words, the unsuccessful strategy here is to explicate something exhibited by every element in a class by identifying it with one of the exhibiting elements in the class, a form of vicious circularity. Now specifically in regard to Moreland and Pickavance's externalist strategy to save bare particulars, assume property P^1 (whether as an intension or instance) is externally tied-to a bare particular p_a, what is the individuator for thick particular a, say, a red, round disk. Now, either this means that P^1, e.g., Red^1 or Round^1, is non-arbitrarily grounded in a composing nature of p_a, or, to the contrary, P^1 relays no information about p_a and so is arbitrarily associated with it in the manner of items in a list or set. One cannot have it both ways. But on the first alternative this can only mean that P^1 is nature-relevant to a something constitutive of p_a and thus P^1 is rooted-in p_a, what is ruled out by Moreland and Pickavance. On the second alternative any two properties whatsoever can be jointly tied-to p_a, including contrary properties, e.g., Round^1 and Square^1. Then on Moreland and Pickavance's thesis that Tied-to^2(P^1,p_a) if and only if Rooted-in^2(P^1,a), contrary properties can be ontic predicates of any individual a, e.g., a can, absurdly, be both round and square. Now it might be replied that on my analysis of an ontic predicate R^n_i as a continuous composite I have its intension R^n tied-to its individuating combinatorial act. But on my analysis the latter represents a third type of union distinct from what Moreland and Pickavance intend by the extremes of the Tied-to^2 and Rooted-in^2 relations: unlike the Tied-to^2 relation, the union between a combinatorial act and its correlative intension is not one of mutual indifference but one where the latter aspect controls in extent and order the

former, but unlike with the Rooted-in^2 relation the intension is not ontically predicable of—does not characterize—its combinatorial act. As a final point I would only observe that bare particulars are simply posited as ontology's individuating principles for a lack of a known alternative derivable from other ontological considerations—the above provides this alternative.

On another front I would address an argument advanced recently by William Vallicella that a fact can and must have a unifier external to it. This follows from what he would consider to be the failure of the analysis of factual unity given above in **Principles I**, **II**, and **III**, and therefore that "The unity of a fact's constituents cannot be a proper constituent of the fact"[70], along with the rejection, correctly, that a fact as a plural whole cannot be the cause of the unity of itself, *contra* Armstrong[71]. Vallicella's critique of the former results from a confusion as evidenced by his thinking that it is inconsistent with my theses that "Thus numerically one and the same entity, [universal intension] R, occurs as constituent in both facts [:R(a,b) and :R(c,d)]: but R's [agency in] relating a and b is numerically distinct from R's [agency in] relating c and d."[72][inserts mine though intended by Vallicella as clear from the context] The supposed inconsistency is said to result from my failure to distinguish between an agent and its agency by identifying a relation R, whether I am treating it as a universal for sake of argument or as an instance, with its concomitant unifying act in a fact. To the contrary, I have argued for this distinction herein, and did so in the works Vallicella cites. Among other criticisms, what is relevant here is that Vallicella rejects the possibility that my ontic-predicates/relation-instances can be simple entities. He finds the concept of a formal distinction and what I have herein called a composite simple to be incoherent on the same grounds as did Ockham and Suarez (when criticizing Scotus). Rejecting my type of analysis Vallicella concludes that the unity of a fact's constituents can only be a function of an external causal 'operator'. What makes Vallicella's view untenable, however, is that a fact :R(a,b) has its being just as a-fact-producing-type-of-unity-among-the-other-constituents, i.e., the fact :R(a,b) is not R, a, and b prior to and independent of their factual union. There is no plural whole without a *constituent* unifying act, as there is no pearl necklace without a unifying string, for a plural whole just is the other constituents (e.g., the pearls) so acted upon (e.g., connected by the string) and nothing less. Now, to declare that the unifying agency of :R(a,b) is 'external to it' is simply to re-

draw the boundaries of the purported fact with just constituents R, *a*, and *b*, to also include the 'external' agency, U, what then is properly an internal constituent of the real fact here as necessarily expanded to parts-properly-unified. This means that the fact mistakenly analyzed as :R(*a*,*b*), i.e., where R is the agent unifier, is properly rendered :U(R,*a*,*b*). But then how is it that fact :U(R,*a*,*b*) avoids the import Vallicella gives Bradley's Regress against purported fact :R(*a*,*b*)? It can not if U is intensioned, i.e., U is itself a relation like R, and the alternative is that U is arbitrary association, what presumably would have to be an act of Divine will. The latter would make facts like :Prime-divisior-of^2(3,6) and :Left-of^2(*a*,*b*) obtain independently of the natures of any of the relations and relata involved, which is counterfactual.

In regard to Vallicella's rejection of composite simples I offer the following argument, one that expands upon the simple observation that a causal sequence must end somewhere where a cause brings about an effect *immediately*, without otherwise a vicious regress of further causes. It is to establish the point, ironic in regard to Vallicella, that causation itself is in every case a fundamental example of a composite simple. Consider first that causation is *at the causal act*, whether the act is instantaneous (e.g., a collision between inelastic balls), or over a temporal interval (e.g., the unifying act of a contingent fact), or 'eternally' atemporal (e.g., the unifying act of a necessary fact). More specifically, causation proper is at the causal act where cause (agent, 'operator'), patient(s), and effect come together, and only relative to which are each classified such. Now the argument is that at a causal act the agent and the act (the agent's agency), though distinct, form an immediate union tighter that a plural whole, i.e., form a continuous composite. This is so in that there is no constituent of this union, whether agent, agency, or some implicit third, that can have an additional unifying mode or aspect that allows that constituent to go beyond itself and link itself to or among the others, what would otherwise indicate an ontic distinction among the thus united, a characteristic of a looser plural whole, i.e., of an articulated composite. For, if it were otherwise then the constituent would have to be a *cause* of the causal unity between itself and the other constituents in the initial agent/act whole. In other words, it would have to be an agent with a unifying act, act′, having the original causal act as a patient. Clearly, this is the beginning of a vicious regress. Agent and causal act at the act form a continuous composite. So if a unifying act is necessarily constitutive of a whole, its

concomitant agent must likewise be. It is by a derivative and misleading 'courtesy of inheritance' that an agent a could be said to be 'external' to a causal act, act_1, that produces an effect c. For, this could only mean that there is a causal relation between a and some implicit effect b, i.e., fact :$Causes^2(a,b)$ obtains, where the ontic predicate for the latter has its own causal act, act_2, and where fact :$Causes^2(b,c)$ likewise obtains and the ontic predicate for it has causal act_1. In other words, to say that an agent a is 'external' to its agency in producing an effect c is simply to say that it is a remote cause of c.

V. Conclusion: What Can be Understood of Composite Simples

We have seen that in at least the ontologically fundamental category of ontic predicates there are composites that each have two non-identical constituents—an intension and a combinatorial agency—where neither, nor some implicit third constituent, acts as agent unifier relative to the other(s). And, it was argued that all unifications among the yet differentiated/discrete, what I have called articulated composites and what are the ubiquitous structures and complexes of experience and theory, exist if and only if each has one or more constituent ontic predicates that as causal unifiers 'go beyond themselves' to join themselves to and among other constituents. As is obvious in the paradigm case of irreducible polyadic relations, each in forming the 'togetherness' that is a fact is also 'between' its relata in the sense of presupposing an 'ontic distance' between and so discrete otherness of each from the other, and the ontic predicate itself from each relata. Ontic predicates mark/bridge an ontological division between their subjects, and between themselves and their subjects, in the wholes they serve to unify. What this means is that the criterion for differentiation/discreteness of parts of a composite whole is that each part is either an agent unifier among other parts, or is a patient of such agency. Consequently, with simplicity defined as the 'absence of division' we then have the necessary and sufficient conditions for an entity x being simple, viz., if and only if x has no constituent which is an ontic predicate of another constituent.[72] It is in this sense that an ontic predicate is simple, and yet with distinct constituents it is internally non-homogeneous making it appropriately termed a 'continuous composite'.

Consequently, the pre-critical air of paradox concerning the concepts of a composite simple and the 'formal distinction' is removed with the

differentiation of ontic division and discreteness from distinctness and non-identity, and the observation that ontic predication is a necessary case of the latter without the former. It was also argued that the union of a causal agent and it agency at a causal act is a case of simple continuous composition. Heuristic to the nature of composite simples I have proposed the analog of a disk whose color changes continuously across its surface from red through yellow to green as in the spectrum of an unpartitioned color wheel. It is continuous in having no inherent boundaries or divisions between colors, and thus is undivided and so simple, yet it is composed of distinguishable colors so known by selective attention. These colors add up to the phenomenal being of the whole—it is not different from them collectively. So it is for any continuous composite, the division and differentiation of the thus discrete parts is posterior to the whole (*post rem*), and though it has distinct/non-identical constituents, their essences as such are not sufficient in themselves to cause a mutual ontic division, what is achieved only by external cognitive analysis. Whereas in an articulated composite the division or mutual discrete otherness of the parts is prior to the whole, and is maintained even as the parts are unified in the whole, a differentiation implied in the ontic predictability of some of the parts relative to the others. Stated otherwise, in both types of unions the existences of the wholes are simultaneous with the 'joint existences' of their parts, where with an articulated composite or complex the union of the parts is a function of the contained parts that remain differentiated as such due to the predicable nature of some among the others (each such whole a *unitas ex intra se*), whereas with a continuous composite this union is a function of the containing whole relative to which the parts are virtual until differentiated externally by abstraction (each a *unitas per se*). An example of the latter is God traditionally conceived as the coalescence of divine attributes, the latter differentiated only in the intellect. In contrast to an articulated composite, with a continuous composite, because the whole is prior to the parts as subsequently conceptually differentiated, the extra-conceptual existence of these constituents is never independent of (outside the being of) such composites. In regard to ontic predicates (i.e., relation instances), the latter observation is in keeping with the Aristotelian/Scholastic thesis that only individuals exist extra-conceptually, and that their characterizing intensions are 'individuated in things', i.e., individuated as forming in each case a continuous whole with an unrepeatable combinatorial act, but are 'universal in the mind' when conceptually abstracted from these correlative unifying acts. Also, it

would seem that, though for articulated composites they can have 'upwardly emergent' and intensionally *sui generis* properties and relations due to the manner of their composition via structuring constituent ontic predicates, e.g., as consciousness emerges with brain complexity, in contrast, with a continuous whole, because there is with it a 'downward emergence' of the parts only mutually divided in abstraction, it can have 'nothing new that is not in the parts', i.e., have no properties and relations not definable logically from the conjunction of the properties and relations of the parts, since the union here of the parts can add no essence-altering structure to the whole. Hence, composite simples represent an ontological limit, not of analysis, but of system and structure, and in this way they are necessarily atomic to plural structured reality.

It is worth ending on the following observation. It is a symptom of the error of Bradlarian Monism that its analysis of ontic predication requires in the end that not only all discreteness but all distinctness (non-identity) collapse into a homogeneous One. The error is in the assumption that predicable unification is by mutual 'inclusion' or 'absorption', a view abetted by the specious inherence model of predication, and which requires in the end a melding or blending of natures where all distinction among the united is obliterated in a coinciding identity. Continuing the above metaphor, think of the colors on the example disk uniformly blended into a single color homogeneous across its surface. So for such complete 'blends' there is, on the one hand, the requirement that the specific and distinguishing essences of the constituents (e.g., divine omniscience, divine omnipotence, divine goodness) contribute to the cumulative and specific nature of the whole (e.g., the nature of God), and yet on the other, precisely as contributing parts they must lose their content-specifying identities as the blend obliterates all internal distinctions, and with this the whole loses the contributing qualitative essences of the would-be parts. In such bogus blends the natures of the parts disappear and so can make no contribution to the nature of the whole which must then evaporate as an essenceless illusion. The lesson herein is that a whole which analysis reveals must have a unification 'tighter than' that of the usual articulated composite, e.g., an ontic predicate or God, need not collapse into the absurdity of a homogeneous one, but can be a continuous composite.

————————————

ABSTRACT

In ontology a number of entities have been assayed as simple but nevertheless composed of multiple aspects, e.g., God as the coalescence of divine attributes, or unit attributes as having repeatable intensions and unrepeatable individuators. Focusing on the latter and defending three principles describing ontic predication, I argue: a) The term 'simple' is properly defined as the absence of any internal differentiation or division—absence of discreteness of constituents or parts *qua* actually contributing to the being of the whole, as opposed to external differentiation by abstraction. b) Discreteness of constituents, what characterizes an articulated composite, is marked by constituent interposing ontic predicates, i.e., relation (including property) instances. Hence, a necessary and sufficient criterion for an entity being simple is the impossibility of any constituent being ontically combinatorial of another constituent. c) There are entities that have non-identical constituents yet have no internal divisions because none of the constituents are themselves ontic predicates, e.g., relation instances. d) Hence, the term 'simple' is to be seen not as the contradictory of 'composite', but rather as equivocal between the non-composite or 'absolutely simple', e.g., the intension Red^1, and the composite, e.g., the relation instance Red^1_i, what is appropriately termed 'continuously simple'.

NOTES:

1. Herein terms naming intensions, e.g., 'Red^1', '$Love^2$', 'Owe^3', will each have superscripts indicating the number of subjects the intension specifies as jointly necessary in order to be characterized or qualified (including being ordered) under that intension. Alternately and in general, the superscript 'n' on the intension term 'R^n' indicates the number *n* of subjects in an *n*-tuple $<a_1,a_2,…,a_n>$ necessary in order to form a fact with that intension controlling the ontic predication among $a_1, a_2,…, a_n$, the fact designated as '$:R^n(a_1,a_2,…,a_n)$'. The colon locution is used to distinguish a fact designated as '$:R^n(a_1,a_2,…,a_n)$' from a corresponding proposition '$R^n(a_1,a_2,…,a_n)$'. Subscripts on intensions, e.g., as in 'Red^1_1', 'Red^1_2', renders each such term a name for a particular and unrepeatable instance of the indicated type, e.g., Red^1. Ontic predication explicated herein is to be understood as what is traditionally identified as 'material' or 'fundamental predication' and concerns the nature of composition among any entities whatsoever, extra-conceptual or conceptual, and is to be distinguished from 'formal', 'linguistic', or 'grammatical predication' which pertains to the linguistic/conceptual syntactical composition of declarative sentences.

2. D. W. Mertz, 'Individuation and Instance Ontology', *Australasian Journal of Philosophy* 79 (2001), 45-61. J. P. Moreland and Timothy Pickavance, 'Bare Particulars and Individuation: A Reply to Mertz', *Australasian Journal of Philosophy*

81 (2003), 1-13. In the same issue see my response, 'Against Bare Particulars: Response to Moreland and Pickavance', 14-20. Also relevant here is Richard Brian Davis, ''Partially Clad' Bare Particulars Exposed', *Australasian Journal of Philosophy* 81 (2003), 534-48.

3. William of Ockham, *The Summa Logicae, Part I*, trans. Michael Loux as *Ockham's Theory of Terms* (Notre Dame: University of Notre Dame Press, 1974), p. 82.

4. Ibid., p. 84.

5. Herbert Hochberg, 'Individuation and Individual Properties: A Study of Metaphysical Futility', *The Modern Schoolman* 79 (2002), 107-35, p. 114.

6. J. P. Moreland, 'Naturalism, Nominalism, and Husserlian Moments', *The Modern Schoolman* 79 (2002), 199-216, pp. 206ff.

7. A traditional example of a 'merely conceptual distinction', what was called a *distinctio rationis ratiocinantis* ('distinction of the reasoning reason'), is 'Peter is identical to Peter.' Here Peter is said to be distinguished from himself, which, of course, cannot correspond to any extra-conceptual distinction. For an explanation of these types of Scholastic distinctions see Francis Suarez, *On the Various Kinds of Distinctions, (Disputationes Metaphysicae, Disputatio VII, de variis distinctionum generibus)*, trans. Cyril Vollert, S. J. (Milwaukee: Marquette University Press, 1947), pp. 18-19.

8. For Scotus' views see his *Ordinatio II*, d.3, part 1, qq. 1-6, translated in Paul Spade, *Five Texts on the Mediaeval Problem of Universals* (Indianapolis: Hackett Publishing Co., 1994), pp. 57-113. For Suarez see *On the Various Kinds of Distinctions, Disputatio VII*, pp. 18-19, 27-39. Keith Campbell, *Abstract Particulars* (Oxford: Basil Blackwell, 1990), pp. 56-7. D. M. Armstrong, *Nominalism & Realism: Universals & Scientific Realism*, Vol. I (Cambridge: Cambridge University Press, 1978), pp. 108-111. Mertz, 'Individuation and Instance Ontology', pp. 59-61. In the latter I used the unfortunate term 'non-constituent whole' for what I herein refer appropriately to as a 'continuous composite'. Also see Mertz, 'Combinatorial Predication and the Ontology of Unit Attributes', *The Modern Schoolman* 74 (2002), 163-98, p. 91.

9. For Suarez's denial of a formal distinction between the individuating and intensional aspects of an entity see Francis Suarez, *On Individuation (Disputationes Metaphysicae, Disputatio V, De unitate individuali ejusque principio)*, trans. Jorge Gracia (Milwaukee: Marquette University Press, 1982), pp. 46-52, and Suarez, *On Formal and Universal Unity (Disputationes Metaphysicae, Disputatio VI, De Unitate Formali et Universali)*, trans. J. F. Ross (Milwaukee: Marquette University Press, 1964), pp. 29-35. For Suarez's assertion that there is a formal or 'modal' distinction between an attribute and its mode of inherence in a subject see his *Disputatio VII*, pp. 27-39.

10. Mertz, 'Combinatorial Predication'. Also see Mertz, *Moderate Realism and Its Logic* (New Haven: Yale University Press, 1996).

11. D. W. Mertz, 'An Instance Ontology for Structures: Their Definition, Identity, and Indiscernibility', *Metaphysica: International Journal for Ontology & Metaphysics* 4 (2003), 127-64.

12. Peter van Inwagen, *Material Beings* (Ithaca: Cornell University Press, 1990). The Special Composition Problem—Among what conditions does composition (among the discrete) occur?—is answered by what I have called the **Unity-by-Instances Thesis**: All plural unity—complexity or structure—is by the following:
   a) A relation instance R^n_i predicable of an *n*-tuple of relata, $<a_1,a_2,..,a_n>$, is the cause of an individual plural whole, i.e., a fact $:R^n_i(a_1,a_2,..,a_n)$, having R^n_i, a_1, a_2, .., a_n, as its only constituents.
   b) If R^n_i is a constituent of a plural whole *x* and S^n_j is a constituent of a plural whole *y*, and R^n_i and S^n_j, share one or more relata, then there is an individual plural whole *z* that has as constituents all and only the combined constituents of *x* and *y* (horizontal composition).
   c) For any fact $:R^n_i(a_1,a_2,..,a_n)$, if for $1 \leq j \leq n$, a_j is a plural whole, then there exists an individual plural whole whose constituents are all and only the constituents of the fact and constituents of a_j (vertical composition)
This is so because the answer to the General Composition Question—What is composition (among the discrete)?—is: The unifying effect of the predicable agency or combinatorial act of a relation (including property) instance with its subjects.

13. Ned Markosian, 'Brutal Composition', *Philosophical Studies* 92 (1998), 211-249; Van Inwagen, *Material Beings*, pp. 50-51.

14. For an indication with references of how the single category of relation instances can contribute to an ontology for quantum mechanics see Mertz, 'Instance Ontology for Structure'. Also see in the same volume of *Metaphysica*, 4 (2003), the paper by Michael Esfeld, 'Do Relations Require Underlying Intrinsic Properties? A Physical Argument for a Metaphysics of Relations', 5-25.

15. A partial historical survey of different interpretations of Bradley's Regress is found in Mertz, *Moderate Realism*.

16. Gustav Bergmann, *New Foundations of Ontology* (Madison: University of Wisconsin Press, 1992), pp. 56-58, 90. This reference was brought to my attention by William Vallicella in his 'Bradley's Regress and Relation-Instances', *The Modern Schoolman* 81 (2004), forthcoming. Vallicella somehow construes Bergmann as implying that bare particulars are simple composites, or 'Two-in-One's', and that there is thus little difference between bare particulars, which I reject, and my relation

instances. I propose that Bergmann's relevant texts referenced here show the error of this interpretation.

17. Bergmann, *New Foundations*, p. 57.

18. F. H. Bradley, *Appearance and Reality*, 2d ed. (Oxford: Clarendon Press, 1897; reprt. ed. 1966), pp. 404, 467, 509-11, 521; and Bradley's 'Relations' in *Collected Essays*, Vol. 2 (Westport, CT: Greenwood Press, 1970), pp. 648-50, 660, 663-64.

19. See Mertz, 'Combinatorial Predication'.

20. Michael Loux, *Substance and Attribute* (Dordrecht: Reidel, 1978), pp. 117-19, 131-34. Also, Loux, *Metaphysics: A Contemporary Introduction* (New York: Routledge, 1998), pp. 106ff.

21. For some of the recent dialectic concerning bare particulars see the references in note 2. I note that Davis in ''Partially Clad' Bare Particulars Exposed' argues that Moreland's defense of bare particulars implies that bare particulars must be constituents of themselves.

22. Ibid. This point is made by Armstrong in regard to the Resemblance[2] relation in the context of criticizing resemblance nominalism.   See his *Universals: An Opinionated Introduction* (Boulder: Westview Press, 1989), pp. 43-45.

23. D. M. Armstrong, *Nominalism and Realism*, p. 111.

24. P. F. Strawson, *Individuals* (London: Methuen, 1971), pp. 167ff.

25. Gustav Bergmann, *Realism* (Madison: University of Wisconsin Press, 1967), pp. 9, 42ff.; Herbert Hochberg, 'A Refutation of Moderate Nominalism', *Australasian Journal of Philosophy* 66 (1988), 188-207.

26. The description is translated and cited by Allen Wolter, *The Philosophical Theology of John Duns Scotus* (Ithaca: Cornell University Press, 1990), p. 46.

27. Scotus, *Ordinatio II*, in *Five Texts*, p. 101.

28. Ibid., p. 108.

29. Ibid., pp. 107, 108.

30. Ibid., p. 113.

31. Ibid., p. 108, where Spade translates the phrase as "as it were *per se* parts", whereas "as *quasi per se* parts" is the translation of R. L. Kilcullen in his 'John Duns

Scotus, *Ordinatio*, II, dist. 3, pars 1.', 1996, found at URL = <http://humanites.mq.edu.au/Ockham/wjds.html>. I take "*quasi*" to be Scotus' term but I have not been able to verify it.

32. Scotus, *Ordinatio II*, in *Five Texts*, p. 106.

33. Keith Campbell, 'The Metaphysics of Abstract Particulars', in *Midwest Studies in Philosophy, Vol. VI, The Foundations of Analytic Philosophy*, ed. P. French, et al. (Minneapolis: University of Minnesota Press, 1981), 477-88, p. 482.

34. Keith Campbell, 'Abstract Particulars and the Philosophy of Mind', *Australasian Journal of Philosophy* 61 (1983), 129-41, p. 129.

35. Campbell, *Abstract Particulars*, p. 57.

36. Ibid., pp. 30-34, 59-60.

37. Evidence of Suarez's similarity nominalism is found at *On Formal and Universal Unity*, *Disputatio VI*, pp. 30, 36, 47-48.

38. Ockham, *Ockham's Theory of Terms*, p. 82.

39. Ibid., p. 84. These points are reiterated by Ockham in the *Ordinatio*, see Spade's *Five Texts*, pp. 156ff.

40. Suarez, *Various Kinds of Distinction*, *Disputatio VII,* p.22.

41. Ibid., p. 21.

42. Ibid., p. 27.

43. Aristotle, *Metaphysics* 1045a6-b24; Ockham, *Ockham's Theory of Terms*, p. 170; Francis Suarez, *On the Formal Cause of Substance (Disputationes Metaphysicae, Disputatio XV)*, trans. J. Kronen & J. Reedy (Milwaukee: Marquette University Press, 2000), pp. 177-78.

44. Jeffrey Brower, 'Medieval Theories of Relations', *The Stanford Encyclopedia of Philosophy* (Summer 2001 Edition), Edward N. Zalta (ed.), URL = <http://plato.stanford.edu/archives/sum2001/entries/relations-medieval/>.

45. See Campbell's *Abstract Particulars*, pp. 97ff. Campbell admits certain relations are not reducible to foundations in their terms in his 'Unit Properties, Relations, and Spatio-Temporal Naturalism', *The Modern Schoolman* 79 (2001), 151-62.

46. Bertrand Russell, *The Principles of Mathematics*, 2d ed. (1903: reprt. ed., New York: Norton, 1938), pp. 221ff. I have sought to reinforce these arguments against objections raised by Campbell in my *Moderate Realism*, pp. 163-71.

47. See Suarez, *Various Kinds of Distinction*, *Disputatio VII*, pp. 18ff.

48. Calvin Normore, 'Buridan's Ontology', in *How Things Are*, ed. J. Bogen & J. McGuire (Dordrecht: Reidel, 1985), pp. 180-203. Normore here translates from Burdian's *Questiones in metaphysicam aristotles*, V, q. 8, fols. 31, 33.

49. Ibid., pp. 197-98.

50. Suarez, *Various Kinds of Distinction*, *Disputatio VII*, p. 28.

51. Ibid., pp. 26, 27.

52. Ibid., p. 31.

53. Ibid., p. 29.

54. Philip Kitcher, *The Nature of Mathematical Knowledge* (Oxford: Oxford University Press, 1984), pp. 108ff.

55. See Michael Hallett, *Cantorian Set Theory and Limitation of Size* (Oxford: Clarendon Press, 1984), pp. 34-37.

56. See Brower 'Medieval Theories of Relations', and Mark Henninger, *Relations: Medieval Theories 1250-1325* (Oxford: Clarendon Press, 1989).

57. Bertrand Russell, 'Some Explanations in Reply to Mr. Bradley', *Mind* 19 (1908), pp. 373-78. F. H. Bradley, 'Relations' in *Collected Essays*, pp. 643-44.

58. See Mertz, 'Instance Ontology for Structures'.

59. Gottlob Frege, *Translations from the Philosophical Writings of Gottlob Frege*, ed. P. Geach & M. Black (Oxford: Basil Blackwell, 1970), pp. 54-55.

60. David Seargent, *Plurality and Continuity: An Essay in G. F. Stout's Theory of Universals* (Dordrecht: Martinus Nijhoff, 1985), pp. 113-115, 123. D. M Armstrong, *A World of States of Affairs* (Cambridge: Cambridge University Press, 1997), pp. 30, 99, 123-24, and his *Universals: An Opinionated Introduction*, pp. 96-97, 116.

61. Mertz, 'Instance Ontology for Structures'.

62. Mertz, 'Individuation and Instance Ontology'.

63. Keith Campbell, 'The Place of Relations in a Trope Philosophy', *Proceedings of the Colloque International de Philosophie de Grenoble: La Structure du Monde; Objets, Proprietes, etats de choses*, in *Recherches sur la philosophie et le langage*, Universite Pierre Mendes France, Grenoble, 2003.

64. Campbell, 'Unit Properties, Relations, and Spatio-Temporal Naturalism'.

65. Michael Loux, *Substance and Attribute*, pp. 163ff, and Loux, *Metaphysics: A Contemporary Introduction*, pp. 117ff. E. J. Lowe, *The Possibility of Metaphysics* (Oxford: Clarendon Press, 1998), pp. 180-83, 197.

66. Mertz, 'An Instance Ontology for Structures'.

67. E.g., at Mertz, 'Individuation and Instance Ontology', pp. 49-50.

68. This 'identity in vacuity' is the valid point that in 'Individuation and Instance Ontology', p. 52, I garbled badly in an argument that critics have been right to criticize (e.g., Vallicella, 'Bradley's Regress and Relation-Instances', and Richard Davis, ''Partially Clad' Bare Particulars Exposed', pp. 541-41). The argument there should have been as follows. First, I understood 'constituent of' as extended in sense to include the 'improper' case of the very essence itself of an entity—the essence of an entity being constitutive of it. Then, the constituent analog to the Identity of Indiscernibles, **CII**, was to include this extended sense: $(x)(y)[(z)(z$ is a proper or improper constituent $x \equiv z$ is a proper or improper constituent $y) \supset x = y]$. If upon analysis bare particulars x and y have no ontic predicates in the standard sense and therefore have no essences, then the antecedent of **CII** is true and so $x = y$, for all bare particulars x and y. Hence, absurdly, there could be only one ordinary thick particular. In 'Individuation' I was not explicit about the extended sense of 'constituent of' nor that **CII** was to include it, and made the argument curtly saying "All bare particulars in having no constituents have exactly the same constituents and so are identical." Whatever the merits of this clarified argument, it does not imply, as critics of the garbled original asserted of it, that all (absolutely) simple entities, in being without proper constituents, would have to be identical. This would be implied only if **CII** were rewritten to concern only proper constituents, but the variables in the initial quantifiers, '(x)' and '(y)', remained unrestricted in their range. Moreland and Pickavance, in 'Bare Particulars and Individuation', pp. 12-13, avoid the unwanted implication by holding that the variables in the initial universal quantifiers of **CII** are to be restricted to range over only composite entities, what they contend is the common understanding.

69. Moreland and Pickavance, 'Bare Particulars and Individuation: A Reply to Mertz'.

70. William Vallicella, 'Bradley's Regress and Relation-Instances'. Vallicella's advocacy of the validity of Bradley's Regress can also be found in his 'Three

Conceptions of States of Affairs', *Nous* 34 (2000), 237-59, an in 'Relations, Monism, and the Vindication of Bradley's Regress', *Dialectica* 56 (2002), 3-35.

71. Armstrong, *States of Affairs*, pp. 118-19.

72. Vallicella, 'Bradley's Regress and Relation-Instances'.

73. This answers the 'Simple Question' posed by Ned Markosian in 'Simples', *Australasian Journal of Philosophy* 76 (1998), 213-28. His answer is that entities are simple if they are maximally spatially continuous, a criterion which allows for physical divisibility. Though I think his intuition concerning spatial continuity as involving a simplicity among the yet heterogeneous is in the right direction, the criterion for simplicity offered herein is metaphysically universal and would include spatial simplicity as but one case. I note further that the analysis herein has proceeded in the reverse direction from that suggested by Markosian when he says "If we are to try to figure out how it is that several things can combine in order to compose a single thing [in order to answer van Inwagen's Special Composition Question (see note 12 above)], then we will likely be aided in our investigation if we have some idea of the nature of the basic building blocks that are meant to be combined in order to form [articulated] composite objects."[p. 215; my inserts]. I have argued for the insight that it is ontic predicates that are the unifying causes of composites with yet discrete parts, and that consequently it is their absence that is the criterion for being simple.