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Moderate Nominalism and Moderate Realism

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Acknowledgements

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Introduction

1.1 Ontology

The title of this essay is 'Moderate Nominalism and Moderate Realism', which indicates that its subject is ontology. 'Nominalism' signals that in particular and appears to be (almost) exclusively used in the context of ontology. 'Realism', on the other hand, is used frequently in almost every area of philosophy. In any event, whether a philosopher is a nominalist or a realist, what he or she takes an interest in is a project which was initiated by Plato and Aristotle. They have marked out the issues ontology centers on to a great extent. In his early work, *Categories*, Aristotle lists ten categories of reality: substance, quantity, quality, relation, place, date, posture, state, action and passivity.[1] Any true description of reality should be made in terms of these ten categories. They can be characterised as the most abstract notions used when describing something, for example, we tend to say that things have qualities. For instance, the Swedish flag is partly blue; if we look at a particular flag, its blue colour has specific nuance. In the terminology introduced by W. E. Johnson,[2] the colour is a lowest determinate of a number of determinables. Most of these determinables do not have any specific adjectives expressing them. Further, the highest determinable among the colours is colour itself, but it is not the (categorially) highest determinable in the line starting with the lowest colour determinates. A still higher determinable is quality itself. Since quality is not a determinate in relation to any higher determinable, we have by now reached the end of the line: a category. This procedure can be applied to Aristotle's other nine categories as well. Note that in this example we started out talking of

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[1] The names of some of these ten categories vary between the English translations made of Aristotle's Greek terms.

[2] Cf. Johnson 1921, chapt. XI.

notions used when describing things and were fairly soon referring to traits of the things themselves. This oscillation between concepts and traits of things is difficult to avoid. However, we can use it to make a point. It is that the determinate–determinable distinction is applicable to traits of things as well as of concepts that are used to describe them. If our conceptual scheme is true to how things are, the concepts used have counterparts *in rerum natura*.[1]

According to some, the categories listed by Aristotle are not independent of each other. For example, the category of substance is said to be reducible to one or more of the others, in particular, quality. This has been a common view among empiricists and still has its proponents today.[2] Others stick to the idea that the reduction is impossible in principle; arguing that categorial distinction between substance and quality should therefore be maintained.[3]

There is also a long tradition of trying to reduce relations to qualities. Aristotle himself is, at least to some extent, part of that tradition. His description of relations as the "least of all things a kind of entity or substance"[4] has often been pleaded by adherents of this particular reductionism. During two millennia this was in fact the majority view among western philosophers. Nowadays, quite a few of the guardians of this tradition are found among trope theorists. Since it is difficult, I would say impossible, to consistently uphold this reductionism, the reductionist claim is only partly maintained by most of its adherents. Thus, while the so-called internal relations are considered to be reducible, this is not so with regard to the so-called external relations.

Central to the debate between proponents of nominalism and realism are the notions of particularity and universality. The distinction between these two is applicable to all of Aristotle's categories, as

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[1] Cf. Johansson 2000, p. 101. Ingvar Johansson points out that Johnson invented the pair of terms: 'determinate' and 'determinable'. He did not invent the distinction.

[2] Cf. David Armstrong, in Armstrong 1978*b*, p. 67, as an example of that.

[3] Cf. Lowe 1989, chapter 3, and Johansson 1989, chapter 3.

[4] *Metaphysics*, 1088a22.

well as to those proposed by others. Particularity and universality can be characterised as transcategorial notions, though strictly speaking, only realists recognise the distinction and its applicability. In fact, this is not even the case as regards all versions of realism. According to one "extreme" version, most appropriately called 'universalism', everything which exists is universal. Still strictly speaking, all versions of nominalism deny the existence of universals. Thus, according to nominalists the distinction between particularity and universality is lacking one of its relata. However, even nominalists tend to recognise the need for something doing the work which universals perform in realistic ontologies. Keep in mind that the traditionally proposed surrogates for universals must themselves be particulars; if they are not, the nominalistic project of making universals unnecessary collapses. The implication is then that the need for particulars as well as (real) universals is recognised only by the major fraction of the realists.

Donald Williams makes a distinction between two branches of metaphysics: (i) analytic ontology and (ii) speculative cosmology. His description of the first branch reads:

> First philosophy, according to the traditional schedule, is analytical ontology, examining the traits necessary to whatever is, in this or any other possible world. Its cardinal problem is that of substance and attribute, or at any rate something cognate with this in that family of ideas which contains also subsistence and inherence, subject and predicate, particular and universal, singular and general, individual and class, and matter and form. It is the question how a thing can be an instance of many properties while a property may inhere in many instances, the question how everything is a *case* of a *kind*, a this-such, an essence endowed with existence, an existence differentiated by essence, and so forth.[1]

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[1] Williams 1953*a*, p. 3.

In the last sentence of the preceding quote, we find versions of two questions which both have been described as expressing what traditionally is called 'the problem of universals'. The first one mentioned is: How can a thing be an instance of many properties? The second is: How can a property have many instances?[1] The second question is perhaps the one which best expresses what traditionally has been considered to be the problem. A slightly different formulation of it is: How can numerically different particulars have the same property? Sometimes this problem is called 'the One over Many'. However, that might be a slightly misleading name of the *problem*; it seems more appropriate as a name of a specific solution to the problem. The solution to it is that particulars have the same property because they instantiate, or exemplify, the same universal. Thus, 'One over Many' suggests a platonistic solution. Therefore, the universal property is considered to be "over" the things having it. This proposal has its own problems; a major one is that it is difficult to understand the nature of instantiation or exemplification. It is easier to understand another realistic solution to the same problem. It can be called 'the One in Many'. According to this proposed solution, different things have the same property due to their sharing the same universal. In other words, the same universal is a constituent of the particulars in question.

    In a series of works David Armstrong has discussed various ontological issues. What he means by the problem of universals is the second question from the preceding paragraph. One representative description of his is that it is "[…] the problem of how numerically different particulars can nevertheless be identical in nature."[2] He takes the One in Many to be the correct solution.[3]

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[1] I have slightly reformulated what Williams says.

[2] Armstrong 1978*a*, p. 41.

[3] Gonzalo Rodriguez-Pereyra points out that Armstrong's way of formulating the problem gives it a form which Robert Nozick points out that many philosophical problems have. The form is: How is a certain thing, call it 'X', possible given (or supposing) certain other things? Nozick mentions the problem of free will: How is it possible for us to have free will, supposing that all actions are causally determined? Here X is free will and what

The first version of the problem of universals mentioned above was: How can a thing be an instance of many properties? According to Gonzalo Rodriguez-Pereyra this is what should be considered the problem of universals. In line with that he uses the designation 'Many over One'. This denomination indicates that the problem is that of explaining how a particular can have various properties. He quite rightly remarks that, since the problem is one of properties, not universals, the designation 'the problem of universals' is a misnomer.[1] Bearing in mind that he is a (classical) resemblance nominalist, the problem which he has to master can also be described as that of explaining how a particular can have properties at all.[2]

Williams' description of the second branch of metaphysics is found in the following quotation, which also hints at the relationships between the two branches.

> Concerned with what it means to be a thing or a kind at all, it [analytic ontology] is in some wise prior to and independent of the other great branch of metaphysics,

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apparently excludes it is determinism. The apparent excluder in Armstrong's case is the numerical difference among particulars. The fact that he considers it to be an *apparent* excluder is indicated by his use of 'nevertheless'. Cf. Nozick 1981, p. 9, and Rodriguez-Pereyra 2002, pp. 18-9.

[1] Cf. Rodriguez-Pereyra 2002, p. 1.

[2] His reasons for considering Many over One to be the real problem is due to his resemblance nominalism in combination with his view that what should be meant by 'the problem of universals' is a problem regarding truthmakers. The following quotation might give a rough idea of how he sees things.

> That the Problem of Universals is the Many over One, that is, that the Many over One rather than the One over Many is the phenomenon to be explained, should not be surprising. For the One over Many has as its starting-point facts about a multiplicity of particulars sharing some property or other, facts expressed by sentences like '*a* is F and *b* is F'. But given that the Problem of Universals is one about truthmakers, and that truthmakers of these conjunctive sentences are the truthmakers of their conjuncts and that, given the multiplicity of properties had by particulars, there are many such conjuncts for each particular, the One over Many vanishes into the Many over One. (Rodriguez-Pereyra 2002, p. 47)

> speculative cosmology: what kinds of things are there, what stuff are they made of, how are they strung together?[1]

If interpreted in a wide sense, speculative cosmology may include the highly speculative philosophical systems of the 17th, 18th and 19th centuries. Speculations regarding the nature of reality, whether it is spiritual or material, would then fall within its field of research. The fact that this is part of what Williams intends by the designation 'speculative cosmology' may be concluded from another quotation:

> We are only beginning to philosophize till we turn from the bloodless proposition that things in any possible world must consist of tropes, to specific studies of the sorts of tropes of which the things in this world actually consist. It is a virtue of our thesis that it does not strangle or eviscerate the great problems in the philosophical cradle but keeps them alive and ready for the legitimate judgment of experience and logic. It will be a further virtue if it assists, as I think it will, in their formulation and appraisal. Are there only physical objects and energies, or only minds or spirits, or are there both? How, specifically, is a physical object constituted, and how a mind, and how are they related? These topics of gigantic hypothesis are the last of philosophy for which the first is made.[2]

As we shall see in chapter II in connection with a discussion of Williams' trope theory, 'trope' is his technical term for unit properties and relations. According to his first philosophy (analytic ontology) the primary denizens of the universe are tropes. They are the building stones of which everything consists. Among the tasks for last philosophy (speculative cosmology) is finding out of what sorts of tropes things consist.

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[1] Williams 1953*a*, p. 3.
[2] Williams 1953*b*, p. 191.

Williams' distinction between the two branches of metaphysics is referred to by Armstrong near the end of his seminal work, Armstrong 1978*a*. He says first:

> Here are three world-hypotheses in decreasing order of generality. (1) The world contains nothing but particulars having properties and related to each other. (2) The world is nothing but a single spatio-temporal system. (3) The world is completely described in terms of (completed) physics. I put forward the view that each of these propositions is true. Notice that although (2) is less general than (1), and (3) less general than (2), the propositions seem to be logically independent. (Though it would be strange to accept (3) and deny (2).) Nor do I suggest that there is any particular epistemological order of priority among the hypotheses; although (3) seems the most dubious.[1]

That is followed up with:

> Following D. C. Williams […], we may distinguish between 'analytic ontology' and 'speculative cosmology'. (1) is a thesis of analytic ontology, i.e., first philosophy […]; (2) and (3), by comparison, are simply theses of 'speculative cosmology'.[2]

A brief remark on world-hypothesis (1) — the world contains nothing but particulars having properties and these are related to each other. Armstrong 1997 is partly devoted to this hypothesis. One of its essential claims is that states of affairs cannot be analysed according to mereological composition. Furthermore, it asserts that states of affairs in themselves constitute non-mereological composition. The problem of instantiation is declared to be solved by virtue of there being states of affairs. Differently put, the instantiation of a universal

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[1] Armstrong 1978*a*, p. 126. These world-hypotheses are discussed more in detail in Armstrong 1997, chapt. 1. They are listed there as: (1) factualism, (2) naturalism and (3) physicalism.

[2] Armstrong 1978*a*, p. 127.

by a particular is nothing more than the state of affairs itself.[1] I
mention Armstrong's view here only in passing; it will not be
discussed anywhere in the rest of this essay,[2] which is devoted to
moderate forms of ontology, i.e., moderate nominalism and moderate
realism respectively. Armstrong's immanent realism does not adhere
to the moderate form. It does hold the premise that the world is a
world of states of affairs in common with Donald Mertz's moderate
realism, which is discussed in chapter V.

1.2 Terminology

This essay falls within analytic ontology. Although I do not explicitly
advocate any specific ontological view within its covers, I make no
secret of the fact that I consider myself a moderate realist. Un-
fortunately, terminological anarchy rules here, as in many other areas
of philosophy; it is therefore not obvious what being a moderate
realist amounts to. Although I realise that hoping to bring order into
chaos would be in vain, I venture to propose a terminology to be
applied to ontological positions, which will be used partly in this
essay.

The first distinction to be made is between realism and
nominalism. The former recognises universals, the latter does not. No
surrogates for real universals suffice to turn a nominalism into
realism. The recognition of real universals is the essential divide.
Within the frame of realism there is the extreme position according to
which only universals exist; I propose that it be called 'universalism'.
The next distinction is between transcendent realism, or Platonism,
and immanent realism. According to transcendent realism, universals
are non-spatiotemporal, while according to immanent realism they are
spatiotemporal. Next, we find the distinction between moderate and
non-moderate realism. Moderate realism recognises unit attributes,
called instances of universals; non-moderate realism does not. If a

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[1] Cf. Armstrong 1997, p. 119.

[2] This is not completely true. A view of Armstrong concerning composition
is in fact commented on in section. 5.3.4.

realism recognises substrates, 'realism' is prefixed with 'substrate'. If substances are recognised, 'substance' is prefixed. I think that more or less completes the list for realism.[1] To form a denomination, one simply lines up these terms according to requirement.

Matters are a bit more complicated with regard to nominalism, but regardless of that, a nominalism which recognises tropes is a moderate nominalism.[2] Tropes are property, relation or substance instances. If substrates are recognised, 'nominalism' is prefixed with 'substrate'. If substance tropes are recognised, 'substance' is prefixed. A nominalism according to which qualitative content is due to membership in a specific class is called 'class nominalism'; corresponding to mereological sums, where 'sums' is left out. If concepts or predicates are considered to give entities their qualitative content, the positions are called 'concept nominalism' and 'predicate nominalism', respectively. A nominalism which takes qualitative content to be due to resemblance between entities is called 'resemblance nominalism'. Further, if resemblance is in fact a universal, the position should be looked upon as a form of realism. Consequently, 'resemblance realism' can be used. However, if need arises, I recommend that 'resemblance nominalism$_2$' is used instead.[3] Unfortunately, this solution is rather unpractical in speech.

The term 'particularism' is used as an umbrella term for ontologies recognising instances of any sort. The denomination 'trope

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[1] Mertz 1996 has inspired my use of 'moderate realism'. In Armstrong 1989, p. xi, the same term designates what is more appropriately called just 'immanent realism'.

[2] In Hochberg 1988 and 2002, 'moderate nominalism' designates a position recognising one single universal, which is the tie of similarity, together with instances of qualities and relations. I believe that what David Armstrong, in Armstrong 1989 and 1991, is aiming at using 'moderate nominalism' is the same view as the one I have in mind. Strangely enough, Herbert Hochberg says that Armstrong is the one who has called his attention to the variant of nominalism which he himself calls 'moderate nominalism'. The designation 'moderate nominalism' is used by Donald Mertz, in Mertz 1996, p. 26, as an alternative for 'trope theory'.

[3] Cf. Rodriguez-Pereyra 2002, p. 123.

theory' is also used as an umbrella term; preferably, it is used as an alternative for 'moderate nominalism'.

The heading of chapter IV is 'moment nominalism', this particular denomination is a rather special case. It names Ivar Segelberg's ontology. Since it recognises unit qualities, but no quality universals, and universal relations, but no unit relations, it is hard to fit into the proposed terminological scheme. Furthermore, Segelberg's preferred term for unit qualities is 'moment'.

1.3 Disposition and Method

Regarding the disposition of this essay I refer the reader to the *overviews* at the beginning of the major sub-subsection. These overviews are easily found by consulting the table of contents at the beginning of the book.

There is no royal road to agreement in ontology. Unquestionable refutation or proof is hard to come by. As a result of that, the dispute between nominalistic and realistic minded philosophers is a perennial one. The fundamental assumption, which the realist makes and the nominalist rejects, is that universals are needed for an adequate description of reality. Being a realist myself, I am inclined to be sceptical of even moderately nominalistic ontologies. Examples of nominalistic ontologies are discussed in chapters II, III and IV using a strategy according to which I try to show that universals are presupposed, even though, officially, their existence is declared unnecessary.[1] I invoke a principle, which may be described as methodological, saying that an analytical regress should be avoided. I would say this principle is primary in relation to Ockham's razor. Although being a methodological principle, that principle is (just) an economical one.

As regards another sense of 'method', I would like to add that although my aim is critical, I sincerely hope that my criticism is describable as being gently polemical.

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[1] Universals are not totally rejected by Ivar Segelberg, whose moderate nominalism is discussed in chapter IV; he does recognise universal relations.

D. C. Williams on the Elements of Being

2.1 Introduction

Since the 1950's, the analytic ontology of Donald Cary Williams (1899–1983) has been a source of inspiration for quite a few philosophers working in that field of metaphysics. In particular, Williams 1953*a* is frequently referred to with approval. In spite of that, detailed discussions of its doctrines, as well as of those of his other articles in the same field, are hard to come by.

Williams intended to write a monograph on analytic ontology, though he never did.[1] Instead of being presented in one complete statement, his doctrines are scattered in various articles. The discussion in this chapter is based on six of these articles: Williams 1931, 1951, 1953*a*, 1953*b*, 1963 and 1986. The time stretch between some of them is considerable, although not quite as big as it seems, since the sixth on the list cannot have been written later than 1959.[2]

In course of time his views can be expected to have changed. The most radical change would be a conversion from realism to nominalism, or the other way round. I believe there are good reasons for maintaining that there is such a change. It comes about between the publications of Williams 1931 and 1953*a*. In the former article, the presupposed ontological position is a form of moderate realism. That of the latter is a form of moderate nominalism. Owing to the elusiveness of the way in which Williams expresses himself, this conversion might be overlooked. In one of the later articles the position he argues is said to be an immanent realism. Entities which he calls 'universals' are explicitly said to be components of their instances.[3] This has the appearance of being a frank expression of

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[1] Cf. the editor's footnote to Williams 1986.

[2] Cf. Williams 1986, footnote 1.

[3] Cf. Williams 1986, p. 10.

realism. Notwithstanding that, some form of moderate nominalism is the predominant tendency of that article. This also holds for the other five, later articles. In other words, although properties and relations are recognised (real) universals are not.

Williams' contribution to the philosophical vocabulary is the term 'trope'. It makes its first appearance in Williams 1953*a*. Strictly speaking, he is not the first to use it within the frame of philosophy. That seems to have been George Santayana. His sense is not the one Williams has in mind for it; in fact, their two senses are the opposites of each other. I hasten to add that it would be more correct to say that one of the senses Williams uses it in is the opposite of that of Santayana's since, as it turns out, Williams' use of 'trope' is rather varied. The tendency among his interpreters has been to bring out just one of these.

The notion of trope has something of a forerunner in the ontology of the early Williams. The latter notion there is called 'abstract particular'. That denomination is something which the two notions have in common. It may easily obscure the fact that what is called 'abstract particular' by the early Williams is a realist notion, while in his later ontology, it is a nominalist notion. The difference between the two is significant.

2.2 The Analytic Ontology of the Early Williams

2.2.1 *Overview*

While the ontology presented in Williams 1931 is not given any name of its own, the one argued for in the later articles is given two names. The one which he prefers is 'trope theory'.[1] This trope theory is discussed in section 2.3. The present section, section 2.2, deals with the moderate realism of the first. Since the account of it given in Williams 1931 is rather summary, what follows below is a reconstruction of it, based on the scanty information which can be found in the article.

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[1] The other name is 'trope-kind theory'. It is used only in Williams 1986.

In 2.2.1 two pairs of notions are introduced. The notions of these two pairs can be described as making up the frame in which the rest of Williams' ontology is chiselled out. Section 2.2.2 deals with the combinations of the two pairs.

2.2.2 Two Pairs of Notions: Universal–Particular and Abstract–Concrete

The pronounced purpose of Williams 1931 is to propose a scheme exhibiting the relations of two pairs of notions. One of these two pairs is that of the universal and the particular.[1] The other is that of the abstract and the concrete.[2] The notions of these two pairs are combined in a matrix. The same matrix apparently appears in the later articles as well. As a consequence of Williams' conversion to nominalism, the content of it is bound to be somewhat changed.

With a mixture of humility and self-confidence Williams asserts, by way of introduction:

> On a topic so ancient I can hardly hope to disclose anything which shall be both tolerably simple and really novel. On the contrary, my principal interest is only to make explicit the notions which must have been taken for granted in the more profitable moments of traditional and contemporary discussion, and to isolate them from certain other inaccurate and incompatible notions, equally taken

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[1] Regarding a near cognate of 'particular' Williams says:

> The term "individual" is often employed in the same sense in which I define "particular." Otherwise I do not attempt to define it, but leave its ambiguity to be enlightened only by what incidental illumination is afforded by my total scheme. (Williams 1931, p. 585)

Later on he mentions a particular sense of 'individual'. It will be described later on.

[2] As in the terminologies of many other philosophers, Williams' terms 'universal' and 'particular' play the role as nouns as well as that as adjectives. 'Abstract' and 'concrete' play a simple role as adjectives. While the early article has two noun counterparts of 'abstract', i.e., 'abstractum' and 'abstraction', there is none for 'concrete', though in later articles 'concretum' is used. Furthermore, each member of the quartet 'universality', 'particularity', 'abstractness' and 'concreteness' is used in the early article.

for granted, with which they have been disastrously con-
fused. As the typical and perhaps the most significant con-
fusion I shall regard the rather popular assumption that an
"abstraction" is *ipso facto* a universal, or *vice versa*.[1]

It may be concluded from this that the notions of the abstract and the
universal are not supposed to be exclusively related to each other. If
they were so related, it would go against the assumption that the two
pairs are combinable, without restrictions, in a matrix. The resulting
four compound notions can be listed accordingly: abstract universal,
concrete particular, abstract particular and concrete universal.[2] The
determinations of these four compound notions obviously depend on
those of the, at least relatively, simple ones which make up their
content. It seems well-advised to first take a look at what is proposed
regarding the four simple notions.

The first on the list is that of the universal. The following is
offered:

> Let us mean by "a universal" an entity whose being is not
> confined to or defined by its presence in any one event,
> instance, or area in space and time, or in a specific plurality
> of such. An entity of this sort can be utterly and
> numerically identical with itself in any number of spatio-
> temporal contexts or occurrences or in none. Specifically,
> its being is that of an essence, or kind, or character, as
> such. It is the identity of a thing or quality or relation
> wherein consists what it is rather than that it is. This
> peculiarity I have clumsily called "universality."[3]

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[1] Williams 1931, p. 583.

[2] Also conceivable are: universal abstractum, particular concretum, particular
abstractum and universal concretum. I presume that Williams would consider
these to be the same as those on the official list. His use of 'abstraction' in
the last sentence supports this.

[3] Williams 1931, p. 584.

Although it is a bit elusive,[1] this apparently expresses the view of an ontological realist. The phrase 'or in none', in the second sentence, suggests that a universal is, as it is often put, a one *over* many. It would appear then that some version of transcendent realism, or Platonism, is presupposed. If 'or in none' is disregarded or excused, the suggestion is instead that a universal is a one *in* many. The presupposed ontology would then be some version of immanent realism. The latter interpretation finds support in another paragraph, where a stipulation is made regarding the term 'generality'.

> The word "generality" […] is often employed to mean the same as "universality." I shall rather factitiously define it, however, to mean a realized universality, i.e., the fact of the actual existential presence of any universal in a considerable number of instances.[2]

I take it that the phrase 'actual existential presence in' is used literally.[3] On the other hand, the occurrence here of 'realized universality' suggests to some extent that unrealised universality is also reckoned with; this might be an expression of transcendent realism. While being a one in none is not considered to be in line with immanent

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[1] The enumeration — of essence, kind or character, as such — might evince a tristinktion between three different sorts of universals. If that is indeed the case, thing, quality and relation — which are listed immediately after the quotation — might be examples of (some of) these sorts. Presumably, quality and relation would be characters. It is less obvious what would be the universal counterpart of a thing. One possibility is that it is essence. It might also be kind. There is also another slightly different interpretation which is also possible to make. According to that, the referents of the terms 'quality' and 'relation' are particulars. The same of course holds for 'thing'. I hasten to add though that 'quality' and 'relation' are also used for universals. Furthermore, the term 'character' is also used in a wider sense. Cf. Williams 1931, p. 590, where the total universal content of Socrates is the intended referent of the phrase 'the character of Socrates'.

[2] Williams 1931, p. 584.

[3] The matter would have appeared differently if a phrase involving 'participation' had been chosen. This since 'participation' is frequently used by transcendent realists, who for sure do not intend it to imply that universals are spatio-temporal entities.

realism traditionally, being a one in (just) one is. On the other hand, the phrase 'realized universality' need not imply transcendent realism. If Williams were to use it, he might have unrealised combinations of universals in mind, where the included universals taken singly are realised. Immanent realism would then still be the presupposed view. The elusiveness of the text makes it difficult to establish exactly what form of realism is actually being expressed. The truth may even be that Williams oscillates between different versions of realism. However, he is a realist either way.

In the quotations presented so far we have come across several occurrences of the term 'instance'. As it turns out, it can have various senses. Williams calls attention to, and distinguishes between, two of them. Irrespective of which one of these is intended in a certain context, the existential presence of a universal is essential. This is evident from the next quotation. In it we also find information about the second notion on the list — that of the particular.

> A particular is defined by the contradictory of the above. It is an entity whose being is confined to and defined by its presence in some one event, instance, or area in space and time, or in a specific plurality or continuum of such. Specifically, its being is that of an occurrent, or continuant, or occupant, as such. This peculiarity I shall call "particularity." It is generally supposed that a particular can be an "instance" of a universal character. Usage differs, however, among other ways, in that it ascribes the name "instance" either, first, to the complete volume or concrete substance in which the character occurs as a component, or, second, to the character as it occurs. The second use seems to me more accurate and valuable, and I shall adopt it here.[1]

From this, together with what we have seen earlier regarding the notion of the universal, it is quite clear that a particular cannot be present in its entirety in several, separate places simultaneously.

The determination here is made in terms of space and time. Perhaps space and time are essential for the notion of the particular

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[1] Williams 1931, pp. 584-5.

as well as for that of the universal. This might be just appearance though. Put differently, whether the incapacity of a particular to be present in separate places simultaneously is due to its being a particular or if it is the other way round, is not clear from what is stated.[1] Whatever the exact answer is, there are two distinct senses of 'instance'. To illustrate this we can use a ripe tomato and the universal character redness.[2] In the first sense of 'instance' the tomato, in its entirety, is an instance of redness. Of course, the tomato is a particular, not a universal. What about the second sense of 'instance'? Well, according to the last quotation, such an instance is a character as it occurs. In our tomato example, redness would be such an instance as it occurs. The term 'component' is reserved for such instances. Williams' way of expressing himself may give the impression that the components of things are universals. Unfortunately,

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[1] In Campbell 1990, p. 56, it is reported that Williams once told the author that he was inclined to think of being a particular as a basic fact about every particular; his reason being that the extra-spatio-temporal should not be ruled out by the very notion of particularity itself. Although not depending on any unique location of any sort, the typical manifestation of being a particular, known to us, is unique spatio-temporal localisation. In Maurin 2002, pp. 20-1, Williams' view is reckoned to be in line with what the author believes is a thesis of G. F. Stout. It is that being particular accounts for certain facts regarding spatio-temporal position. Stout is quoted saying:

> Two drops of water, for instance, may conceivably be exactly alike except that they must have different positions in space, and whatever further differences this may involve. Why must they have different positions in space? Because they are distinct particulars. There is no other reason. This difference then presupposes their particular distinctness and cannot constitute it; but in all other ways there is nothing in their general nature to distinguish them. (Stout 1952, pp. 76-7)

I suppose the phrase 'different positions in space' here is short for 'different positions in space and time'. What Stout says in connection with this quotation makes it clear that he is not referring to particulars in general. He is, in fact, not claiming that being particular explains why particulars cannot share spatio-temporal location with each other. Some particulars supposedly do share such location. The particulars in question are what he calls 'abstract particulars'. Williams evidently is of the same view.

[2] This example is mine. Williams does not present any example of his own.

phrases like 'redness as it occurs', 'character as it occurs' or 'universal as it occurs' easily lend themselves to misunderstandings. However, a careful reading makes it quite clear that the intended references of these phrases are particulars. Thus, both 'instance' and 'component' refer to a universal as it occurs.[1]

In the last sentence of the last quotation we see that of the two distinguished senses of 'instance' the second is the one which is preferred by Williams. The presumption is therefore that whenever he uses 'instance', without any reservation, the intended referent is a universal as it occurs.[2]

Let us move on to the next pair. From the introduction of it we see that its two notions are considered to make up a more murky matter than those of the former pair.

> [T]he terms "abstract" and "concrete" have not been so often and explicitly argued as have "universal" and "particular." Perhaps for this very reason the confusion that has obfuscated the doctrine of the universal and the particular is as sunlight and crystal in comparison with the confusion that has enshrouded the doctrine of the abstract and the concrete.[3]

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[1] Cf. Williams 1931, p. 589, where instances of abstract universals are said to be abstract particulars. In Williams 1953*a* 'component' is used for the abstract particulars of Williams' later ontology.

[2] This having been said, the following question presents itself. What sense does 'instance' have in the second sentence of the last quotation? A particular is said there to be an entity whose being is confined to and defined by its presence in some one event, *instance*, or area in space and time, or in a specific plurality or continuum of such. If 'instance' has the second, preferred sense here, the result seems a bit odd. If a particular is present in an instance, that instance has the particular as a part. Perhaps a more plausible interpretation of this occurrence of 'instance' is that it has the sense of 'moment'. An instance is a point in time. This interpretation of course also applies to the determination given earlier of the notion of the universal.

[3] Williams 1931, p. 585.

Part of the ambiguity referred to here probably is the view that an abstractum *ipso facto* is a universal, or *vice versa*.[1] Furthermore, there are many different uses of the terms, especially of 'abstract'.[2] These also contribute to the state of confusion.

Williams' own determination of the notion of the abstract is indicated like this:

> I suggest that the more useful and consistent interpretation of "abstract" is to be found nearer the literal one:[3] that is, to designate the part that is artificially alienated from the whole to which it belongs; an element withdrawn from its natural existential context. Hence the propriety of such familiar connotations of "abstract" as fragmentary, isolated, impoverished, empty, thin, or tenuous.[4]

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[1] As a terrible warning to the rest of us, five distinguished philosophers, who allegedly identify the notions of the abstract and the universal, are mentioned: John Locke, John Dewey, Bertrand Russell, R. M. Eaton and Alfred North Whitehead. This list is not intended to be exhaustive. On the contrary, this particular identification is said to be found in countless influential philosophers. This is obviously a deliberate exaggeration. Being that, it is a so-called hyperbole — one of the tropes of rhetoric.

[2] Examples of such senses are indicated by terms such as 'fictitious', 'vague', 'confused', 'indefinite', 'indeterminate', 'rational' and 'conceptual'. Cf. Williams 1931, pp. 585-6. Still more senses, or at least connotations, are mentioned in the main text.

[3] Also mentioned, and rejected, is C. D. Broad's suggestion that abstracta are non-existent entities. Being non-existent they are not literally in time. In spite of that, they are real. Qualities and relations are included in the class of abstracta. Cf. Broad 1925, pp. 19-20. Another determination, which I believe can be found in Whitehead, is rejected as well:

> [T]o be abstract is to transcend particular concrete occasions of actual happening." (Williams 1931, p. 586)

Perhaps, these determinations are different versions of the view that abstracta are universals.

[4] Williams 1931, pp. 586-7. It is asserted immediately before this quotation:

> No moral turpitude, certainly, is involved in using "abstract" as synonymous with either "non-existent" or "universal." But something valuable is lost out of language and thought if such conduct results in obscuring a real and more appropriate distinc-

A crucial phrase here is 'natural existential context'. The sense of 'abstract' will vary with how the meaning of that phrase is fixed. Williams distinguishes two principal doctrines regarding this matter. The description of at least one of them involves the term 'concrete'. As a result, the determinations of the notions of the abstract and the concrete are interwoven with each other, which is what could be expected.

> There remain[1] two principal doctrines of the natural con-text. These are (a) the traditional atomistic and naturalistic assumption that it is what we ordinarily mean by a "solid concrete thing," a continuous and delimited volume of space or of space and time with all of its existent content; and (b) the idealistic and organismic assumption that it is what we ordinarily mean by a "system," a thread of structural unity with its ramifications, a coherent pattern or organization.[2]

Using the terms chosen by Williams, the natural existential context according to the atomistic doctrine is a *chunk*. The counterpart context of the organismic doctrine is a *web*. Thus, the atomist takes chunks to be the concrete entities. He considers anything which, in a certain sense, is less than a chunk to be abstract. According to the idealist, the concrete entity is a web. He considers anything which is

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tion which the words would otherwise mark.

Williams' claim here is en clair that he has both reason and etymology on his side.

[1] According to a third interpretation, found in Whitehead, the phrase 'natural existential context' has the same meaning as the phrase 'the world of existence in general'. The stated reason for rejecting it is that

> […] the resultant meaning of the word "abstract" is already supplied by the words "subsistent" and "universal." (Williams 1931, p. 587)

If this is supposed to imply that 'universal' has the same sense as the phrase 'the world of existence in general', it comes as a surprise. This seems to be in conflict with the sense assigned to 'universal' earlier in the article. I suppose Williams' intention is not to abandon the latter sense.

[2] Williams 1931, p. 587.

less than a web — even though it might be a chunk —to be abstract. Williams prefers the atomistic proposal. His justification for this reads:

> […] I beg leave to adhere for the rest of this paper to what I call the atomistic usage, not because I think the atomist's metaphysics is better, but because I think this usage is the more prevalent one, nearer the original sense of the word, and better capable of illuminating and consistent development.[1]

The denial here of the claim that the atomistic doctrine is better than its rival is probably not completely sincere. This doctrine is most likely thought of as being an example of what has occurred in a profitable moment of the ongoing discussion.[2] However that may be, the statements underline the notion that stipulations are what can be offered.

The proposals regarding the notions of the concrete and the abstract are as follows:

> A concrete entity is one which affords or can afford the total content of a spatio-temporal volume, or of a chunk. An abstract entity is one which does not and cannot afford the total content of a[3] spatio-temporal volume, or chunk.[4]

Presumably, the total content of a volume is nothing less than its total content. If a distinction is made between contents of categorially different sorts, the total content of a chunk is the totality of both, or all, its sorts of contents. In the case of a spatio-temporal volume the total content does not coincide with just its universal content. The latter should therefore, not least for the sake of clarity, be called something else. An obvious choice is 'total universal content'. Evidently, the term 'total content' is potentially ambiguous. I suspect

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[1] Williams 1931, p. 587.

[2] Cf. the first quotation of this chapter.

[3] A more transparent way of expressing the thesis would be to use 'any' here, instead of 'a'.

[4] Williams 1931, p. 588.

that Williams does not notice this ambiguity. This suspicion is more
or less corroborated by what he says later regarding the notion of the
concrete universal.

The characterisation of an abstract part — when artificially
alienated from its natural existential context — as being fragmentary,
isolated, impoverished, empty, thin or tenuous suggests that it is
dependent on its surrounding. The latter being the chunk it belongs
to. This might be in conflict though with a principle stated in
Williams 1953b. According to this principle there is no entity which
depends on any whole which it is a part of; nor does it depend on any
other part of the whole.[1]

In the last quotation, reference is made to space and time. One
may wonder what the significance of that is. Does the phrase 'being
abstract' more or less have the same meaning as 'not filling up any
space-time volume'? And, consequently, does 'being concrete' more
or less mean the same as 'filling up some space-time volume'? Since
the statements are supposed to be definitions[2] of the two notions, the
suggestion is that the reference to space-time is essential. In any case,
it is perfectly clear that no abstract entity can afford the total content
of any spatio-temporal volume. This is stated once more in the next
quotation. A concrete entity, on the other hand, can afford the total
content of some spatio-temporal volume.

2.2.3 The Combination of the Two Pairs

As reported, each notion of the pair abstract–concrete is supposed to
be combinable with each one of the pair universal–particular. The
first resultant compound notion is that of the abstract universal. The
determination of it is as could be expected.

> Triangularity is an abstract universal. It is universal in that
> it is an entity which can be identically present or exem-

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[1] Cf. Williams 1953b, p. 189, where it is stated:

> Part does not depend on part, nor whole on whole, nor part on
> whole, and that whole does depend on part is for the trivial
> reason that the whole is at least the sum of its parts.

[2] The description of them is that are informal definitions.

plified in any number of spatio-temporally distinct occur-
ences. It is abstract in that it does not exhaust the total
content of any one of the spatio-temporal volumes in
which it occurs. An existent chunk cannot be triangular
and nothing else. The same status is possessed by such
entities as justice or the number three, and […] by qualities
like blueness and by relations like betweenness.[1]

The message of this is fairly clear, though the combined use of the
phrases 'spatio-temporally distinct occurrences' and 'the spatio-
temporal volumes in which it [i.e., triangularity] occurs' may obscure
it a bit. Most of the time, if not consistently, the term 'occurrence' is
used by Williams to refer to a particular which lacks spatial volume.
An instance of triangularity is such a particular. The notion that
triangularity does not exhaust the content of any chunk indicates that
it is abstract. Thus, its being universal and its being abstract
respectively are determined in the quotation by reference to two
different sorts of particulars. A slightly different way of characterising
the ontological status of the same universal would be as follows:
Since it can simultaneously be exemplified by several, separate
chunks, it is universal. Since it does not exhaust the total universal
content of any chunk, it is abstract as well. When applied to a
relation, this should be interpreted as saying that it can simultaneously
be exemplified by several, separate *n*-tuples of relata. However, it
does not exhaust the universal content of any such *n*-tuple of relata.

The second compound notion is that of the concrete particular.

This table is a concrete particular. It is particular, by the
usual opinion, because it is confined to here and now, or
to a space-time tube uniquely continuous with here and
now, and has not the peculiar space- and time-leaping
identity of a universal. It is concrete, because it is a chunk,
the total content of a definable spatial or spatio-temporal
volume. A concrete particular is thus properly called an
"individual" by those persons who mean by the latter

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[1] Williams 1931, p. 588. The context suggests that 'qualities' and 'relations'
refer here to universals, not particulars.

word a substantial occurrent chunk, with all its occurrent attributes.[1]

Note that a concrete particular is explicitly said here to be the total content of a spatio-temporal volume. Obviously, this is not the same as saying that its universal content is the total content of the same volume. The disjunction — i.e., that it is the total content of a definable spatial *or* spatio-temporal volume — suggests that, at least two different notions of the concrete are contemplated.[2]

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[1] Williams 1931, p. 588. The sense of the term 'individual' mentioned here is the one referred to in the beginning of section 2.2.1.

[2] Similar hints can be found in later articles. Williams 1953*b*, pp. 173-4, provides a sample:

> [A] surface does seem to occupy a sort of borderline status, but this is no more than our doctrine entails, for we have expressly denied that "between the abstract and the concrete there can be no intervening stages." As the shape is to the surface, perhaps, so the surface is to the solid. The bigger difference is that a surface is "concrete" in two dimensions as a triangle on it is not concrete at all. This sort of quasi-concreteness, we note, belongs also to an instantaneous three-dimensional solid in comparison with one which is appreciably extended in time. Only an old familiarity with the terms of geometry, I think, makes anyone suppose that a surface or an instantaneous solid has in any fundamental way a more robust being than a four-dimensional shape or temperature.

A spatially three-dimensional solid is described here as being quasi-concrete, indicating that the temporal dimension is required for being (fully) concrete. This is confirmed in Williams 1951, p. 459: "[A] concrete object can no more exist with zero duration than with zero breadth and length." Perhaps, this reason is from symmetry. What holds with regard to space should do so with regard to time as well. Furthermore, the phrase 'sesqui-concrete — concrete and a half, so to speak' is used for describing a set. Cf. Williams 1953*b*, p. 174. Although it is not obvious what the intended sense of the phrase is, I would say that being concrete and a half is a suitable description for some of the entities which he came to classify as tropes. That it has been denied expressly that there cannot be any intervening stages between the abstract and the concrete might mean that they both can appear in degrees. That concreteness appears in degrees is explicitly asserted in Williams 1931, p. 590. In Williams 1953*a*, p. 6, the same is said to hold with regard to the abstract.

The notion of a concrete particular, as exemplified by a certain table, is described above as being a substantial occurrent chunk with all its occurrent attributes. This brings to fore the intricate question whether instances of substantial forms are reckoned with. Unfortunately, it is not possible to extract more information about this issue from Williams 1931. I will come back to it below when discussing the moderate nominalism of his later articles.[1]

At this point, we have come to the third compound notion, which is that of the abstract particular. It has been referred to quite a few times already.

> [S]urely there are abstract particulars, too. We have defined and exemplified the abstract universal; and we have defined an instance. Now, an instance of an abstract universal is an abstract particular. Just this occurrence of the shape of this table is an abstract particular. A sneeze is an abstract particular. The grin of the Cheshire cat was an abstract particular. […]
>
> Each of these things is particular because it is by definition confined to an immediate spatio-temporal occasion or continuity. It is abstract because it is less than the whole chunk in which it inheres, less than any volume of which it is an element. It is less than a volume or chunk in a peculiar and otherwise nameless way, and not in the ordinary way in which a little chunk can be part of a big chunk, so that it is peculiarly important to retain the word "abstract" to mean just this way of being less than any whole chunk.[2]

Although they are not explicitly mentioned here, instances of relations are of course abstract particulars as well. The same would hold for instances of substantial forms. Furthermore, abstract particulars are what have been referred to as instances — in the second sense of 'instance'.

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[1] My impression is that instances of substantial forms are recognised in his later articles. They are not mentioned more than in passing though. Cf. Williams 1953*a*, p. 10, 1953*b*, p. 189, and 1986, p. 6.

[2] Williams 1931, p. 589.

In the second paragraph of the last quotation we find an important piece of information regarding the notion of the abstract. An abstract thing is said there to be less than any volume of which it is an element. Due to the occurrence of the word 'any', the characterisation is in line with the hypothesis that the senses of 'being abstract' and 'not filling up any spatio-temporal volume' are intimately related. Hence, the suggestion is that an abstract entity is non-extensionally less than the whole which includes it. A concrete part, on the other hand, is extensionally less than the including whole. It seems to be taken for granted here that the including whole is a chunk.[1]

The phrase 'abstract particular' became part of the philosophical vocabulary thanks to G. F. Stout.[2] Williams makes several references to him. In one of these references, he mentions particular roundnesses.

> [T]he category of abstract particularity accommodates very well, although it does not demonstrate the final validity of, Mr. G. F. Stout's conclusion that "Each billiard ball has its own particular roundness, separate and distinct from that of any other ball."[3]

The sentence within quotation marks[4] does not specify whether the roundness of a billiard ball is an instance of the universal roundness. According to Stout, it cannot be an instance in that sense; however, this is due to his being a nominalist. He advocates a kind of class nominalism, which is also a moderate nominalism. Notwithstanding that, Williams considers him to be an ally when it comes to the notion of abstract particular.

The fourth and last compound notion is that of the concrete universal.

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[1] In later articles concrete parts of abstract wholes are reckoned with. Such wholes fit the description of being concrete and a half.

[2] Cf. Stout 1923, p. 114.

[3] Williams 1931, p. 589.

[4] It originates from Kemp-Smith 1927, p. 394.

The easiest way to define a genuinely concrete universal
would be: that it is that of which a concrete particular is or
can be an instance. A concrete universal is a compound or
complex universal which is concrete in that it is adequate
to exhaust the content of a total existent volume or chunk,
and yet a universal in that it might be realized and identical
in any number of existent chunks.

[---] A concrete universal would be the superlative
degree of what he [G. Santayana] calls "complex" or "syn-
thetic" essences — such an essence, to use his example, as
"my dog's nature," or, to use a familiar historical instance,
the exact whole nature of just this kind of table. The
adequate and analytic description of an "individual form"
of this sort would perhaps require an infinite number of
adjectives, infinitely hyphenated.[1]

It appears from the first paragraph that a concrete universal is that of
which only a concrete particular is or can be an instance. Thus, the
concreteness of a concrete universal is due to its exhausting the
universal content of a concrete particular. In the second paragraph
Williams seems prepared to consider kinds as being concrete univer-
sals. Or, perhaps he is reporting what he considers to be a common
use of the term 'kind'. If he decides on the former, the notions of
kind and of individual form collapse into each other. Yet a third name
for the same notion would be 'truly *infima species*' as found in the next
quotation. Note that if the term 'content' is used a bit indeter-
minately, it may result in the appearance that a concrete universal is
identical with a concrete particular.[2] Williams ascribes such a view to
G. W. Leibniz.

If we identify degrees of such complexity or hyphenation
with degrees of concreteness, we may expatiate by saying
that the defining character of a species is more concrete
(i.e., nearer concrete) than that of its genus, and so forth.
A thoroughly concrete universal is the defining character

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[1] Williams 1931, p. 590.

[2] This squares with what has been pointed out regarding an ambiguity of
'total content'.

> of a truly *infima species*. Leibniz believed that such a concrete universal must be *ipso facto* a particular thing or person, because he believed in the identity of indiscernibles. We need only admit, however, that a concrete universal, being perhaps infinitely complex, is perhaps infinitely unlikely to be manifest in a plurality of instances; and this is a different matter.[1]

The notion of a truly *infima species* is identified here with that of the total (universal) content of a concrete particular. This, according to the view ascribed to Leibniz, makes it identical with the concrete particular it is the content of. Evidently, this is in conflict with what Williams' view should be. The way he uses the term 'concrete', in 'concrete universal', suggests to some extent that he implicitly agrees with the alleged Leibnizian view. Remember that each notion of the two pairs of distinctions is supposed to be combinable, without any restrictions, with each one of the other pair. This supposition includes that each one of the four simple notions is the same in each combination. The term 'concrete' in 'concrete particular' supposedly has the same meaning as the term 'concrete' in 'concrete universal'. The same should hold *mutatis mutandis* with regard to the 'abstract' of 'abstract particular' and 'abstract universal'. But can this supposition hold? Well, in the phrase 'concrete particular' the term 'concrete' bears upon the total content of a chunk. In 'concrete universal', on the other hand, it only has bearing on the total universal content of a chunk. The same holds *mutatis mutandis* with regard to the 'abstract' of 'abstract universal' and of 'abstract particular'. Keep that in mind when reading the next sentence.

> Most dictionaries define the two [i.e., 'universal' and 'abstract'] by reference to one another, and often the only way to explain to the recalcitrant student what a "universal" is, is to tell him it is an "abstraction."[2]

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[1] Williams 1931, p. 590.
[2] Williams 1931, p. 586.

In context, the implication[1] here is that the dictionary writers, as well as the teachers answering recalcitrant students, are mistaken. I would say that they cannot be completely wrong though. After all, how could something universal ever be anything other than abstract? No matter how complex the universal content of a concrete particular is, it can only exhaust its universal content. Thus, in the true sense it can never be more than abstract.

The notion that a concrete particular is some sort of compound of abstract particulars seems to suggest itself here. In spite of its importance, this issue is not more than touched upon in Williams 1931. Some of the few pieces of information there are can be found in the following, somewhat cryptic, statement:

> One way of phrasing the opposite characteristics of the abstract universal and concrete particular is to say that each of them evinces its own kind of "unity in diversity." An abstract universal is a unity of character pervading a diversity of occurrences. A concrete particular is a unity of occurrences which invests a plurality of characters. A completely abstract particular or (probably) a completely concrete universal misses each characteristic unity-in-diversity of its type.[2]

In the third sentence 'occurrences' is used, instead of 'abstract particulars' or 'instances'. This choice of term muddles the message to some extent. The singular form of the verb, 'invests', contributes to the confusion. A better phrasing of what probably is the intended message of the third sentence is: a concrete particular is a unity of abstract particulars, of which each invests a character.

Williams does not postulate the existence of any substratum. It is therefore likely that the proposed ontology is a so-called bundle theory.[3] His particular version of the bundle theory should be con-

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[1] It is perhaps more accurate to say that it is an insinuation.

[2] Williams 1931, p. 592.

[3] A third possibility is that he is contemplating a network theory. More will be said about this alternative to substratum and bundle theories in the last chapter.

sistent with moderate realism. The view ascribed to Leibniz in an earlier quotation more or less identifies a concrete particular with a bundle of universals. Evidently, Williams cannot agree with such a view on concrete particulars. Instead, he should take concrete particulars to be instances of concrete universals. An alternative denomination of compound universals of such complexity is of course 'bundle of universals' — or, more accurately, 'complete bundle of universals'. This having been said, there still remains much explaining to do concerning how abstract particulars compose a concrete particular of which they all are components.

The last quotation also has some bearing on the sense of the term 'instance'. The same issue comes to fore in another passage, which has already been quoted.

> The easiest way to define a genuinely concrete universal would be: that it is that of which a concrete particular is or can be an instance.[1]

A concrete particular obviously is an instance of a concrete universal in the first sense of 'instance'. How could it not be? This concrete particular is also an instance of the same concrete universal in the second sense of the term 'instance'. In reason, nothing less than a concrete particular can be as universal as this. Thus, with regard to the instances of concrete universals, the two senses collapse into each other.

2.3 Williams' Trope Theory

2.3.1 Overview

Williams' most celebrated notion, trope, is presented in section 2.3.3. Preparations for that discussion are made in section 2.3.2. By means of that notion Williams claims that he can give an account of properties and relations which steers clear of the alleged mistakes inherent in realism as well as in traditional forms of nominalism.

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[1] Williams 1931, p. 590.

Besides that, it is assigned the role as a building stone of reality.[1] In what follows, these two things will not be kept strictly apart. My, perhaps poor, excuse is that Williams himself does not keep them apart.

Sections 2.3.4 and 2.3.5 deal with Williams' views on concrete objects. After that his views on what should substitute for universals are discussed. Evidently, the latter subject is a central one for any nominalistic ontology. In two short sections, sections 2.3.6 and 2.3.7 respectively, so-called 'painless realism' and predicativity are discussed briefly. Painless realism gives expression to a strategy which is quite common among moderate nominalists, however abortive. The last subject is evidently an essential notion of any ontology. I would say that it is something of a touchstone. In Williams' case it turns out that only relations are looked upon as being predicative.

2.3.2 Parts and Components

According to Williams, metaphysics is anchored to experience. This view is expressed clearly in the following two sentences.

> Metaphysics is the thoroughly empirical science. Every item of experience must be evidence for or against any hypothesis of speculative cosmology, and every experienced object must be an exemplar and test case for the categories of analytic ontology.[2]

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[1] Fredrik Stjernberg calls attention to the fact that tropes are introduced for two different reasons.

> [O]ne is to give an account of properties, the other is to present tropes as the fundamental building blocks of the world. Tropes are allegedly the fundamental entities in the world, things that make up everything else. (Stjernberg 2003, p. 37)

He is inclined to believe that this is one task too many. Cf. Stjernberg 2002, p. 44.

[2] Williams 1953*a*, p. 3.

The purpose of illustrating the categories[1] of analytic ontology is well in line with the view expressed here, to use commonplace examples instead of more dignified ones. Since examples of the latter kind are, in Williams' own words, "darkened with a patina of tradition and partisanship", a commonplace example may even be a better choice. Consequently, it is not surprising that among his examples there is one which stars three lollipops. From what is stated at the end of the first paragraph of the next quotation, we realize that great things are expected from this example:

> Let us […] imagine three lollipops, made by a candy man who buys sticks from a big supplier and molds candy knobs on them. Lollipop No. 1 has a red round peppermint head, No. 2 a brown round chocolate head, No. 3 a red square peppermint head. The circumstance here which mainly provokes theories of subsistence[2] and inherence is similarity with difference: each lollipop is partially similar to each other and partially different from it. If we can give a good account of this circumstance in this affair we shall have the instrument to expose the anatomy of everything, from an electron or an apple to archangels and the World All.
>
> My chief proposal to that end may be put, to begin with, as nothing more tremendous than that we admit literally and seriously that to say that *a* is partially similar to *b* is to say that a part of *a* is wholly or completely similar to a part of *b*.[3]

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[1] In Williams 1931 'category' occurs twice. The indication is in both that abstract particularity is a category. Presumably, the same holds with regard to abstract universality, concrete particularity and concrete universality. Being a nominalist in his later articles, he has reductive ambitions concerning universals. Abstract particularity is declared to be the single fundamental category. It can be expected that other categories are supposed to be reducible to the fundamental one.

[2] Although it is suggested here that subsistence is an essential notion, Williams does not discuss it any further; at least not under that name.

[3] Williams 1953*a*, p. 4. Williams uses phrases such as 'wholly similar', 'completely similar', 'exactly similar', 'precisely similar' and 'perfectly similar' as

Mark well the statement of the second paragraph: "to say that *a* is partially similar to *b* is to say that a part of *a* is wholly or completely similar to a part of *b*." This wording has the appearance of a semantic principle but can easily be paraphrased into an ontological idiom. It then reads: every partial similarity between entities presupposes a complete similarity between parts of each. I strongly suspect that Williams does not regard it to be especially important to distinguish between these two versions of the principle and therefore embraces them both. Henceforth, when I use the definite description *the similarity principle*, I will be referring to the ontological version of it. Do not fail to notice that this principle is put forward here as the chief proposal regarding which instruments to use when exposing the anatomy of everything. From what is stated in the next quotation, it is evident that it is supposed to be completely general.

Some of the entities appearing in his examples are given proper names of their own. The example with the three lollipops is a case in point. Since these names will be mentioned and used from now on, I may as well introduce some of them. The three lollipops themselves are called 'Heraplem', 'Boanerp' and 'Rindesta'.[1] Heraplem's stick is called 'Paraplete'. 'Merrinel' is the name of Boanerp's stick. Rindesta's stick remains nameless. More names will appear as we proceed.

The lollipop affair gives proof of a number of similarities. Among these is the similarity between Paraplete, Merrinel and their nameless colleague, which is stipulated to be exact,[2] as a result, Heraplem, Boanerp and Rindesta are partially similar to each other. An explanation Williams provides for the situation is that the lollipops are partially similar with respect to stick. It seems more

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synonyms. In what follows I will do likewise.

[1] While the first two names occur already in Williams 1953*a*, the third does not do so until Williams 1986. Due to a misprint 'Rindesta' is said there to be a (new) name of lollipop No. 2. It is clear though, from the description of it, that 'Rindesta' is intended to be the name of the hitherto nameless lollipop No. 3 of Williams 1953*a*.

[2] In Williams 1953*a*, p. 4, it is said that, on physical grounds, it is not likely that any solid objects are exactly similar to each other. It is intelligible though to stipulate that some of them are.

appropriate to say that they are exactly similar with regard to stick. Be that as it may, let us move on and acquaint ourselves with some of the other similarities. In doing that we witness the introduction of entities called 'property cases'. Evidently, these are closely related to the instances of Williams 1931.

> But what now of the rest of each lollipop and what of their more subtle similarities, of color, shape, and flavor? My proposal is that we treat them in exactly the same way. Since we can not find more parts of the usual gross sort, like the stick, to be wholly similar from lollipop to lollipop, let us discriminate subtler and thinner or more diffuse parts till we find some of these which are wholly similar. […] Just as we can distinguish in the lollipops Heraplem and Boanerp the gross parts called "sticks," namely, Paraplete and Merrinel, so we can distinguish in each lolli-pop a finer part which we are used to call its "color" and another called its "shape" — not its kind of color or shape, mind you, but these particular cases, this reddening, this occurrence or occasion of roundness, each as uniquely itself as a man, an earthquake, or a yell.[1]

I take it that the description of the property cases as being parts of their respective lollipops is meant literally. Compared with the gross parts, cases are but finer parts of the including lollipops. Further-more, each part of a lollipop is thought of as being a particular. Regarding the notion of the particular, it is asserted in another place:

> [P]articular entities are those which do not conform to the principle of the identity of indiscernibles,[2] which is that identity of kind entails identity of case; that is, particulars

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[1] Williams 1953*a*, pp. 4-5.

[2] In McTaggart 1921, p. 101, an apposite remark is made regarding this designation of the principle:

> The name ['The Identity of Indiscernibles'] […] is not a good one. For the principle does not assert that there are indiscernibles which are identical, but that there is nothing which is indiscer-nible from anything else. It would be better to speak of the Dis-similarity of the Diverse.

are entities which may be exactly similar and yet not only distinct but discrete.[1]

The phrase used here to express Leibniz's principle is 'identity of kind entails identity of case'. Incidentally, it seems as if a consistent adherent of the principle would not recognise cases. After all, what would be the purpose of recognising such entities if exactly similar ones are supposed to be identical? There would be a point if they were never more than almost exactly similar to each other. Never mind that though.[2] Instead, reflect on another question and its answer: Since particulars have the capacity of being exactly similar, while still not being numerically identical, with each other, what entities do actually conform to the principle? Williams' answer is: Universals.[3] Coming from a nominalist this has the appearance of being problematic at the very least.

Another issue not touched upon above is whether two property cases can be partially similar to each other. We have seen it declared that such subtle similarities should be treated in the same way as other similarities. Thus, the similarity principle is supposed to be applicable to property cases as well. Partial similarity between two cases implies that at least one of them has a part of some sort. This part is either exactly similar to the other case or each case has a proper part which is exactly similar to a part of the other. I hasten to add though that Williams might hold conflicting views regarding the similarities between entities such as these. The determining principle of one of these views is the similarity principle; it is more difficult to grasp what that of the other view is. I will come back to this below.

In connection with the introduction of property cases Williams starts to use 'part' in a more narrow sense. From then on it refers especially, but not consistently, to what has been described up to then

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[1] Williams 1986, p. 3. A distinction between being discrete and being distinct is hinted at here. Whatever it amounts to, no further use seems to be made of it.

[2] I will come back to this matter in a footnote in chapter IV.

[3] Cf. Williams 1986, p. 8. Cf. also Williams 1963, p. 615, where we are informed that what we mean when we say that certain entities are particulars is that they do not obey the principle of the identity of indiscernibles.

as gross parts of things. The term 'component' is reserved for their finer parts. There is also the term 'constituent'. It covers gross as well as fine parts. In spite of this terminological distinction, components are essentially thought of as being parts of their including wholes.[1] Williams' repeated use of the term 'part', when referring to property cases, is circumstantial evidence of this.

As one might expect, there are proper names in store for some of the property cases mentioned so far; as well as for some soon to be mentioned. For example, Rindesta's colour case is christened 'Rastoc'.[2] Two other new names appear in the next quotation along with some confirmation and reiteration of some previous notions.

> […] Heraplem and Boanerp are partially dissimilar in as much their knobs or heads are partially dissimilar because some of their finer parts, for example, Harlac and Bantic, their colors, are dissimilar.
>
> In like manner, to proceed, we note that Harlac, the color component of No. 1 (Heraplem), though numerically distinct from, is wholly similar to the color component of No. 3. But No. 1 has not only a color component which is perfectly similar to the color component of No. 3; it has also a flavor component perfectly similar to the flavor[3] component of No. 3. [---]
>
> Crucial here, of course, is the admission of a "fine" or "subtle" part, a "diffuse" or "permeant" one, such as a resident color or occurrent shape, to at least as good

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[1] Anna-Sofia Maurin points out that this is the appropriate imagery, proposed by Williams, for the properties of things. According to her, this part-imagery yields three traits of the property cases: simplicity, particularity and abstractness. Cf. Maurin 2002, pp. 9f. I am not sure whether Williams is supposed to actually agree with all of this. Anyhow, the sense Maurin assigns to the term 'abstract' is not the one Williams has in mind for it. Furthermore, I am quite certain that she does not want to claim that any of the enumerated traits themselves appear as property cases. As will be seen below, Williams is not entirely out of sympathy though with concreteness, and by implication abstractness, doing that.

[2] The first appearance of it is in Williams 1986.

[3] The flavour cases remain nameless.

standing among the actual and individual items of the world's furniture as a "gross" part, such as a stick. The fact that one part is thus finer and more diffuse than another, and that it is more susceptible of similarity,[1] no more militates against its individual actuality than the fact that mice are smaller and more numerous than elephants makes them any the less real.[2]

Immediately after this, he states that the fine parts of things are described as being abstract and their gross parts are described as being concrete. In the following passage, Williams 1953*a* introduces the pair 'concrete' and 'abstract'.

> To borrow now an old but pretty appropriate term, a gross part, like the stick, is "concrete," as the whole lollipop is, while a fine or diffuse part, like the color component or shape component, is "abstract." The color-cum-shape is less abstract or more concrete or more nearly concrete than the color alone but it is more abstract or less concrete than color-plus-shape-plus-flavor, and so on up till we get to the total complex which is wholly concrete.[3]

In an earlier quotation we saw the phrase 'the World All' being used. It strongly suggests that an entity including everything is assumed; perhaps the phrase 'the Big It'[4] does so to a larger degree. Whether any counterpart entities in the other end are also reckoned with is less certain. One looks in vain for clear-cut information with regard to something being "wholly abstract".

Later in the same article there is a characterisation of the abstract, which refers to the one given in Williams 1931.

> At its broadest the "true" meaning of "abstract" is partial, incomplete, or fragmentary, the trait of what is less than its whole. […] The more usual practice of philosophers […]

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[1] I take it that 'similarity' here is short for 'exact similarity'.

[2] Williams 1953*a*, p. 6.

[3] Williams 1953*a*, p. 6.

[4] Cf. Williams 1986, p. 2.

> has been to require for "abstractness" the more special
> sort of incompleteness which pertains to what we called
> the "thin" or "fine" or "diffuse" sort of constituent, like
> the color or shape of our lollipop, in contrast with the
> "thick," "gross," or chunky sort of constituent, like the
> stick in it.[1]

The noun 'chunk', found in the early article, appears here in its adjective form 'chunky'. Furthermore, I take it that by using the phrase 'the more special sort of incompleteness', the characterisation made earlier of being, in a certain sense, less than an including whole is alluded to. What is stated here regarding the abstract lets itself be interpreted in line with the doctrine of Williams 1931.

In both the early and the later articles, there is something of a suggestion that the notions of the abstract and the concrete form a continuum. At one extreme we find the wholly concrete entities. Presumably, being wholly concrete is being as concrete as anything can get. Lollipops are such wholly concrete entities.[2] So are their sticks. It is less evident what can be expected at the other end of the continuum. Nothing is explicitly singled out as being wholly abstract. There are a few possible hints though, such as the remark that colour-cum-shape is less abstract than colour alone and that the former is more abstract than colour-plus-shape-plus-flavour. The evident implication here is that a single property case is more abstract than a complex of several property cases. Single property cases might therefore be found at the other end of the continuum. If a property case itself has some sort of constituents, the latter would be even more abstract. Part of the message of the following quotation seems to imply that at least some property cases do have constituents.

> We need not propose that a red sensum, for example, is
> perfectly abstract (whatever that might be). But even
> though it has such distinguishable components as a shape
> and a size as well as a color, and though the color itself

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[1] Williams 1953*a*, p. 15.

[2] I suppose that the maximum entity, given that it exists, is bound to be wholly concrete.

involves the "attributes" of hue, brightness, and saturation, still it is abstract in comparison with a whole colored solid.[1]

The suggestion here is that a colour case has cases of hue, brightness and saturation as components. The quotation marks around 'attributes' may evince uneasiness about cases of properties themselves having properties.[2] Regardless, I suppose the latter three are more abstract than the colour case itself. We may have reached rock bottom at this point, at least in the sense that there is nothing in the colour case which is more abstract still. Though it may be that the insertion within parentheses is an expression of the strategy that better not be too certain.[3]

The reflections made above concerning the constituents of property cases being more abstract than the property cases themselves may appear perfectly sound. It will be evident though, from what is reported in the next section, that it is not true that for all abstract particulars each of their parts are more abstract than their including wholes. This paradoxically sounding thesis is in accordance with Williams' doctrine due to a stipulation made in his definition of trope.

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[1] Williams 1953*a*, pp. 17-18.

[2] The possibility of there being a level of sub-properties, and perhaps even further levels below that, threatens to invalidate the model according to which property cases are the fundamental building blocks of reality.

[3] To bring out the matter in relief, Whitehead, who is referred to in Williams 1931, concerning another matter, can be mentioned. He accepts neither an all inclusive entity, nor a smallest one. He takes reality to be topless as well as bottomless. Furthermore, between any two entities *a* and *b*, where *a* is a proper part of *b*, there is supposed to be an entity *c* which has *a* as a proper part and is itself a proper part of *b*. Cf. Whitehead 1916 and 1919. Incidentally, Anaxagoras seems to have been an early advocate of this view. Cf. Barnes 1987, p. 227. David Lewis proposes the denomination 'atomless gunk' for an entity satisfying the given description. Cf. Lewis 1990, p. 20.

2.3.3 The Alphabet of Being: Tropes

Although he is not the inventor of the term 'trope', Williams' name will forever be associated with it in its ontological sense. Moreover, it has a long history in rhetoric, where 'trope' is the catchall term for expressions used figuratively, as metaphors, synecdoches, metonymies etc. Williams is of course well aware of this, even if his source of inspiration is not rhetoric. If anything or anyone is to be singled out as being that, it would be George Santayana. But, the sense he gives the term is not the one Williams has in mind.

> Santayana […] used "trope" to stand for the *essence* of an *occurrence*; and I shall divert the word […] to stand for the abstract particular which is, so to speak, the *occurrence* of an *essence*.[1]

Santayana's sense of 'trope' seems to be that of 'universal', where the sense of the latter is compatible with realism. While the notion of universality was recognised and assigned a prominent role in Williams 1931, it is now considered almost useless.[2] In any case, from what is stated in this quotation we learn that tropes are abstract particulars. This is confirmed several times. Unfortunately, it turns out that the notion of abstract particular is rather complicated. That complexity rubs off on the notion of trope. We find proof of that in the paragraph in which it is introduced. What follows is approximately the first half of that paragraph.

> I propose now that entities like our fine parts or abstract components are the primary constituents of this or any possible world, the very alphabet of being. They not only

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[1] Williams 1953*a*, p. 7.

[2] In the main text I have shortened the quotation a bit. In full it reads:

> Santayana, however, used "trope" to stand for the *essence* of an *occurrence*; and I shall divert the word, which is almost useless in either his or its dictionary sense, to stand for the abstract particular which is, so to speak, the *occurrence* of an *essence*.

The dictionary sense of 'trope' is of course that of rhetoric. Why it is condemned as being almost useless is a complete mystery to me.

are actual but are the only actualities, in just this sense, that whereas entities of all other categories are literally composed of them, they are not in general composed of any other sort of entity. That such a crucial category has no regular name is quite characteristic of first principles and is part of what makes the latter worth pursuing. A description of it in good old phraseology has a paradoxical ring: our thin parts are "abstract particulars."[1]

This expresses a view on what are the building blocks of reality. Moreover, a careful reading of it proves that two rather different tendencies can be discerned. One of these is suggested by the metaphor *the alphabet of being*. The description of the abstract components as being the primary constituents of this or any possible world makes the same suggestion. Both indicate that the entities referred to are fundamental in some sense. One aspect of that is the picture of them that is conjured by the metaphor being the letters, rather than the syllables, of being. As the letters of being, one would expect them to be simple entities. The sundry complex entities constituted from them would be the syllables of being. The same tendency is enhanced by the message of the first two-thirds of the second sentence that states that the entities of the other categories are

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[1] Williams 1953*a*, p. 7. In a footnote, placed where the quotation ends, a reference is made to Williams 1931:

> I argued the general legitimacy of such a category [i.e., that of the abstract particular] in "The Nature of Universals and of Abstractions" […].

As pointed out earlier, the term 'abstract particular' is also used by Stout for a key notion of his ontology. In Williams 1953*a*, p. 12n, we are informed that Stout's ontology and his own are almost identical. The difference between the two concerns the notion of class.

> [I]f there is a difference it is in his obscure idea of the class as a unique form of unity not reducible to similarity.

Stout's class nominalism is vaguely hinted at here. Being elements of the same class is the basis for being similar. What Williams asserts, interpreted *e contrario*, implies that his view is quite the opposite: entities are elements of the same class because of their similarity. Cf. Seargent 1985 for an excellent account of Stout's ontology.

composed of entities of this category. This first tendency can be paraphrased using a metaphor: each entity which is not a letter of the alphabet of being is composed of entities which are such letters.

There are also traces of a second tendency. The last one-third of the second sentence of the quotation makes the assertion, "they are not in general composed of any other sort of entity." In context, the phrase 'in general' indicates that some of the primary constituents of being are composed of entities of other sorts. Strangely enough, these latter letters of being look more like syllables of being. Naturally enough, the metaphor suggests that any complex entity *prima facie* deserves the description of being a syllable. This would be particularly accurate for categorially mixed entities. Judging from the actual wording, these latter letters are thought of as having other sorts of entities as parts. In reason, 'sort' is an alternative for 'category' here.

A notion of category is explicitly made use of twice in the last quotation. It is quite clear that Williams considers there to be more than just one category. This is particularly clear from the saying, "whereas entities of all other categories are literally composed of them". I take it that the thin parts of things are what are meant by 'them' here. They are also referred to as being abstract particulars. A crucial question is whether the other categories are supposed to be reducible to that of abstract particularity. Perhaps that is something which is supposed to follow from the claim that the entities of the other categories are literally composed of abstract particulars.

I think we are ready to acquaint ourselves with the definition of trope. From now on I will use 'the definition of trope', 'the trope definition' and similar phrases when I am referring to the following formulation:

> A trope then is a particular entity either abstract or consisting of one or more concreta in combination with an abstractum.[1]

The first half of this definition shows vestiges of what is referred to above as the first tendency. The same holds with regard to its second

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[1] Williams 1953*a*, p. 7.

half and the second tendency. The notion that tropes are abstract particulars is corroborated in the first half of the definition; not so in the second half. We can safely assume though that all tropes are considered to be abstract particulars. I venture to claim that, of these two tendencies, it is primarily the first one which has caught the attention of those who have been inspired by Williams' ontological writing.[1]

In another article there is a slightly different determination of the notion of trope.

> Tropes include both the primitive qualia and the primitive relations and also all the sundry compounds thereof, up to, but of course not including, those thorough totalities which are by definition not abstract but 'concrete'.[2]

Do not let the term 'qualia' muddle things here. It should not be taken as a pretext for tropes exclusively belonging to the phenomenal sphere. Instead, it should be looked upon as an alternative for 'qualities'. With that terminological matter out of the way, it is still not evident what the import of 'primitive' is. It might be that of

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[1] An example is Keith Campbell. The following are from Campbell 2002, p. 151.

> A trope metaphysics gets its importance from the primacy it accords to unit properties. Its bite comes from the claim that these are basic elements, the 'alphabet of being,' as Donald Williams has it.

The same message is enhanced when he says:

> [T]rope theory affirms that Reality consists in *nothing but* (monadic or polyadic) [unit] properties.

Note also the following, on the face of it, paradoxical assertion:

> Nor does trope theory deny the existence of simple or complex individuals. It does not admit substances as a distinct category, but individual basic tropes are substances in the Humean sense — they are capable of independent existence.

The term 'substance' is used here in two different senses. In its first sense it denotes concrete particulars. In its other sense it denotes independently existing entities. Tropes are supposed to be substances in the latter sense. This is also Williams' opinion.

[2] Williams 1986, p. 4.

'irreducible'. In another of his later articles Williams discusses three
relations which are said to be irreducible. Another description of
these is that of being fundamental types or determinables. The three
are: location, partition and comparison.[1] The suggestion is then that
these three are the primitive relations referred to in the quotation.
The primitive qualities would be simple quality tropes. Unfortunately,
the content of the trope definition, to some extent, seems to be in
conflict with that of the present determination. The conflict is due to
the latter seemingly excluding concrete entities from being con-
stituents of tropes. This contradicts what is stipulated in the second
half of the definition. If there indeed is a clash here, it would be
reasonable to give priority to the wording of the definition. It will be
seen below that this notion gets decisive support from what is stated
in direct connection with the trope definition. But apart from that,
the last quotation supplies us with the information that relations also
appear as tropes,[2] which of course is what was to be expected. It is
confirmed in the next, somewhat cryptic, quotation.

> Location and similarity (or whatever else there is) provide
> all the relations,[3] as the tropes provide the terms, but the
> total of the relations is not something over and above the
> total of the terms, for a relation R between tropes a and b
> is a constitutive trope of the complex $r'(a, b)$, while con-
> versely the terms a and b will be in general composed of
> constituents in relation — though perhaps no more than
> the spread of a smooth or "homoeomorous" quale such as
> a color.[4]

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[1] Cf. Williams 1963, p. 609. Why the epistemologically sounding term
'comparison' is used, instead of 'similarity, I do not know.

[2] In spite of that, the way 'trope' is frequently used indicates something of a
resistance to letting 'trope' denote instances of relations. A case in point is the
next quotation in the main text.

[3] In this article, location and similarity are thought to exhaust the class of
relations. In Williams 1963, partition is added as a third independent,
primitive relation.

[4] Williams 1953a, pp. 8-9. The formalism is a bit opaque. The capital 'R' and
the lower case 'r' may indicate that a distinction is made between a universal

I reiterate some of what is said in the paragraph containing the definition of trope: "they[1] are not in general composed of any other sort of entity."[2] According to the latest news, tropes are composed of constituents in relation in general; however, an imminent contradiction might be lurking here. After all, tropes cannot both be and not be composed of other sorts of entities in general. A way out is that the constituents of complex tropes, in general, are qualities and relations and that these belong to the same sort, or category; the sort being that of trope, or abstract particular. This would imply that Williams is not insisting that every trope is absolutely simple.[3] A trope may have other tropes as constituents, among these, one or more relation tropes. Remember also that, according to the second half of the trope definition, concrete particulars may also be among the constituents of a trope.

An important issue is whether abstractness and concreteness are thought of as properties. If that is indeed the case, one would expect them to exist in the form of tropes. Williams seems a bit uncertain on what his view on this matter is.

> A philosophy of tropes calls for completion in a dozen directions at once. Some of these I must ignore for the present because the questions would take us too far, some because I do not know the answers. Of the first sort would be a refinement and completion of our account of substances and of the similarity manifold. Of the second sort would be an assimilation of the very categories of our theory — concurrence, similarity, abstractness, and so forth — to the theory itself, as tropes like the rest, instead

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and a particular. As for the '″' (of '*r*″') it might be a misprint. These niceties have little relevance for the present issue though.

[1] Evidently, 'they' refers to what are described as the primary constituents of the world.

[2] Williams 1953*a*, p. 7.

[3] Though perhaps far-fetched, one thought is that he is contemplating there being atomic tropes, i.e., entities which are absolutely simple, as well as tropes which are bottomless. The latter would be atomless gunk à la Lewis. Cf. Lewis 1990, p. 20.

of relegating them to the anomalous immunities of
"transcendentals" (as the old Scholastics said) and "meta-
language" (as the new scholastics say).[1]

Concurrence, similarity and abstractness are explicitly said to be
amongst the categories. The 'and so forth' indicates that there are
others as well. It is not maintained here that the very categories of the
theory should be assimilated to the theory itself; though it is not
waved aside either. With regard to concurrence and similarity we saw
the assimilation being made in the quotation before the last one.
What about abstractness and concreteness then? Well, some support
can be found for the suspicion that even these are thought of as being
properties.

> That there is an x which is gray and square and concrete
> means the fact about the universals Gray and Square (and
> Concretion) that they concur [...].[2]

Here, Williams seems to be caught red-handed treating concreteness
as a universal. That does not mean that he is a realist all of a sudden.[3]
Though it does mean that he takes concreteness to be a property;
being a property, it should appear in the form of tropes. He
apparently places concreteness on a par with grayness and squareness.
The two latter are surely considered to occur as tropes. What holds
for concreteness supposedly also does so for abstractness.

Now we turn to tropes, which as indicated in the second half of
the trope definition, have concrete entities as constituents. A short
list, presented immediately after the definition, supplies an example of
these.

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[1] Williams 1953*a*, p. 13.

[2] Williams 1963, p. 621.

[3] More will be said below about what might be the intended meaning of
'universal'.

> Thus a cat and the cat's tail are not tropes, but a cat's smile is a trope, and so is the whole whose constituents are the cat's smile plus her ears and the aridity of the moon.[1]

We see here that the smile of a cat plus its ears plus the aridity of the moon make up a trope.[2] Let us not fail to note a certain implication of this: the constituents of a trope need not be located at the same spot. Although one would expect to find the smile and ears of one and the same cat quite near each other, the aridity of the moon is, as a rule, far away from both of them.[3] How are these three entities supposed to form a trope? The actual wording used suggests that what we have here is a mereological sum of them. In at least two earlier quotations it has been implied that complex tropes have constitutive relations. The relation in this particular case would appear to be mereological summation. I remind readers of the phrase used in the trope definition: 'in combination with'. We have also come across yet another word: 'cum'.

> The color-cum-shape is less abstract or more concrete or more nearly concrete than the color alone but it is more abstract or less concrete than color-plus-shape-plus-flavor.[4]

Since 'plus' and 'cum' obviously are used here as alternatives to each other and the latter is Latin for 'combined with', I presume all three are used as synonyms.

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[1] William 1953*a*, p. 7. Perhaps he is still thinking on the Cheshire cat. Cf. Williams 1931, p. 589. Anyhow, this make-believe of a smiling cat seems quite harmless.

[2] Never mind that this is, very strictly speaking, in conflict with the actual wording of the second half of the trope definition. It is stipulated there that a combination of any number of concreta together with one abstractum makes up a trope. The mixed trope on the list consists of two abstracta and one concretum — or, perhaps two concreta, since the ears are two in number. It is safe to assume though that this objection is too finicky.

[3] There is no indication that this particular cat is effectuating a successful trip to the moon.

[4] Williams 1953*a*, p. 6.

In Williams 1953*a* there is a reference made to the calculus of individuals, as it is developed in Leonard & Goodman 1940.[1] There is also a reference to it in Williams 1986. This strengthens the impression that mereological principles are considered to be relevant. The latter reference occurs in connection with the mention of the sum of a thread on a bolt and the Queen of Sheba.[2] Although this sum is explicitly said to be a particular, it is not evident whether it is a trope or not. It depends on the status of the thread. Either way the implication is that the constituents of a particular need not be simultaneous. The passage referring to mereology reads:

> That the category of abstract particulars thus indicated conforms to the logic of whole and part, or the so-called calculus of individuals, that they have logical sums and products, and so forth, and that being by definition finer or lesser parts than the concreta in which they occur they are in an important sense *the* 'elements of being', I once argued in print in the *Review of Metaphysics*,[3] where I called them 'tropes', which has a nice historical connection with the Latin 'modes'.[4]

Unfortunately, not much is said explicitly here about the actual formation of tropes. We are just informed that abstract particulars have logical sums, products, and so forth, but not that tropes can be sums. I think the latter is implied by the collected indicia. James van Cleve proposes the name 'mereological conjunctivism' for a doctrine according to which any entities can form a mereological sum.[5] To the extent Williams concurs with this, he is a mereological conjunctivist.

From what has been brought forward so far, it certainly looks like mereology is part of Williams' conception of trope theory. In

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[1] Cf. Williams 1953*a*, p. 9n.

[2] Cf. Williams 1986, p. 3.

[3] Williams 1953*a* and 1953*b*.

[4] Williams 1986, p. 4. Nothing further is said regarding the alleged historical connection between the two terms. To me it seems primarily onomatopoetic.

[5] Cf. van Cleve 1986, p. 3.

section 2.3.4 this is given additional support. It will also be evident though that his affair with mereology is somewhat ambiguous.

I would like to end this section with the following statement.

> I have found that, like most fundamental ideas, the idea of the trope is alternately treated by the professors as insignificantly obvious and as unintelligibly paradoxical. All the while, however, […] it has been implicitly admitted by most philosophers and by common sense, in as much as they constantly speak of entities which in fact can be categorized only as tropes (events, sensations, processes, and so forth) and has been explicitly admitted by many (including G. F. Stout, Professor Wilfrid Sellars, and the Aristotle depicted by him and neo-Thomists).[1]

The enumeration made here does not explicitly mention instances of qualities and relations, though I assume that they are among the entities referred to by 'and so forth'.

2.3.4 Concrete Particulars

An objection frequently made against mereology as an analytical tool of ontology, is that it is too blunt. The specific charge is that it leaves out relations and the roles they play in structured entities. Williams also puts forward an objection of that kind. To that purpose he presents an example, with a hammer and some hammer parts as props. Imagine a hammer named 'Hamlin', which has a head and a handle named 'Hedder' and 'Hannel' respectively as its parts. Imagine also another head, named 'Hud' and another handle, named 'Hon'. Hedder and Hud are exactly similar to each other, as are Hannel and Hon. While Hedder and Hannel form a hammer together, Hud and Hon do not. Instead of being on Hon, in the appropriate way to form a hammer, Hud is cemented along the side of Hon. Williams now says:

> [A]lthough the mere sum of Hud and Hon is inherently exactly similar to the mere sum of Hedder and Hannel, the

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[1] Williams 1986, p. 4.

queer object which Hud and Hon compose — call it 'Himmler' — is inherently very unlike Hamlin, and is indeed not even a hammer. This situation, I suggest, represents one possible meaning and justification for the common formula, "A whole is more than the (mere) sum of its parts."[1]

From this it is concluded that a thing, for example a hammer, does not consist solely of its non-relational elements. At least some of the relations it involves are also important. However, it is not sufficient to just add what in fact are relevant relations in a situation.

Though in a certain sense we may properly say that Hamlin "consists of" Hedder, Hannel, and such and such relations, we have not specified its constitution, have not given its analysis, till we append that the relation holds from Hedder to Hannel. This, I take it, is the second of the truths which somewhat justify "The whole is more than the sum of its parts (and more, even, than the sum of its parts with their relations)." What one normally means by "the whole of parts *a* and *b*," I think, is the object which thus combines *a* and *b* and *their* relations, bonded, as it were, by the fact that the relations *are* theirs; and such wholes, and not mere sums at all, are what pass as "sums" in the calculus of individuals, whose laws are in fact not true of mere sums.[2]

The actual relating of a constituting relation is essential when analysing a whole. If it is left out, the result of the analysis is just another mere sum. The actual relatings of the relevant relations are not sufficient either. This appears from the following intellectual experiment. Imagine the sum of Hud, Hon and the relations holding between Hedder and Hannel. The relations of this sum are obviously of the right sort. However, these do not actually hold between Hud

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[1] Williams 1963, p. 604.
[2] Williams 1963, p. 605.

and Hon. Since they do not hold, this sum does not constitute a hammer.[1]

Note that the sense in which the term 'whole' is commonly used allegedly involves the relations actually holding between the other parts of the whole. Furthermore, in the last sentence of the last quotation it is declared that the laws of mereology, as formulated in the calculus of individuals, are true only of such wholes. Williams is wrong about the latter though.[2] Apart from that, it is important to note that he insists on including relations and their relating in the analysis of wholes as well. Applied to the trope mentioned above — the one having the smile and ears of a cat as its parts as well as the aridity of the moon — it includes the relations holding between the enumerated constituents too. Thus, the structure formed by the latter together with all or some of the relations holding between them form the trope in question. This should be the case given that the trope is not just a mere sum of its constituent parts.

Williams also says things which might express another view. Ponder upon the following statement about the squares, rows and columns of a certain whole:

> In the accompanying figure […] the class of six squares, the class of three rows, and the class of two columns are different from each other and from the one figure; but the sum of squares, the sum of rows, and the sum of columns are identical with one another and with the whole.[3]

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[1] Cf. Williams 1963, p. 605.

[2] In Williams 1963 no explicit reference is made to the calculus of individuals of Leonard & Goodman 1940. On the basis of the reference made to it in Williams 1953*a*, p. 9n, and that there is no other mereological calculus called by that name, I presume it is what is referred to also in Williams 1963. According to postulate I.1 of that calculus the individuals of a set always form a sum. Although this postulate does not stipulate that this sum is unique, the latter is indeed a theorem of the calculus. Furthermore, a sum of the parts of a genuine whole has no articulated structure which mirrors that of the whole. In Williams' example the whole is a hammer.

[3] Williams 1953*a*, p. 9. The three keywords used here — i.e., 'square', 'row' and 'column' — make it possible to divide the figure in still more ways than
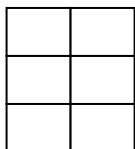
Here, it is asserted that the whole, i.e. the figure, is not only identical to the sum of the squares, but also with the sum of the rows as well as with the sum of the columns. Due to identity being transitive, the three sums are identical with each other. Nothing is said, at least not explicitly, about the spatial relations holding between the squares as well as those between the rows and those between the columns. This suggests that a whole is supposed to be a unique sum of its parts no matter how the whole is divided into parts.

Williams' use of the metaphor 'the alphabet of being' is not an isolated incident. Another metaphor like it is 'the syllabary of being'. What is said in connection with the introduction of this part of the ontological grammar also presents information hitherto not revealed.

> Turning now briefly from the alphabet of being to a glimpse of its syllabary, we observe two fundamental ways in which tropes may be connected with one another: the way of location and the way of similarity. These are categorially different and indeed systematic counterparts of one another — mirror images, as it were. Location is external in the sense that a trope *per se* does not entail or necessitate or determine its location with respect to any other trope, while similarity is internal in the sense that, given two tropes, there are entailed or necessitated or determined whether and how they are similar.[1]

The role assigned to spatio-temporal location in the constitution of objects is of particular interest here.[2] More exactly, the role assigned

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the ones intended by Williams. It is quite obvious though which squares, rows and columns he is referring to.

[1] Williams 1953*a*, p. 7.

[2] Besides spatial and temporal locations there are others, which are hinted at like this:

to the limiting value of location in space and time is worthy of note. This relation Williams finds in other philosophers. Some of them are mentioned, as well as the names they propose for the relation in question.

> [T]he collocation, or peculiar interpenetration, the unique congress in the same volume, which we call "belonging to (or inhering in, or characterizing) the same thing." With various interests and intentions, this nexus has been mentioned by Russell as "compresence," by Mill as "co-inherence," by G. F. Stout as "concrescence," by Professor Goodman as "togetherness," and by Whitehead, Keynes, and Mill again as "concurrence."[1]

The term Williams prefers is 'concurrence'. A description of it in action reads:

> Speaking roughly, […] the set or sum of tropes concurrent with a trope, such as our color component Harlac, is the concrete particular or "thing" which it may be said to "characterize," in our example the lollipop Heraplem, or, to simplify the affair, the knob of the lollipop at a moment.[2]

The doctrine, stated in part here, is a bit more complicated than it may appear at first. Recall what was said in a footnote earlier regarding degrees of concreteness: the concreteness of a lollipop involves time, not just space.[3] Describing Heraplem as the sum of a

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> Location is easiest thought of as position in physical space-time, but I intend the notion to include also all the analogous spreads and arrangements which we find in different conscious fields and indeed in any realm of existence which we can conceive — the whole interior stretch and structure of a Leibnizian monad, for example. (Williams 1953*a*, pp. 7-8)

[1] Williams 1953*a*, p. 8. Cf. Russell 1948, pp. 294-7; Stout 1930, p. 389; Goodman 1951, p. 178; Whitehead 1926, pp. 157-8; Keynes 1921, p. 385; Mill 1856, p. 67.

[2] Williams 1953*a*, p. 9.

[3] Cf. Williams 1953*b*, pp. 173-4.

number of tropes concurrent with each other, two of these being Harlac and Hamis, is simplistic. This is indicated by the remark made at the end of the last quotation and corroborated by what is stated in the next.

> [T]he actual events which comprise the existence of the watch wheel now before me on the table are numerically as distinct from those which comprise the wheel inside the watch ten minutes ago, or back inside the watch again two hours from now, as any of these is from my fingers or from Jupiter. Their community consists logically of only a continuity of similar events or similar states strung between.[1]

Evidently, the implication here is that the tropes which make up the watch wheel at one moment are not the same ones which do so at another moment. Applied to Heraplem, this means that Harlac and Hamis are constituents of it all right, but only for a moment of its existence. In the last sentence of the last quotation we learn that the watch wheel is a continuity of similar entities strung together. This also applies to Heraplem. I take it that a moment is the limiting period of time; i.e., it is not more than a temporal point.

From what has been reported so far one might suspect that Williams is a four-dimensionalist. That this is in fact so is evident from his assertion in another article:

> I believe that the universe consists, without residue, of the spread of events in space-time, and that if we thus accept realistically the four-dimensional fabric of juxtaposed actualities we can dispense with all those dim-factual categories which have so bedevilled our race: the potential, the subsistential, and the influential, the noumenal, the numinous, and the non-natural.[2]

I will not make any in-depth study of the view expressed here since it is not worked out in any detail by Williams; I mention it as a point of

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[1] Williams 1953*b*, p. 178.
[2] Williams 1951, p. 458.

information. Note though that four-dimensionalism combined with the trope definition makes things a bit messy with regard to the temporal duration of a trope. Although some tropes — such as Harlac, Hamis, Bantic, Borcas etc. — have an extremely short life-time, not more than instantaneous, other entities which are tropes by Williams' standards may be as long-lived as the Universe itself.

A bit of reasoning on logical type brings about the conclusion that concrete particulars are sums, rather than sets or classes of concurrent tropes.[1] For the sake of safety, I let Williams speak for himself:

> What a difference of logical "type" amounts to, particularly in the philosophy of tropes, is far from clear, but everybody agrees that a sum is of the same type with its terms, as a whole is of the same type with its parts, a man of the same type with his arms and legs. The concept of a class or set, on the other hand, is notably more complex and questionable. A class is surely not, in any clear sense, what it is often called, "an abstract entity," but there is some excuse for considering it of a different "type" from its members. Convinced that tropes compose a concretum in a manner logically no different from that in which any other exhaustive batch of parts compose it, we have every incentive to say that the concretum is not the set but the sum of the tropes; and let us so describe it.[2]

This confirms what was claimed earlier: abstract particulars are thought of as being parts of things in the same sense that concrete entities are parts of things. We also learn here that since a concrete particular is a concurrence sum of tropes, each constituting trope is of the same logical type as the including whole. Tropes' being abstract entities does not make them a different type of entities than concrete entities. Very little is said though about the notion of logical type itself. Among what is said is that the whole matter is unclear when it comes to tropes. This does not stop Williams from being certain that

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[1] In this context an explicit reference is made to Leonard & Goodman 1940.
[2] Williams 1953*a*, pp. 9-10.

concrete particulars are sums of their parts, though, or that amongst these parts are tropes.[1] Below it will be seen that he also believes there are substance, or substantial, tropes. Unfortunately, very few examples of such substantial tropes are mentioned explicitly. Among the ones which are mentioned are the humanity tropes.

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[1] It might be of interest to hear what Peter Simons, a fellow trope theorist of Williams, says regarding mereological composition.

> [Mereological] [c]omposition is always intracategorial. Provided we are entitled in some way to consider all objects as belonging to a single universe of discourse, the Universe, then assuming there is more than one category, there are limitations on the universality of composition. The principal motivation for this restriction is that otherwise there would be objects which themselves straddle categories, hybrid monsters like a thing which is part substance, part event, part universal, part state of affairs, and so on. Against such monsters, the chimeras, gryphons, wyverns, and so on, of myth and heraldry pale into insignificance. If there are such monsters, they violate the separateness of categories. While they are not as a whole in two or more mutually exclusive categories, they are almost as bad, since they are entities but they do not belong in either. At the very least they would require us to set up a ramified system of additional hermaphrodite categories. It is far better for classification to simply deny the existence of monsters, and provided it is metaphysically acceptable and semantically congruous to talk in one phrase of things from different categories, this entails denying universal composition. (Simons 2006, p. 605)

When this is applied to trope theory, in its bundle form, he claims that the result is the following.

> If, as I do, one accepts a trope-bundle theory of substance […] then it would appear that an object composed wholly of things from one category, namely the category of TROPE, can be of another category SUBSTANCE. If that is right, then there is at least one kind of category-crossing composition, and the *Verbot* on category-crossing composition is wrong. This is a good argument, but for a different conclusion. It is a good reason to deny that there is a categorial distinction between tropes and substances. Tropes and substances both belong together in a single category, that of individual THING. Without going into details here, there are a number of solid metaphysical advantages to down-grading the substance/trope distinction to an intra-categorial one. (Simons 2006, p. 605, footnote 29)

We saw earlier that a whole is considered to be something other than just a mere sum of its parts. When making an ontological assay of a whole, interior relations[1] are as relevant as non-relational constituents. It would seem then that concurrence is such an interior relation. Therefore, to start with, Heraplem is a concurrence sum of Harlac, Hamis and a number of other quality tropes as well as relational and substantial tropes — instead of a *mere* sum of them. Being temporally extended, Heraplem can also be described as a sequence of concurrence sums of tropes; this sequence in itself also being a sum. Spatio-temporal continuity should therefore be a constituting relation as well. Perhaps, mereological summation is another, though it is hard to say for sure since Williams is silent on this matter.

Before I move on to the issue of surrogates for universals, I would like to return to something which was said in passing earlier. I am referring to the thesis that tropes are existentially independent of each other as well as of their including wholes.

> The real question then is whether an entity which is "abstract" in the sense that it is conjoined in a certain concretum with other abstracta, as the shape of a watch is, for example, may be duplicated elsewhere by an entity precisely similar internally but not thus conjoined with[2] anything. Our instincts say "No," that there is a sort of cosmic standard of concreteness, a certain degree of richness or thickness, which perhaps is a general maximum that nothing can exceed, but which at any rate is a general maximum that an entity must attain in order, as the Scholastics say, "to be apt for existence," or that, in Aristotle's phrase, it "can exist apart." Plausible though it be, however, that a color or a shape cannot exist by itself, I think we have to reject the notion of a standard concreteness. For it means that from the awareness of even the thinnest abstraction, and indeed the thinner the better, we could deduce the presence of the rest of a concretum, if not its specific character then at least that there is a

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[1] The term 'interior relation' is introduced in Williams 1963, p. 610.

[2] 'Conjoined with' is used here as a synonym of 'concurrent with'.

concretum there, as Descartes deduced from a conscious
state the existence of a spiritual substance in which it
inhered. It seems to me an analytic principle that all deduc-
tion must be analytic, so that while any proper component
is deducible from its compositum, no compositum is
deducible from any of its proper components, and hence
that abstracta must in principle be as independent of their
contexts as concreta are.[1]

Williams invokes the principle saying that the parts of an including
whole are deducible from the whole, while the whole cannot be
deduced from its parts. This seems all right. But, does it rule out the
possibility that existential dependence holds between the parts of a
whole? I would say that the notion of existential dependence is
intimately related to that of universality. Therefore, if two entities are
existentially dependent on each other, this is due to their universal
contents. The nominalist Williams does not recognise (real) uni-
versals; he must therefore deny any such dependence between parti-
culars, at least between entities which do not have any parts in
common.

2.3.5 Surrogates for Universals

Since Williams is a nominalist, he renounces (real) universals. He
requires something to do the work of universals, though. From an
earlier quotation we know that similarity is considered to be one of a
few fundamental ways in which tropes may be connected to each
other. It is also a key notion in his construal of "universality". Its role
in this respect is indicated thus.

Speaking roughly, […], the set or sum of tropes precisely
similar to a given trope, say Harlac […], is the abstract
universal or "essence" which it may be said to exemplify,
in our illustration a definite shade of Redness.[2]

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[1] Williams 1953*b*, pp. 179-80.
[2] Williams 1953*a*, p. 9.

The proposal is to take similarity sets as surrogates for universals. In the particular case presented here the elements of the set are the tropes exactly similar to Harlac. This set is described as being an abstract universal. Note that this is not due to the set itself being abstract. It has already been shown that Williams does not consider sets to be abstract entities. I repeat the relevant sentence where this is stated:

> A class is surely not, in any clear sense, what it is often called, "an abstract entity," but there is some excuse for considering it of a different "type" from its members.[1]

The term actually used here is 'class' — not 'set'. I dare say that even if he considers there to be a distinction between set and class, it is not likely that one of them is thought of as being abstract and the other not. The conclusion to draw from this then is that sets are not abstract entities. Incidentally, this suggests that they are concrete entities. If being abstract and being concrete form an exhaustive dichotomy, they must be. But, in what sense is a set of tropes which are exactly similar to each other a concrete entity?

Since a set is not abstract in itself, the adjective 'abstract', in 'abstract universal', is used on the basis of something else due to its elements being abstract entities.

The alternative hinted at in a previous quotation concerning treating sums of exactly similar tropes as abstract universals, is in fact rejected by Williams. This happens shortly after it has been presented:

> Whether the […] concept of the universal can be defined as the sum of similars — all merely grammatical difficulties aside — is not so clear. There is little doubt that the set or class will do the job. For all the paradoxes which attend the fashionable effort to equate the universal Humanity, for example, with the class of concrete men (including such absurdities as that being a featherless biped is then the same as having a sense of humor) disappear when we equate it rather with our new set, the class of abstract

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[1] Williams 1953*a*, p. 10.

> humanities — the class whose members are not Socrates,
> Napoleon, and so forth, but the human trope in Socrates,
> the one in Napoleon, and so forth.[1]

Besides the so-called abstract universal there is the concrete universal. The relevant difference between them is the status of their elements. Concrete particulars are the elements of concrete universals. Williams calls attention to what he calls 'Socratesity' as being an example of the latter.

> Socrates is a concrete particular; the component of him
> which is his wisdom is an abstract particular or "trope";
> the total Wisdom of which all such wisdoms are com-
> ponents or members is an abstract universal; and the total
> Socratesity of which all creatures exactly like him are parts
> or members is a "concrete universal," not in the idealistic
> but in a strictly accurate sense.[2]

If 'Socrates' refers to the Socrates known from Plato's dialogues, chances are that Socratesity is a unit set.[3] One may wonder what the usefulness of this so-called universal is supposed to be. Perhaps, Williams just wants to see the matrix — introduced in Williams 1931 in a realistic version — completed. Here, the matrix is interpreted nominalistically.

The abstract humanities are to be found among the abstract particulars. We get a glimpse of them in the quotation before the last one. Since they are exactly similar to each other, they cannot be constituted by the other tropes of (concrete) human beings. For example, the trope or tropes constituting Napoleon's haircut cannot be components of the humanity trope in Napoleon which constitute him when combined with other tropes. The simple reason for this is

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[1] Williams 1953*a*, p. 10. It is confirmed here that no distinction is made between set and class.

[2] Williams 1953*a*, p. 11. 'Component' and 'part' are used here according to the stipulation made earlier in the article.

[3] A modal realist, of David Lewis' sort, would of course disagree. According to him or her, the Socrates of our world has infinitely many exactly similar counterparts in other possible worlds.

that his haircut does not exactly resemble, among others, the haircut of the Queen of Sheba. The same holds for any arbitrary trait of a concrete particular.

In earlier sections we have touched upon instances of substantial forms. I very much suspect that the humanity tropes, explicitly recognized in Williams 1953*a*,[1] are thought of as being such instances. Each concrete particular, which is a human being, must have its own exemplar cases of this surrogate universal. The plural is motivated by the assumption that humanity tropes are instantaneous entities.

Williams takes the set having all the tropes of a definite shade of redness as elements and the set whose elements are all the humanity tropes to be abstract universals. The elements of sets such as these are thought of as exemplifying the set in question. Correspondingly, this holds for sets having exactly similar concrete particulars as elements; if there are any such non-unit sets. In other words, exemplification is identified with being an element of a similarity set. Williams also expands on characterisation, which may be regarded as the converse of exemplification.

> The particular wisdom in Socrates [i] is in one sense a "characteristic," i.e., it is a component, of him — this is the sense in which Stout held, quite properly to my way of thinking, that "characters are abstract particulars which are predicable of concrete particulars." The universal Wisdom [ii] is in the second sense the "characteristic" of each such wisdom — this is the sense in which Moore could hold plausibly that even an event such as a sneeze, has characteristics and is not one. [iii] In the third or ordinary sense, however, the universal Wisdom "characterizes" the whole Socrates. From this imbroglio emerge at least two senses of "instance," the sense in which Socrates is a (concrete) "instance" of Wisdom and that in which his wisdom component is an (abstract) "instance" of it, and the two notions of class, the ordinary concreta class consisting of Socrates, Plato, and all other whole wise

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[1] They are also mentioned in Williams 1986, p. 7.

creatures, and the abstracta class of their wisdoms, our similarity set.[1]

I have inserted the Roman numerals here to accentuate the use of 'characteristic' — and 'characterise' — in three different ways.[2] Thus:

(i) The particular wisdom $wise_1$ is a characteristic of Socrates. $wise_1$ is predicable of Socrates.

(ii) The universal wisdom is a characteristic of $wise_1$. The universal wisdom is also a characteristic of $wise_2,\ldots,wise_n$.

(iii) The universal wisdom is a characteristic of Socrates.

If the meaning of 'the universal wisdom', as it is used here, is made explicit in terms of exact similarity sets, the result is as follows. That the universal wisdom is a characteristic of $wise_1$ means that $Sim\{wise_1,\ldots,wise_n\}$ is a characteristic of $wise_1$. That the universal wisdom is a characteristic of Socrates means that $Sim\{wise_1,\ldots,wise_n\}$ is a characteristic of Socrates. On the face of it, this seems ludicrous. I suppose that, given the nominalistic presuppositions of Williams' trope theory, it should be reinterpreted as follows. That $Sim\{wise_1,\ldots,wise_n\}$ is a characteristic of $wise_1$ means that $wise_1$ is an element of $Sim\{wise_1, wise_n\}$. As stated earlier, this is Williams' analysis of exemplification. The trope $wise_1$ exemplifies $Sim\{wise_1, wise_n\}$. $Sim\{wise_1,\ldots,wise_n\}$ being a characteristic of Socrates means that Socrates has a component which is an element of $Sim\{wise_1,\ldots,wise_n\}$. Some of the content of the proposed interpretation can be found immediately before the last quotation:

> "Socrates is wise," or generically "*a* is φ," means that the concurrence sum (Socrates) includes a trope which is a member of the similarity set (Wisdom).[3]

In an earlier quotation similarity was declared to be a fundamental way of being connected.[1] The choice of the word 'fundamental' here

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[1] Williams 1953*a*, p. 12.

[2] I take the liberty of transforming the noun 'characteristic' into the verb 'characterise'.

[3] Williams 1953*a*, p. 11.

signals that similarity has a special significance. It is not just any relation. This is supported by what he asserts in the two following quotations. Similarity is ascribed a founding capacity.

> At this stage we conjecture that we are much less likely to explain similarity as due to the presence of a common or general constituent than to explain the notion of a common or general constituent as somehow a resultant of similarity — a procedure to which, in fact, I was committed as soon as I laid it down that similarity is an irreducible and categorical element.[2]

Similarity as the result of a common constituent in relata is explicitly rejected here. Instead, similarity is declared to be a prerequisite for their having a common constituent. This suggests that resemblance nominalism is the presupposed doctrine. In fact, Williams comments on the matter of his being a (resemblance) nominalist. According to his own standards he is a realist.

> [I]f 'Nominalism' is the view for which the notion of universals is composed of or displaced by the applicability of the same name to each of *similar* objects, the trope-kind theory is very near to a sort of nominalism. Perhaps the real issue here turns into one between those who think resemblance is an irreducible and objective ontological category and those who believe that it is not objective or fundamental but a creature of our comparisons. The latter view is the distilled attar of Nominalism, the former, is the head and fount of Realism. I have pledged us to the objective theory, and I believe in fact that the subjective or creationist theory of resemblance is itself a fantastic fiction which cannot bear the weight of any considerable philosophy, but I cannot forgo remarking that the superiority of the trope-kind theory would not be immediately affected

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[1] Cf. Williams 1953*a*, p. 7.

[2] Williams 1986, p. 6.

by a shift from an objective to a subjective doctrine of
resemblance.[1]

The reasoning here circuits resemblance and its status. The so-called
realism he professes consists in taking resemblance to be objective
and irreducible. Evidently, if he wants to be a real realist, not just in
name, he must consider it to be a universal as well. He will of course
decline to do that.

What does the irreducibility of resemblance amount to? Well,
literally it means that of not being reducible to anything else. In line
with that would be to consider resemblance to be an entity in itself —
an increase of being. Alluding to a certain sacerdotal word of wisdom,
it can be said then that it is what it is and not something else. The
latter part of this statement, that it is not something else, is parti-
cularly significant since it quite clearly indicates that it is not reducible
to something else.

There are also traces of another view though. Similarity is said
to be nothing in addition to its relata. I take it that this implies that it
is not an increase of being. The following quotation is where this
view is most clearly expressed. In the accompanying figure, W, we see
the entities referred to in the text by the letters '*A*' and '*B*'.[2]

> Some relations, the intrinsic[3] ones like the resemblance of
> *A* and *B*, are *not* additional to but involved in or given with
> them and their sum, though there are other relations, the
> extrinsic ones, like the distance between *A* and *B*, their
> dash connection; and their whole relation rope,[4] which in

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[1] Williams 1986, pp. 10-1.

[2] Also in this example Williams' delight at names exposes itself. 'Sqay' and
'Rectanga' are the names of the squareness and rectangularity respectively of
A; 'Grabe', 'Squabe' and 'Rectamba' name the squareness, rectangularity and
grayness respectively of *B*; 'Grace' is the name of the grayness of *C*; 'Whide'
is the name of the whiteness of *D*. No names are given to any instances of
relations which are involved.

[3] In Williams 1963 'intrinsic' is used instead of 'internal'. 'Extrinsic' is likewise
used instead of 'external'.

[4] 'Relation rope' denotes the totality of relations holding between the relata in
question.

the same sense *are* additional to A and B and their sum
[…].[1]
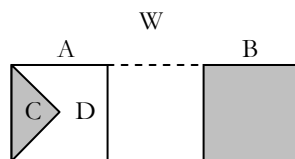
The message here seems to be that the internal relations between A
and B are nothing in themselves.[2] An internal relation would then not
be an increase of being. This should apply to similarity as well. This is
incompatible with its being fundamental and irreducible.

A variation on the theme that internal relations are not addi-
tional to their relata is frequently used nowadays to describe them as
supervening on relata.[3] There is also a culinary metaphor: internal
relations are ontologically free lunches.[4] A justified comment on that

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[1] Williams 1963, p. 608.

[2] I have noticed that Anna-Sofia Maurin, whose moderate nominalism is
discussed in the following chapter, also interprets the message of the last
quotation as I do. She uses it as a motto for section 3.8 of Maurin 2002, in
which she argues for an account of similarity as being pseudo-additional to its
relata.

[3] E.g. David Armstrong is fond of using the term 'supervenience', and its
cognates, in this connection. A representative assertion coming from him is
the following.

> It will be used as a premiss in this work that whatever supervenes
> or, as we can also say, is entailed or necessitated, in this way, is
> not something ontologically additional to the subvenient, or
> necessitating, entity or entities. What supervenes is no addition of
> being. Thus, internal relations are not ontologically additional to
> their terms. (Armstrong 1997, p.12)

Since the dictionary sense of 'supervenient' is that of 'coming as something
additional or extraneous', this use of the word is a bit bewildering.

[4] An example of this is Maurin 2005, p. 138, where it is stated:

> Resemblance may be understood in one of two ways: either as a
> pseudo-addition or as a genuine relation-trope. Understood as
> pseudo-addition, resemblance is seen as a "free lunch", i.e. it is
> considered as something we need not add to our ontological
> inventory.

seems to be that since no food is served, the low price is not much comfort.

I move on to another issue concerning similarity. Williams might be contemplating a view which is in conflict with the similarity principle.

> With respect to similarity […] we are comparatively familiar with the notion of its limiting value, the precise, or almost precise, similarity such as obtained between the colors of our first and third lollipops, less familiar with the idea of the lesser similarity which obtains between a red and a purple, and rather uncertain, unless we are psychologists or phenomenologists, about such elaborate similarity distances and directions as are mapped on the color cone.[1]

In connection with the introduction of the notions of partial similarity and that of property case it was declared that the more subtle similarities, of colour, shape and flavour, should be treated in exactly the same way as those between other parts of things. Let us assume for a moment that the similarity principle is applicable to the example of a red and a purple.[2] Since the two are not exactly similar, each of these has a component which is exactly similar to a component of the other. Since Williams does not mind tropes being complex entities, what he is contemplating might be that each one of these tropes has an instance of a certain determinable as a component. That would explain why they are partially similar. Now, the phrase actually used in the quotation is 'lesser similarity, not 'partial similarity'. Perhaps these denominations do not denote the same notion of similarity. If that is indeed so, how is the lesser similarity between a red and a purple to be interpreted? Before I try to approach an answer to that question, let me present another two quotations.

> Speaking roughly […] the set or sum of tropes precisely similar to a given trope, say Harlac […], is the abstract

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[1] Williams 1953*a*, p. 8.

[2] Evidently, what is referred to here by 'a red' and 'a purple' are two colour tropes.

universal or "essence" it may say to exemplify, in our illustration a definite shade of Redness. (The tropes approximately similar to the given one compose a less definite universal.)[1]

In the last sentence, the one put in parentheses, we find another similarity term: 'approximately similar'. In the following quotation there is yet another: 'lesser resemblance'.

> If new modal observations are required for universals, they are of two closely analogous varieties. One is the relation between a relatively definite universal like Crimson and the "determinable" or less definite universal like Redness under which it falls. We must say, I believe, that Crimson "entails" Redness, not because Redness is a component of Crimson, but because the *kind* by which we define "Redness" is constituted by a lesser resemblance, and hence a broader similarity stretch, or segment of the spectrum, than is the kind which defines "Crimson," and the former stretch, in an obvious analogical sense, "includes" the latter.[2]

What are we to make of this? Well, the last quotation seems to express a view on colours which is incompatible with the similarity principle. I base that on the combination of the assertion that redness is a determinable and the waving aside of the idea that it is a component of crimson.

What about the lesser similarity between a red and a purple? In the light of the last quotation, the suggestion is that the former is an

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[1] Williams 1953*a*, p. 9.

[2] Williams 1963, p. 617. I would like to make the following remark, which I think is at least worthy enough to appear in a footnote. If redness has crimson as a part (in any relevant sense), we seem to have here an example of a part "entailing" its including whole. This seems to be in conflict with the principle stated earlier:

> Part does not depend on part, nor whole on whole, nor part on whole, and that whole does depend on part is for the trivial reason that the whole is at least the sum of its parts. (Williams 1953*b*, p. 189)

instance of a determinable.[1] Another possibility is that redness is not considered to be a determinable in Williams 1953*a*, which is where the red and the purple are mentioned. It may very well be that 'redness' is used there to refer to a lowest determinate. The essential question still remains: what would be an instance of a determinable? Is every instance of a lowest determinate also an instance of a number of determinables,[2] without actually having the latter as constituents? This would mean that lesser similarity is not the same as partial similarity. If we let similarity be a (truly) primitive relation, founding the qualitative content of its relata, the relata need not have any internal structures. Then, the relata would be nodes in a similarity pattern.

The picture might be more complicated. An alternative possibility is that there are entities, concrete particulars, which have internal qualitative structures. The content of the components which make up the structure of each entity would be due to their being nodes in similarity patterns though. These might be considered to be two possible versions of resemblance nominalism. According to one leading resemblance nominalist, resemblance nominalism is incompatible with the existence of tropes.[3] Apart from that, we have seen that Williams shows a tendency towards a position which might at least be described as a resemblance nominalism in a wide sense. I am referring to his assertion that the presence of a common or general constituent is to be explained as a resultant of similarity. In connection with this, he also informs us that this is something he was committed to as soon as he laid it down that similarity is an irreducible and categorical element.[4] It would be in line with this view to consider sets of tropes where the elements have their qualitative content due to exact similarity holding between them, as surrogates for (real) abstract universals. Note that this would require a vast number of similarity relations. Given that these relations are (real)

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[1] According to the assertion in the quotation redness is a determinable in relation to crimson. Purple would then be a determinate in relation to redness.

[2] This number can be expected to be large; perhaps infinite even.

[3] Cf. Rodriguez-Pereyra 2002.

[4] Cf. Williams 1986, p. 6.

universals, there would in fact be one such relation for each exact similarity set. This is ruled out by Williams' being a nominalist though. There must instead be as many instances of each specific exact similarity as there are pairs in each exact similarity set.[1] This doctrine, applied to lesser similarity, stipulates one set of instances of each unspecific similarity relation per lesser similarity set. Many, if not all of the elements of exact similarity sets will also be elements of quite a few lesser similarity sets.

So far, everything in the garden may appear to be lovely. However, there are some difficulties, which the outlined view will come up against as soon as the similarity relations are scrutinised. Since, according to the nominalistic confession, everything which exists is particular, each and every similarity is so as well. The other particulars, those which are not similarity instances, have their qualitative contents due to their being nodes in similarity patterns. Reasonably, the same should apply to the similarity instances. If that is not so, one wonders why. After all, they too are abstract particulars — tropes. There is an obvious need for an account of their qualitative contents. What the doctrine must prescribe are more similarity instances. Since the direction of this regress is from the right to the left,[2] the proposed mechanism will not succeed in delivering any qualitative content.

The difficulty hinted at is well known. This may account for what I take to be Williams' oscillating between different views. One of these being that similarity is no addition to its relata. He does not say much about it though. I think that we must leave this issue as far as he is concerned. However, Anna-Sofia Maurin advocates a view on similarity which is closely akin to that which we find traces of in Williams. Maurin's ontology is discussed in the next chapter.

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[1] I assume here that exact similarity is dyadic. If its adicity is unlimited, the necessary number would, at least in the first time round, be reduced to one instance per exact similarity set.

[2] An alternative description is to say that the regress is analytical, which indicates that the analysis aimed for is postponed. Cf. Russell 1903, pp. 50-1.

2.3.6 Painless Realism

I will say something about Williams' so-called *painless realism*. I do not know if he ever called it by that name himself.[1] However that may be, this "realism" takes universals to be the results of a relaxation of identity conditions.[2] Here, it is particularly wise to let him speak for himself.

> That universals are not made nor discovered but are, as it were, 'acknowledged' by a relaxation of identity conditions of thought and language, will become attractive as we notice, for example, that similar relaxations occur in our treatment of ordinary proper names of concrete particulars, especially in the common idiom which, innocent of the notion of temporal parts of a thing, finds the whole enduring object, a man or a stone, in each momentary stage of its history. For here and now, we say, *is* the person called 'John', not just part but all of him, and now again here is the same 'John', all present at another instant, though in strict ontology the 'John' of today is a batch of being as discrete from the 'John' of yesterday as he is from the moon. The relaxation of conditions which acknowledges universals, however, and which I shall call 'generizing' (because 'generalizing' is commonly used not for conceiving universals but for conceiving or asserting laws), is much more firmly seated in the facts of language and its object than any other I know.[3]

There has been little indication of what is more or less explicitly expressed here with respect to the indication that a watch wheel at one moment in time is as numerically different from those that comprise it at later times. The watch wheel is said to be a continuity of similar events[4] or states which are strung together.[1] This sketches

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[1] Keith Campbell might be the inventor of it. Cf. Campbell 1990, pp. 43-5.

[2] A similar view is maintained by Ivar Segelberg.

[3] Williams 1986, pp. 8-9.

[4] Most likely, these events are thought of as slices of the "tube" which space and time supposedly together form.

out a temporal parts approach to concrete particulars. It is not more than a sketch though.

I move on to what Williams says concerning "universals".

> That universals are determined by a 'weaker' identity condition than particulars does not even mean that they have an inferior or diluted reality. A tabulation of universals is just one way of counting, as it were, the same world which is counted, in a legitimately different and more discriminating way, in a tabulation of particulars. I stress this and the word 'counting' because they warn us off the delusion involved in the common use of the phrase 'numerical identity' and 'numerical distinctness' for *particular* identity and distinctness, respectively. The fact is rather that universals, including Numbers, are no less *numerable* than particulars — as when the interior decorator, for example, says 'I used just four colors in this room'. For a similar reason, it was deceptive in my first pages above to contrast the case with the kind by contrasting the 'this' with the 'such', because we can and do, as we say with 'This is Whiteness', use all the demonstratives, including 'This', for universals no less than for particulars, so that only the context will tell us, when a person refers to '*that*' sound, whether he is talking particular-wise or universal-wise.[2]

Disregarding most of the torrent of words here, my interpretation is that we are supposed to obtain a universal by identifying exactly similar entities. In other words, we are pretending that indiscernibles are identical. What might be called a 'painless universal' would then be any of the indiscernible entities of a certain set. Evidently, this does not in any way alter the fact that these indiscernible entities are not identical with each other in any strict sense. Strict identity would mean that there is just one single entity. It would be a (real) universal.

Painless realism is obviously not the same doctrine as that according to which a universal is a set of (exactly) similar tropes. They are related though, which explains why Williams so easily oscillates

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[1] Cf. Williams 1953*b*, p. 178.
[2] Williams 1986, pp. 8-9.

between them. Furthermore, he wants to describe his own onto-
logical position, the trope theory,[1] as being an immanent realism. I
take it that the amalgamation of painless realism and the other
doctrine is what in effect is supposed to fit the description.

> As there is nothing in anything which is not either a trope
> or resoluble into tropes, so every trope, of whatever level
> of complexity, manifests its universal or kind. Generiza-
> tion, moreover, does not even stop short of concreteness,
> and does not therefore in the least depend upon *de facto*
> similarity or the recurrence of kinds. That is, having a
> general readiness to contemplate, by the right quirk of
> attention or description, either the case or the kind of any
> given occasion, we can identify a universal once for all in a
> single instance, only conceiving *ipso facto* that it is capable
> of other instances.
>
> The trope-kind theory is a logical realism in as much as
> it holds that universals are real entities, and it is an
> immanent realism in as much as it holds them to exist *in
> rebus* — to be present in, and in fact components of, their
> instances. To make plain the sense in which it holds that
> an abstract universal is 'in' a concrete particular we need
> only make explicit the analysis of predication, characteriza-
> tion, or instantiation which has been barely implicit here
> all along. That Socrates is wise, i.e., that he is an instance
> of Wisdom, which is an 'instantiation' or 'characterization'
> in the full sense, is sufficiently expanded in the formula
> that the concrete particular Socrates 'embraces' an abstract
> particular (trope) which 'manifests' Wisdom. This
> describes predication for inherent characters; only a little
> less obvious is the adjustment which accommodates
> *ad*herent characters, as in the proposition that Socrates is
> pupil of Plato. Here Pupil-of is the generization of a
> complex relation of which Socrates is referent, while
> 'Plato', granted it is a true proper name, still stands for an
> ungenerized concretum — so that, rather oddly but not

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[1] In the article where the doctrine of painless realism is presented the name
used is 'trope-kind theory'.

objectionably, a character which as a whole is an abstract universal may include a concrete particular as a constituent. No merely adherent universal, of course, is 'immanent' in the sense that it inheres in its subject, but it still is 'immanent' and '*in rebus*' in the cardinal metaphysical sense that it is *among* the things it qualifies.[1]

Williams has his doubts whether immanent realists would recognise his doctrine as being an immanent realism.

> Whether previous immanent realists would recognize their view in this opinion that universals are immanent because they are, to speak crudely, the similarity roles (or 'adjectival identities') of abstract occurrences, I have some doubt. I am sure, from experience with myself,[2] that an immanent realist begins by thinking he means more, but can bring himself to see, or think he sees, that he *couldn't* mean more — that every attempt to state an alternative results in something verbally but not significantly different from just redefining 'identity' by resemblance.[3]

Is he even a whole-hearted advocate of this so-called immanent realism? A few pages earlier in the same article it looks as if it is actually rejected. The context of this rejection makes it somewhat paradoxical.

> There remains the possibility, given the ideas of abstract and of concrete and of sum and of set, that Humanness be equated with, or supplanted by, the *set* of humanity tropes, and this I think is demonstratively adequate. […] Nevertheless, having dallied with it briefly, I reject it on the presently unfashionable ground that the set of tropes is not what I or any of the rest of us *mean* by 'the universal character Humanness', and it could not have been meant by persons who had no conception of trope sets, not by anyone who speaks of the universal being 'in' its instances,

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[1] Williams 1986, p. 10.

[2] Cf. the doctrines of Williams 1931.

[3] Williams 1986, p. 10.

> nor by one who declares [...] that universals ('essences',
> 'neutral entities') both are the constituents of things and
> the data of perception. When I deny that any of these
> constructs is what we have 'meant', therefore, I put us to
> looking, in the light of the apparatus of tropes, at what
> does happen, and must always have happened, when we
> perceive or conceive the abstract universal in the concrete
> particular.[1]

In this remarkable passage universals are first equated with, or
supplanted by, sets of tropes, and this is alleged to be an adequate
definition, then the whole thing is rejected on the grounds that it is
psychologically inadequate.

We saw it being asserted earlier that a universal can be identified
once for all in a single instance. Evidently, the universal thought of
here cannot be a class of exactly similar tropes. The simple reason for
this is that sets are extensionally defined. So, what is the universal, if it
is not a set? The alternatives seem to be either that it is a real
universal or a painless universal. Among the indicia for the former
alternative is the message of a somewhat obscure sentence:

> Thus Squabe[2] entails Squareness and necessarily is square,
> because what we mean by "squareness," though not
> strictly a part of Squabe, is just what remains, so to speak,
> when we have left out of account the so-called "numerical
> difference" of the tropes.[3]

A distinction is made here between two "parts" of the trope Squabe.
One of these is its numerical difference from other entities, or what
accounts for it. The implication seems to be that the other part is
squareness. Squareness would appear to be a real universal, since it
cannot reasonably be a set of exactly similar tropes or any of the
elements of such a set. So, it must be a real universal. There is no
other alternative left, is there?

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[1] Williams 1986, p. 7.

[2] The name 'Squabe' is introduced in connection with the figure W. It refers
to the instance of squareness inherent in B. Cf. figure W.

[3] Williams 1963, p. 617.

2.3.7 Predicativity

Lastly, a bit more will be said about predicativity. Up to now it has been implicitly touched upon repeatedly. The first question to ask is the following: Which entities are predicative? I believe that Williams' most explicit answer to that question is found here:

> Whereas relations, particular or universal, are the only entities intrinsically and irreducibly predicative, we can count relational properties as derivatively predicates of their terms, most notably those interior properties which constitute the "inherence" traditionally taken as typical.[1]

The most important piece of information here is that only relations are intrinsically and irreducibly predicative. One implication evidently is that qualities are not predicative. Though they may appear to be so, this appearance is due to their being constituents of relational properties. Thus, when a quality is inherent in something, it is so in collaboration with a relation. This is confirmed in the next quotation below. Incidentally, to the extent that a relation has properties of its own, the latter inhere in it by means of mediating relations.

That relations constitute terminal points as regards predicativity is stated in another place. The context is a discussion on there being ties connecting relations to their relata.

> Can we say anything more about intrinsicness and extrinsicness? We might hope, for instance, to discover a peculiar and more intimate sort of "tie" between an intrinsic relation and its terms than between an extrinsic relation and (let us say) the same terms. But except as a mere circumlocution for what we have much circumlocuted already, I think this is illicit because I think, for various reasons, including the ones famously purveyed by F. H. Bradley (as well as our own relational physiology), that there is no essential tie. There doubtless are plenty of relations between relations and their terms, and it will appear that when we ascribe a quality to something we do

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[1] Williams 1963, p. 616.

affirm a relation from one to the other; but when we
affirm a relation of two terms we are at the end of that
line, up against the one ultimate sort of predicative fact.
To say that resemblance characterizes *A* and *B*, for
example, is only to say stammeringly that *A* resembles *B*.
Since there are no ties, either for intrinsic or for extrinsic
relations, there can't be different sorts of ties for them —
which is as well, since it saves us the embarrassment of
having to sort out intrinsic from extrinsic *ties*, and so
forth.[1]

Williams explicitly states that a lot of relations hold between a relation
and its relata. Supposedly, there are still more holding between the
latter and the ones holding between it and its relata, and so on. In
spite of that, he maintains that relations are ultimately predicative.
This is a bit puzzling.

Considering that relations appear in the form of tropes, just as
qualities do, I believe it is appropriate to once again mention a certain
principle that has been referred to several times above.

Part does not depend on part, nor whole on whole, nor
part on whole, and that whole does depend on part is for
the trivial reason that the whole is at least the sum of its
parts.[2]

The principle does not distinguish between different kinds of parts.
Thus, even a predicative entity, i.e., a relation trope, is supposed to
have the capacity of existing in splendid isolation.

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[1] Williams 1963, pp. 608-9.
[2] Williams 1953*b*, p. 189.

CHAPTER III

Examination of A-S. Maurin's Ontology

3.1 Introduction

Anna-Sofia Maurin presents a version of moderate nominalism in her writing under the name 'trope theory'. Her stated enterprise is of an explorative nature, which is reflected in the title of her dissertation: '*If Tropes*'. The key notion of trope theory, discussed mainly in the second chapter of that book, is of course that of trope itself. In the first chapter, she pronounces an ideal involving tropes. Depending on how one chooses to interpret it, this ideal gives expression to a claim or an expectation.

> (ii) A theoretical ideal: *there are only tropes*
> In saying that tropes are the only entities that exist we are not saying that there are no tables or that there is no universal colour redness. All we are saying is that all entities that exist besides tropes are constructed from tropes. Another way of saying that there is nothing but tropes is to say that tropes are the only metaphysically *fundamental* entities.[1]

Starting out from this theoretical ideal she finds herself confronted with two main problems. They are referred to under the designations 'the problem of universalisation' and 'the problem of thing-construction', respectively. Much of Maurin 2002 is devoted to these two problems.

Truth-maker theory and the notion of truth-making are other essential issues discussed in Maurin. Truth-making is thought of as accounting for the connection between thoughts about the world and

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[1] Maurin 2002, p. 5. Besides this theoretical ideal, there are also (i) An ontological assumption: *there are tropes*; and (iii) A methodological framework: *tropes are truthmakers*. Cf. Maurin 2002, pp. 5-6.

the world itself or its structure.[1] The problem of universalisation is interpreted from the point of view of truth-making. This appears in the quest for the truth-makers for true propositions which seemingly presuppose universals.

A fair amount of ambiguity is inherent in Maurin's use of the denomination 'trope theory'. Sometimes when alleged fellow trope theorists are referred to, the stipulated conditions for being a trope theorist are not particularly demanding. It suffices to "believe that at least some of the basic constituents of the world are particular properties."[2] This is sufficiently wide to incorporate moderate realists among trope theorists. Aristotle and Edmund Husserl, among others, are explicitly said to belong to the family of trope theorists, in spite of the fact that both of them recognise (real) universals. The Swedish philosopher Ivar Segelberg is also explicitly included. Even though he recognises universal relations. Conversely, 'trope theory' is also used by Maurin in a more strict sense. It excludes (real) universals of any kind. Substrates, or bare particulars, are also repudiated. When the denomination is used in this latter, narrower sense, the number of trope theorists dwindles considerably.

3.2 The Notion of Trope

3.2.1 Overview

Maurin's notion of trope is presented in section 3.2. In the two remaining sections of the chapter, sections 3.3. and 3.4, the two problems of universalisation and thing-construction are dealt with respectively. If Maurin's solution of the former problem turns out to be abortive, her rejection of (real) universals is set rocking. In the proposed solution of the problem of thing-construction the relation of compresence is given a key part. It brings to the fore a few

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[1] Cf. Maurin 2002, p. 39. The stated direction of the connection suggests that what is in fact aimed at is the converse of truth-making: ontological commitment.

[2] Maurin 2002, p. 4.

problems which are also of relevance when evaluating the trope theoretical approach.

In section 3.2.2, Maurin's notion of trope is presented and discussed along with a few problems that are attached to it. Since it is the key notion of moderate nominalism, it must be made sufficiently transparent. Otherwise, it may very well be a carpet under which various premises are swept. Among these hidden premises might be unmistakably realistic ones.

3.2.2 The Single Category: Trope

According to the theoretical ideal mentioned in the introduction, the category[1] of trope is the only fundamental one there is. Any other categories that exist are formed out of that one.[2] Two reasons for developing a one-category ontology are indicated, one of these is that many-category ontologies have met with various difficulties. This raises the hope that trope theory, in its one-categorial form, might fare better. The other reason is that a one-category version of trope theory would be very economical.[3] A modified version of Ockham's razor is pleaded, prescribing that it is always better to postulate as few fundamental entities as possible; 'few' refers here to the number of *kinds* of entities.[4] Furthermore, it is suggested that Maurin's trope theory may have some advantages, which other one-category ontologies lack. The other ontologies are the classical forms of nomina-

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[1] Although the term 'category' is not used in the formulation of the ideal, it is used in direct connection to it.

[2] We are informed that most trope theorists share the theoretical ideal. C. B. Martin, who recognises irreducible substrates as well as tropes, is mentioned as an exception. This makes him (at least) a two-category trope theorist. Cf. Martin 1980. Aristotle is also mentioned. I suppose that he should be classified as being (at least) a three-category trope theorist.

[3] It would not come as a surprise if some post-modern thinker has come up with a none-category theory. In spite of its being maximally economical, the chances are though that it would have some vexing failings.

[4] Cf. Maurin 2002, pp. 5-6. Although the modified version of the razor is ascribed to David Lewis, it can be found already in Bertrand Russell. Cf. Lewis 1986*b*, p. 87, and Russell 1922, p. 112.

lism: class, predicate and resemblance nominalism. In addition, there is universalism which, though it only postulates universals, belongs to the one-category theories. Trope theory might turn out to fill a gap between classical nominalism and universalism.

> The trope is particular and thus suitable for dealing with concrete objects, but it is also qualitative and thus suitable for dealing with properties. All of this indicates that the prospects of a one-category trope theory are unusually good.[1]

As it turns out, the alleged qualitativeness of tropes is a linchpin of Maurin's ontology.

What is a trope then? Well, each trope has three traits: simplicity, particularity and abstractness. A complication here is of course that these traits also cry out for a characterisation. In the previous chapter, we saw that Williams flirts with the idea that concreteness and abstractness exist as tropes. Simplicity leads a rather obscure life in his version of trope theory; he doesn't say much on its behalf. In contrast, Maurin considers simplicity to be essential. Neither of them thinks that simplicity in itself appears in the form of tropes though.

(i) *Simplicity*

In the following discussion the three traits will be dealt with in the same order as they are enumerated above. First out is simplicity. According to Maurin, many of the objections raised against trope theory involve simplicity. Either the objection has rested on a failure to appreciate the simplicity of a trope or the claim has been that any meaningful characterisation of it implies that it is complex.[2] One of Maurin's stated reasons for treating simplicity as an essential trait of tropes, and I suspect that it is also the principal one, is that "an interesting, original and novel theory of tropes representing a true alternative to other metaphysical theories could not be developed

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[1] Maurin 2002, p. 6.
[2] Cf. Maurin 2002, p. 11.

unless the trope was taken to be simple."[1] What does the simplicity of tropes amount to then?

To begin with, note the following discouraging information:

> Notions such as 'simplicity' (and, for that matter, 'particularity' and 'qualitativeness' etc.) are basic and as such they pose great difficulty as soon as we try to spell out in more detail exactly what they mean. Normally, notions such as these tend to be left unexplained or more or less taken for granted in the literature. Here the notions will be given some analysis, mainly of a negative kind. That is, in the following I will try to exclude some of the meanings that we might want to attach to the notions in question in the hope that this will at least begin to suggest the positive meaning that is here intended.[2]

Although the expectations may be lowered a bit by this, it should be remembered that being basic does not exclude an idea from having positive content. Furthermore, the proposed determination of simplicity is not exclusively negative.

One of the first comments concerns the relation between the senses of 'being simple' and 'having no parts'. She is reluctant to consider the latter as bringing in anything new. An explanation of what it means to be simple in terms of having no parts is just a rephrasing of the query.

> Just as we could ask of simplicity, we can now ask of the no-parts-suggestion: what does it mean to say of the trope that it is something without parts? Our answer to this question will depend, in particular, on exactly what we mean by 'part' here.[3]

So, what could be meant by 'part' here? Could it be the synonymous with 'property'? Maurin thinks not, though one wonders why. Her answer is:

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[1] Maurin 2002, p. 12.

[2] Maurin 2002, p. 14.

[3] Maurin 2002, p. 15.

> One reason for this is that the sense in which the trope *is*
> simple is, I believe, directly comparable to the sense in
> which many have claimed that entities such as the uni-
> versal are simple. And from the simplicity of the universal
> it does not seem to follow that the universal cannot (in
> some sense of the word) instantiate other, second-order
> universals. Analogously, it does not seem to me that an
> acceptance of, say, the existence of second-order tropes
> would necessarily have to threaten the simplicity of the
> trope. Rather, the notion of simplicity here involved is
> such that the trope *could* have properties and still be a
> simple entity.[1]

In a footnote[2] Maurin says that she is suspicious of second-order
tropes, but for reasons other than simplicity. In the light of what she
says in other places, I find this remark puzzling. More will be said
about this in a moment. For now, the presumption must be that
second-order properties would be tropes. The idea that a trope could
have second-order tropes as properties and still be simple implies that
the relevant simplicity is not absolute. This is confirmed in the next
quotation. In it we also find Maurin's last word on what kind of
simplicity she has in mind.

> So what *is* simplicity? Let us go back to Daly[3] and the
> distinction he draws between the simple and the complex
> trope. Complex tropes are, according to Daly, substrates
> instantiating universals (states of affairs). The difference
> between the complex substrate-universal and the simple
> trope seems to be this: the substrate-universal is con-
> stituted by two *kinds* of fundamental entities — the kind
> substrate, and the kind universal (and their connection).
> The sense in which the trope is *not* complex is, from this
> perspective, best put as follows: it does not contain (it is
> not constituted of) more than one kind of entity. As we
> shall see, this means, among other things that the parti-

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[1] Maurin 2002, p. 15.

[2] Cf. Maurin 2002, p. 15n.

[3] The reference is to Daly 1997.

cularity and the abstractness of the trope cannot have separate grounds 'in' the trope. There is simply no room for such distinctions.[1]

Thus, the intended simplicity is *categorial* simplicity. A combination of a substrate and a universal would be categorially complex. However, as suggested elsewhere, this might not be the whole truth. Within the context of an argument against class-nominalism, presented in Armstrong 1989 we find implications with regard to tropes.

> But if the properties in question are tropes, we simply cannot have a case where each F-trope is *made up of* G-tropes in the required sense. Tropes are simple entities, and so there are no such tropes. This means that the argument's first two assumptions — assumptions that in fact get the argument going — cannot possibly be true within our trope-theoretical framework. No trope is 'made up' of other tropes. No tropes are 'proper parts' of other tropes.[2]

The message of the last sentence, that no tropes are proper parts of other tropes, and of the sentence before it, that no trope is made up of other tropes, might imply that tropes do not have properties. If being part of a trope and being a property of it amount to the same thing, the simplicity of a trope excludes it from having any second-order properties.

Another place where a similar line of reasoning is found is in Maurin 2005, in answer to a question asked by Eric Funkhouser. He actually puts forward two questions. To the extent that the second of these is answered it is done *en passant*.

> Why *can't* tropes have qualitative parts — e.g., color-tropes have hue-parts, saturation-parts, and brightness-parts? […] This seems plausible, though the possibility would raise problems like those for thing-construction that she dis-

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[1] Maurin 2002, p. 15.
[2] Maurin 2002, p. 71.

cusses at great length. Namely, what accounts for the unity of such qualitatively complex tropes?[1]

Maurin's answer reads:

> [I]f tropes are qualitatively complex in the sense imagined by Funkhouser they must, as I argue above,[2] be regarded as complexes of *more fundamental tropes*. Of course, complexes of this kind we may call *tropes* — but they are tropes only in a secondary sense. I therefore prefer to call them *complexes of tropes* (or *compresent tropes*) although I do not think much hinges on our choice of terms here.[3]

The important information here is that fundamental entities, which are qualitatively simple, are reckoned with. Such entities are what Maurin has in view when using the term 'trope'. The rest are complexes of tropes. Perhaps then, the three qualitative parts of colours mentioned by Funkhouser are fundamental entities. In other words, perhaps they are tropes. Note that this is not the official view found in Maurin 2002.

There is an imminent consequence of the theoretical ideal that there are only tropes in combination with the notion that categorial simplicity is the relevant kind of simplicity: there is practically no upper limit for how complex a trope may be, in an intuitive sense, while still being simple, in the adopted sense. This strongly suggests that categorial simplicity is not the only thing Maurin has in mind when claiming that tropes are simple entities.

(ii) *Particularity*

I move on to the two other alleged trope traits — particularity and abstractness. These have been touched upon already; in an earlier quotation we saw that neither of them can have a separate ground in a trope due to its simplicity. This is stated once more:

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[1] Funkhouser 2004, fourth paragraph.

[2] The argumentation referred does not bring in anything new which is not found in Maurin 2002.

[3] Maurin 2005, p. 136.

> Given the simplicity of the trope, the way in which the
> trope is particular (and, as we shall see, the way in which it
> is abstract) *cannot* be due to the existence of some separate
> particularising and/or qualitative element *in* the trope. We
> cannot say of the trope that it is particular as a result of *x*
> and that it is abstract as a result of *y*. We must accept that
> the trope simply *is* particular and abstract and leave it at
> that. The particularity of the trope must be regarded as
> *primitive*.[1]

Thus, tropes are assumed to be primitively particular. A traditional
proposal as regards particularity is put in terms of substrates. Since
substrates belong to another (fundamental) category, they are of no
use to Maurin. Two other proposals are more interesting.

> [1] one which tries to explicate the notion of particularity
> with reference to how numerical distinction stands to
> qualitative nature and [2] one which tries to spell out the
> particularity of the trope in terms of spatio-temporal
> position.[2]

According to the first account, some entities, the particulars, do not
obey the principle of the identity of indiscernibles.[3] Maurin concurs
with this, though she does not think that it tells us very much about
particularity in itself.

> The observation that tropes cannot be entities that
> succumb to the principle of the identity of indiscernibles is
> very important. Tropes are entities that can be exactly
> similar and yet numerically distinct, but pointing this out
> does not really tell us anything about the *particularity* of the
> trope — or at least, it does not tell us very much. Rather,
> accounts such as that given by Williams are accounts of
> what will follow *given* that the trope is not only qualitative

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[1] Maurin 2002, p. 16.

[2] Maurin 2002, p. 16.

[3] This principle is also known as Leibniz's Principle. In formalised version:
$\forall x \forall y [\forall P(P(x) \leftrightarrow P(y)) \rightarrow (x = y)]$. Here the lower-case letters range over
(concrete) particulars; the upper-case letters range over attributes.

(abstract)[1] but also particular. Particular qualities *are* entities that "may be exactly similar and yet not only distinct but discrete"[2] but in asking about what is meant by *particularity* it seems that we are looking for something more than this simple truth. We want to know what it is about the trope that makes this combination into a possibility.[3]

Since this first suggestion does not deliver the goods, we go on to the next one, according to which the particularity of tropes comes from their being localised in space and time. Like many others, Maurin finds this attractive. Merely being localised need not immediately distinguish it from universality though. After all, immanent realists maintain that universals have position in space and time. Notwithstanding that, particulars and universals can be distinguished in terms of spatio-temporal position. A remark of Keith Campbell is quoted to show that:

> Universals are promiscuous about space-time: they can be completely present at indefinitely many places at once. But particulars, and in our case this includes above all the tropes, all have a local habitation, a single, circumscribed place in space-time.[4]

To this, Maurin hastens to add that concrete particulars monopolise spatio-temporal positions in a way that tropes do not. A trope occupying a unique position in space and time only monopolises it in relation to tropes which belong to the same determinable as itself.[5] For instance, an existing colour trope prevents every other colour trope from having that particular spatiotemporal position. Tropes of different determinables such as form, weight, taste etc. may very well

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[1] As is perhaps already evident, Maurin is not using 'abstract' in the same sense as Williams.

[2] Cf. Williams 1986, p. 3.

[3] Maurin 2002, p. 17.

[4] Campbell 1990, p. 53.

[5] There are a few obvious complications with this characterisation. It will do for now though.

share their position with each other. As will be seen below, sharing position in this way is being compresent with each other.

It might be proposed that having a unique position in space and time gives an entity its particularity. A trope may even be described as being a nature-at-a-place. If this means that the trope has a nature and a position as constituents, Maurin's objection is that this would be in conflict with the simplicity of the trope.[1]

James P. Moreland has criticised the account of particularity in terms of spatiotemporal position.[2] According to one interpretation, a quality-at-a-place amounts to a simple reality. Moreland objects to this. One of his objections concerns tropes which are elements of the same (exact) similarity set. It asks how the elements of such a set should be distinguished. Two exactly similar red-tropes can be used to illustrate this. Maurin quotes Moreland saying:

> [If] location is the principle of individuation […] [then] it doesn't seem that the two red tropes can be individuated by their red nature, for this is what they have in common. And if their nature differs from their location only by a distinction of reason, then they would be one and not two.[3]

Maurin objects to this on the ground that it confuses particularity, or individuality, with individuation. Part of her rendering of Moreland's argument reads as follows.

> If the *particularity* of the trope is given by its occupying a certain spatio-temporal position, then, Moreland argues, there will be trouble when we attempt to *individuate* distinct

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[1] Cf. Maurin 2002, p. 18. An obvious comment on this objection is that it presupposes that location is not qualitative in nature. If it is, the categorial simplicity of the trope would not be tampered with, would it?

[2] Maurin only refers to Moreland 1985. He has repeated and, to some extent, varied his objections in several works written after Moreland 1985. One is Moreland 2001.

[3] Moreland 1985, p. 41. It is evident from the rendering of this quotation that Maurin has edited what Moreland says. Unfortunately, this distorts his message to some extent.

> tropes from the same similarity-set. There will be trouble
> because, in belonging to the same similarity-set, the tropes
> will be *the same*[1] and so incapable of being individuated on
> the basis of their qualitative nature. But as their respective
> qualitative nature is only separated from their respective
> position by a 'distinction of reason' they cannot really have
> different positions either. If their qualitative nature is the
> same, so is their position.[2]

In this account it may seem as if Moreland is talking about an issue of
an epistemological nature, rather than an ontological one. If we
disregard that, his point is the one indicated in the last sentence of the
quotation: if their qualitative nature is identical, so is their position.[3]
Interpreted in this way, Maurin still rejects it. She even does so after
having stated that Moreland's problem is the more general one of
grounding the numerical difference between entities sharing all their
pure properties.[4]

> [T]his metaphysical problem of individuation [i.e., that of
> grounding the numerical difference between entities which
> share all their pure properties] seems only to arise if we do
> not accept the basic tenets of trope theory. That is, it only
> arises if we refuse to accept that two *different* basic facts
> may be true of one and the same simple entity. A refusal
> to accept this is surely both permissible and, to some, quite
> natural. But it is not an objection to some particular
> development of trope theory; it is an argument directed
> against the very possibility of the entire trope-theoretical
> enterprise. As such it is of no interest in the discussions

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[1] It puzzles me that Maurin is using 'the same' so frequently in connection
with Moreland since she tends to use it as synonymous with 'exactly like'.
Moreland is a realist and intends strict identity.

[2] Maurin 2002, p. 19.

[3] If we start with the two red-tropes having different locations and that they
therefore are not identical with each other, we reach the conclusion that they
have separate natures. This arrangement of the premises is ignored by
Moreland.

[4] A reference is made to Moreland 1985, pp. 64-5, which shows that to be the
case.

being conducted here (where the possible existence of tropes is *assumed*).[1]

We see here that Maurin wants to disregard an objection which calls into question the stipulated premises of (her) trope theory. The particular premise here is that tropes are simple entities. This kind of argumentation may of course be called in question.

Maurin intimates that another of Moreland's objections is more serious. Since it has more or less the same pattern as the previous one, it is not completely clear to me what her reason for that might be. For safety's sake, I let her speak for herself.

> If the trope is simple its qualitative nature and its position will be one. But as tropes do not generally monopolise their places, this means that several tropes may have numerically the *same* position. But how can one and the same position be one with many distinct qualitative natures? It simply cannot, says Moreland. And "[t]o avoid this consequence," he continues, "it is easy to think that location or place is an entity in the trope, a co-ordinate quality perhaps, which individuates the two tropes." But, again, this would contradict the supposition that tropes are simple entities.[2]

While the tropes starring in the former argument shared nature, the ones in this one share position. We see in the last sentence that Moreland's proposed revision, which takes location to be an entity in itself, is rejected. Once again, the simplicity of tropes is invoked.

Maurin's summarised response to the two proposals is stated in the following quotation.

> It seems […] that we cannot explain what it means to say of the trope that it is particular by characterising the trope as a singular unity of quality and place. For even if it is true

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[1] Maurin 2002, p. 19.

[2] Maurin 2002, p. 20. The insertions are said to come from Moreland 1985, p. 41.

that we individuate[1] distinct but exactly similar tropes via their distinct spatio-temporal positions, and even if it is true that one and the same trope cannot exist but in one unique region in space and time, we may still ask *why* distinct tropes occupy such distinct spatio-temporal positions, or *why* one single trope cannot exist but at one place at one time. What is it about the trope that ensures that these claims are true? The answer seems to be that these claims are true of tropes *because* tropes are *particulars*. This turns explanation on its head. It treats particularity as what explains certain spatio-temporal truths, rather than the reverse.[2]

The message here is the same as it was from the start: particularity must be accepted as something primitive. In connection with this it is added that being primitive is the same as not being based in anything at all.[3]

(iii) *Abstractness*

The third trope trait is abstractness. The notion that tropes are abstract particulars is a common description. The sense Maurin has in mind for 'abstract' may be quite peculiar to herself though. In a prefatory remark she contrasts being abstract with being bare.

> Apart from being simple and particular, the trope is also *abstract*. It is indeed its being abstract that distinguishes the trope from another classical kind of ontological entity: the bare particular. Just like the trope, the bare particular is (as its name suggests) particular and simple. But unlike the trope, the bare particular is (as its name also suggests) bare, whereas the trope is, in a certain sense, 'clothed': the trope is qualitative; the bare particular is not.[4]

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[1] Here 'individuate' is an epistemological term.

[2] Maurin 2002, p. 20.

[3] Cf. Maurin 2002, p. 20.

[4] Maurin 2002, p. 21.

The essential message here is that being abstract is in a sense being clothed. This way of expressing the thesis suggests that abstractness is something a trope is "wearing". Therefore she hastens to add that this is an inference we should resist. The abstractness of a trope is not something which has a separate ground in it; a trope cannot have a separate ground. The reason invoked for this is its simplicity. Not very surprisingly, tropes are declared to be primitively abstract.

Why use 'abstract' in this sense? The stated reason for using it at all is that it is so entrenched in its usage in the literature. However, in spite of its being well established, there is not much of a consensus on what its sense is. Take, for example, the sense stipulated by Williams: an abstract entity is one which, in a special sense, is less than the whole including it.[1] This special sense is indicated by examples, in which the abstract entities are tropes. Maurin is not satisfied with this:

> The trouble with this specification is that it now seems that we have gained nothing by adding that the trope is abstract. All we can say about what it means for a trope to be abstract is that it is to be 'like the colour of the lolli-pop'. But it was to characterise such things as the colour of the lollipop that the term was originally introduced. It was the 'thinness' of the trope (in contrast with the 'grossness' of the concrete stick-part of the lollipop) that our use of the term 'abstract' was originally meant to explicate. Given the way Williams chooses to spell out the notion, the characterisation of the trope as abstract is more or less empty and uninformative.[2]

Williams's characterisation of abstractness is pronounced to be empty. Campbell's characterisation is rejected as well, more or less accused of the same sin. It reads:

> The colour of this pea, the temperature of that wire, the solidity of this bell, are *abstract* in this sense only: that they (ordinarily) occur in conjunction with many other

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[1] Cf. Williams 1953*a*, p. 15.
[2] Maurin 2002, p. 22.

> instances of qualities (all the other features of the pea, the
> piece of wire or the bell), and that, therefore, they can be
> *brought before the mind* only by a process of selection, of
> systematic setting aside, of these other qualities of which
> we are aware. Such an act of selective ignoring is an act of
> abstraction. Its result is that we have before the mind an
> item which (as a matter of fact, in general) occurs in
> company with many others.
>
> But the pea's colour, the wire's temperature, the bell's
> solidity, are *not* in any sense *products of* the discriminating
> mind. They exist out there, waiting to be recognized for
> the independent, individual items, that they have been all
> along.[1]

Being the object of a process of selective attention called 'abstraction'
is not much of a characterisation. Anything can be such an object.
Maurin does not think it makes anything abstract.

Something which adds to the conceptual confusion is that, in
the terminology of some philosophers, tropes are said to be concrete
entities. Peter Simons and Guido Küng are mentioned as exponents
of this.

> Simons, for instance, notes two mutually incompatible
> ways (more or less the same as those distinguished by
> Williams) of regarding the distinction between abstract and
> concrete: on the first account of the distinction an entity is
> abstract if it has neither spatial nor temporal location. On
> the second, an entity is abstract if it is incapable of in-
> dependent existence.[2] According to Simons, since the
> trope is an entity with location, it is concrete in the first
> sense of the distinction, but since it is also (according to
> his theory) necessarily dependent for its existence on the
> existence of other tropes, it is simultaneously abstract in
> the second sense. To avoid calling the trope a *concrete
> abstract* entity, Simons chooses to characterise it as a

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[1] Campbell 1990, pp. 2-3.

[2] This is partly wrong. It is part of Williams's own official doctrine that tropes
are existentially independent entities.

"dependent concrete particular."[1] For similar reasons, G. Küng characterises his trope-like entities as *concrete*. 'Abstract', for him, means *non-spatio-temporal*, and since tropes both have "some definite place in space and time" and since they are "not eternal, and they may change through time",[2] he calls them *concrete properties*.[3]

Thus, the terminology in circulation is somewhat chaotic, to say the least. According to Maurin, much of the discussion could have been avoided if the term 'abstract' had not been used. In spite of that, she contributes to the chaos by using it herself.

In what might be described as common usage, 'abstract' and 'concrete' have opposite senses. What about Maurin's use of these terms? I guess that at least her official sense of 'concrete' is the same as that of 'monopolising a spatio-temporal volume'. If that is indeed the case, she does not use them as opposites of each other.[4]

3.3 The Problem of Universalisation and Its Solution

3.3.1 Overview

The problem of universalisation is a main subject in this rather lengthy section. The outcome of the discussion on it is in section 3.3.6, dealing with Maurin's preferred account of the notion of internal relation. Another problem, the problem of universals, marches past before that. While the former problem is inherent to moderate nominalism, the latter is more general.

The notions of external and internal relations play principal parts in Maurin's ontology. Her version of trope theory differs somewhat from the mainstream of moderate nominalism in that it recognises irreducible tropes of external relations. Some of the details

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[1] Cf. Simons 1994, p. 557.

[2] Cf. Küng 1964, p. 33. Since Maurin stipulates that tropes cannot change, Küng's concrete properties are no more than trope-like entities.

[3] Maurin 2002, p. 23.

[4] We just saw that neither does Simons.

of the distinction between the two kinds of relations are discussed in sections 3.3.4 and 3.3.5. In the latter section, the notion of internal relation is applied to tropes. After Maurin's preferred account of internal relations is discussed, there is a short section, section 3.3.7, dealing with the problematic claim that resemblances of various degrees hold between simple tropes.

3.3.2 Another Problem: The Problem of Universals

Maurin is anxious to distinguish between a problem which she calls 'the problem of universals' and another problem, 'the problem of universalisation', which is her primary interest.[1] Before discussing it, it might be rewarding to dwell upon the former problem for a moment.

> The classical problem of universals is due to a phenomenon found in both language and experience, at times referred to as that of the 'One over Many'. The phenomenon of the One over Many is this: experience and thought unfold to us, not only particular things or particular cases of qualities, but also samenesses or even identities that seem to exist, so to speak, over and above these distinct and particular entities. The world, that is, not only appears particularised (as many) but also, in some sense of the word, generalised or classified (as one). Language mirrors this phenomenon in providing us with a distinction between a kind of word — the singular term — whose function it seems to be to point to, or refer to, particular individuals; and another kind of word — the predicate — whose function it seems to be to point to, or refer to, those communal things that particular individuals share. It is this 'unity in manifold' which gives rise to the classical problem of universals. The problem is this: how can distinct particulars all have what appears to be *the same* nature?[2]

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[1] The question "How can there be anything universal when tropes are all that exist?" gives a hint at what is meant.

[2] Maurin 2002, p. 60.

In the second sentence a distinction is obviously made between same-ness and identity. This distinction is given a more detailed account later in the book.[1] It states that the phrase 'have the same nature' can have either of two senses. One of these is that of 'sharing an identical feature'.[2] Maurin remarks that this is what a realist would say. She adds that it cannot be accommodated within a trope-theoretical framework. The other possible meaning is that of 'have exactly resembling natures'. The latter sense can be accommodated within her trope-theoretical framework. Now, given the context of the occurrence of the phrase '*the same* nature' in the last quotation,[3] one would expect its intended sense to be that of 'exactly resembling nature'. If that is indeed so, the answer which she has to offer within the framework of her own trope theory is a rather empty one: distinct particulars all have what appear to be exactly resembling natures because they have exactly resembling natures. This seems to turn the alleged problem of universals into something of a mockery. It would be more accurate to formulate the question and answer like this: How can distinct particulars all have what appear to be an identical nature? It is because they have exactly resembling natures.

The previous quotation continues:

> There is of course a fundamental sense in which the classical problem of universals and the problem of universalisation deal with the same issue. They are both problems that emerge from a need to explain, or ground, the phenomenon of universality. Yet the problems remain distinct, and their distinctness is due mainly to two factors: (1) the problem's origin, or that which gives rise to the queries, is different in each case. (2) That for which a solution to these problems may reasonably be expected to be able to account is likewise different.

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[1] Cf. Maurin 2002, pp. 77-8.

[2] Cf. Maurin 2002, p. 77. Presumably, the motive for using 'feature' here is purely stylistic.

[3] Part of this context is that a distinction is made between sameness and identity.

That the two problems differ in origin is demonstrated
by the fact that the problem of universalisation does not
immediately arise when the phenomenon of apparent
identity in difference, in language and experience, has been
detected. Yet, it is this very phenomenon which
constitutes the problem of universals.[1] In fact it is possible
that the existence of sameness in difference — of apparent
universality — in *no* case requires universality to be
constructed from tropes, at least as long as trope theory is
developed within truth-maker theoretical framework. As
will be argued later for instance, simple predications such
as '*a* is F' do not give rise to the problem of universalisa-
tion, whereas it may be (and has been) argued that in
including both singular and general terms, these predica-
tions are part of what gives rise to the classical problem of
universals.[2]

That apparent identity in difference in no case requires universality to
be constructed from tropes is a rather surprising thesis. It is easy to
get the impression that the opposite is what actually is claimed in
another place.

In the following two chapters of this book I will attempt
to construct, first the required universality, and then the
required concreteness from tropes. I begin here with the
first of these constructive tasks: that of constructing
universality from tropes. I label this problem the 'problem
of universalisation' […].[3]

Anyhow, we have been told at the end of the quotation before the
last one that simple predications are not in need of universals. Nor do
they presuppose a solution of the problem of universalisation. This is

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[1] These two sentences seem to corroborate that (apparent) identity, not
sameness, of nature is what Maurin considers to be connected with the
problem of universals.

[2] Maurin 2002, p. 60.

[3] Maurin 2002, p. 59.

in spite of the fact that simple predications involve general terms —
i.e., predicates.

3.3.3 The Problem of Universalisation

An appropriate introduction of the problem of universalisation seems
to be that the world is the ultimate ground for the truth of proposi-
tions. The world, or something about its structure, is what makes
propositions true. According to Maurin, there are some true proposi-
tions which apparently have universals as truth-makers. Being a nomi-
nalist, she sees a need for something to replace the universals. The
problem has its place in this context. A formulation of it is: how can
there be anything universal when all that exists is particular?[1] The task
in connection with this formulated question applies to all versions of
nominalism. However, as far as trope theory is concerned, the
question should be reformulated: How can there be anything univer-
sal when tropes are all that exist?

In the quotation which follows we see some of the main ideas
behind Maurin's notion of truth-making passing by.

> According to truth-maker theory any true proposition is
> *made* true. That is, for a proposition to be true the
> existence, in the world, of this or that entity is required. It
> is a basic assumption in this work that *tropes* exist. It
> follows from the adoption of truth-maker theory that
> tropes should be able to fulfil this truth-making function.[2]
> Thus the theory of truth-making will provide us with both
> a starting point and a checkpoint for our theory. If truths
> are made true in the intended sense, then we might, from
> known truths, conclude something about that which
> makes them true. We might conclude, in particular, some-
> thing about how our tropes, if they are to succeed in their
> truth-making function, must be structured. Truth-maker
> theory thus works 'top-down'. It provides us with access
> to the world and it prescribes which configurations of

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[1] Cf. Maurin 2002, p. 59.

[2] An additional premise of course is the stipulated theoretical ideal.

tropes our theory must be able to provide for. Investigating whether a one-category theory of tropes can supply the configurations prescribed by truth-maker theory will, therefore, help us to determine if a one-category theory of tropes is at all feasible.[1]

This being said, it is added that truth-maker theory is assumed in substance, not defended. It is part of the theoretical framework within which her version of trope theory is developed.[2] As indicated earlier, ontological commitment, rather than truth-making, seems to be what she actually has in view. After all, the enterprise is described as starting with known truths in order to figure out what the world is like. A self-imposed constraint is that only tropes exist. The catchphrase, used in the last quotation, is that truth-maker theory works top-down.

A number of proposition types are enumerated.[3] At least some of these apparently presuppose universals. Two of these types are discussed in particular. The first of these is called simple predication. Its form is:

a is F.

The second type is the comparative predication. It appears in two versions, whose respective forms are:

a and b are the same F

and

a is the same F as b.

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[1] Maurin 2002, p. 38.

[2] Her sources for truth-maker theory are mentioned: Mulligan, Simons & Smith 1984, Simons 1992 and 1998, Restall 1996 and Read 2000.

[3] In all there are seven types. Besides the two presented in the main text the remaining five are: (i) *Identity-propositions*, e.g., 'Mary = Mary'; (ii) *Kind-predications*, e.g., 'Mary is a woman'; (iii) *Singular existentials*, e.g., 'Mary exists'; (iv) *Propositions ostensibly about universals*, e.g., 'brown is a colour'; (v) *Second-order predications*, e.g., 'redness is a colour' and 'redness resembles pink more than green'. Cf. Maurin 2002, pp. 54ff.

The lower-case letters may in all three formulas refer either to concrete particulars or to tropes.

The comparative predicative propositions are the ones from which Maurin takes here departure when attempting a solution to the problem of universalisation. They are therefore strategically important. What is the relationship between simple and comparative predicative propositions? These are her beginning remarks on the subject:

> While simple predications do not in general necessarily require the existence of something amounting to the realist's universal for their truth, the same does not hold for a special variant of the simple predicative proposition: what I shall call the 'comparative' predicative proposition. These are propositions of the kind 'a and b are the same F'. One might think that propositions of this form are really hidden complex propositions of the form 'a is F and b is F'. If this were so, the truth of such propositions would be a consequence of whatever makes true their constituent propositions 'a is F' and 'b is F'. But as long as we agree that simple predications need nothing more than the existence of some particular trope for their truth, I do not think that we can say that propositions such as 'a is the same F as b' have their truth determined merely by whatever makes 'a is F' and 'b is F' true — at least, not without some qualifications. The reason why is that, in contrast with the case of simple predications, comparative predications seem to require not only the existence of, say, a particular red-trope a_1 and a particular red-trope a_2, but also some account of how come we can truly say that these tropes are *the same*. Comparative predications, therefore, suggest that the trope theorist with sympathy for truth-makers needs to construct something amounting to the realist's universal in order for his or her tropes to be able to fulfil their truth-making function.[1]

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[1] Maurin 2002, pp. 57-8.

In the first sentence we are informed that comparative proposition is a special variant of the simple proposition. In the light of what is said in the rest of the quotation, this might be interpreted as meaning that the former proposition is a combination of two of the latter kind plus something additional; the additional something being the clause that the subjects of the two included propositions are *the same*. I suppose this can be generalised for an arbitrary number of included simple propositions and their subjects.

With the purpose of making it credible that universals may be unnecessary for truth-making in the case of simple predications, truth-making is contrasted with meaning. This happens in the next quotation, which starts out using a red apple to illustrate the example. Pretty soon, the subject becomes a red-trope instead.

> From the perspective of meaning, it does seem that the claim that the apple is red not only tells us something about the inner constitution of the apple, but also relates the apple to various other things, things with the same colour: in this perspective, the proposition seems to involve universality, then. Yet from the perspective of truth-making, it is less evident that the existence of anything universal is really required for truth. For truth it is arguably sufficient that this *particular* redness exists. That is, even if this particular redness is in fact related by similarity to numerous other particular instances of redness, it is not necessarily this relationship that constitutes this instance's *being red*. If you are a trope theorist it is surely not. To the trope theorist, the particular redness (the trope) is red as a consequence of its *being the way it is*, and so are all other red tropes. To a trope theorist, therefore, the fact that each particular redness (each trope) is such that it resembles every other particular redness is a consequence of the fact that each particular redness *is what it is* and nothing else. Therefore, the trope theorist can argue that the truth of a simple predicative proposition need not require the existence of more than the particular redness (in this case instantiated in the apple). So although simple predicative

sentences initially seem to require universals as truth-makers, a believer in tropes can in fact deny this.[1]

A central *credo* of Maurin is expressed here: a trope is what it is independently of everything else. Neither a universal, similarity, class, predicate nor sum, or what have you, bestow it with a qualitative nature. It is self-sufficient in that respect.

That a concrete particular *a* is F is due to its instantiating an F-trope. Instantiating a trope amounts to having it as part. Things are supposedly different when *a* is a trope itself. In that case, *a* itself is the F-trope. Whatever *a* may be, whether it is a concrete particular or a trope, the proposition *a* is F is classified as a simple predication. An F-trope is supposed to take care of truth-making in either case.

A containment model for predication[2] is suggested in the previous paragraph. Applied to the proposition '*a* is F', when *a* is an F-trope, is perhaps that *a* is contained in itself in the sense that it is a part, although not a proper part, of itself. If that is indeed the case, then given that *a* is a trope which is F, though not itself an F-trope, the model implies that an F-trope is a proper part of it. As indicated earlier, the idea that a trope can have another trope as a part of it is rejected. So, what denomination should be used then of an entity which consists of more than one trope but which is still not a concrete particular? In another work Maurin calls entities of that kind 'complexes of tropes' or 'compresent tropes'.[3]

Keith Campbell distinguishes between two questions: the A question and the B question, respectively. Maurin is impressed by this distinction. It is intimately related to the distinction she makes between single and comparative predications. Let us acquaint ourselves with some of what Campbell says with regard to his distinction.

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[1] Maurin 2002, p. 57.

[2] Cf. Maurin 2002, p. 62, where it is confirmed that her trope theory involves a containment model for predication.

[3] Cf. Maurin 2005, p. 136, which is where it is explicitly asserted that hue-, saturation- and brightness-parts of colour tropes must be regarded as more fundamental tropes. The phrase 'more fundamental tropes' is of course a misnomer.

[W]e can pose two very different questions about, say, red things. We can take *one* single red object and ask of it: what is it about this thing in virtue of which it is red? We shall call that the *A question*.

Secondly, we can ask of any *two* red things: what is it about these two things in virtue of which they are both red? Let that be the *B question*.

Discussions of the problem of universals invariably take it for granted that the two questions are to be given parallel answers. Indeed, realists about universals have their answers ready. The A question's answer is: it is in virtue of the presence in the object of the universal red-ness, that the thing is red. And the B question's answer is parallel: it is in virtue of the presence in each of them of the universal redness, that they are both red.

The conflation of the A and B questions is responsible for making the realist position seem much more inevitable than it really is.[1]

In Campbell's formulations there are no traces of a role for truth-making to play. In Maurin's reformulations, in which Campbell's original names are kept, truth-making has a role. Her versions read:

The A-question: What makes it true that '*a* is F'?
The B-question: What makes it true that '*a* and *b* are

the same F'?[2]

It is the B-question which an account of universalisation attempts to answer. The basic universalisation-requiring question is declared to be the B-question with *a* and *b* as tropes.[3] So, what is her answer to that question, when *a* and *b* are tropes? Since Maurin's answer pre-supposes an account of universalisation in terms of (exact) resemb-lance, an examination the latter is called for.

Resemblance is said to be objective as well as primitive. Its being objective means that it is comparison-independent; i.e., it holds

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[1] Campbell 1990, p. 29.

[2] Cf. Maurin 2002, p. 61.

[3] Cf. Maurin 2002, p. 63.

between relata independently of any observer. What is there to be said about its being primitive? Well, ponder upon the following statements.

> Just as some believe that resemblance is obviously not objective, others believe that resemblance is obviously *not* primitive. It may even be suggested that any such refusal to accept the primitiveness would raise a very serious objection to the entire resemblance approach to universalisation, and indeed to trope theory as a whole, since the assertion that resemblance *is* primitive can be construed as begging the question against the universal realist (who believes that resemblance is analysable in terms of partial identity). But first of all, the main theme of this book is not an overall comparison of trope theory with universal realism — a search for the best theory. Instead, we are attempting to develop trope theory within a very particular theoretical framework. As such it is an investigation that needs to be made, as far as possible, independently of any comparison with rival views such as universal realism. And even if such comparison were the main theme of this book, we would need to remember that the trope theorist's claim that resemblance is one of the basic *differences* between trope theory and universal realism. Comparison is therefore impossible unless both primitive (for trope theory) and non-primitive (for realism) resemblance is allowed for. No intrinsic value attaches primitive or non-primitive notions of resemblance. What matters is whether, and how, resemblance helps to achieve our theoretical aims.
>
> Let us assume from now on, therefore, that unless otherwise indicated, the resemblance we are dealing with is *objective* and *primitive*.[1]

It may be safely concluded that the primitiveness of resemblance at least amounts to not being analysable in terms of universals, according to the quote above. This is not much of a characterisation though.

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[1] Maurin 2002, pp. 79-80.

As for the rest, the message here is that the primitiveness of resemblance is something which is assumed. It is assumed in order to achieve the theoretical aims of trope theory.

Resemblance is said to exist in degrees. This holds true also when the relata are tropes. Each trope resembles countless other tropes to countless degrees.[1] However, only exact resemblance is thought of as being relevant to the solution of the problem of universalisation. That is made clear in the following:

> Here are the bare bones of what will, I hope, become a full account of universalisation in terms of exact resemblance: atomic propositions that require universalised truth-makers are made true by classes of tropes. Not just *any* class of tropes will be able to provide us with the truth-makers we need […]. Only those classes of tropes formed by the *equivalence* or *exact resemblance* of the included tropes will do.[2]

Nothing less than exact resemblance will do as a tool for forming a surrogate universal. More is said in section 3.3.7 about degrees of similarity.

3.3.4 Internal and External Relations

The predominant description of resemblance is that it is an internal relation. Various determinations of internality have been presented. Maurin discusses four of these and makes no claim that this inventory is exhaustive.[3] Her discussion makes preparations for a modal characterisation of exact resemblance. That characterisation will be followed here by an ontological characterisation.

The first determination of internality is ascribed to David Armstrong. The following indicates what he considers to be the distinction between internal and external relations:

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[1] Cf. Maurin 2002, p. 80.

[2] Maurin 2002, p. 79.

[3] Maurin's four senses of 'internal relation' are found among the ten that are distinguished in Ewing 1934, chapter IV.

I propose the following definitions:

(1) Two or more particulars are *internally* related if and only if there exist properties of the particulars which logically necessitate[1] that the relation holds.[2]

(2) Two or more particulars are *externally* related if and only if there are no properties of the particulars which logically necessitate that the relation, or any other relation which is part of the relation, holds.[3]

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[1] Earlier in the same work Armstrong asserts:

If logically equivalent predicates which are not logically empty apply in virtue of the very same universals, and logically equivalent propositions which are not themselves logically necessary are true in virtue of the very same state of affairs, then some *de dicto* account of logical necessity must be correct. The logical necessity of propositions must, in some way, derive from the words or concepts in which the propositions are expressed. (Armstrong 1978*b*, p. 42)

This indicates that logical necessity is thought of as being of a conceptual nature.

[2] This determination is, or approximates, the "logical part" of the sixth sense on Ewing's list: an internal relation is grounded, either logically or causally, in the nature of the related terms. Similarity is said to be internal in this sense. Cf. Ewing 1934, p. 126.

[3] Armstrong 1978*b*, p. 85. A reduction principle for internal relations is introduced on the next page:

If two or more particulars are internally related, then the relation is nothing more than the possession by the particulars of the properties which necessitate the relation.

Armstrong comments on it:

In § 1 it was argued that although relational properties are real, they are reducible (to non-relational properties and relations). It is now being argued that internal relations are reducible to properties of the related terms. […] External relations, on the other hand, involve irreducible relations holding between the externally related particulars. (Monads could have internal, but not external, relations.) (Armstrong 1978*b*, p. 86)

There are similar passages in other works of Armstrong. The following is an example.

An internal relation is one where the existence of the terms entails the existence of the relation. Given our definition of

Statement (1) is quoted by Maurin. Her interpretation of it is that an internal relation is founded in the nature of that which it relates.[1] We can safely assume that Armstrong, in the quoted passage, does not consider tropes as being the relata of either internal or external relations. However, Maurin thinks that his determination can be applied to tropes if need be, slightly modified.

> It is the particulars' *being the way they are* that logically necessitates their standing in an internal relation. Translated into trope language, Armstrong's take on the distinction implies that tropes, since they are simple entities, will be such that any internal relation holding between two tropes must do so, not as a consequence of certain properties the related tropes exemplify, but rather because the related tropes are what they are. And, since there is nothing more to a particular trope than its particular and simple nature, this also means that the mere *existence* of two internally related tropes is enough to ensure that their internal relations necessarily hold.[2]

Here, it is indicated once again that tropes do not have any properties. The nature of each trope is simple as is the trope "as well". Note

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supervenience, it follows that the relation supervenes on the existence of the terms. Using the picturesque extensional model provided by possible worlds, in every world in which all the terms exist, the relation holds between them. If, as I further contend, what supervenes is not something ontologically more than what it supervenes upon, then, once given their terms, internal relations are not an addition to the world's furniture. External relations are those that are not internal, and are therefore the ontologically important relations. It should not be overlooked, however, that given this purely negative definition of 'external', some external relations, on analysis, resolve into a mixture of internal and purely external components. (Armstrong 1997, p. 87)

The view expressed here, ignoring that Armstrong considers properties and relations to be universals, comes near to what is Maurin's own view.

[1] Maurin 2002, p. 88.

[2] Maurin 2002, pp. 88-9.

also that several internal relations, supposedly not identical with each other, may hold between two tropes.

Armstrong's distinction between internal and external relations is summarised by Maurin in the following "figure".[1] In it, the word 'foundation' is used, which Armstrong himself does not use in the work quoted. I do not think that this misrepresents his view though, since he uses the same term in later works.[2]

Internal relations	External relations
Relations have foundations in the terms they relate. (For tropes: *a* is internally related to *b* iff given the *existence* of *a* and *b* — their 'being what they are' — their being related is 'entailed'.)	Relations do not have foundations in the terms they relate. (For tropes: *a* is externally related to *b* iff given the existence of *a* and *b* it is *contingent* whether or not the relation holds.)

There is a potential ambiguity in Armstrong's determination. One of its specifications has some affinity with the sense ascribed to George Edward Moore below; even more so with the sense in which Keith Campbell uses 'internal relation'. It can be expressed this way: 'an internal relation between relata is founded in the identities of the relata'.[3] Another specification is expressed by the phrase, 'an internal relation between relata is founded in their natures, but not necessarily in their identities'.

Maurin ascribes the second determination of internality to George Edward Moore.

According to Moore, if R is an internal relation holding between *a* and *b*, it will be the case that, had *a* and *b* not

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[1] Cf. Maurin 2002, p. 89.

[2] Cf. for example Armstrong 1989, p. 44. The corresponding word in Ewing is 'grounded'.

[3] The following is perhaps more true to Armstrong's own formulation in the quoted passage: 'an internal relation between relata is founded in properties which are essential to the identities of the relata'.

been related by R, then necessarily *a* and *b* would not have been the self-same *a* and *b*. To Moore, then, the distinction between internal and external relations should be understood in terms of what is and what is not *essential to the identity of the related terms*.[1]

This determination is also summarised in a figure:[2]

Internal relations	External relations
Relations are essential to the identity of the related terms.	Relations are not essential to the identity of the related terms.

It is mentioned that Moore puts the matter in terms of relational properties, not relations, and that this may be significant. Moore does indeed do so.[3] I would say that it is significant, not least of all for reasons of intelligibility. After all, what does it mean to say that a relation is essential to the identity of its subject and the identity of its relatum? It seems to be a misleading way of saying that a certain relational property is essential to the identity of the subject and that this holds *mutatis mutandis* for the relatum. Put differently, that the relational property *Rb* is essential to the identity of *a* is taken as a pretext for *R*'s being essential to the identity of *a*. The same applies, *mutatis mutandis*, to *b* and the relational property *aR*. Of course, the formula '*aR*' is unorthodox. What is more, if R is asymmetric, or even non-symmetric, it is inaccurate as well. It should instead be *R*a*, where '*R**' names the converse of *R*. Though, if the latter rendering is used, the point of my remark is more easily missed.

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[1] Maurin 2002, p. 89. This is Ewing's second sense. Cf. Ewing 1934, p. 121.

[2] Cf. Maurin 2002, p. 89.

[3] It is stated in Moore 1922, p. 282:

> [T]he fundamental proposition, which is meant by the assertion that all relations are internal, is, I think, a proposition with regard to relational properties, and not with regard to relations properly so-called.

Maurin ventures to assert that Moore and Armstrong's determinations do not differ from each other in any significant way.

> There is some evidence to suggest that, for Moore, 'being founded in' does mean the same as 'being essential to the identity of'. He does not always characterise the internal relation as one that is *essential to the identity of its terms*, but also talks of it as a relation, R, such that "given *a* and *b*, R is entailed" and such that "*a* and *b* could not have existed in any possible world without standing in R to each other."[1] Moore seems to consider these propositions equivalent ways of expressing the same point and when this point is put in terms of logical necessitation and entailment, even his verbal differences with Armstrong seem to disappear.[2]

I remind the reader that Moore is explicitly discussing internal relational properties. His view on internal relations must be derived from that. For my own part I doubt that the conclusions in the last quotation can be drawn.

Moore's considered view on internal relational properties is stated in the following quotation. The letter 'P' represents a relational property.

> We can say that AP is itself a necessary truth, if and only if the universal proposition "$(x = A)$ entails xP" (which we have seen follows from AP) is a necessary truth: that is to say, if and only if $(x = A)$ entails xP. With this definition, what the dogma of internal relations asserts is that in every case in which a given thing actually has a given relational property, the fact that it has that property is a necessary truth; whereas what I am asserting is that, if the property in question is an "internal" property, then the fact in question will be a necessary truth, whereas if the property in

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[1] My impression is that this is meant to be a quotation from Moore 1922, pp. 291-2. It cannot be though, since Moore does not use the "formalism" '*a* and *b*' there — or anywhere else in Moore 1922.

[2] Maurin 2002, p. 90.

question is "external," then the fact in question will be a mere "matter of fact."[1]

Thus, an internal relational property of a thing is one which the thing has by necessity. According to what Moore calls 'the dogma of internal relations', which he rejects, every relational property a thing has it has of necessity. He supplies examples of internal and non-internal relational properties respectively.

> It seems quite clear that, though the whole [which is a coloured patch half of which is red and half yellow] could not have existed without having the red patch for a part, the red patch might perfectly well have existed without being part of that particular whole. In other words, though every relational property of the form "having *this* for a spatial part" is "internal" in our sense, it seems equally clear that every property of the form "is a spatial part of this whole" is *not* internal, but purely external. Yet this last, according to me, is one of the things which the dogma of internal relations denies.[2]

I strongly suspect that Maurin is influenced by what Campbell considers Moore's doctrine to be. Unfortunately, he does not specify which pages of Moore 1922 support his interpretation. However, the following is presented as the result of his examination of the text.

> The examination reveals that as Moore uses the term 'internal relation' not only does the existence of an internal relation *a*R*b* imply that its terms possess suitable foundations in virtue of which the relation holds, but further, it implies that those foundations are critical to the identity of the terms to which they belong. Were the relation to change, should *a*R*b* cease to obtain, the terms would cease to exist, i.e. cease to be the terms they are.[3]

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[1] Moore 1922, pp. 302-3.

[2] Moore 1922, p. 288.

[3] Campbell 1990, p. 111.

A phrase such as 'were the relation to change the terms would cease to exist' suggests that the terms are dependent on the relation. This is of course something different from the relation being founded in the terms, irrespective of whether the properties constituting the foundation are essential to the identities of the terms or not.

Moore supplies another example of an internal relational property. Campbell refers to it, but he misrepresents it. The relational property Moore actually uses as an example is: being intermediate in shade between the qualities yellow and red. In Campbell's rendering of it only the relation remains.

> *Being intermediate in colour*, for example, as a relation among colour patches, is internal in this sense. If a patch of colour begins by being intermediate in colour between two others, and then ceases to be so, this requires that at least one of the patches must have lost its identity, that is, must have ceased to be the colour patch it was.[1]

Does Campbell assert that a specific colour patch loses its identity if it loses a particular relational property it has to another patch and that this is due to the fact that the latter changes in colour? Probably not. The patch which loses its identity is the latter one, not the former.

In Moore's original example, the quality orange is intermediate between the two qualities yellow and red. Since a quality which lacks the relational property in question would necessarily be another one it would not be orange; therefore, the relational property is internal. Moore says:

> [I]f any quality *other* than orange must be *qualitatively* different from orange, then it follows that "intermediate between yellow and red" is internal to "orange." That is to say, the absence of the relational property "intermediate between yellow and red," *entails* the property "difference in quality from orange."[2]

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[1] Campbell 1990, p. 111.

[2] Moore 1922, p. 287. *Entailment* is the converse of *following*. Cf. Moore 1922, p. 291. Two illustrating examples of the latter are given:

This relationship can perhaps be described accordingly: since none of the three qualities can change, or disappear; the relational property of being intermediate between yellow and red is internal to orange.

Maurin bases her third determination of internality in Campbell. Internal relations are founded in the natures of their relata. Additionally, the foundations must also be essential to the identities of relata. A relation founded in the natures of its relata, but not in what is essential to their identities, is said to be external and founded. If neither of these conditions is met, the relation is external — and of course unfounded. Thus, the external and founded relations cover a sort of middle ground between internal and external and unfounded relations. The example of a relation which is external and founded is one that exists between two shoes.

> Shoe C is not equally dirty in all possible worlds in which it exists, nor is shoe D. None the less, C's being a cleaner shoe than D depends only on how dirty C and D are. Furthermore, this *is* a necessary truth: if X_1 and X_2 are equally dirty, and Y_1 and Y_2 are equally dirty, then if X_1 is cleaner than Y_1 then X_2 is cleaner than Y_2.[1]

Thus, since being dirty is not essential to a shoe, it need not be dirty. The colour of a certain patch is essential to it. Without it, the patch loses its identity; or ceases to be.[2] Contemplate upon there being an

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> To say of a pair of properties P and Q, that any term which had had P would necessarily have had Q, is equivalent to saying that, in every case, from the proposition with regard to any given term that it has P, it *follows* that that term has Q: *follows* being understood in the sense in which from the proposition with regard to any term, that it is a right angle, it *follows* that it is an angle, and in which from the proposition with regard to any term that it is red it *follows* that it is coloured. (Moore 1922, pp. 284-5)

[1] Campbell 1990, p. 112.

[2] This reminds of something Moore says:

> [T]hose who say that all relations are internal do sometimes tend to speak as if what they meant could be put in the form: In the case of every relational property which a thing has, it is always true that the thing which has it would have been different if it had not had that property; they sometimes say even: If P be a

essentially dirty entity, a smudge, which is cleaner than another entity, which is extremely dirty though this is accidental. Is the relation of *being cleaner than*, that exists between these two entities internal or is it external and founded? Is it perhaps internal while its converse is external and founded? And what about a smudge, could it be accidentally dirty? I suppose not.

Campbell's tristinction summarised:[1,2]

Internal relations	External relations	
Founded	Founded	Unfounded
Relations have foundations in the terms that are essential to the identity of those terms.	Relations have foundations in the terms, but these are not essential to the identity of those terms.	A relation's holding or not has no consequence for the existence, or monadic characteristics of the terms.

Maurin does not recognise any external, founded relations between tropes. Their simplicity is supposed to exclude that. What about Campbell? Well, it is evident that he does not reject complex tropes.

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relational property and A a term which has it, then it is always true that A *would not have been A* if it had not had P. This is, I think, obviously a clumsy way of expressing anything which could possibly be true, since, taken strictly, it implies the self-contradictory proposition that if A had not had P, it would not have been true that A did not have P. (Moore 1922, p. 283)

[1] Cf. Maurin 2002, p. 91. A similar summary appears in Campbell 1990, p. 112, where three examples are presented. Internal relation: *is a darker colour than*; external and founded relation: *is a cleaner shoe than*: external and unfounded relation: *is to the left of*.

[2] This summary does not show, and neither does the account given in the main text, that Campbell considers all internal relations — in fact, all relations — to, as he says, supervene on their relata. He calls this doctrine 'foundationism'. As the name, to some extent, suggests, internal relations are supposed to be reducible to its foundations in relata. Cf. Campbell 1990, p. 101. Maurin to some extent concurs with this. More is said about this below.

> At the core of the trope ontology is this thought: the basic
> items, the 'alphabet of being', in Williams' phrase, are cases
> of kinds. They are entities that are particulars, but not bare
> particulars. Each of them, if truly basic, has a simple
> nature. (There are complex derivative tropes. But the basic
> ones are single in character.)[1]

A reasonable hypothesis is that Campbell also accepts non-concrete
complexes of tropes as tropes since they are not concrete entities.
Whether he also considers there to be external and founded relations
between them depends on what he thinks of their capacity to contain
accidental elements. Unfortunately, there is not enough information
provided to settle this matter.

The fourth, and last, determination of internality is hinted at in
the following way.

> [T]wo entities are, on this view, internally related if they
> *could not have existed independently of one another (or of the
> relation)*. To our surprise, regarding the distinction in this
> way — that is, regarding it in terms of the existential
> dependence of the related entities — renders the internal
> relations of at least Armstrong and Campbell *external*.[2]

In this version of internality, internally related entities are existentially
dependent on each other. If one ceases to exist, so does the other.
Thus, internally related entities only exist in pairs or groups.

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[1] Campbell 1990, p. 20.

[2] Maurin 2002, p. 91. Maurin refers to Ingvar Johansson as her source for this
determination of internality. He is inspired by Ewing's tenth sense. Cf.
Johansson 1989, p. 113, and Ewing 1934, p. 136. The following is his
determination in Johansson 1989, p. 117.

> A is *internally related* to B if and only if it is logically impossible for
> A to exist if B does not exist, and vice versa.

The terminology used in the main text differs from Johansson's. He makes a
tristinction between internal, grounded and external relations. Thus, the
grounded relations are not classified as being external. Cf. Johansson 1986, p.
219, and 1989, pp. 117-20.

In this determination there is also a tristinction made between relations. These are summarised by Maurin:[1,2]

Internal relations	External relations	
Terms are existentially Dependent	Terms are existentially independent	
	Relation is founded in the terms it relates.	Relation is not founded in the terms it relates.

This concludes the preparations made by Maurin for her modal characterisation of exact resemblance. When carrying out the characterisation, she starts with the fourth determination of internality.

We can begin where we left off and ask, first, whether ER [=exact resemblance] is internal in the strong sense of

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[1] Cf. Maurin 2002, p. 91.

[2] In Johansson 1989 the middle form is called 'grounded relation'.

Rxy is a *grounded relation* if and only if it is logically impossible for there to exist a *z* and a *w* with exactly the same qualities as *x* and *y*, respectively, but between which the relation *R* does not hold. (Johansson 1989, p. 120)

Johansson's notion of internal relation can be found also in Armstrong, who asserts, in Armstrong 1978*b*, p. 3:

[A]lthough particularity and universality are inseparable aspects of all existence, they are neither reducible to each other nor are they related. Though distinct, their union is closer than relation. Scotus talked of a mere "formal distinction" between the thisness and the nature of particulars. The situation is admittedly profoundly puzzling, but, it is suggested, the Scotist view is the most satisfactory one which can be found. A comparison which may be useful is the way in which shape and size are united in a particular.

Johansson makes the following apposite comment: "[I]f Armstrong had not already used up the term 'internal *relation*' he would not have been forced to say that 'their union is closer than relation', but could have written: 'Though distinct, their union is so close that there is an internal relation between them.'" (Johansson 1989, p. 126)

being such that two exactly resembling tropes are also *existentially dependent* on one another. That is, is it the case that distinct tropes standing in the relation in question *necessarily* exist? Does the very resemblance of two tropes in this way restrict the contingent existence of each individual trope? To give an example: if tropes red_1, red_2 and red_3 are exactly similar, does this imply that the existence of each one of the resembling tropes *necessitates*, not only the existence of the *relation* of exact resemblance holding between them, but also the existence of each one of the other *tropes* with which it is in fact related?[1]

All these questions are answered with a 'no'. There seems to be no reason why one red-trope should necessitate another red-trope. The same holds with regard to all other tropes related by exact resemblance. However this relation is regarded, the relata of each exact resemblance pair should be existentially independent of each other.

What about the three other determinations of exact resemblance? Since tropes are not entities which are normally thought of, but ordinary things are, Maurin starts with ordinary things. After intuitions have been tested on them, she will move on to tropes.

The first thing we can ask ourselves is whether these very objects [i.e., the exactly resembling concrete particulars *a* and *b*] could have existed *without* exactly resembling one another. We can ask, that is: is the exact resemblance of *a* and *b* essential to the identity if *a* and *b*? I think that the answer to this question is quite obviously 'no'. Imagine that the two objects change, i.e., imagine that they are still *a* and *b*, that they retain their respective self-identity, but that they are now different. They have each perhaps lost or gained some of their properties. It is quite possible, given this change in circumstance, that they no longer exactly resemble one another. It is possible for *a* and *b* to exist without being related by exact resemblance. *a* and *b* are *not* necessarily related by exact resemblance, and so exact resemblance is not essential to the identity of *a* and *b*. But

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[1] Maurin 2002, p. 92.

let us go back a moment in time when the object *in fact* exactly resembled one another. Although we have already decided that the objects are not necessarily related by exact resemblance, there is a sense in which *at that very moment in time* they had to exactly resemble one another. So: *granted the way the objects are at a given moment of time*, if they exactly resemble one another, then they — the objects *in that particular state* — could not have been the same (i.e. could not have been *in that same particular state*) and yet not exactly resemble one another. But does this mean that exact resemblance both is and is not a relation that is essential to the identity of *a* and *b*? I think not. Exact resemblance is, in this case, *founded* in *a* and *b* (at *t*), but it is not essential to the identity of *a* and *b*, since *a* and *b* may change, may cease to resemble, and yet continue to exist. In Campbell's terms, it seems that exact resemblance is external/founded with respect to the concrete particulars *a* and *b*.[1]

Here we see a review of the remaining determinations. The idea that the concrete particulars *a* and *b* exactly resemble each other is not essential to either of them. The reason is that either of them can change and still be itself, even though the exact resemblance between them no longer holds. Another way of saying this is in terms of a relational property that has exact resemblance as its relational part: the identity of *a* is not dependent on its being exactly similar to *b*. The same of course holds, *mutatis mutandis*, for *b*.

The exact resemblance between concrete particulars is not considered internal in Campbell's sense either. The reason for that is that its foundation is not exclusively the identity determining parts of the natures of its relata. It seems to be taken for granted here that there is no concrete particular whose qualitative content is exhausted by what is essential to its identity.

This brings us to the conclusion that an exact resemblance which is held between concrete particulars is, in Campbell's sense, external and founded. Although Maurin does not mention it, I wonder about the exact resemblance holding between two very short-

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[1] Maurin 2002, pp. 92-3.

lived, in fact instantaneous entities, but complex entities. Would it be internal in Campbell's sense? I suppose the answer depends on whether the short life-span is accidental or essential.

3.3.5 Internal Relations between Tropes

After having trimmed her intuitions on concrete particulars, Maurin goes on to the resemblances that hold between tropes.

> Tropes […] are nothing but their nature and their nature — which, incidentally, they 'are' and do not merely 'have' — is simple. For a trope, […] it would, given this characterisation of what it is to be a trope, be *impossible* to have been different. For if a trope a_1 were to change, the trope emerging from this change would not be a_1. As tropes are nothing but their particular nature they cannot change. They can only begin and cease to exist (and perhaps move through space and time, but that is a topic for another discussion). Consequently, if tropes a_1 and a_2 exactly resemble one another, *it is impossible* for *them* (these very tropes) not to be related by exact resemblance. For tropes, therefore, exact resemblance appears to be a *founded* relation that is *essential to the identity of its related terms*. In fact, for the special case of tropes, saying of a relation that it is founded in the tropes it relates and saying of it that it is essential to the identity of the tropes it relates will necessarily amount to the same thing.[1]

Judging from the actual wording of the last sentence it seems to be essential to the identities of tropes that they resemble certain other tropes. This would mean that if one of them ceases to exist, that affects the identity of the other tropes. However, I do not think that this is the considered view. Instead, the notion is that since tropes cannot be different from what they are, the resemblances holding between them are due to their essences. This is internality in Campbell's sense.

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[1] Maurin 2002, p. 93.

The purpose of making a modal characterisation of exact resemblance is to gain insights for successfully making an adequate ontological characterisation of it. Three attempts at such an ontological characterisation are discussed. Although no decisive argument in favour of any one in particular is offered, Maurin prefers the third alternative.[1] According to the third alternative, exact resemblance is a pseudo-addition to the basic trope theoretical scheme. The term 'pseudo-addition' indicates that exact resemblance is non-existent. This of course gives cause for a comment.

> Although the invocation of 'unreal' additions to solve philosophical problems may seem nothing short of magic, I will try to show that this last resort is not as desperate as it may initially seem. It is the already established internality of exact resemblance that makes the move to 'pseudo-additions' not only acceptable but attractive to the trope theorist.[2]

In what follows I will discuss the first and the third accounts but skip the second one.[3]

According to the first account, exact resemblance is an underived relation. The introduction of it reads:

> An underived relation is an entity 'in its own right', i.e. the kind of entity that needs to be given a place of its own within the basic metaphysical scheme. The metaphysical scheme so far considered contains tropes and nothing else.[4]

Since the project is to investigate whether a one-category ontology of tropes is sufficiently rich to account for what needs to be accounted for, exact resemblance should also be a trope, given that it is an entity in its own right. Two potentially serious objections against its being a trope are discerned. Both take the form of regresses.

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[1] Cf. Maurin 2002, p. 94.

[2] Maurin 2002, p. 94.

[3] It takes exact resemblance to be a non-relational tie.

[4] Maurin 2002, p. 94.

The first regress is the so-called 'Bradley's regress'.[1] It targets the connection between exact similarity and its relata.

> The idea is now that the exact resemblance which thus unifies tropes that are 'the same' is, in turn, to be onto-logically characterised as yet another trope. For exactly similar tropes a_1 and a_2, their exact similarity is, in other words, accounted for by the postulation of another trope, r_1, holding between a_1 and a_2. But if the union of tropes a_1 and a_2 requires r_1, what accounts for the union of tropes a_1, a_2 and r_1? If the answer to the question is of what unified a_1 and a_2 was r_1, why should not the answer to the question of what unifies a_1, a_2 and r_1 be yet another trope r_2? Yet conceding this, it seems that we embark on an endless regress […], and this seems to stand in the way of our ever *really* connecting the original a_1 and a_2.[2]

This regress might be a threat to any relation which is an entity in its own right. In Maurin's proposal of how to solve the problem of thing-construction, the relation of compresence is the key notion. As it will turn out, she considers it to be an entity in its own right and, for that reason, wants to deal with this argument in connection with the problem of thing-construction. I will agree with her in that and simply go on.

At this point, we will take a look on the other regress argument. The source of it is Bertrand Russell. He intended it to show that

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[1] Despite its entrenched name, Bradley is not the inventor or discoverer of this regress. A version of it can be found in Aristotle, who uses it to show the necessity of form as an organising constituent of a whole. Cf. *Metaphysics*, 1041b11ff. The regress is also pleaded by the early mediaeval Muslim school Mutakallimun, according to which it shows the notion of (polyadic) relation to be incoherent. In explicit opposition to this, Avicenna maintains that the infinite line of relations is purely conceptual. Things are of course compli-cated by his reductionist view on polyadic unit relations. Cf. Avicenna 1495, tract iii, chap. 10. Cf. also Weinberg 1965, pp. 78, 89-93, and Mertz 1996, pp. 132-4.

[2] Maurin 2002, pp. 95-6.

particulars are not enough for constructing properties. Versions of the argument are found in several of his works.[1]

> [W]e explain the likeness of two terms as consisting in the likeness which their likeness bears to the likeness of two other terms, and such a regress is plainly vicious.[2]

According to the view against which the argument is directed, entities have their properties due to their being similar to each other. For example, all the entities which are blue resemble each other and that is why they are blue, not the other way round. Since no universals are recognised, the resemblances themselves are particulars. But, what about the resemblances which exist between pairs of blue things? Well, their potency is due to their resembling each other. Thus, there must be yet another set of particular resemblances that hold between resemblances. The original question reappears though, calling for a third set of particular resemblances. The pattern is then that to explain the unity of the resemblances holding on the nth level, resemblances holding on the $n+1$th level must be postulated.

The regress Russell has in view can be described as *analytical*. Analytical regresses are vicious. There is also a virtuous kind of regress. Regresses of the latter kind are *implicative*. These characterisations are inspired by Russell, who in one of his works writes:

> An infinite regress may be of two kinds. In the objectionable kind, two or more propositions join to constitute the *meaning* of some proposition; of these constituents, there is one at least whose meaning is similarly compounded; and so on *ad infinitum*. This form of regress commonly results from circular definitions. Such definitions may be expanded in a manner analogues to that in which continued fractions are developed from quadratic equations. But at every stage the term to be defined will reappear, and no definition will result. Take for example the following: "Two people are said to have the *same* idea when they have

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[1] Cf. for example Russell 1912, p. 55. The argument is also found in Mill 1843, p. 117n.

[2] Russell 1911, p. 9.

ideas which are similar; and ideas are similar when they contain an identical part." If an idea may have a part which is not an idea, such a definition is not logically objection-able; but if part of an idea is an idea, then, in the second place where identity of ideas occurs, the definition must be substituted; and so on. Thus wherever the *meaning* of a proposition is in question, an infinite regress is objection-able, since we never reach a proposition which has a definite meaning. But many infinite regresses are not of this form. If *A* be a proposition whose meaning is perfectly definite, and *A* implies *B*, *B* implies *C*, and so on, we have an infinite regress of a quite unobjectionable kind. This depends upon the fact that implication is a synthetic relation, and that, although, if *A* be an aggregate of propositions, *A* implies any proposition which is part of *A*, it by no means follows that any proposition which *A* implies is part of *A*. Thus there is no logical necessity, as there was in the previous case, to complete the infinite regress before *A* acquires a meaning.[1]

Here, the regresses mentioned concern *meaning*. In the case of the resemblance regress meaning is not the issue though. According to Maurin it concerns *existence* instead. Therefore, she characterises the difference between vicious and virtuous regresses in terms of existen-tial dependence.

A regress is (modified) Russell-virtuous if the 'later' terms in the regress-hierarchy *depend* for their existence on the existence of its 'earlier' terms.

A regress is (modified) Russell-vicious if the 'earlier' terms of the regress-hierarchy cannot exist unless the 'later' terms of the regress-hierarchy exist. That is, it is vicious if the 'earlier' terms *depend* for their existence on the 'later' terms.[2]

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[1] Russell 1903, pp. 348-9.

[2] Maurin 2002, p. 101.

While a modified Russell-virtuous regress is implicative, a modified Russell-vicious regress is analytic. If we return to the quotation from Russell 1911, it looks as if the earlier resemblances need the later ones in order to fulfil their task. The later ones, in turn, need the even later ones in order to fulfil their task, etc. It would appear therefore that earlier resemblances are existentially dependent on the later ones. Though, this is not Maurin's view of the matter of tropes.

> Is the resemblance regress vicious in this modified Russellian sense? To answer this question we need to invoke the already established internality of exact resemblance. On the present account, simply given the existence of tropes a_1 and a_2, their exact resemblance, r_1, must follow necessarily. Exact resemblance is an internal relation, and this means that it is *strongly existentially dependent* on the existence of that which it relates. Given the existence of the exact resemblance-trope r_1, moreover, *its* exact resemblance to other exact resemblance-tropes must likewise follow by necessity; and so on. From the internality of the exact resemblance relation it seems to follow, to use Russellian terms, that the earlier terms of the regress *imply* the later terms — they do not *presuppose* them. On a modified version of the Russellian distinction put in terms of 'direction of existential dependence', therefore, there is reason to think that the *metaphysical* regress of resemblance is *not* vicious. This is good news for anyone who wishes to characterise exact resemblance ontologically as underived relation.[1]
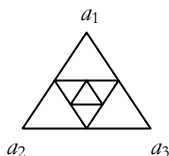
In the figure above, every line represents a resemblance trope which is holding between what is at its ends. The line between a_1 and a_2

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[1] Maurin 2002, pp. 101-2.

represents r_1; the line between a_1 and a_3 represents yet another exact resemblance trope, r_2; the line between r_1 and r_2 represents a third resemblance trope r_3; etc.[1] There is an infinite number of triangles inside the first one.

If the regress is implicative, there must be something at the start which implies what comes later. Remember that Maurin's characterisation of tropes is that they are simple, abstract particulars. Here 'abstract' has the sense of 'qualitative'. This gives a hint of why she considers the regress to be implicative, instead of analytical. The abstractness of tropes is no doubt taken as a pretext for that. The point of departure for Russell's regress argument, if applied to tropes, is that resemblance tropes are what furnish their relata with qualitative content. That premise is denied by Maurin. It is incompatible with the assumptions of (her) trope theory.

We know from an earlier quotation that resemblance is assumed to be objective as well as primitive. In the present context, where Russell's regress argument is claimed to be abortive if used against trope theory, what does this primitiveness amount to? Since the resemblance which holds between two relata allegedly is strongly existentially dependent on the two latter ones, does not that imply that the former is non-primitive in a relevant sense? And what about its own qualitative content, is it not dependent on the relata? After all, a resemblance trope holding between a pair of blue-tropes is it not qualitatively different from a resemblance trope between a pair of red-tropes? Or, even more so, from a resemblance trope which holds between a pair of square-tropes?[2] The differences will be reproduced as the implicative regress propagates, will they not?

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[1] A far as I know, this figure originates from Küng 1967, p. 69.

[2] Cf. Campbell 1990, p. 72, where this seems to be denied:

> [T]he only difference (apart from irrelevances like place and time) between an exactly resembling pair of reds and an exactly resembling pair of greens lies in the fact that the first pair are reds and the second greens. The *resemblings* do not have any added distinguishing character.

Perhaps the resemblance regress is analytical after all? The nearest an admission of that Maurin comes is in her summary of the results of the discussion about the first proposal. She says:

> [A]s long as the exact resemblance between tropes is founded on the existence of yet another (resemblance) trope, we *will* have to accept some kind of endless regress, in this Russell was surely right. Yet as the regress in question will be of what I call a 'metaphysical' kind, the viciousness of the regress remains an open question. If the regress is impossible, then obviously yes, the resemblance regress will be vicious. But if, instead, it is the 'direction of existential dependence' of the necessarily induced resemblances which turns out to be what decides whether the regress is vicious or not, then perhaps, no, we do not have to regard the regress as vicious.[1]

What the first sentence describes is a regress pattern of the analytical kind since an exact resemblance trope is said to be founded on another exact resemblance trope. In an implicative regress this description does not apply to the first exact resemblance trope. Whether or not the regress is metaphysical[2] does not change that.

In the last sentence of the above quotation the regress is no longer considered to be analytical. Before that happens, a reference is made to impossibility as a criterion of viciousness. It is hinted at in the second paragraph of the following quotation from Küng 1967.

> [T]he concrete relations [i.e., relation tropes], which are "the same" inasmuch as they are all equality relations, must also be related to one another — probably by an equality relation of higher order; and we can continue asking about the status of this equality of higher order; and so on *in infinitum*. […]
>
> The nominalists, especially, who regard with suspicion the "teaming" infinity of abstract entities, will be very

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[1] Maurin 2002, p. 103.

[2] I take it that its being metaphysical in kind means that it concerns existence, not meaning. Cf. Maurin 2002, pp. 100-1.

reluctant to end up in this way with another infinity of concrete entities. However, it seems not at all impossible that our concrete world should include an infinity of concrete entities of different levels, an infinity which our limited intellect will never be able to exhaust explicitly.[1]

When Küng talks about equality, we can interpret it as being on a par with exact resemblance. The phrase 'and we can continue asking about the status of this equality of higher order' indicates that Küng is referring to an analytical regress.[2] The regress in question would be impossible if our concrete world could not include an infinite number of concrete entities. Among the concrete entities are the tropes.[3] Evidently, the concrete world can include an infinite number of such entities. Küng considers an infinite number of them to be enough to fulfil the needs. What he misses, though, is that the point of the

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[1] Küng 1967, p. 168.

[2] In support of this Küng 1967, pp. 68-9, can be quoted:

> In Russell's view identically the same entity must correspond to this word [i.e., 'similar', which is short for 'exactly similar'] in all instances, i.e., the entity must be a platonistic universal. His argument is that otherwise an infinite regress would result. Suppose [...] that it is true of individuals *a*, *b*, and *c*, that *a* and *b* are similar to one another, that *b* and *c* are similar to one another. If the word 'similar' does not stand for identically the same entity in all three instances, but for three numerically different entities, then there must be another reason why the same word 'similar' is used in all three instances. It must be because these three numerically different relational entities designated by the word 'similar' are somehow similar to one another. In describing how these relational entities are similar to one another we again use the word 'similar' several times. (Or perhaps in place of 'similar' we might use 'similar$_2$', since we are talking now of a similarity of a higher order.) And again in all these new instances either the word 'similar' (i.e., 'similar$_2$') stands for identically the same entity, namely for a platonistic universal, or else it stands for numerically different entities, i.e., for entities which in turn have to be similar (similar$_3$) to one another; and so on *ad infinitum*.

There is no doubt that the regress described here is analytical in nature.

[3] Küng's trope-like entities are concrete, which means that they exist in space and time.

(analytical) regress argument is that there will not be enough of them for all that.

As pointed out above in the last sentence of the quotation from the summary, Maurin takes the regress to be implicative. Differently put, the direction of existential dependence is supposed to occur from right to left, which means that the entities to the left are the existential ground for the entities to the right.

The first proposal, which is that exact resemblance occurs as tropes, is rejected by Maurin though. Why is that? Campbell seems to provide her with the reason. To see what this reason is, a fragment of his argumentation is accounted for.

The things Campbell asserts regarding regress arguments has bearing only on the implicative kind.

> Russell's argument[1] was that, to revert to Küng's diagram,[2] *a*, *b* and *c* are certainly particulars, but there must be the *same resemblance* between *a* and *b* as there is between *a* and *c*, since *a*, *b* and *c* are all, *ex hypothesi*, of just the same shade of red. But then if we have the same resemblance between these two pairs of items, this is a multiply-instantiated entity, in short, a universal.
>
>   The only reply this calls for is strongmindedness. We must reject the claim that, in the sense that matters, there is the same resemblance between *a* and *b* and between *a* and *c*. These are two different, but very similar, even exactly similar, resemblances. And the resemblances between the resemblances are likewise matching particulars, not universals. In Küng's regress, the items are particulars *all the way down*. If we insist on this, then Russell's objection can find no purchase.[3]

Campbell's strong-mindedness causes him to miss the whole point of the regress argument. All he sees in the regress is its alleged implicativeness and he is completely untroubled by it. This becomes

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[1] He refers to the version of Russell 1912.

[2] Küng's diagram is the triangle presented earlier.

[3] Campbell 1990, p. 38.

apparent when he discusses what he calls 'Küng's objection'. Three reasons are put forward to show that the regress is not vicious. The first one is that "it proceeds in a direction of greater and greater formality and less and less substance."[1]

The second reason is that realists do not escape it either. Let the first level of resemblances of Küng's figure be instances of resemblance with respect to redness. These three instantiate the same universal; therefore they must resemble each other. The conclusion drawn from this is: "[I]f the regress is a serious problem for resemblance theory [i.e., Campbell's own doctrine], the parallel regress of instantiated universals is an equally serious problem for realism."[2]

The third reason is that "it is no real trouble for either [trope theory or realism]."[3] This is so since everything after the first trio — *a*, *b* and *c* in the last quotation — follows automatically. This phenolmenon is what he calls 'supervenience'. The following is a somewhat contradictory description of it:

> On the resemblance theory, if resemblance is truly primitive and ungrounded, the terms *d*, *e* and *f* [which are exact resemblance tropes][4] will be the starting point from which all subsequent supervenient terms flow. If, as this work favours, resemblance is an internal relation grounded in particular natures in the terms, then the red tropes *a*, *b* and *c* will generate the whole edifice of supervening resemblance triples.
>
> Either way, there is a manifestly finite base for this efflorescence of dependencies. And I take it as a cardinal principle in ontology that *supervenient 'additions' to ontology are pseudo-additions*. No new being is involved. In the Creation metaphor, to bring supervenients into being calls for no

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[1] Campbell 1990, p. 35.

[2] Campbell 1990, p. 36.

[3] Campbell 1990, p. 37.

[4] One page earlier — i.e., in Campbell 1990, p. 36 — the three letters '*d*', '*e*' and '*f*' are used as names of the first three exact resemblance tropes in a diagram à la Küng.

separate and additional act on God's part. Let Him create the three red items *a*, *b* and *c*. That *by itself* will suffice to generate Küng's regress.[1]

What supervenes on already recognised entities constitutes no real ontological expansion. It is an ontological free lunch.[2] From this it is concluded: "[…] Küng's regress has no power to damage a theory that proposes to deal with Question B by appeal to resemblance among tropes."[3]

Although Campbell himself seems satisfied with this rejection of what he takes to be the regress argument, Maurin is not. This is her judgement on it:

> Is the regress that follows from regarding exact resemblance as yet another trope vicious or virtuous given Campbell's take on the distinction? It is obviously vicious. It crowds the world with an infinite number of necessarily incurred and idle, yet 'substantial', tropes. It is therefore, on the present view, unacceptable. Given Campbell's distinction, then, the strategy that consists in accepting the regress but denying that it is vicious will not work, and so we should give up our attempt at characterising exact resemblance ontologically as yet another trope.[4]

Thus, the presumption is that the world will be over-populated with entities if exact resemblance is supposed to exist as an underived relation — i.e., as tropes. This is a misleading way of describing Campbell's view though. In effect, he has the same view as Maurin. This will be made evident below.

3.3.6 The Preferred Account of Internal Relations between Tropes

The ontological characterisation of exact resemblance which Maurin finds most attractive is suggested like this:

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[1] Campbell 1990, p. 37.

[2] Note that no new dish will be served.

[3] Campbell 1990, p. 37.

[4] Maurin 2002, pp. 102-3.

The alternative according to which exact resemblance can be ontologically characterised as a pseudo-addition rests on the adoption of certain principles concerning when and where the existence of an entity *must* be assumed and when and where it must not. The proposal has the following general form:

(i)   Atomic propositions of the form '*a* and *b* are the same F' (where *a* and *b* are tropes) are made true by equivalence classes of tropes.

(ii) Two tropes belong to the same equivalence class if they exactly resemble one another.

(iii) Two tropes exactly resemble one another because they are the way they are (i.e. *a* and *b* exactly resemble one another because *a* is the way *a* is, and *b* is the way *b* is).

(iv) *a* is the way *a* is because *a* exists (i.e. *a* is 'nothing but' its particular nature), and the same goes for *b*.

(v)   Therefore, propositions of the form '*a* and *b* are the same F' merely require the existence of *a* and *b* to provide for their truth.[1]

This looks very much like Campbell's doctrine; he even uses the phrase 'pseudo-additions' when characterising supervenient tropes, of which resemblance tropes are examples. He makes the elucidatory remark that no new being is involved. It sounds perhaps a bit paradoxical to characterise these pseudo-additions as particulars.

According to Maurin it is unnecessary to add exact resemblance tropes to the metaphysical scheme of trope theory. Judging from what she says in one place, this means that such tropes are unreal.[2] In the next quotation they are explicitly said not to exist. Ontologically they can be characterised as being nothing at all. Two sources of justifications for this are found. One of these is the *internal* character of exact resemblance. She expresses this view in the following, somewhat paradoxical, way.

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[1] Maurin 2002, p. 109.
[2] Cf. Maurin 2002, p. 94.

> If the exact resemblance between distinct tropes can
> obtain without the addition of some relation of exact
> resemblance, it becomes important that the mere existence
> of the related tropes *necessitate* their exact resemblance. But
> this is just what we have taken it to mean to say of exact
> resemblance that it is internal.[1]

Maurin does not want to use the term 'supervenience'. Her stated
reason is that it is used in many other senses. Therefore, she thinks it
is safer to use terms such as 'internal', 'pseudo-additional' or 'non-
additional'.

The other source of justification used is Ockham's razor in
combination with the goal of making metaphysical theories as elegant
and simple as one possibly can. These constitute guidelines for any
metaphysical theory.

> Even if the fact that exact resemblance is necessarily
> incurred given the mere existence of the related entities
> does not force you to treat it as a pseudo-addition rather
> than as a real and substantial addition, this circumstance
> *together* with the above listed guidelines does more or less
> prescribe so treating it.[2]

I take it that elegance and Ockham's razor together demand that
anything which is considered not necessary should be shaved off.
Furthermore, the alleged pseudo-additional "nature" of exact resemb-
lance fits perfectly when solving the so-called Bradley's regress.

> That regress ensues because relations considered as entities
> in their own right are just as distinct from that which they
> relate as the entities they are meant to relate are distinct
> from each other. Pseudo-additions can hardly be said to
> be, in the same way, distinguishable from that which they
> relate. In fact the basic idea is that, existentially speaking,
> they are *nothing but* that which they relate. And if they are
> nothing but that which they relate — at least, if they are

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[1] Maurin 2002, p. 110.
[2] Maurin 2002, p. 110.

> only a *pseudo*-addition to that which they relate — there
> seems to be no reason to require that they be, in turn,
> related to that which they relate.[1]

The message expressed here is: that which is nothing in itself needs
not really be related to that which it just seemingly relates.

What about the other regress, the one referred to Russell? It is
supposed to be solved in either of two ways. (i) If the existence of the
infinite number of exact resemblance tropes is taken as problematic,
the pseudo-additional nature of these solves it, since there is no
infinite number of such tropes. In fact, there is not even a single one.
(ii) If the ontological status of that which is necessarily induced is not
considered to be important, what is important is instead the necessita-
ting; it is asserted regarding the latter:

> [P]erhaps even on this alternative there will be a regress (a
> regress of 'pseudo-additional' exact resemblances). But the
> problem with the resemblance regress, one might argue,
> will nevertheless be solved, since we can now claim that
> this regress is not vicious. For, surely, a regress of non-
> existent, pseudo-additional relations is extremely innocent
> and, therefore, obviously virtuous.[2]

Chris Daly objects to the claim that something which is internal with
regard to something else is only pseudo-additional. Why could the
exact resemblance which is necessitated by two relata not be an ontic
addition to them? Maurin admits that they may very well be so.
Though, in reference to the guidelines mentioned earlier she believes
that supervenient[3] additions need not be postulated. Everything
which needs to be accounted for can allegedly be accounted for
without including these entities in the basic metaphysical scheme. Her
last word on this issue seems to be:

> Yet, ultimately, whether or not one accepts that this is
> enough to justify a refusal to treat exact resemblance as

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[1] Maurin 2002, p. 111.

[2] Maurin 2002, p. 111.

[3] She uses the term herself in this context.

real boils down to faith. In truth, no knock-down argument for (or against) this refusal exists.[1]

I dare say that there are at least indicia against considering resemblance to be pseudo-additional. This is shown by a remark on the alleged importance of strictly distinguishing between the A- and B-questions. Maurin is emphatic about the A- and B-questions not having parallel answers. According to what she refers to as classical theories of properties, they have parallel answers. Trope theory, or at least Maurin's version of it, is not included. I repeat what has been said regarding the distinction between the two questions.

> Since tropes are inherently particular that which explains why, or says in virtue of what, one red object is red cannot be strictly the same as that which explains why, or says in virtue of what, *another* object is *also* red. Given trope theory, each particular red object is red in virtue of its *very own* particular red-trope. It is this circumstance which more or less forces the trope theorist to distinguish clearly between the question of what makes it true that '*a* is F' and the question of what makes it true that '*a* and *b* are the same F'. To answer the latter (i.e. the B-question) the existence of distinct tropes — one belonging to *a* and one belonging to *b* — is surely required, but it is not enough. An adequate answer to the B-question also requires some account of the special relation in which these two tropes stand — something that is not required if the question is of the A-type. In this way the distinction between the A- and B-question is highly relevant by the very structure of trope-theory.[2]

Now, what are the answers to the A- and B-questions respectively, according to Maurin's trope theory? Although the objects referred to in this quotation are not tropes, the two questions are particularly relevant with regard to tropes. In fact, the questions asked with regard to tropes are thought of as being the fundamental ones.

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[1] Maurin 2002, p. 113.
[2] Maurin 2002, p. 63.

Remember also that 'the same', according to Maurin, can have either of two senses. One of these is accounted for in terms of numerical identity, the other in terms of exact resemblance. Thus, the B-question can be rendered in two ways:

B1. What makes it true that '*a* and *b* are numerically identical Fs'?
B2. What makes it true that '*a* and *b* are exactly resembling Fs'?

The A-question remains:

A. What makes it true that '*a* is F'?

The answer to the last question, question A, is: *a*. More strictly: the existence of *a*. The answer to the first question, question B1, would seem to be: nothing, since *a* and *b* are not numerically identical. The strict answer to the second question, question B2, would seem to be: the existence of *a* and *b*. According to the preferred account of "the special relation in which these two tropes stand" the relation is pseudo-additional to its relata. This makes it numerically identical with the pair of *a* and *b*. In itself it is not an increase of being.[1]

In genuine resemblance theory the exact resemblance relations are not just increases of being, they are what provide entities with their qualitative contents. Thus, one exact resemblance relation is needed per quality. The same of course holds *mutatis mutandis* for relations. Although Maurin declares exact resemblance to be needed as a part of an adequate trope theory, she does not give it the role it should have in a genuine resemblance theory.[2]

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[1] That resemblance in itself does not make any contribution to truth-making is commented on in Maurin 2005, p. 23:

To make true '*a* and *b* are both red' the existence of *a* and *b* is required. From their existence, their resemblance follows necess-arily — and so will not make a separate contribution to truth.

This seems to confirm that the class of all tropes exactly resembling *a* and *b* is irrelevant for answering the B-question. If any class at all is relevant it is that having *a* and *b* as its only elements. The expression 'increase of being' is used in Armstrong 1997, p. 141. I do not think he is the inventor of it though.

[2] Gonzalo Rodriguez-Pereyra advocates an analytic ontology which he classifies as a resemblance nominalism. In fact, his name for it is 'resemblance

If a certain relation is pseudo-additional to its relata, it would seem to be identical with another relation which is also pseudo-

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nominalism'. Since the only particulars he recognises are concrete particulars, the theory is not a moderate nominalism. Resemblances between particulars are said to be what give them their qualitative contents. So far, everything seems to be in line with what can be expected. It turns out though that exact resemblance relations in themselves are supposed to be dispensable. The following is what he asserts at the crucial moment.

> What then makes it true that *a* and *b* resemble each other? The Resemblance Nominalist's answer is: just *a* and *b* together. In general any two resembling entities *x* and *y* (whether they are particulars or ordered *n*-tuples) resemble each other in virtue of being *x* and *y*. If *a* and *b* resemble each other then their resemblance is a fact because of their being the entities they are, and so *a* and *b* are the sole Truthmakers of '*a* and *b* resemble each other'. There is then no need to postulate extra entities to account for facts of resemblance: the resembling entities suffice to account for them. And so no regress of resemblances arises, since there are only resembling particulars and no resemblances at all. (Rodriguez-Pereyra 2002, p. 115)

Dispensing with the resemblance relations is what makes it possible for him to seemingly avoid Russell's analytical regress. This move is obviously not available for him though. It is not possible to found resemblances between relata on the relata themselves, if the latter are supposed to have their content by virtue of that which they found. If it could be done, it would be an ontological version of the Indian rope trick. Although concrete particulars are the relata of resemblance relations, they are in themselves nothing more than nodes in resemblance nets. It is its resemblance net which gives each particular its qualitative content. This is confirmed in a footnote in connection with the former quotation.

> Note that this [i.e., that resembling entities suffice to account for facts of resemblance] does not make Resemblance Nominalism collapse into Ostrich Nominalism. According to the latter *a* is sufficient to make it true that *a* is scarlet while according to the former other particulars are necessary. Also, according to Ostrich Nominalism *a* and *b* are sufficient to make it true that *a* is bigger than *b*, while according to Resemblance Nominalism other pairs of particulars are necessary.

Here we see that Rodriguez-Pereyra does not allow just one entity to be scarlet; nor that there is just one pair in which the subject is bigger than the relatum. In both cases there must be others to resemble and by virtue of that obtain qualitative content.

additional to them. This line of reasoning has affinity with an object-
tion made by Herbert Hochberg. He is reported to have said in one
of his lectures:

> [I]f, as seems probable, both '*a* and *b* are distinct' and '*a*
> and *b* are the same'[1] (where *a* and *b* are tropes) are atomic
> propositions, then these propositions must (on the current
> 'pseudo-addition view') have the same truth-makers —
> namely, *a* and *b*. But this is impossible, because the propo-
> sitions in question not only mean different things but are
> also *logically independent* of one another.[2]

Maurin's response to this objection is to invoke three putative obser-
vations. The first one is:

> (1)   Giving the truth-maker(s) for a proposition is *not* as
>   we have seen the same as giving its meaning. There-
>   fore it is entirely possible that two propositions might
>   have different meanings and yet be made true by the
>   same truth-maker(s).[3]

Hochberg claims though that since the two propositions are *atomic*,
they are also logically independent of each other. This makes it
impossible for them to have the same truth-maker(s). In Maurin
2005, the principle stipulating that logically independent basic propo-
sitions have distinct truth-makers is called 'Hochberg's principle'.[4] To
be able to reject it, a stronger "observation" must be invoked:

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[1] The two sentences are not supposed to constitute a contradiction. The
message of the first is that *a* and *b* are numerically distinct. That of the second
is that they exactly resemble each other.

[2] The lecture was given at the Philosophical Society in Lund, Sweden,
20.10.1999. The quotation is from Maurin 2002, pp. 113-4.

[3] Maurin 2002, p. 114.

[4] Cf. Maurin 2005, p. 141. The principle is implied in the following statement,
made in Hochberg 2004, p. 39.

> Let a basic proposition be one that is either atomic or the nega-
> tion of an atomic proposition. Then consider tropes t and t*
> where "t is different from t*" and "t is exactly similar to t*" are
> both true. Assume you take either "diversity" or "identity" as pri-

(2)   Logically independent, atomic propositions may have
      the same truth-maker(s).[1]

As support for this, an authoritative statement of three prominent
philosophers is supplied:

> We conceive it as in principle possible that one and the
> same truth-maker may make true sentences with different
> meanings: this happens anyway if we take non-atomic
> sentences into account, and *no arguments occur to us which
> suggests that this cannot happen for atomic sentences as well.*[2]

I suspect that the non-atomic sentences referred to here are dis-
junctive sentences.[3] Disjunctions are a bit too special though to be
suited for generalisations in this context.

Maurin also pleads a third "observation":

(3)   '*a* and *b* are the same' and '*a* and *b* are distinct' are not,
      and contrary to the hypothesis, *logically independent.*[4]

Her commentary to this is:

> In other words, they are not both atomic. The relation
> between the propositions might be something like the
> following: *a* could not exactly resemble *b unless a* and *b*

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mitive. Then both propositions are basic propositions. But they
are logically independent. Hence they cannot have the same truth
makers. Yet, for a trope theory of the type Maurin espouses, they
do and must have the same truth makers. Thus the theory fails.

[1] Maurin 2002, p. 114.

[2] Mulligan, Simons & Smith 1984, p. 300. The italics are Maurin's.

[3] One page earlier in the same article it is asserted:

> The glory of logical atomism was that it showed that not every
> kind of sentence needs it own characteristic kind of truth-maker.
> Provided we can account for the truth and falsehood of atomic
> sentences, we can dispense with special truth-makers for, e.g.,
> negative, conjunctive, disjunctive, and identity sentences. (Mulli-
> gan, Simons & Smith 1984, p. 299)

[4] Maurin 2002, p. 114.

were distinct. (This also means denying that the relation of exact resemblance is reflexive.)[1]

The suggestion here is that '*a* and *b* are the same' (i.e. '*a* and *b* exactly resemble each other') implies '*a* and *b* are distinct'. Thus, at least the former is just apparently atomic.

Fraser MacBride has presented what perhaps is the best support for the thesis that (strict) logical independence is not adequate as a general criterion of independence. He is invoking an exhortation made by Russell to all his fellow ontologists.

> Russell famously exhorted us to maintain a 'robust sense of reality' when engaged in ontological enquiry. This attitude is evidenced here when Russell insists that it is the same "external fact" that makes "*A* is before *B*" and "*B* is after *A*" true […] [This] suggests that Russell — far from being guided by Hochberg's principle that logically independent statements require distinct truth-makers — in fact rejects this conception. For the statement that "*B* is after *A*" no more logically follows from "*A* is before *B*" (without the aid of an additional meaning postulate) than "S(*b,a*)" logically follows from "S(*a,b*)".[2]

Hochberg's principle does not distinguish between formal and material (in)dependence. This is illustrated by the sentences '*B* is after *A*' and '*A* is before *B*'. *Formally* these two are logically independent of each other; *materially* they are not though. Neither of them can be true while the other at the same time is false. This is an indication that

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[1] Maurin 2002, p. 115.

[2] MacBride 2004, p. 189. It might be that by not keeping apart the notions of sentence, proposition and statement respectively, MacBride scores some unmerited points at Hochberg's expense. It is obvious that sentences might be in need of additional meaning postulates. But, does that hold equally for statements and propositions? Are they not interpreted *per definitionem*? That the statement (or proposition) "*B* is after *A*" follows from the statement (or proposition) "*A* is before *B*" does not seem to depend on any *additional* interpretation rule. Such a rule is needed though, *mutatis mutandis*, for the sentences 'S(*b,a*)' and 'S(*a,b*)'.

Hochberg needs to argue for the assumption that sentences which are formally independent from each other require distinct truth-makers.

There seems to be something to be learnt from what has appeared above. Whether or not one believes that a distinction should be made between being formally and materially (in)dependent of something else, one should not consider a relation as being nothing but a pseudo-addition to its relata. Since 'pseudo-additional to' is another word for 'numerically identical with', a consequence of the doctrine is that the exact resemblance between a and b is identical with the numerical distinctness of a and b since identity is transitive. However, exact resemblance is not the same as numerical distinctness, even if 'the same' is being used in the sense of 'exactly similar'. Thus, the two relations should be recognised as increases of being. This argument can be generalised. If each internal relation holding between two tropes is pseudo-additional to the relata, it means that it is identical to them; since identity is transitive all internal relations which are pseudo-additional to the same pairs of relata are identical with each other. The only resort available seems to be to claim that there is only one internal relation per n-tuple of relata. Applied to the example used, exact resemblance *or* numerical distinctness would then be something other than an ontic relation holding between its relata. Since tropes are all there is, one wonders what it could be, if not a trope.

3.3.7 Degrees of Resemblance

There is yet another difficulty with considering resemblance to be pseudo-additional. Resemblance is said to exist in degrees. As regards concrete objects this is explained with reference to the tropes they have as contents. If the concrete objects o_1 and o_2 resemble each other to degree d, this is due to their having certain natures, say N_1 and N_2. These natures are constituted by a number of tropes. However, it seems inaccurate to assert that their having *these* natures is identical with their resembling to degree d. If it were so, their resembling to degree d would imply having the natures N_1 and N_2. Evidently, o_1 and

o_2 may very well resemble each other to degree d due to other natures, say N_3 and N_4.[1]

Furthermore, "[e]ach trope […] resembles countless others to countless degrees."[2] Given Maurin's official determination of simplicity, this is not in itself incompatible with the similarity principle.[3] Given what her actual determination of simplicity is, it is incompatible with the same principle. If the similarity principle would apply to tropes and they are absolutely simple, so to speak, it would be impossible for them to resemble one another other than exactly or not at all. How does Maurin account for the alleged fact that each trope resembles countless others to countless degrees, without either of them having any tropes as parts? The exhaustive answer seems to be: she does not account for it at all.

In her summary of the results new information concerning the primitiveness of resemblance is presented.

> We might say that, as long as truth-makers are what interest us, the relation of exact resemblance is 'reducible' to that which it relates. But it is also primitive in the sense that no eliminative definition of resemblance is available.[4] Treating exact resemblance as primitive in this latter sense means having to accept a host of formal characteristics as indefinable.[5]

The formal characteristics referred to here are such as the symmetry and transitiveness of exact resemblance. I wonder, are these characteristics second-order tropes? If they are, it would appear that that they are second-order tropes. Since there are no internal relations, in

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[1] A precondition for this is that the concrete objects o_1 and o_2 can change properties over time. If they are like other concrete objects, they can. This is part of Maurin's fifth thing-constitutive feature. Cf. section 3.3.3.

[2] Maurin 2002, p. 80.

[3] Cf. chapter II, section 2.3.2.

[4] Cf. Campbell 1990, p. 38, where it is also asserted that there is no eliminative definition of resemblance, though no hint is given of what is meant by that.

[5] Maurin 2002, p. 115.

the sense of entities in their own right, these characteristics must belong to *n*-tuples of relata. Presumably, they are not pseudo-additional to the latter.

Maurin points out another aspect of trope theory with regard to exact resemblance:

> Interestingly enough, the pseudo-additional approach to exact resemblance can be regarded as a variant of the class primitivist and Stout-inspired account with which our investigation began[1] […]. Stout was right, it seems, in claiming that universalisations were made true by 'brute' classes, but he failed to account for the fact that these classes were 'brute necessities' rather than 'brute contingencies'. By taking a detour over exact resemblance the relevant classes grounding universalisation can now be distinguished from the rest. Not just any classes can serve as a truth-maker for universalisations: the job requires classes formed by inevitable necessity given the mere (and contingent) existence of their member-tropes.[2]

While in Maurin's ontology resembling is primary to being an element of a similarity set, it is the other way round in Stout's. In the former ontology, resemblance, in turn, is secondary to the natures of its relata. I suppose that is the case also in Stout. A difference between them though is that, according to Maurin, these natures necessitate certain sets, which are described as brute necessities. Since belonging to a set is what gives tropes their nature, in Stout's view, sets cannot be necessitated by the natures of their elements. I suppose this is why Maurin describes them as being brute contingencies.

It is part of the assumptions made by Maurin that there are tropes which are simple, abstract and particular. If either of these traits is taken away, she claims that trope theory will not be an alternative to other ontologies. Though, I would say that to assume away the problems which are blocked by postulating *abstractness* as a primitive is to misconstrue the subject of ontology. Given that

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[1] This part of the discussion in Maurin 2002 has not been dealt with here.
[2] Maurin 2002, p. 116.

postulation, Russell's analytical regress with regard to exact resemblance is waved aside. Note that the implicative regress is also waved aside. This is done by means of declaring internal relations, including exact resemblance, pseudo-additional. While that might take care of the regress, it makes exact resemblance impotent to perform any real work. It is instead the abstractness of tropes which supposedly performs all the work.

3.4 The Problem of Thing-Construction and its Solution

3.4.1 Overview

In spite of the heading of section 3.4, the problem of thing-construction and its solution are not really dealt with. What is dealt with is the external relation of compresence. Maurin takes it to be the fundamental relation to start with, when attempting a solution of the problem of thing-construction.

There is a problem or argument, named after F. H. Bradley, which is supposed to constitute a major obstacle for anyone who recognises external relations. Since the relation of compresence is a key notion of her ontological edifice, Maurin is anxious to rebut it. How that is done is discussed in section 4.4.4.

3.4.2 The Problem of Thing-Construction

One problem of thing-construction is of constructing concrete particulars from tropes. This is obvious enough. Another is the following one:

> The reason things need to be constructed from tropes is that the existence of things seems to be required for it to be possible to account for the truth of certain atomic propositions. There are cases, that is, for which tropes cannot (at least not *prima facie*) fulfil their truth-making role unless

they are in some sense of the word 'structured' so as to constitute 'whole' concrete things.[1]

If ordinary things are not to be postulated as a fundamental category, it must be constructed from tropes; trope being the single fundamental category of trope theory.

The problems stated are difficult ones because it is not as easy to spell out exactly what a thing is as it may initially seem to be. Maurin enumerates five features of what it is to be a thing. These features at most are intended to be necessary for being a thing, but are not thought of as being jointly sufficient. Although the list does not supply us with a sufficient condition of thinghood, it is intended to be a yardstick against which proposals of what a thing is can be measured.

The first feature is that things are particular: "[j]ust like a trope, a thing is a 'once-for-all-occurrence'."[2] I presume this does not mean that a thing is instantaneous since, as we shall see, that would contradict the fifth feature.

The second feature is that things have properties. This distinguishes them from tropes. The simplicity of the latter is invoked.

The third feature of things is that they monopolise their places. We are informed that another way of formulating this is to say that things are concrete.[3]

The fourth feature of things is that they are independent; this is short for being existentially independent. In a certain sense things depend on tropes, which constitute them. This is commented on.

> [I]f things are constructions from tropes then it is clear that the thing *cannot* be existentially independent in a *general* sense. It cannot, since it can not (*ex hypothesi*) exist if the tropes constituting it do not exist. Instead it seems to me that issues of dependence and independence will arise elsewhere for trope theory. Firstly, and most importantly, there is the issue of the *internal unity* of the thing. […] [I]f

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[1] Maurin 2002, p. 117.

[2] Maurin 2002, p. 120.

[3] Cf. Maurin 2002, p. 121n.

> things are indeed constructed from (as in this case) tropes,
> then these tropes must, in some sense of the word, *depend*
> on one another — that is, if they are really all tropes that
> belong to the same thing, then something must hold them
> together. An important issue in spelling out a theory of
> things for a theory of tropes is therefore the characteri-
> sation of this dependence (or special unity). A second issue
> of dependence (which may possibly be regarded as a
> corollary to the first) concerns the *external independence* of
> distinct things. It seems that once we have what might be
> called a 'maximal' congregation of tropes (i.e. once we
> have a thing) then this congregation acquires the additional
> characteristic of independence; independence, that is, from
> other maximal congregations of tropes (other things).[1]

I would say that 'depend(ence)' is used elusively here. On the one
hand, the tropes constituting a thing are said to depend on each
other. This reciprocal dependence just means that they are united.
This does not make them existentially dependent on each other. On
the other hand, the independence of distinct things is genuine
existential independence from other things.

    The fifth feature of things is that they can change their
properties over time. Things also have the ability to move through
space. This is also commented on.

> Things, in other words, exhibit a certain amount of *stability*
> over time. Stability in this sense does not rule out the
> possibility of there being *momentary things* (i.e. things that
> exist only at an instant and that, consequently, will never
> be subject to change or movement). All that is intended is
> that, if a thing does exist over an extended period of time
> the *possibility* for movement and change should be
> provided for.[2]

Thus, in spite of their ability to change properties and position in
space, things are stable.

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[1] Maurin 2002, pp. 121-2.
[2] Maurin 2002, p. 122.

What is called 'the sixth feature' of things is in itself a list of features. Unlike the previous five, the ones on this list are clearly modelled on the notion we have of a physical thing. Maurin does not want to restrict the discussion solely to physical things. Therefore, the features gathered under this heading are not included as general features of all sorts of things. Three features are listed, but I suppose a few more could have been mentioned.[1]

> (i) things are temporally bounded (meaning that they come into existence at a time, exist for a certain stretch of time and finally pass out of existence at a time); (ii) things are contingent (meaning that they exist, but their non-existence is possible); and (iii) things possess a determinate position in space at each moment of time (and, unless they are physical simples, they have physical parts that, likewise, occupy determinate regions of space at each moment of time).[2]

These three additional features will be fulfilled by most things.

Maurin's theory of things is a trope-bundle theory. This is the majority view among trope theorists. A minority view postulates substrates as well. It is of course doubtful whether the latter is a trope theory at all, given the stipulated conditions. A substrate, in reason, is of another fundamental category. It is not abstract, i.e., qualitative. She is liberal though:

> Now, a 'theoretical ideal' is, as we know, something towards which we strive, something that we would *prefer* to be true. It is not something that necessarily *is* true. Therefore, just because the trope-substrate view has, in this sense, been ruled out in advance this does *not* mean that it has been finally rejected. To reject the substrate view, arguments directed directly against it would have to be provided.[3]

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[1] The three are borrowed from Loux 1998, pp. 93-4.

[2] Maurin 2002, p. 122.

[3] Maurin 2002, p. 123.

She makes a few comments on the substrate view. These comments are intended to make it likely that it is not the preferable view. I will not go into these specific comments here. Anyhow, the bundle view is the one which should be chosen.

Instead, I move on to her version of the trope-bundle view. It is stated by way of introduction:

> A bundle consists of nothing but its constituent tropes. Yet, a bundle of tropes is not the same as a class of tropes, nor is it the same as an aggregate of tropes. Classes are both too undiscriminating (they provide us with too many things) and too tight put together (the things they give us cannot change, cease to or begin to exist). Instead, a bundle is a *connected* conglomeration of tropes. This, then, is the difference between a class of tropes and a bundle of tropes: the bundle is a tight collection of *connected* tropes. Tight enough to exclude arbitrary and gerrymandered collections of tropes from the domain of things, but also tight in the right sense so as to provide for the possibility of change. The main difficulty in working out a detailed bundle theory, naturally, is giving a plausible account of this essential connection.[1]

As the term 'bundle' is used here it is not a generic term for various types of collections; it names a specific type. It should also be observed that the essential connection, referred to at the end of the quotation, is perhaps not the only one worth studying. There is a hint regarding that.

> When dealing with the bundle approach to thing-construction it may seem that all things, on this view, consist of tropes which are all connected *in the same way* to one another. But, clearly, things are normally more complex than that. Rather, our paradigm cases of things consist perhaps of a number of such bundles that are, in turn, connected with each other etc. I will disregard all such complications in what follows. Not because I am

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[1] Maurin 2002, p. 127.

convinced that they are easily dealt with once the more
fundamental connections have been provided, but because
the more fundamental connections must, in any case, be
handled first.[1]

What is stated here is *en clair* that things are not just bundles of tropes
in which the constituting tropes are united by the same sort of
bundling connection. A trope-bundle may very well turn out to be
but a (very) small building-block of a thing. As is seen in the quota-
tion, all complications due to this are disregarded. It is far from being
an insignificant detail though. It should be kept in mind that from
now on when the phrase 'bundling-feature' is used, it is potentially
ambiguous. In one of its senses it stands for the compresence rela-
tion, which is supposed to hold between the tropes of a bundle in
that sense of 'bundle' that is hinted at in the last quotation. In fact,
this is declared to be the most fundamental connection. The other
sense is bound to be more complicated. It involves the connection
between the bundles constituting a thing. As a name of the problem
which is actually dealt with by Maurin, the denomination 'the
problem of thing-construction' is misleading.

3.4.3 Compresence

The term 'compresence' has been used several times above. A few
hints have also been made as to what the relation referred to might
be. It will now be discussed more thoroughly.

Concerning the choice of the term 'compresence' Maurin
informs us that it is arbitrary. There are quite a few terms which have
been used for relations that are at least similar to the one she has in
view.[2] Any one of these terms could have been used.[3]

It needs to be settled whether compresence is an internal or
external relation. To that purpose, the four distinguished determina-

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[1] Maurin 2002, p. 127n.

[2] Some of these are enumerated in section 2.3.4.

[3] Cf. Maurin 2002, pp. 128-9.

tions of internality are applied. The first one examined is the fourth, the so-called 'strong internality'.

> Understanding the distinction as strong not only means treating it as if the internality of a relation makes it necessarily obtain given the existence of that which it relates, but also as if it is such as to necessitate the existence of that which stands in the relation. Entities that are internally related to each other in this sense are, consequently, *existentially dependent* on one another. For example: if tropes red_1, $round_1$ and $soft_1$ are compresent,[1] and if their compresence is in this sense *strongly* internal, then the existence of each one of the compresent tropes *necessitates*,[2] not only the existence of the relation of compresence which serves to connect them, but also the existence of each one of the other *tropes* standing in the relation in question.[3]

According to Maurin, compresence cannot be strongly internal since there is no reason to believe that a particular redness-trope is existentially dependent on the existence of a particular extension-trope. It would make better sense to say that the existential dependence is between *some* colour-trope and *some* extension-trope. However, Maurin points out that the relata of the compresence relation are not kinds of tropes. Nor is the compresence-trope which connects quality tropes.

> It holds between particular tropes such as *this* redness or[4] *this* extension and surely *this* redness might very well cease to exist (perhaps to be exchanged for a particular blueness-

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[1] Here we have three quality tropes which are said to be compresent with each other. Does that mean that they are related by a triadic compresence trope? Or, are there three dyadic compresence tropes, each relating a pair of the three quality tropes?

[2] The term 'necessitates' here suggests that the existence of one of the relata forces the other to exist. This is a misleading way of saying that existential dependence is holding.

[3] Maurin 2002, p. 129.

[4] I suspect that this 'or' should be read 'and'.

> trope) without this in any way affecting the existence of
> *this* extension-trope. Surely we want our notion of com-
> presence to be such that room is made for the possibility
> that any one of the tropes in a compresent bundle might
> cease to exist without this affecting the existence of the
> other tropes in the bundle (although it might of course
> affect the obtaining of the relation of compresence).[1]

The main message here is a rather strong one: it should be possible
for any of the tropes in a compresent bundle to cease to exist without
that affecting the existence of any others. Note also that the remark
put in brackets, in the last sentence, seems to leave it open whether
the same compresence-trope would cease to exist or not when one of
its relata do that. I take it that a new quality-trope is supposed to
replace the one lost. All this suggests that Maurin is open to the
recycling of tropes. Compresence-tropes cannot be recycled; this is
evident from what is said below. Furthermore, it will be seen that the
notion of strong internality reappears.

We move on to what is considered to be Moore's notion of
internality.

> If compresence is essential to the identity of that which it
> relates, then in every case where it seems that pre-existing
> tropes (perhaps former constituents of other things) are
> put together to create a new thing, what in fact happens is
> that as these tropes enter into new compresence-relations,
> they are first destroyed and then replaced by new
> (although exactly similar) tropes now essentially related in
> this new thing. Since this seems simply wrong, even on
> Moore's understanding of the distinction, compresence
> should be treated as an external relation.[2]

Also here the implication is that tropes can enter into new com-
presence relations. That notion that they cannot is part of the
Moorean internality; therefore compresence is not internal in that
sense. I would say that the intuition that (quality) tropes can be

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[1] Maurin 2002, pp. 129-30.
[2] Maurin 2002, pp. 130-1.

recycled indicates that they lack adicity. In other words, they are not predicative rather, they are thought of as (small) substances.[1] More-over, as substances which lack predicativity, they can be used over and over again.

Since Maurin lumps Armstrong's notion of internality together with Moore's, what comes next is Campbell's notion of an external and founded relation. Maurin reminds us that it has already been pointed out that Campbell's considered view is that there are no external and unfounded relations. Campbell calls his doctrine, according to which all relations are either internal or external and founded, 'foundationism'. If foundationism is true, no relations need to be posited as entities in their own right. Although it might be tempting to embrace this doctrine, it should be resisted.

> Unfortunately, Campbell's foundationist programme seems to break down just at the point where it is arguably needed the most. It breaks down, that is, for the truly fundamental relation of compresence. This is why: an external-founded relation *cannot* be a fundamental relation holding between individual tropes and so compresence cannot be external-founded.[2]

I think this needs to be commented on. Remember that the notion of an external and founded relation is defined as holding between relata due to their natures. However it is one of these fragments of their natures[3] that is relevant: the fragment which does not define their identities. A consequence of that is that the same entities can change and retain their identities but cease to be related by the externally and founded relation. Thus, an external and founded relation can only

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[1] In Armstrong 1989, p. 115, the apposite comment is made that bundle theorists, who are also trope theorists, "try to build up tropes into something a little bit more substantial." They treat tropes as "junior substances". This phrase originates from Ayer, who uses it for sense data.

[2] Maurin 2002, pp. 131-2.

[3] The term 'nature' is used in wide sense. The nature of an entity might be any qualitative content of it. In the example used by Campbell it is the dirt on shoes which constitutes the natures on which the relation *being cleaner than* is founded.

hold between entities which have the capacity to change and yet continue to exist. Tropes do not have that capacity. In Maurin's own words:

> [I]ndividual tropes can never stand in a relation which is both founded in them *and* which is such that it need not relate the entities in question. Such a combination would require that tropes could change, but tropes simply cannot change and we cannot say about a trope that the way it is 'is not essential to its identity'. Tropes are simple entities. The way they are (their natures) is also all they are. It is *what* they are.[1]

The conclusion is then that compresence is an external (and unfounded) relation. On the subject of compresence and its relata, we can now state:

> (i) its terms are existentially independent of one another,
> (ii) it is not essential to the identity of its terms, and, (iii) it is not founded in the nature of its terms.[2]

A consequence of this is supposed to be that two tropes can start out being compresent with each other and cease to be compresent after a while. Judging from what is said in an earlier quotation, each one can go on existing in other constellations after the separation. Compresence is also an ontological addition to its relata, an increase of being.

Thus, as regards the ontological characterisation of compresence, it is concluded that it is yet another trope. It differs from the tropes to which it relates by being a relation. Does not that make it belong to another (fundamental) category? Maurin's answer is a bit evasive.

> This is a serious objection since I have gone to great lengths in this book to avoid positing any category of entities other than the category of tropes. That there *is* a difference here that might be considered as a difference in

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[1] Maurin 2002, p. 132.
[2] Maurin 2002, p. 133.

category is, I believe, impossible to contradict. How much
the addition of a separate category of relations would
tarnish the theoretical appeal of trope theory I do not
know. All I can say is, once more, that the addition of a
separate category of relations is a less serious addition than
would be, for instance, the addition of a separate category
of universals. Adding universals to a theory of tropes
would, for one, probably mean a kind of double-counting.
And, why not then rest comfortably with only universals in
the first place? Why complicate the theory by adding
tropes? Adding relations does not, in the same sense, strike
at the core of trope theory and it does not tamper with its
particularist (or, if you will, nominalist) ideal.[1]

The statement here, that a theory including both tropes and uni-
versals would mean a kind of double-counting, evidently reveals an
inability to see the relevance of moderate realism. Besides that, we see
that the addition of relations which are particulars is not considered
to tamper with the ideals of nominalism. That seems to settle the
matter. Furthermore, relation tropes are also simple, abstract par-
ticulars.[2]

The characterisation of compresence is continued in the next
section.

3.4.4 Compresence and Bradley's Regress

Being a true relation compresence might fall victim of Bradley's
regress. That would be a problem threatening the trope-theoretical
edifice. This includes its key notion: trope.[3] If the regress is a real
problem for trope theory, it must be resolved.

Maurin's own rendering of part of what underlies Bradley's
argument against relations is as follows:

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[1] Maurin 2002, p. 166.

[2] Cf. Maurin 2002, p. 164, where this is said to hold for compresence.

[3] The notion of trope would be set rocking if the holistic conclusion Bradley
draws from his argument is found to be valid.

Premise: If the world 'truly' includes a variety of distinct entities (whether they be things, universals or tropes) then these entities must be in some way 'truly' related.

Premise: Every attempt at spelling out the relations required for the separate existence of these distinct entities will end up in contradiction.

Conclusion: Therefore, the world cannot include a variety of distinct entities. Instead, the world is 'truly' a single entity, undivided and whole, and all distinction belongs to appearances only.[1]

Maurin agrees with the first premise. I suspect that this is the majority view among philosophers. It is therefore the second premise which is the really interesting one. The regress argument is put forward to support that premise.

According to Bradley, a relation is either founded in its relata or it is not. What is the case for true relations? Unfortunately, whatever the answer is, true relations are impossible. As a consequence, nothing in the world can be separate from anything else. The world is really an undivided whole. What looks like distinctions between things are just that — appearances. How did this happen?

Bradley asks: when we say that something is in a relation with something else, what does the 'is' mean? It cannot be the 'is' of identity. A better word to use would therefore be 'has'. What is the meaning of 'has' then? Bradley thinks that there are only two possible meanings it can have. The first is that of 'is predicated by'. Thus, when applied to two qualities or tropes, which are said to be related to each other by compresence, the relation is one of predication. 'Predication' can denote either of two things, according to Bradley. First, what is predicated of something is a description of it, or at least a part of a description. If one predicates a quality of a thing, one is saying what it is to be that thing, or at least part of what it is to be that thing. Allegedly, this is another way of saying that the quality in

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[1] Maurin 2002, p. 135. Cf. Bradley 1908, p. 25.

question is founded in the thing. Applied to a relation, it should also be founded in the things related. Maurin remarks that being founded in relata is no real possibility in the case of compresence.

> For, if it were, it would mean that part of what we are saying when we say that trope *a* is compresent with trope *b* is that part of what it is to *be* trope *a* is to 'be in relation with *b*' (or, at least, it is 'to be compresent').[1] But this seems to blatantly contradict the presupposition that tropes are simple entities.[2]

It is not obvious that the simplicity of a trope rules out the possibility that it has a relational property. Perhaps Maurin's reason for denying the trope a relational property as part of its identity is that it would mean that the trope must consist of at least two components: the relational property and a qualitative content; that would be one content too many.[3]

Since the former sense of 'predication' cannot be the right one, we turn to what is said to be its second sense. The relata now have compresence in the sense of being predicated by it, although without *being* compresent. About this proposal it can be said:

> The trouble with this alternative should be apparent. Turning the 'is' of 'is compresent [with]' into the 'is' of predication was originally thought to be a convenient way of providing the missing link between the relation and the entities it relates. Predication could provide such a link *because* it in part describes the actual contribution of the related entities. This is how predication works. Now, this very feature (that is, the feature which made predication a good candidate for connecting relata with relation) turned out to make the entities related complex in an illegitimate

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[1] This is so since compresence, as something predicated of the pair, is 'part' of them, according to Bradley's containment model of predication. The 'part' which is in *a* is expressed by 'being compresent with b'.

[2] Maurin 2002, p. 137.

[3] I would say though that this depend on the curious view that a relational property is contained in the entity which has it.

way. We cannot deal with this problem by saying that the 'is' of 'is comprent with' is that of predication but that it does not function as predication does. This is simply nonsense. Therefore, Bradley concludes, 'true' relations cannot be founded in the entities they relate.[1]

Since true relations cannot be founded in their relata, another sense of 'has' in 'has comprence' must be searched for, a sense which is not that of 'predication'. Bradley's proposal is to make the relation "more or less independent."[2] If it is independent of its relata, it is not an attribute of them. Maurin remarks that this is an understanding of a true relation which seems to follow naturally from what she has said about comprence as an external relation. An external relation does not affect the existence or identity of its relata, so this promises to be the right interpretation. According to Bradley, all this has as its consequence though that a true relation leads to a vicious regress. In his own famous words:

> The relation C has been admitted different from A and B, and no longer is predicated of them. Something, however, seems to be said of this relation C, and said, again, of A and B. And this something is not to be the ascription of one to the other. If so, it would appear to be another relation, D, in which C, in the one side, and, on the other side, A and B stand. But such a makeshift leads at once to the infinite process. The new relation D can be predicated in no way of C, or of A and B; and hence we must have recourse to a fresh relation, E, which comes between D and whatever we had before. But this must lead to another F; and so on, indefinitely.[3]

Evidently, the moral of this is that an independent relation is incapable of relating anything.

Maurin's response to the regress argument is that the external relation comprence certainly do relate; the task at this point is to

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[1] Maurin 2002, p. 137.

[2] Bradley 1908, p. 21.

[3] Bradley 2008, p. 21.

explain how this might be. It should be kept in mind that what she has to say about how to solve it is a tentative effort to begin the formulation of a solution, not a complete solution.

Let us start with what is the conclusion.

> For it to be true that *a* is compresent with *b* there must exist, apart from *a* and *b*, a *compresence-trope*. A compresence-trope is, contrary to an 'ordinary' trope, a *relation*-trope. The difference between an ordinary trope and a relation-trope is this: a relation-trope is such that, although its existence is contingent (that is, it might or might not exist) it must, *given that it exists*, relate exactly the entities it does in fact relate. In other words, any relation-trope is *specifically* dependent on the tropes it relates. This is true while, on the other hand, the related tropes are *not* likewise dependent on the existence of the relation-trope in question. That is, the specific dependence which characterises the relation-trope is one-way. We might also put the position as follows: the relation of compresence is *external* to the tropes it relates, but, simultaneously, the related tropes are *internal* to the relation of compresence.[1]

We are informed here that the relata of a compresence-trope are not dependent on it for their existence. Remember the relata, which are specific quality-tropes, are not existentially dependent on each other either. Specific existential dependence does hold from a compresence-trope to its relata though. Thus, there is something special with compresence-tropes. Presumably, the same also holds for all the other external relations. If it does not, one wonders why.

Ponder now upon the message of the following statement.

> The relational view now incorporates this intuitive difference [i.e., that it is of the very essence of relations that they need not be related to the things they relate][2] and provides

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[1] Maurin 2002, p. 164.

[2] Cf. Grossmann 1992, p. 55, which Maurin refers to here. I take it that the message is not intended to imply that relations are related to their relata *if* they do in fact relate them. Instead, the intended implication is that relations

us with an ontological account of it. It tells us that, although there is no necessary connection *from* relata *to* relation, there *is* one *from* relation *to* relata. Putting a relation-trope alongside the entities it relates will not, on the present account, generate endless regress. In being a relation-trope it is of its essence that it *does* connect the entities it relates. This is a brute fact about relations and no further addition of relations is needed to provide for it.[1]

The way things are described here, as well as in the previous quotation, it seems as if a relation does hold between relation and relata after all since there is supposed to be a necessary connection from the former to the latter. Necessary or not, a connection is a relation, is it not?

According to Maurin then, *mutual* existential dependence does not hold between any[2] tropes, though there are unilateral existential dependences holding between specific compresence tropes and their relata. A compresence-trope is specifically existentially dependent on its relata. A particular compresence-trope must relate a specific pair.[3] Every other pair is ruled out. Since Maurin seems to contemplate the possibility of recycling quality tropes, there might be more than one compresence trope per pair of relata.

Why is a compresence trope considered to be unilaterally dependent on the quality tropes it relates? Maurin's reason for that seems to be that, being a relation, it must relate. If it does not, it fails to fulfil the function of a relation and would therefore not be a real relation (trope). Presumably, this holds for each and every external relation there is. The quality tropes do not need to be related by a specific compresence trope. Does that mean that each of them could

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are never related to their relata, not even when they in fact relate them. This might seem to be a subtle distinction; it is not. It is what makes the difference between there being a Bradleyan regress or not.

[1] Maurin 2002, p. 165.

[2] Maybe this is to overstate the thesis, though I do not think that Maurin says anything that contradicts it.

[3] I take for granted here that compresence is dyadic.

be free-floating, i.e. not compresent with anything?[1] I do not think
that Maurin gives any clear indication about what her answer to that
question might be. It is clear though that she in fact considers quality
tropes to lack predicativity. If she had recognised that it is of their
very essence to qualify, then she would have been forced to recognise
that they are predicative as well.

To corroborate my claim that quality tropes are deprived of
their predicative nature, I will remind readers of what was said in
connection with a question asked by Erik Funkhouser in his review
of Maurin 2002.

> Why *can't* tropes have qualitative parts — e.g., color-tropes
> have hue-parts, saturation-parts, and brightness-parts? […]
> This seems plausible, though the possibility would raise
> problems like those for thing-construction that she
> discusses at great length. Namely, what accounts for the
> unity of such qualitatively complex tropes?[2]

Maurin's answer is:

> [I]f tropes are qualitatively complex in the sense imagined
> by Funkhouser they must […] be regarded as complexes
> of *more fundamental tropes*. Of course, complexes of this kind
> we may call *tropes* — but they are tropes only in a second-
> ary sense. I therefore prefer to call them *complexes of tropes*
> (or *compresent tropes*) although I do not think much hinges
> on our choice of terms here.[3]

Try to ignore the details of the specific example used. Instead, con-
centrate on what is relevant here regarding the issue of predication. It
seems natural to interpret this as giving expression to a containment
model of predication. That an entity has a certain property is analysed
as its having it as content. This at least holds for entities which are

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[1] According to Williams they could do that, though by mere cosmic accident
they do not.

[2] Funkhouser 2004, fourth paragraph.

[3] Maurin 2005, p. 136.

not simple.[1] Note that even on the rather fundamental level of a colour trope[2] the analysis is carried our in terms of compresence. As a result, the qualitative content of the analysed entity lacks predicative. In the light of all this, the description of quality tropes as being *monadic* appears misleading. Since they lack adicity, they are not ontic predicates.

The tendency to consider quality tropes as (small) substances, rather than ontic predicates, is manifested by many moderate nominalists. To explain why this is so is in itself an interesting task.

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[1] In Maurin's terminology 'simple' actually means the same as 'absolutely simple'.

[2] Unfortunately, language deserts us here. Since this entity, referred to by the term 'trope', is *ex hypothesi* not simple, it is no trope according to the doctrine.

Moment Nominalism

4.1 Introduction

In the analytic ontology of Ivar Segelberg (1914–1987) relations and qualities belong to different categories. In it, universal relations are recognised straight out, but not universal qualities. When using the term 'quality', Segelberg usually has something like a trope in mind. In exceptional cases it can also be a class of (quality) instances, where the elements are exactly similar to each other.

The term 'trope' is not used by Segelberg. His three books,[1] which make up almost the whole body of his writing, had been written when D. C. Williams published the article in which 'trope' first occurs. Though I doubt that Segelberg ever read anything by Williams, he was versed in the writing of G. F. Stout, which apparently inspired him. However, the writing of Edmund Husserl is that which inspired him most; he borrowed the term 'moment' From Husserl,[2] which is his preferred designation for quality instances.

Quality moments and universal relations constitute, in a certain sense, the elements of which the universe is ultimately constituted.[3] Thus, the ontology in question can be described as a mixture of nominalistic and realistic elements. Segelberg would object to being described as a nominalist, even in part, since he has a specific position

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[1] These are translated into English by Herbert Hochberg and Susanne Ringström Hochberg, and collected in Segelberg 1999. References will be made by first indicating the page in Segelberg 1999 and then the corresponding page in the Swedish original; i.e., either Segelberg 1945, 1947 or 1953.

[2] It is presented in Segelberg 1999/1947, chapter IV, though not used as a technical term until Segelberg 1953. In its German form it is used in the third investigation of Husserl 1970. A distinction is made there between *Momente* and *Stücke*, which are dependent parts and independent parts of things respectively. Segelberg does not agree with that principle of division though.

[3] Cf. Segelberg 1999/1947, p. 228/137.

in mind for the denomination 'nominalism'. It takes qualities to be constituted by resemblances between concrete objects.[1]

When classifying Segelberg's ontology as (partly) nominalistic, it is done with its qualitative side in view. I think that this in combination with the fact that universal resemblances, at least officially, are not assigned any constitutive role with regard to the qualitative contents of moments, provide sufficiently good reasons for classifying it as a moderate nominalism.

4.2 Individual and Universal

4.2.1 Overview

The two notions, individual and universal, are determined respectively in terms of a modal notion. This notion is dealt with in section 4.2.2. In section 4.2.3 an alleged intermediary form of entity is discussed in connection with a presentation of an intellectual experiment. In section 4.2.4 the final determination of the notion of individual appears. The determination of universal will be presented as we go along.

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[1] A position which is called 'resemblance nominalism$_2$' by Gonzalo Rodriguez-Pereyra claims that there is for each quality a specific, universal resemblance relation. It obtains between all the (concrete) particulars which have the quality in question. According to Rodriguez-Pereyra's standards, this is a nominalism since it takes the resemblance relations to be primitive; it has to meet the traditional difficulties which (ordinary) resemblance nominalism is beset with as well. Cf. Rodriguez-Pereyra 2002, p. 123. Segelberg distinguishes between two versions of what he calls 'nominalism'. One of these satisfies the description of being a resemblance nominalism$_2$. It is advocated by C. D. Broad in Broad 1933, pp. 111ff. The other version is a bit elusive as regards the status of resemblance. It takes typical examples, or paradigms, and the resemblances of things to these to be constitutive of possession of qualities. The specific version of if, discussed by Segelberg, is that of Hans Cornelius. Cf. Cornelius 1900, pp. 103ff. Segelberg rejects both these forms of nominalism. Cf. Segelberg 1999/1947, Chapter III.

4.2.2 A Modal Notion: Can

According to Segelberg, there are no relation moments. Relations are (real) universals. All moments belongs to the qualitative side of ontology. An idea can be formed of what he means by the terms 'universal' and 'individual'[1] from the following statement:

> No one would deny the following three statements. 1) There may not be two exactly similar objects[2] in the universe, but it is not impossible that there be two objects, two sense-data for example, that are exactly alike. 2) If *a* is a universal, there cannot be another object exactly like *a*. 3) If there is an object other than *a* that is exactly like *a*, then *a* is an individual. But, *a* can be an individual even though there is no object, other than *a*, that is exactly like *a*. For *a* to be an individual, it is only necessary that there *can* be other objects that are exactly like *a*.[3]

We learn here that universals cannot resemble each other exactly. Thus, Leibniz's principle — the identity of indiscernibles — seems to be invoked with regard to universals. Moments,[4] on the other hand, can be exactly similar to each other, like other individuals. If the principle were applicable to them, it would seem that they could be *almost* exactly similar to each other at best.[5]

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[1] In the previous chapters the term 'particular' has been used consistently. In the present chapter I adapt myself to Segelberg's terminology. His Swedish terms are 'individuell' (adjective) and 'individ' (noun). The translators have chosen 'individual' (adjective as well as noun) instead of 'particular'.

[2] In Segelberg's terminology 'object' (in Swedish: 'föremål') is the most general term. It corresponds to the German 'Gegenstand', as the latter is used by Alexius Meinong within the frame of his *Gegenstandstheorie*. Cf. Segelberg 1999/1953, p. 239/5. If it had not been for the fact that Segelberg prefers 'föremål' to 'entitet', the English word 'entity' may have been used just as well.

[3] Segelberg 1999/1947, pp. 145/18-9.

[4] Since all moments are supposed to be quality moments, the prefix 'quality' will often be left out.

[5] Kenneth Clatterbaugh convincingly argues that G. W. Leibniz is an ad-

Modal notions are obviously used in these determinations of the notions of individual and universal. That gives cause for a comment:

> What do we mean when we say that an object *a* is an individual? One may reply: we mean that there can be several objects, including *a*, that are exactly similar to *a*. That an object *b* is a universal would then mean that there cannot be *another* object that is exactly similar to *b*. It is possible that this is what one sometimes means by 'individual' and 'universal'. But the concept "can", which occurs in both analyses, is so indefinite, that the terms 'individual' and 'universal', so understood, become fairly worthless in a technical context.[1]

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herent of instance attributes — or moments if we like. Cf. Clatterbaugh 1973. Since the principle bearing his name stipulates that exactly similar entities are identical with each other, this might come as a surprise. If I have correctly understood him, Donald Mertz suggests that Leibniz restricts the applicability of the principle, as regards individuals, to concrete individuals. Cf. Mertz 1996, pp. 148-9. He adduces the following as evidence for Leibniz's recognising property instances.

> Therefore, since substance and accident depend upon each other, other marks are necessary for distinguishing a substance from an accident. Among them may be this one: That a substance needs some accident but often does not need a determinate one but is content, when this accident is removed, with the substitution of another. An accident, however, needs not only some substance in general but that very one in which it inheres, so that it cannot change it. (Leibniz 1969, pp. 390-1)

This lets itself to the interpretation that the substance in which the attribute is inhering is essential to its identity. The following is even more explicit.

> [T]wo different subjects […] cannot have precisely the same individual affection, it being impossible that *the same individual accident* should be in two subjects or pass from one subject to another. [My italics] (Leibniz 1969, p. 704)

It should be noted that Leibniz considers his principle to be metaphysically, but not logically, true. Logically it could be that, say, two pieces of matter were perfectly alike. This would not be consistent with the order of things though. Cf. Leibniz 1969, p. 699.

[1] Segelberg 1999/1947, pp. 156/35-6.

What more information is added then to the impressionistic determinations made here? I would say that it is little more than variations on the same theme.

One thing is added, though: the notion that an object cannot have a certain property implies that it has another property which, according to a law, prevents it from having the former.[1]

> Actually, it seems that each modal statement refers to *a certain law* or a certain group of laws — differing in different cases. If one wishes to give an analysis of a modal statement, one must cite the law or group of laws referred to by the modal statement in question.
>
> Applying this point to the above modal sentences about individuals and universals, we arrive at the following. We take 'x has p' so:
>
>> x has p implies there are at least two objects, including x, which are exactly similar to x.
>
> If x is a universal, x cannot have p, which is to say that x must have some property g which is such that every object which has g[2] lacks p. If x is an individual, x can have p; that is to say, x does not have the property g. But, which property g is referred to here?[3]

It will turn out that the property, which is called 'g' here, is that of being (spatio-temporally) non-localised.[4] A prerequisite for there being exactly similar entities is that they are spread out in space and/or time. This is argued for by means of four examples.[5]

(1) One can imagine two exactly similar visual sense-data located in different parts of the visual field. One cannot imagine them located in exactly the same place, at the same time, though.

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[1] It is also explicitly stated in Segelberg 1999/1947, p. 157/36.

[2] In the Swedish original there is a misprint: it has 'y' instead of 'g'.

[3] Segelberg 1999/1947, p. 158/37.

[4] Cf. Segelberg 1999/1947, p. 164/45.

[5] The way these examples are presented is apparently fraught with modality.

(2) Two exactly similar sensations of pain can be imagined as being located in separate parts of one's body. However, one cannot imagine them being located in exactly the same place at the same time.

(3) The notion that there are two exactly similar impulses of volition or two exactly similar experiences of emotion in the same consciousness at the same time seems absurd. One can imagine them occurring at different times, or in different persons, though.

(4) One cannot imagine two exactly similar facts. The reason for that is that facts are not localised in time or space. One can imagine two exactly similar events; but these cannot exist at the same place and time.[1]

With these four examples as premises — or, perhaps they are more like indicia — the conclusion is drawn:

> In order for a multitude of exactly similar objects to occur, it thus seems to be necessary that the objects are "dispersed" in space and time, or in short, in an extended complex, which is to say that the objects are in a certain sense localized. That an object is localized then means that the object either is part of an extended complex or that the object is a component of a complex which is part of an extended complex. If we adopt the theory that an object is a complex of its qualities, then we must hold that every qualitative gradation of a localized object is itself localized and that it occurs in one or several instances.[2]

The answer to the question about what characterises individual objects is then that individual objects are spatio-temporally localised. According to the same line of reasoning, universals are not as localised.

There is a further condition which individual objects must satisfy. We will come back to it in section 4.2.4 below after some preparatory information in the next section.

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[1] These examples are found in Segelberg 1999/1947, p. 159/38.
[2] Segelberg 1999/1946, pp. 159/38-9.

4.2.3 Semi-Individuality

It is tempting to maintain that each individual entity is relationally different from every other individual entity.[1] The following intellectual experiment[2] is presented in order to problemise that claim[3].

> [O]ne can imagine a spatial whole so structured that it contains a number of objects which are not relationally different. The objects will then be 'localized', in the sense in which we just used the word, but they do not occupy different positions in the usual sense [...].[4]

The theme of the intellectual experiment can be varied interminably. Segelberg's first variation of it runs as follows.

> 1) We imagine an infinite space (spatial whole) *S*, to which we cannot apply the concepts *up-down* and *left-right*. In *S* there are two equally large spheres, *a* and *b*; *a* is red and *b* is blue. Between *a* and *b* there obtains a relation *R*, which we shall call *the distance* between *a* and *b*. *R* is obviously symmetrical [...]. It is also obvious that *a* has a relational property which *b* lacks, namely, "having *R* to *b*", and *b* has a relational property which *a* lacks, namely, "having *R* to *a*". From this [...] we can conclude the following: if a space (spatial whole) contains two objects that are not

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[1] Segelberg ascribes to Konrad Marc-Wogau the view that an individual object is relationally different from every other individual. Cf. Segelberg 1999/1947, p. 160/39. Cf. Marc-Wogau 1945, pp. 164ff.

[2] More or less the same experiment is found in an article by Max Black, published a few years later. Cf. Black 1952.

[3] As I hope will be evident, Segelberg's reasoning in connection with the intellectual experiment is a bit elusive. This makes it difficult to say for certain what his exact purpose with it is.

[4] Segelberg 1999/1947, pp. 160/39-40. Two senses seem to be figuring here. One of these concerns the relations of an object to space and time. The other concerns its relations to other objects.

congruent[1] with each other, one necessarily has a relational property which the other lacks.[2]

Due to their difference in colour the two spheres are incongruent with each other. As a consequence of that, they are also relationally different from each other. The two relational properties which Segelberg mentions are expressed by 'having R to b' and 'having R to a' respectively. With an eye to what will appear soon, I would like to say that there is probably no doubt that the number of spheres in this universe is two.

There is a second variation of the same theme.

2) We now imagine instead that a and b are two exactly similar spheres. Even in this case, a distance R obtains between the spheres. Consequently, the sphere a has the relational property "having R to b", and b has the relational property "having R to a". But this case is different from the previous case in a fundamental way. Since a and b are congruent in this latter case, there is no difference between "having R to a" and "having R to b" — rather, we deal with one and the same relational property. We will call this relational property 'r'.[3]

It is maintained that since a and b are congruent with each other, "having R to a" is the same relational property as "having R to b". As a consequence this relational property cannot differentiate between a and b, since they both have it. The notion that there is only one relational property here can be called in question. After all, a and b are

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[1] The sense of this term of geometry is extended to apply to all kinds of entities, not just geometrical figures. Cf. Segelberg 1999/1945, p. 38/29. It can be assumed here that it has the sense of 'exactly similar'. In the next quotation we find them being used alternately. In section 4.3.2 a few uncertainties regarding the relations between the senses of these two terms, as well as a few others, are discussed.

[2] Segelberg 1999/1947, p. 160/40.

[3] Segelberg 1999/1947, p. 160/40.

not the same individual sphere. Their being (qualitatively) exactly similar to each other does not change that.[1]

Someone might come up with the bright idea that a relational difference between the two spheres could be produced by means of calling one of them '*a*' and the other '*b*'. Each sphere would then have a semantical property which the other lacks. This proposal is rejected though.

> If we at t_1 call one of the spheres '*a*', there is no possibility of deciding whether it is the "same" sphere or the other sphere which we will call '*a*' at the next moment. And, if we speak about the sphere *a* in two sentences, there is no possibility of deciding whether the term '*a*' in both senten-ces refers to the same sphere. The impossibility of deci-ding is not due to any limitation of the inquiring subject's capability, but is due to the task being meaningless. With regard to this space, it makes no sense to speak of "the

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[1] This is a consequence of Segelberg's moderate nominalism, according to which moments are individuals through and through. Herbert Hochberg comments on this.

> It is […] obvious that Segelberg's view, appealing to individual properties, while proving apparent grounds for individuation, in that the quality instances will be numerically different in the two spheres, cannot distinguish them […], in the sense he requires. For he can only refer to such different quality instances by referring to the spheres — "the spherical shape of sphere *x*." Thus he can not do what his argument against Marc-Wogau requires the latter to do. Neither philosopher can form a descrip-tion of either the qualities or the spheres. This is the case whether one resolves the problem of individuation […] by means of numerically diverse quality instances, or by substrata, […] or by an appeal to relational differences. (Hochberg 1999, p. 28)

Hochberg seems to assert that Segelberg cannot individuate a moment other than by referring to the sphere it belongs to. I suspect that he takes that to be circular though, since the sphere is defined in terms of its moments. Segel-berg does not appeal to numerically different quality instances in connection with the intellectual experiment. Hochberg points that out immediately after what has just been quoted. I would say that Segelberg does in fact treat the relational properties here as (real) universals. Furthermore, I strongly suspect that ontological and epistemological problems are being amalgamated.

one" sphere, "the other" sphere, "the same" sphere,
"which of" the spheres, or to use proper names for the
spheres. In order to be able to apply such expressions […]
it is necessary that the different objects have different *non-
semantical* properties. […] In other words, there must be a
non-semantical exclusive description which fits a_1 but not
any of the other objects, an exclusive description of a_2, and
so on.[1]

We see here that Segelberg insists on there being an exclusive, non-
semantical description for each object. Without that, it is not possible
to distinguish between the entities inhabiting this universe. The task is
even declared to be meaningless. Its meaninglessness is explicitly said
not to be due to any limitation of the inquirer's capability. In other
words, what we are being presented is supposed not to be an
epistemological problem. The suggestion is then that the problem is
purely ontological. I have my doubts though.

   Incidentally, if the spheres have different names, one would
assume that someone must have named them. An inquirer is men-
tioned. The existence of that person automatically destroys the
symmetry of the imagined universe. That complication is disregarded
though.

   Perhaps the most interesting variation is the third — particularly
its second half.

   3) Even if S contains more than two mutually congruent
   spheres, it can be the case that the spheres do not differ
   relationally: that will be the case, for example, in the
   following situations. (i) the centers of the spheres form the
   corners in an equilateral polygon; (ii) the spheres are
   infinitely many and the distance between any two adjacent
   spheres is everywhere the same.[2]

Again, it is explicitly asserted that all the spheres inhabiting the
universe have all their relational properties in common. This is due to

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[1] Segelberg 1999/1947, p. 161/41
[2] Segelberg 1999/1947, p. 162/42.

their being congruent as well as symmetrically arranged. What was claimed with regard to the second variation then applies to the third as well. A conspicuous difference is of course that in the third — version (ii) — it is supposed to be meaningless to distinguish between the spheres in spite of the fact that they are infinite in number.

The essential difference between the first and fourth variations is that the spheres of the latter are mutually congruent, while those of the former are incongruent. In addition, in the latter variation the spheres are asymmetrically arranged.

> 4) If S contains a number of mutually congruent spheres, and we do not have a case either of type (i) or (ii) in (3), then relational differences obtain between the spheres. By saying that, one is not necessarily saying that *every* sphere in the group is relationally distinguished from *every* other sphere in the group.[1]

When the spheres make up a configuration in which their relational properties differ, it is possible to apply individuating expressions to them: 'the one sphere', the other sphere', etc. If we want, we can give them proper names of their own as well.

I am a bit puzzled by the message in the last sentence of the last quotation, which seems to be that some of the spheres, which inhabit the asymmetrical universe, might be relationally indifferent. That claim may seem more plausible if applied to moments, instead of spheres. If there are no reasons of principle against there being more than one congruent moment in one and the same place simultaneously, these moments might be relationally indifferent as well.[2] But, we are talking spheres now. No two or more of them can occupy the same place simultaneously.

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[1] Segelberg 1999/1947, p. 162/42.

[2] Francisco Suárez explicitly contemplates this as a possibility. Cf. the fifth disputation of his *Disputationes Metaphysicae*, translated in Gracia 1982. Cf. also Mertz 1996, pp.128-9.

The heading of this section is 'Semi-Individuality'. The notion referred to by that denomination is accounted for by using what has appeared in the presentation of the intellectual experiment.

In (1)–(4) we have studied four sets of objects, *M1*, *M2*, *M3*, *M4*, where each *M* has one of the following "extreme" properties:

a) every element in *M* is congruent with every other element in *M*;

b) every element in *M* is incongruent with every other element in *M*;

c) every element in *M* is relationally indifferent with respect to every other element in *M*; that is, every relational property which belongs to one element in *M* belongs to every element in *M*;

d) every element in *M* is relationally different from every other element in *M*; that is, there is a set *N* of relational properties such that every element in *N* is a property of one and only one element in *M* and every element in *M* has one and only one element in *N* as a property.[1]

Now that we have these four sets at hand, we can form a matrix.[2] Of the four combinations one is declared contradictory: (*bc*). The three remaining combinations are then: (*ac*), (*ad*) and (*bd*).[3]

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[1] Segelberg 1999/1947, pp. 162-3/43. There are two unfortunate misprints in the original. What comes after the semicolon in (*c*) has been mixed up with that which comes after the semicolon in (*d*). In the translation this mishap is corrected.

[2] The two distinctions from which the matrix is formed are of course those of congruence and incongruence, on the one hand, and of relational indifference and relational difference, on the other.

[3] See Segelberg's puzzling assertion in connection with the fourth variation. Note that if it is not necessarily the case that every sphere of that universe is relationally distinguished from every other, the universe in question would neither be an (*ac*)-set, an (*ad*)-set or a (*bd*)-set. It would be an (*a*)-set, since the spheres are congruent with each other. It could not be a (*c*)-set or a (*d*)-set though, since some of the elements are relationally indifferent with respect to

In the light of what has appeared, Segelberg now asserts:

> If we do not undertake any thought experiments, but only consider the circumstances in our universe, where every set of objects has the property (d), and, consequently, each element in an arbitrary group of objects is relationally different from every other element of the group, we easily overlook the fact that it is not logically necessary for a set to have the property (d). This circumstance results in an ambiguity in the concept of "numerical difference". If an object x is qualitatively different from an object y, x must be "numerically different" from y.[1] But even if x and y are qualitatively identical, i.e. congruent,[2] x can still be "numerically different" from y. Suppose that x is congruent with x'; does the statement 'x is numerically different from x'' then only mean that what we call 'x' and what we call 'x'' "are" more than one x? Or, do we also mean that the set with only x and x' as members is a (d)-set? This question cannot be resolved, since the possibility of an (ac)-set was not considered when we introduced the concept of "numerical difference".[3]

According to Segelberg, we live in a universe where no two individuals share all their relational properties. Our universe is a (d)-set. This has an implication which will be mentioned in section 4.2.4.

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each other while others are relationally different from each other.

[1] This gives expression to Leibniz's Law — the indiscernibility of identicals — in its contra-positive form: the non-identity of discernibles.

[2] Note that congruence and qualitative identity are explicitly said to be the same relation. Cf. section 4.3.2, where it is discussed how the relations named by 'congruence', 'exact similarity', 'absolute similarity', 'qualitative identity' and 'having all internal properties in common' are related to each other.

[3] Segelberg 1999/1947, pp. 163/44-5. The phrase 'when we introduced the concept of "numerical difference"' does not refer to any introduction made by Segelberg himself. What he means is that the notion of "numerical difference" is undecided with regard to (ac)-sets.

What about (*ac*)-sets? Remember that the elements of such sets are supposed to be exactly similar as well as relationally indifferent. Regarding the elements of such sets Segelberg's final word is:

> Perhaps, it is best to say that the elements of an (*ac*)-set are neither individuals nor universals, but what we might call '*semi-individuals*'.[1]

The claim that there is a principal difference between symmetrical and asymmetrical universes, as they have been determined in the intellectual experiment, can be called in question in various ways. The following is one objection.

Imagine a universe inhabited by almost indiscernible entities, spheres for instance. Assume that the number of almost indiscernible spheres is two and that they are the only entities in the universe. This approximates both the first and the second variation accounted for above. As a matter of principle it coincides exclusively with the first variation though. Segelberg would say that there are two spheres in this universe. He is bound to agree that they are two even when the qualitative difference between them is infinitesimal.[2] If they instead were congruent with each other, would he maintain that they are only one in number? If that is indeed what he would do, his use of 'meaningless' would make some sense. If he would claim instead that the number of spheres is still two but that they are now semi-individuals, it is difficult to grasp what 'meaningless' is supposed to mean. In a variation having an infinite number of almost congruent spheres, arranged so that the universe is appropriately geometrically symmetrical, the step from an infinite number to just one sphere stands out as completely absurd. This is so either if we assume that complete symmetry would result from the smallest change of the spheres with regard to their intrinsic qualitative contents,[3] or if we

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[1] Segelberg 1999/1947, p. 164/45.

[2] Remember that the intellectual experiment is not supposed to concern epistemology.

[3] This kind of argument, from the possibility of almost indiscernibles to indiscernibles, originates from Robert Adams. Cf. Adams 1979, pp. 17-9.

assume that they are all congruent from the start and arranged in
geometrical symmetry except for one sphere and that complete
symmetry comes into existence when its relative position is changed
slightly.

The next comment concerns space. Roughly, there are two
views on space: absolutism and relationism. According to the former,
space is something in itself. Let us say that it is a set of points. If a
sphere is in a certain place, it is so by occupying a particular point or
points. According to moderate nominalism the points making up
space might, or should, be thought of as moments, instances of
pointhood. Thus, in a universe that is in accordance with the second
variation, the points occupied by sphere *a* and sphere *b* are not the
same. The same holds *mutatis mutandis* for universes in accordance
with the third variation.[1] No matter how similar they are to the rest,
no spheres share the same spatial relational properties; the spatial
relational properties being the ones which are holding between each
sphere and space itself.[2]

Assume instead relationism about space. Space is then con-
stituted by (spatial) relations that hold between entities, in our case
spheres. Since space is not an entity in itself, no relations can hold
between a sphere and space. The spheres are then prerequisites of the
relations. Not the other way round. Thus, also with relationism the
number of spheres is what it appears to be, irrespective of whether
the universe is symmetrical or not.

My impression is that Segelberg does not distinguish between
universals and individuals when formulating the intellectual experi-

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[1] Needless to say, the points occupied by incongruent spheres are not the
same either.

[2] According to Hochberg, Segelberg explicitly considers absolute spatial loca-
tions in his discussion. Cf. Hochberg 1999, p. 27. The following statement
might be what is supposed to justify Hochberg's claim.

> If the objects *a*, *b*, *c* are dispersed in space — that is, if *a*, *b*, *c* are
> localized in space (in the sense just specified above) — the
> different objects have different positional properties. *a* has one
> which *b* and *c* do not have; *b* has one which *a* and *c* do not have,
> and so on. (Segelberg 1999/1947, p. 160/39)

ment. According to the doctrines of the moment nominalism he champions, the spheres are not bundles of universals; though they can be described as bundles of moments. The bundles are then individual through and through. Thus, given that $a \neq b$, the relational property Rb is not the same one as Ra. Even when a and b are congruent with each other, that does not change. Seemingly, Segelberg may wriggle free from this charge by referring to classes of exactly similar moments as surrogates for (real) universals. My objection would, still seemingly, be blocked by saying something in line with the following. As it is used above 'having R to a' is a short for 'having R to some element of the congruence class in which a is an element'; the same holds *mutatis mutandis* with regard to 'having R to b'. In that sense "having R to a" and "having R to b" are the same relational property. There is no indication of that in connection with the intellectual experiment though. The two, "having R to a" and "having R to b", are what might be called '*impure* relational properties'.[1]

4.2.4 Individuality

We saw it being maintained above that an entity can be congruent with another entity only if they both are spatio-temporally localised. That is part also of the message of the following two sentences.

> When one says that there are several objects congruent with x, one means that x does not have any property f which is incompatible with there being several objects congruent with x. The result of our reasoning is that the

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[1] Impure relational properties involve determinate individuals. In the particular case at hand the determinate individuals are the two spheres a and b. The relation R is a universal; it is the same in "having R to a" and "having R to b". Pure relational properties are universal through and through. According to my understanding of the prevalent terminology in the literature, the distinction is supposed to hold between pure and impure *properties*. The examples given are always relational properties though. E.g. "being married to Henry VIII" and "being a student of Socrates". Cf. Loux 1978, pp. 132-3.

property f being considered here is the property of *being non-localized*.[1]

A prerequisite for being an individual entity then is being spatio-temporally localised. Segelberg does not think that sufficient though, as the intellectual experiment accounted for in section 4.2.3 is supposed to show. The possibility of there being (c)-sets complicates the matter.

> [A] difficulty arises when we ask whether the elements of an (ac)-set are individuals or not. This difficulty clearly stems from the fact that the possibility of (c)-sets was not considered in the earlier discussion of the concepts of *individual* and *universal*. Perhaps, it is best to say that the elements of an (ac)-set are neither individuals nor universals, but what we might call '*semi-individuals*'.[2]

A second condition for being an individual is then that it must not be an element of any (ac)-set. Although Segelberg does not explicitly say anything about it, this means that relational properties which have internal relations as their relation component also must be included. Otherwise, there will be a lot of moments which are relationally indifferent from each other since they are thought of as being instantaneous and, with certain restrictions, also as sharing their spatio-temporal position with each other. Those actually sharing their position with each other are not congruent though. Therefore, no two moments have all their relational properties in common. In particular, those sharing their positions with each other will differ with regard to relational properties involving internal relations.[3] This is a consequence of their being incongruent with each other. I remind

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[1] Segelberg 1999/1947, p. 164/45.

[2] Segelberg 1999/1947, p. 164/45.

[3] Note that if the (dyadic) internal relations between moments are pseudo-additional to their relata, a moment can share an internal relational property with at most one other moment. This since $q_1 R q_2$ is supposed to equal $q_1 + q_2$, which obviously is not the same as $q_m + q_n$, where either m $\neq$ 1 or n $\neq$ 1. Cf. the discussion in chapter III.

readers of Segelberg's claim that the individuals which inhabit our universe together form a (*d*)-set.

4.3 Relations and Complexes

4.3.1 Overview

Section 4.3 deals with the relational side of Segelberg's ontology. The principal distinction is the one between external and internal relations. It is made in terms of similarity, which is an internal relation itself. Before the notions of external and internal relations are dealt with in section 4.3.3, a few obscurities regarding similarity are discussed in section 4.3.2. In the same section two kinds of complexes are presented: collection and complex unity. Segelberg attaches great importance to the distinction between these two.

What might be described as the fundamental ontological glue of reality, the elementary connection, is dealt with in section 4.3.4. In the following section, 4.3.5, the analogue on the ideal side is also discussed. In the final section, Segelberg's doctrine about entities of different orders is presented.

4.3.2 Similarity

In Segelberg 1945, we find his first proposed determinations of internal and external relations. A similarity relation called 'congruence' is essential for these determinations. As it is described in Segelberg 1945, it is evident that congruence is closely related to — if not identical with — exact similarity. An indication of that is that 'exactly similar' and 'congruent' are used interchangeably. There are indicia though suggesting that there might be a difference between congruence and exact similarity. Among the first which is said about congruence is the following.

> The concept *congruence* and its contradictory *incongruence* are elementary concepts, which cannot be defined by analysis. Their meaning can only be made clear by examples. That *x* and *y* are *congruent* implies that they are *exactly similar*; there-

by implying that they have all internal properties in common. On the other hand, congruence does not imply that all external properties are shared.[1]

Four relation terms can be extracted from this quotation:[2] 'congruence', 'exact similarity' and 'having all internal properties in common'. Does each one of these name its own relation or are they perhaps three different names of the same relation? Yet a third possibility is that two of them name the same relation, while the third names its own. Further relevant information on this matter is found in what is stated concerning the difference between congruence and the mirror relation.

> We must distinguish congruence from the relation which obtains between an asymmetrical object and its mirror image. We call this relation the *mirror relation*. A right hand stands, at least approximately, in the mirror relation to a left hand. As one can distinguish them, without taking external properties (location) into consideration, they are incongruent. Two objects which stand in the mirror relation to each other, we call *mirror correlates*. It is important that a pair of mirror correlates can agree in all their internal properties. Such is the case in figure 3. The statement 'x is congruent to y' is thus not equivalent to the statement 'x and y have all their internal properties in common'.[3]

The illustration, referred to as figure 3, is:[4]

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[1] Segelberg 1999/1945, p. 38/29. The terminology of Segelberg 1945 is partly different from that of the two later books. In the former, 'internal property' and 'external property' are used; not so in Segelberg 1947 and 1953. In the two latter works, that pair is replaced by 'quality' and 'relational property'.

[2] I disregard 'incongruence' for the moment.

[3] Segelberg 1999/1945, p. 39/30.

[4] The squares x, y and z can be taken to be red, blue and green respectively. Furthermore, not a single one of the squares is recycled. The total number of squares appearing in B, b and B' is nine, not three. Cf. Segelberg 1999/1945, p. 127/113.

	B			*b*			*B'*	
y	*x*		*x*	*y*		*z*	*y*	
z				*z*			*x*	
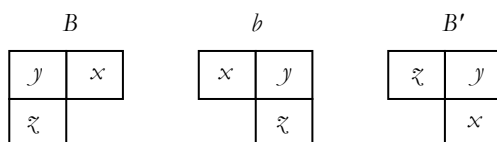
Of these three figures *B* and *b* are said to be mirror correlates; the same holds for *b* and *B'*. *B* and *B'* are congruence correlates.

What has just been reported is complicated by what Segelberg says in a footnote. It is mentioned there that in geometry objects are congruent if they match each other in size as well as in shape; he adds that geometry also distinguishes between direct congruence and symmetry.

> Direct congruence obtains between two figures if they can be made to cover one another by movement in the plane. The symmetry relation obtains between a pair of congruent figures if a movement in three-dimensional space is necessary for one figure to cover the other. The term 'symmetry' has the same meaning here as our expression 'mirror relation'.[1]

All of this is relevant when interpreting the distinction between congruence, in Segelberg's extended sense of it, and the mirror relation. Note that, according to the last quotation, the mirror relation obtains between a pair of objects if moving them in three-dimensional space is necessary for one to cover the other. In the quotation before the last one, a right and a left hand are said to be mirror correlates. In fact, they are not since they cannot be moved in three-dimensional space in a way which makes one cover the other. Using a metaphorical description, a right hand is entered in three-dimensional space differently from a left hand. Hands are so-called enantiomorphs even in three-dimensional space. If there were a fourth spatial dimension, that might make it possible for them to cover each other. On the other hand, the two two-dimensional figures *B* and *b'* are mirror

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[1] Segelberg 1999/1945, p. 123n/110n.

correlates. Although they are enantiomorphs in two-dimensional space, they are homomorphs in three-dimensional space.[1]

What are we to make of the determination of the mirror relation? The most natural thing to do would be to leave out what is said regarding the two hands. After all, they do not satisfy the explicit definition of what it means to be mirror correlates. If we decide to keep the two hands as examples of mirror correlates, the definition provided in the footnote must be changed. A revised version might be that two objects are mirror correlates if they can be made to cover each other in $n+1$-dimensional space, where n-dimensional space is the space the pair of objects is presently in and in which they cannot be moved so that they cover each other. This would imply a relational view of space though. This since, according to absolutism, real space does not have more than three dimensions. I propose that we choose the former solution.

Thus, according to the geometrical definition, two figures are mirror correlates if they cover each other in three-dimensional space but not in two-dimensional space. I would say that the mirror relation is, at least, primarily a geometrical relation in Segelberg's terminology as well. Congruence, on the other hand, is a general notion which is supposed to be applicable to all kinds of entities.

Let us return to the quotation in which congruence and the mirror relation are introduced. Since the example with the left and right hands is inadequate, it must be changed. I suggest that we instead use the figures *B* and *b*. Segelberg asserts then that they can be distinguished without taking their locations into consideration. From that, it is concluded that they are incongruent. However, when the mirror relation obtains between two objects, the relata agree in all their internal properties. This is a bit puzzling. One would expect that there is something in virtue of which congruence holds between congruence correlates but not between mirror correlates. What might

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[1] Cf. Nerlich 1994, Chapter 2. In that chapter — which has the heading 'Hands, knees and absolute space' — the notions of enantiomorphism, homomorphism, etc. are discussed. As the heading suggests, there being hands and knees is, or can be turned into, an argument for the existence of absolute space.

that be? In preface to an answer to that question, I add a figure which is not found in Segelberg 1945.[1]

$$
\begin{array}{|c|}
\hline
C \\
\hline
x \\
\hline
y \\
\hline
z \\
\hline
\end{array}
$$
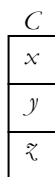
Segelberg would say that C is neither congruent with any of the former three figures, nor is it a mirror correlate of any of them. Do the four figures at least have all their internal properties in common? B and b do, according to what is stated. Since B and B' are congruence correlates, B' also has all its internal properties in common with it and b. Is the same true of C? I will come back to that question after yet another notion has been described: isomerism, which, in turn requires the introduction of the notions of collection and complex unity.

Collection and complex unity are essential notions in Segelberg's ontology. They are said to be urphenomena; neither of them can be derived from the other.[2] That does not imply that they are completely indefinable though. Both of them are defined in terms of the relation of being disparate.

> Two objects x and y are said to be disparate if and only if the following statements hold: (1) x and y are not identical; (2) x does not contain y; (3) y does not contain x; (4) there is no content of x which is also a content of y.[3]

This can be rendered in the following way, which is more in line with the rendering of the definitions which follow.

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[1] None of the three squares of C are the same as any of the nine above. Its squares x, y and z are red, blue and green respectively though.

[2] Cf. Segelberg 1999/1945, p. 55/46.

[3] Segelberg 1999/1945, pp. 42/33. The definition presupposes that we know the meanings of the terms 'contain' and 'content'.

I. A pair of objects x and y are *disparate* if and only if the following conditions obtain:

(1) x and y are not identical.
(2) x does not contain y.
(3) y does not contain x.
(4) There is no content of x which is also a content of y.

Furnished with this definition, the notions of *complex*, *collection*, *unity*, *complex unity* and *total collection* are defined.[1]

II. An object x is a *complex* if and only if there is a pair of objects y and z such that:

(1) x contains y.
(2) x contains z.
(3) y and z are disparate.

III. An object x is a *collection,* if and only if the following conditions obtain:

(1) x is a complex.
(2) There are at least two objects y and z, disparate from each other, and such that, if there is an object H, which contains x, then "H contains x" = "H contains y & H contains z".

IV. An object x is a *unity,* if and only if there are *not* two objects, y and z, such that, if there is an object H which contains x, then "H contains x" = "H contains y & H contains z".

V. An object x is a *complex unity* if and only if the following hold:

(1) x is a complex.
(2) x is a unity.

VI. A collection $y+z$ is a *total collection* of x, if and only if the following conditions obtain:

(1) x contains y.
(2) x contains z.
(3) y is disparate from z.

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[1] The five definitions which follow are presented in this way in Segelberg 1999/1947, pp. 209-10/110-1.

(4)   There is no object *u* such that *x* contains *u* and *u* is dispar-
      ate from both *y* and z.

Segelberg often uses the term 't-collection' instead of 'total collec-
tion'.

The definition of the notion of isomerism now reads:

If a complex *k* has a t-collection [total-collection] $x+y+z$,
and another complex *k'* has a t-collection $x'+y'+z'$, where
x is congruent to *x'*, *y* is congruent to *y'* and z is congruent
to z', *k* and *k'* are said to be *isomeric* (adjective) or *isomers*
(substantive).[1]

Two laws of isomerism for collections are discerned:

(1)   If two collections *k* and *k'* are congruent, they are isomeric
      as well.
(2)   If two collections *k* and *k'* are isomeric, they are also con-
      gruent.[2]

Neither of these laws holds for complex unities. An illustrative
example is the pair of the two-dimensional figures *B* and *b* above.

There is no content in the first figure that does not have a
congruent correspondent in the second. But, in spite of
this, the figures are incongruent with each other; no matter
how the figures are rotated, one can not get them to
match.[3]

From this it is concluded that incongruent entities can be isomers.
Now, is C isomeric with the other figures? If a total collection of *C* is
$x+y+z$, it would seem that it is isomeric with each one of them. But is
$x+y+z$ a total collection of *C*? Is the corresponding collection of any
of the other figures a t-collection of their contents? All of these

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[1] Segelberg 1999/1945, p. 50/41. In Segelberg 1945 the collection of two en-
tities *x* and *y* is designated '*x, y*'. In the two later books this is revised to '*x+y*'.
In their rendering of the first book the translators use the revised version.
[2] Cf. Segelberg 1999/1945, p. 50/41.
[3] Segelberg 1999/1945, p. 51/42.

questions should get the same answer: no. To see why this is so, examine them more closely. Each of the figures obviously has a property which is lost if $x+y+z$ is supposed to be its total collection. What is lost is the shape of each figure, i.e., the shape of a square. The collection $x+y+z+s$, where 's' stands for the shape in question might better suit our requirements. The same holds *mutatis mutandis* with regard to *C*. Its shape is obviously not congruent with s though.[1]

One might think that *B*'s "turn to the right" should separate it from *b*, which makes a "turn to the left". These differences are relational, existing as a result of how *B* and *b* are related to the two-dimensional space. The two would be congruent in the three-dimensional space. This shows that the topology of the universe is relevant.[2] If it were Segelberg's view that the relation to space did not make any difference with regard to whether two objects like *B* and *b* are congruent, he would have to say that *B* and *b* are congruent in the two-dimensional space as well.[3]

That congruence is not the same relation as that of having all internal properties in common has explicitly been stated above. Being congruent implies having all internal properties in common though.

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[1] Cf. Segelberg 1999/1945, p. 49/40, where it is mentioned that three squares x, y and z may form a figure which does not have the shape of a rectangle. This also applies to the present example.

[2] Entered into a universe with the topology of the Möbius strip or the Klein bottle, they would be congruent there too. Cf. Nerlich 1994, pp. 51-4.

[3] That view is expressed in Wittgenstein 1961, sentence 6.36111:

> Kant's problem about the right hand and the left hand, which cannot be made to coincide, exists even in two dimensions. Indeed, it exists in one-dimensional space […]. The right hand and the left hand are in fact completely congruent. It is quite irrelevant that they cannot be made to coincide.
>
>   A right-hand glove could be put on the left hand, if it could be turned round in four-dimensional space.

A comment on this, made by Ingvar Johansson, is that Wittgenstein presupposes a relational conception of space. Since he takes spaces to be merely constructions, it becomes arbitrary how many dimensions a space has. There would not be any left-hand or right-hand properties if the number of dimensions were arbitrary. Johansson is an advocate of absolute space, or, container space, as he calls it. Cf. Johansson, 1989, p. 157.

That may be concluded from another quotation. There are passages, which, at least to some extent, point in another direction. The first is in Segelberg 1945. Note that things are complicated by the fact that an account is given there of a view which is not his own. Anyhow, the relevant statement is that congruence is the same as qualitative identity.[1] And how is 'qualitative' to be interpreted if not as being synonymous with 'with regard to internal properties'? Thus, congruence and having all internal properties in common might be the same relation after all. Recall Segelberg's assertion in his second book:

> If an object x is qualitatively different from an object y, x must be "numerically different" from y. But even if x and y are qualitatively identical, i.e. congruent, x can still be "numerically different" from y.[2]

Here we find qualitative identity being explicitly identified with congruence. And what is more, this is not a report on the view of someone else.

In addition to the terms already mentioned, there is a fourth one: 'absolute similarity'. It is used in one single place.

> One can distinguish two senses of the word 'similarity': absolute similarity[3] and relative similarity. "Absolute similarity" is the same as congruence; "relative similarity" obtains between objects which are "like" in one respect and "different" in another. That relative similarity obtains between a pair of objects, x and y, implies: x is incongruent to y and x has a content z and y has a content z' and z is congruent to z'. We will assume in the future that every "similarity" between incongruent objects has this character.[4]

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[1] Cf. Segelberg 1999/1945, p. 41/32.

[2] Segelberg 1999/1947, pp. 163/44.

[3] The translators have inserted '(exact)' between 'absolute' and 'similarity'. Since there is no such insertion in the original, I have removed it.

[4] Segelberg 1999/1945, p. 43/34.

'Exact similarity' is not mentioned here as a name of a variant of similarity. No direct information is therefore supplied concerning it. Another piece of information is given though: similarity between objects always involves congruence.[1] An "extreme" form of relative similarity holds between mirror correlates. This since they are what Segelberg calls 'absolute isomers'; meaning that for each total collection of either correlate the other has a congruent total collection.

Where do we stand now regarding congruence and exact similarity? It could be that there is no difference. The way 'exact similarity' is used in the two later books is a strong indication of that. There is also the possibility though that, at least in the first book, congruence is not the same as exact similarity. Perhaps it falls somewhere between congruence and having all internal properties in common. The translation reinforces the indication of there being a tristinction in this case. I repeat the relevant sentence to show what I mean by that.

> That *x* and *y* are *congruent* implies that they are *exactly similar*; thereby implying that they have all internal properties in common.[2]

This way of rendering the relationship between the (possibly) three relations suggests that exact similarity is a middle man, due to the two words chosen by the translators: 'implies' and 'implying'. The former might be misleading. A better translation of the Swedish word used would be 'means', instead of 'implies'.[3] If congruence between entities *means* that they are exactly similar and is thereby *implying* that they have all their internal properties in common, the indication of a tristinction being made, instead of a distinction, is barely, if at all, visible. Congruence is then naturally thought of as being the same as exact similarity.

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[1] Evidently, this gives expression to what was named 'the similarity principle' in chapter II.

[2] Segelberg 1999/1945, p. 38/29.

[3] The Swedish word is 'innebär'.

It should also be noted that the congruence which holds between mirror correlates depends on the relations each mirror correlate has to space. Since these relations are not internal properties of either mirror correlate, neither are they contents of them. Perhaps that implies that relational differences are irrelevant.

4.3.3 Internal and External Relations

Let us return to the notions of internality and externality using a reference to David Hume as an introduction:

> In *The Treatise*,[1] Hume divides relations into two classes: those which are completely dependent on the "ideas" we compare, and those that can be changed without the compared "ideas" changing. We call the first type of relation simply a *relation* or an *ideal relation*; the second type a *connection* or a *real relation*.[2]

Though inspired by Hume's distinction, the one Segelberg has in mind is not of such a limited scope as the former one at least appears to be. Ideal relations do not have ideas as their exclusive relata.

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[1] Hume says in the place referred to:

> These relations may be divided into two classes; into such as depend entirely on the ideas, which we compare together, and such as may be chang'd without any change in the ideas. (Hume *Treatise*, Book 1, Part 3, Sect. 1)

As pointed out in Hochberg 1999, pp. 336-7n, Segelberg may (mistakenly) believe that Hume partitions all relations as belonging to one of these two classes. This is not so though. Hume's distinction applies to the class of what he calls 'philosophical relations'.

[2] Segelberg 1999/1945, p. 41/32. Where Swedish has (at least) three words, English seems to have only two. The former are 'relation', 'förhållande' and 'förbindelse'; the first of these being the most general. The English word 'connection' equals that of 'förbindelse' quite well. When it comes to 'förhållande', in the sense used by Segelberg, the term 'ideal relation' seems to be the best alternative, despite its clumsiness. To use 'relation' both as a specific and a general term seems risky. I have therefore inserted 'ideal' in a few places.

Segelberg's definition of internal relation, under the name 'ideal relation', reads:

> If R is an [ideal] relation, the following conditions obtain. If xRy and $x{\sim}x'$,[1] where x, y and x' can be any objects, then there is an object z, such that $x'Rz$ and $z{\sim}y$.[2]

A relation which satisfies this condition is (at least) b-type ideal. To earn the status of being a-type ideal it must also satisfy the following, somewhat stronger, condition:

> If an [ideal] relation R is an a-relation (a-ideal), a general implication obtains from xRy & $x{\sim}x'$ to $x'Ry$.[3]

Examples of a-type ideal relations are congruence and the mirror relation. The whole–part relation is an example of a b-type ideal relation.[4]

According to Segelberg a relation and its converse are in fact the same relation. Given that this is so, it is a bit puzzling how a relation

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[1] The sign '$\sim$' stands for congruence.

[2] Segelberg 1999/1945, p. 41/32.

[3] Segelberg 1999/1945, p. 41/32.

[4] Unfortunately, there are two misprints in the original text. One of them still remains in the translation. The paragraph, in Segelberg 1999/1945, p. 41/32, in which they both occur reads:

> Examples of [ideal] relations: (1) *Congruence*. If x is congruent to y and $x{\sim}x'$, then there is an object z (for instance y), such that x' is congruent to z and $z{\sim}x$ [my remark: it should be '$z{\sim}y$', instead of '$z{\sim}x$'; this is the first misprint]. (2) The *mirror-relation*. If x has the mirror-relation to y and $x{\sim}x'$, there is an object (for example y itself), such that x' is a mirror-image of z and $z{\sim}y$. (3) The relation of *whole–part*. If x has y as a part and $x{\sim}x'$, there is an object z such that x' has z [the text has x, trans.][my remark: this is the second misprint] as a part and $z{\sim}y$.

Assume for a moment that the rendering of the condition in (1) is not a misprint. Congruence still satisfies it: $(x{\sim}y$ & $x{\sim}x') \rightarrow \exists z(x'{\sim}z$ & $z{\sim}x)$ is a true proposition. This condition is not the same as that of (2) and (3) though. It might turn out that congruence is the single relation which satisfies it. If it is not a misprint, a tristinction is being made within the class of ideal relations.

can be internal while its converse is not. Segelberg comments on this. I let him speak for himself.

> According to our way of looking at it, […] a relation and its converse relation are basically the same thing seen from two points of view. That *a* is larger than *b* is exactly the same thing as that *b* is smaller than *a*. The fact, which both statements signify, has the constituents *a*, *b*, and the relation of comparison, and no other constituents.[1] On the other hand, one can say that there is a difference in meaning between them, in the sense that the understanding of the experience, which the one statement expresses, differs in a typical way from the understanding of the experience which the other statement expresses. In the first case one begins by thinking about *a*, while in the second case one begins by thinking about *b*. What is it, then, that makes one use the expression 'larger than' in the one case, and 'smaller than' in the other case, given that the meaning is totally opposite when one chooses the relational expressions in reverse? One can put the matter in the following way: The relation of comparison has two sides, a "plus side" and a "minus side"; in the state of affairs "*a* is larger than *b*", the plus side is turned to *a* and the minus side to *b*; in the opposite state of affairs the minus side, instead, is turned to *a* and the plus side to *b*. We now use the expression 'larger than' in order to express the relation in question, if the term of the relation which is thought of first is united with the plus side of the relation. However, when the term conceived first is united with the relation's minus side, we use the expression 'larger than'. What has been said here about the relation "larger than" ("smaller than") holds, *mutatis mutandis*, of all asymmetrical relations.[2]

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[1] Below it will be seen that Bradley's regress is supposed to arise in connection with states of affairs. There is no sign of that here though.

[2] Segelberg 1999/1947, p. 190/81. I suspect that the non-symmetrical relations are included in the class of asymmetrical relations.

Thus, there is only one state of affairs, although it might look like there are two. The appearance of two states of affairs is due to subjectivity; it is dependent on the order in which the relata are considered. In the light of this, Segelberg now says:

> As it is desirable to define the concept "internal relation" without bringing in subjective factors, we should not define the concept so that an asymmetrical relation can be internal without its converse being internal. Rather, we should, instead, distinguish between two different conceptions of *internal*. We speak therefore about *unilaterally internal* relations and *bilaterally internal* relations.[1]

The use of 'conceptions' in 'different conceptions of *internal*' suggests that a distinction is made between concepts and conceptions. In the Swedish original, however, just one single word is used. Its meaning is that of 'concept'. Thus, Segelberg's intention is not to distinguish between *the* concept of internal relation, on the one hand, and various conceptions of it, on the other. Instead, what are distinguished are two concepts of internal relation.

> That a relation R is *internal* means, we will say, that *at least one* of the following statements holds:
>   1) If x has the relation R to y, then every object congruent to x has the relation R to at least one object congruent to y.
>   2) If x has the relation R to y, then every object congruent to y has the converse of R to at least one object congruent to x.[2]

If only one of the conditions (1) or (2) is satisfied, a relation R is unilaterally internal. If both conditions are satisfied, R is bilaterally internal. To be an internal relation is to be either unilaterally internal *or* bilaterally internal. I take it that congruence and the mirror relation are both bilaterally internal; the whole–part relation is unilaterally internal.

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[1] Segelberg 1999/1947, p. 190/82.
[2] Segelberg 1999/1947, p. 191/82.

External relations do not fulfil any of the two above-mentioned conditions. To begin with, three examples of external relations are presented:

> (1) *Spatial contact*. If *x* lies spatially next to *y* and *x*∼*x*′, there need not be an object *z*, congruent to *y*, which lies next to *x*′. (2) *Temporal succession*. If the event *x* takes place before the event *y* and the event *x* is exactly similar to the event *x*′, there need not be an event *z*, congruent to *y*, such that *x*′ occurred before *z*. (3) *The relation between simultaneous experiences in a total consciousness*. If *x* and *y* are simultaneous experiences in a total consciousness and *x*∼*x*′, there need not be any experience *z*, congruent to *y*, such that *x*′ and *z* are simultaneous moments in a total consciousness.[1]

Connections and ideal relations form unities together with their relata. In the states of affairs "*x* is spatially next to *y*" and "*x* is larger than *y*" the unifiers are a connection and an ideal relation respectively. The terms 'connection' and 'ideal relation' are also used as denominations for their respective unities.

Whether an asymmetrical relation exists singly or in pair with a converse relation is an intricate problem. As it appears, asymmetrical relations come in pairs though. An obvious question is then: which one of the two is it that really exists? I suppose that Segelberg would find that question easy to reply to. His answer would be that there is only one since the two are the same.

If the asymmetrical relations do come in pairs, logical equivalence holds between atomic facts. Given that a relation holds, its converse also holds between the same relata, in the opposite order. Hochberg suggests that there is a good reason to think that asymmetrical relations come in pairs.

> To recognize converse pairs is to recognize that, given a relation *R*, one does not introduce a further relational predicate '*R**' by *definition*. Rather one holds that there is a unique relation that is the converse of *R*. There may be

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[1] Segelberg 1999/1945, pp. 41-2/32-3.

other relations with the same extension as the converse, $R*$. For neither properties nor relations are identified with their extensions. This means that one cannot take the converse to be *the* relation represented by a defined predicate, as in the familiar set theoretical approach: $yR*x =$df xRy. […] For this assumes that only one relation has the appropriate extension […]. The assumption is not viable, if the predicates represent relations, not classes.[1]

4.3.4 Elementary Connection

The fundamental ontological glue of Segelberg's ontology is the elementary connection. It is a close relative of that which Williams calls 'concurrence'. The essential difference between these relations is of course that Segelberg's connection is a universal.

The first appearance of elementary connection is in Segelberg 1945. It is also there we find the most transparent and complete determination of it.

> A […] kind of connection is found in a homogenously colored surface. The color and the extension are here connected in a totally different way than, for example, parts of space in contact. If we wish to characterize the relation between color and extension, it is natural to speak of a "fusion" of color and extension or to say that color and extension "permeate" each other or that the color "covers" the extension.
>
> We call this connection an *elementary-connection* or *e-connection*, since it should be evident that other kinds of connections are compound relations, in which the e-connection is a component, and since the e-connection itself does not have any other connection as a component.[2]

As it will turn out, the proposed definition of the elementary connection is made in terms of immediate union and being immediately

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[1] Hochberg 1999, p. 160.
[2] Segelberg 1999/1945, p. 54/45.

united. Instead of trying to account for these two notions, I let Segelberg present them himself.

> Assume that x and y are immediately united, that x lacks content[1] and that y has a solitary content z. It is easily seen that the immediate union between x and y can be of different kinds. If x is immediately united with z, x is, thereby, immediately united with y, but in a different way than if x is immediately united with y without the intermediation of z. We consequently have to distinguish between a *direct* and an *indirect* immediate union. In the above example, the following cases of an immediate union between x and y can be imagined: (1) x is directly united with y but not with z; (2) x is directly united with z but not with y; (3) x is directly united with both y and z. If one considers several contents of x and y, the number of alternatives of union quickly gets larger.[2]

The notion of solitary content seems to play an essential role here. The definition of it can be rendered: something is a solitary content of another entity if the latter does not have any content which is disparate from the former.[3] This, at first, gives the impression that a solitary content is simple, in some sense. This impression is reinforced by an example given in direct connection with the definition. It is found in the next quotation, which also contains the definition itself.

> By a simple unity we mean a unity which does not have several *disparate* contents. That a unity is simple does not

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[1] Presumably, x lacking content does not mean that it is empty. I take it that it is a simple entity and this in a strong sense. Perhaps we can assume that it is an atom, in the original sense of that word. Furthermore, although it is perhaps not explicitly said anywhere that only moments can be e-connected, this seems to be implied. The description of an e-connection as being a fusion of entities and that colour and extension are used as examples of e-connected entities are parts of the circumstantial evidence.

[2] Segelberg 1999/1945, pp. 56/46-7.

[3] Cf. Segelberg 1999/1945, p. 52/43.

exclude that it has many contents, so long as these are not disparate. A simple unity x can thus contain y, z and u, for example, y contains z and z contains u. Here, it is assumed that x does not contain a content that is disparate from y, z or u. If an object x contains an object y without having a content disparate from y, y is said to be a *solitary content* of x.[1]

There is another example of a solitary content: the general colour character, as it occurs in all colours. It is a solitary content of them, since it is impossible to find any content in a specific colour which is disparate from this general character.[2] There is a footnote made in connection with this example, in which Segelberg comments on what is called a 'simple quality'.

> The general concept of a "simple quality" does not cor-respond exactly to the concept of "simple unity", as a simple quality cannot contain another object. If, for example, red is a simple quality, red cannot contain the quality color. On the other hand, this does not pose any obstacle if red is a "simple unity". The concept of a simple quality seems to involve a collectionistic outlook as a psy-chological presupposition, that is to say, an outlook which does not allow for the possibility of solitary contents.[3]

This of course adds to the impression that an entity which has a solitary content is simple, in some sense, although it is not that of being absolutely simple.

In another paragraph there is more information, which is also new. It brings on a revision of the first impression of what having a solitary content amounts to.

> An especially important case of a solitary content is the t-collection [total collection] of a complex unity. If k is a t-collection of a complex unity a, k is a solitary content of a.

[1] Segelberg 1999/1945, p. 52/43.

[2] Segelberg 1999/1945, pp. 52-3/43.

[3] Segelberg 1999/1945, p. 124n/111n.

> If a collection k is a solitary content of a, k is a t-collection
> of a.[1]

The implication to simplicity is completely absent here. Instead, the
assertion is made that the t-collection of *any* complex unity is a
solitary content of it. Since there are complex unities of infinite com-
plexity with regard to disparate contents, it turns out that the first
example is misleading. The entity used as an example there just
happened to be a simple unity.

Do not fail to notice another implication of the statement made
in the last quotation: a t-collection of a complex unity is itself a
content of that complex unity. This piece of information is in-
dependent of how the notion of solitary content is defined. I am not
sure of whether the entity x, which plays a principal part in the
determination of the elementary connection, has a solitary content or
not. In the second quotation of the present section we were informed
that it lacks content. Perhaps it has a solitary content in a trivial sense;
i.e., it is its own solitary content.

A prerequisite to understanding Segelberg's definition of ele-
mentary connection is an understanding of what it means for some-
thing to be immediately united with something else. An objection
might be raised that an alleged distinction between direct and indirect
immediate union is mistaken, since entities are either immediately
united or they are not. Immediacy does not admit of any further gra-
dation on its own. However, Segelberg wants to distinguish between
what he calls 'direct immediate unity', on the one hand, and 'indirect
immediate unity', on the other. Furthermore, he defines the notion of
elementary connection in terms of direct immediate unity. The actual
definition is found in the fourth paragraph of what follows.

> In case[2] *1* there is a complex, which we call *a*, in case *2* the
> complex *b*, in case *3* the complex *c*. All these unities can be

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[1] Segelberg 1999/1945, p. 53/43.

[2] The three cases are those listed four quotations back — i.e., *Case 1*: x is
directly united with y but not with z; *Case 2*: x is directly united with z but not
with y; *Case 3*: x is directly united with both y and z; and in all these cases z is

represented, in our schematic symbolism, by '*xy*', since all have the collection *x*+*y* as a t-collection. But, obviously, they are not congruent.

In the complex *a*, *x* is directly immediately united with *y*. In *b*, *x* is indirectly immediately united with *y*, which implies that *x* is directly immediately united with a content of *y*, but not directly immediately united with *y* itself.

In the complex *c*, *x* is directly immediately united with both *y* and *z*. Hence, *c* contains both *a* and *b*. Consequently, one can distinguish, in *c*, a unity of *x* and *y* which does not contain a unity of *x* and *z*, while *y* contains *z*, and *x* is in fact immediately united with *z*. If one observes this, one can give a definition of the concept elementary unity: By an *elementary unity of x and y* is meant an immediate unity of *x* and *y*, which does not contain an immediate unity of *x* and some content of *y* or of a content of *x* and a content of *y*.

The complex *a* is thus an elementary unity of *x* and *y*; the complex *c* is not an elementary unity of *x* and *y*, but it *contains* such a unity; the complex *b*[1] neither is nor contains an elementary unity of *x* and *y*. If *x* and *y* form an elementary unity, *x* and *y* are *elementarily-connected*. In the complexes *a* and *c*, *x* and *y* are thus elementarily-connected.[2]

Thus, the definition of an elementary unity is:

Elementary unity of *x* and *y* =$_{Df.}$ An immediate unity of *x* and *y*,

> (i) which does not contain an immediate unity of *x* and some content of *y*,
>
> (ii) which does not contain an immediate unity of *y* and some content of *x*, or

a solitary content of *y*. Cf. Segelberg 1999/1945, p. 56/47.

[1] The original has '*c*'. This misprint is corrected in the translation.

[2] Segelberg 1999/1945, p. 56/47.

(iii) which does not contain a unity of a content of x and a content of y.

Since it is explicitly asserted that x and y are e-connected in c, the definition should not be interpreted in such a way that an elementary unity of x and y must not contain an immediate unity of either of them with a content of the other or an immediate unity between contents of each of them. It may in fact do either of those things, but it must *also* contain a direct immediate unity of x and y themselves. Without the latter, x and y are not e-connected with each other. Briefly summing up, being e-connected is being directly immediately united.

Note that the terminology used initially is slightly changed in the actual formulation of the definition of e-connectedness. Initially, the content z is referred to as being a *solitary* content of y. This is not the case in the definition at hand, where z is referred to as being a *content* of y.

Whether z is a solitary content, or just a content, of y seems to make a difference. Take the case where the solitary content of y is $z_1+z_2+z_3$; i.e., $z_1+z_2+z_3$ is a t-collection of y. Now, to start with, what does it mean to say that x is directly, immediately united with this solitary content of y? Does it mean that x is directly, immediately united with each one of its three elements? Or, will it do if it is directly, immediately united with just one of them? If the latter is sufficient, then it seems as if the direct immediate unity is with a *content* of y, and not a *solitary content* of it. If instead the former is necessary, it is somewhat difficult to grasp how that differs from being directly immediately united with y itself. If there is a difference, how is it possible for x to be directly immediately united with y without being directly immediately united with at least one of its contents? Evidently, the last question touches on the essential one regarding the relations between part and whole and *vice versa*.

I take it that irrespective of how the questions of the previous paragraph are answered, it is important to note that xy can exist

without x and y being e-connected with each other. In the complex unity b[1] they are not so connected. Instead, x is e-connected with a content of y; that is sufficient for x and y to form xy. If e-connectedness between x and y were a prerequisite for the symbolisation 'xy', the latter could not be used in the case of b.

4.3.5 Elementary Ideal Relation

The elementary connection is an external (or real) relation. In this section I discuss the notion of elementary ideal relation. When introduced in Segelberg 1945, both congruence and incongruence are described as elementary concepts.[2] Later in the same work, when relations in general are discussed, it is stated:

> The phenomenological unity, which exists when a pair of objects stand in a relation to one another, we call a *relational unity*. A relational unity is either *elementary* or *compound*. To say that xRy is a compound relational unity means that it can be analyzed into $xR'z$ & $zR''y$ or $xR'z$ ∨ $zR''y$. It is to be noted that the concepts *elementary* and *compound* do not correspond to the concepts simple and complex, introduced earlier. Every relational unity, even an elementary one, is a complex unity. The relational unity "x is a paternal aunt of y" can serve as an example of a compound relational unity. It implies that there is an object z, such that x is a sister of z and z is the father of y. The unities "x is a sister of z" and "z is the father of y" are, in turn, compound unities. There is reason to believe, even if it cannot be logically proven, that every compound relational unity can be analyzed into a number of elementary relational unities. So, if xRy is a compound unity, R is said to be a *compound relation*; if xRy is elementary, R is said to be an *elementary relation*.[3]

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[1] I am referring to the entity b appearing in the last quotation.

[2] Cf. Segelberg 1999/1945, p. 38/29.

[3] Segelberg 1999/1945, p. 53/44.

Immediately after this quotation the relational unity "*x* is incongruent to *y*" is described as being an elementary relational unity. We are also informed that incongruence is in itself an elementary relation. After the proclamation of its being elementary, argumentation follows which is intended show that congruence cannot be elementary. According to the argument, incongruence must hold between at least two entities. It does not form a unity together with just one entity of a pair. Without any of the entities of the pair, there will be no incongruence unity. Thus, nothing can have an elementary relation to itself. If it could, the elementary relation would need to be reflexive. Since incongruence is elementary and irreflexive, there cannot be any (other) elementary relation which is reflexive. Each reflexive relation is therefore compound. Congruence is reflexive. Therefore, it is compound.

It might come as a surprise that the compound relation of this pair is congruence and not incongruence. The reason it is not the other way round is because congruence is the negative one. No doubt, this also comes as a surprise. Segelberg gives a sort of argument for all this in connection with the introduction of the two.

> *The concept* "incongruence" is the negation of congruence. It is then noteworthy that congruence, ontologically considered, is the absence of incongruence. Incongruence is the positive, congruence the negative.[1] You can convince yourself of this by the following consideration: The negative is not observable in the same sense in which the

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[1] Evidently, a distinction between the *concept* of incongruence, on the one hand, and the *concept* of congruence, on the other, is presupposed here. Judging from what is stated in the first, second and third sentences the concept of incongruence is the negation of that of congruence. However, ontologically it is the other way round: congruence is the negation of incongruence. This means then that in the second and third sentences 'congruence' and 'incongruence' do not refer to concepts. I take it that they refer to the two (universal) relations. Furthermore, in the translation 'concept' is inserted after 'negative'; it is not there in the Swedish original. Since it annuls the presupposed distinction between concept and universal relation, I have removed it.

positive is: If we wish to determine, for example, whether an object is white or not-white, we look for the property "white"; we consider the object to be "not-white" if we do not find the property white. We do not look for the property "non-whiteness" and explain the object's being "white" in terms of our not coming across the negative property. Consequently, when we want to decide if an object has a certain negative property, we seek the corresponding positive property, and ascribe the negative property to the object if we do not come across the positive property. How do we then proceed when we want to decide whether x and y are congruent or incongruent? Obviously we look for incongruence (difference) and regard x and y as congruent, if we do not find any incongruence (difference). Incongruence is apparently the positive, and congruence the negative. That the negative[1] congruence has acquired a positive linguistic expression is explained by the fact that congruence is a more unusual and more significant phenomenon than incongruence.[2]

One might go batty when learning that incongruence is positive and congruence negative. Note though that incongruence still means difference; difference still appears to be negative. Its being ontologically positive does not change that. The argument for its being positive is that we look for it when it is to be decided whether two entities are congruent or incongruent. The argument for this, in turn, is that we look for a positive property, not a negative one, when it is to be decided whether an entity has a property or not. This has the appearance of being an epistemological argument rather than an ontological one. If that is indeed the case, has it any bearing on ontology? I think not.

However that may be, the statement quoted in section 4.3.2,[3] that both congruence and incongruence are elementary relations is

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[1] The translators have inserted 'concept' after 'negative'. I have removed it, for the same reason as a moment ago.

[2] Segelberg 1999/1945, pp. 39-40/30-1.

[3] I am referring to the following statement.

revised then. According to the latest news, only incongruence is ele-
mentary.

4.3.6 Objects of Different Orders

Segelberg distinguishes between different orders of objects. While
individuals are of the lowest (first) order, universals occupy a higher
order. Each object of the lowest order is located in space and time.
The higher order ones have no such location. Anything containing a
universal — i.e., a relation — is a higher order object. Thus, together
with relations,[1] states of affairs and relational properties are higher
order objects. This is illustrated by what he asserts regarding the
distinction between a rectangle and a state of affairs.

> Compare a rectangle H, consisting of the squares a and b,
> to the following state of affairs (S): the square a lies beside
> b. Both H and S are complexes containing a and b. What
> basically distinguishes H from S is that S contains, in
> addition to a and b, a relation. It appears likely that every
> complex unity (i.e. every complex that is not simply a
> collection) which contains a relation is either a *state of affairs*
> or a *relational property*. Objects of the lowest order never
> contain relations. In an object of the lowest order which is
> a complex, a relation obtains among its components, but
> *the relation is not a component of the object*. If x is the complex
> yz and if the relation R obtains between y and z, then R is

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> The concept *congruence* and its contradictory *incongruence* are ele-
> mentary concepts, which cannot be defined by analysis. Their
> meaning can only be made clear by examples. (Segelberg
> 1999/1945, p. 38/29)

If I am right earlier in this section, that a distinction is made between the
concepts of congruence and incongruence, on the one hand, and the *universal
relations* of congruence and incongruence, on the other, then the assumption
should be that the sense in which 'concept' and 'concepts' is used here is the
general one, which includes also universal relations. Due to the elusiveness of
Segelberg's use of 'concept', occurrences of the term are easily misinter-
preted. I am sorry to say that the same applies to my own use of 'notion'.

[1] Cf. Segelberg 1999/1947, p. 166/48.

not a component of *x*; but *R* is a component of the state
of affairs *yRz*, which is an object of the second order.[1]

Part of the message here obviously is that the rectangle *H* would not
exist if certain relations did not hold between the two squares *a* and *b*.
Both these squares are contents of *H*. Although the relation *R*, which
is one of the relations holding between *a* and *b*, is essential for their
forming *H*, it is supposed not to be a content of *H*. This is somewhat
obscured by the first half of the penultimate sentence: "In an object
of the lowest order which is a complex, a relation obtains among its
components […]." The use of 'in' here suggests that the relation in
fact is a content of the object. The relation holding among the com-
ponents of *H* is a state of affairs; as such, the latter is a higher order
entity. Therefore, neither *R* nor *aRb* is a component of the first order
object *H*.

Incidentally, since the two squares *a* and *b* are first order objects
themselves, neither of them contains any relation. However, as in the
case with the rectangle *H*, there are relations that hold between the
constituents of each square. These relations are constitutive of their
states of affairs. They are also necessary for there being a square *a* as
well as a square *b*.

The stated reason for not allowing relations among the contents
of first order entities is that if they were, it would result in a vicious
regress. The regress is an old acquaintance.

> If one supposes that *H* contains those relations that obtain
> between *a* and *b*, one falls victim to Bradley's infinite
> regress. Bradley is right in that there is a relation *R*
> between *a* and *b*, and there is a relation *R′* between *a* and
> *R*, and so on. However, these relations are not compo-
> nents of *H*, but of complexes of higher order.[2]

If the regress would ensue given that a relation were a component of
the rectangle *and* this is supposed to constitute a conclusive reason
against its being a content of the latter, why is this not equally so for

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[1] Segelberg 1999/1947, pp. 165-6/47-8.
[2] Segelberg 1999/1947, pp. 221/127-8.

higher order objects? It is not obvious what Segelberg's answer is. Herbert Hochberg suggests that the regress is considered to be harmless when occurring in states of affairs.

> Segelberg's solution, accepting an infinite chain of facts as non-problematic, since the elements of the chain are merely deductive consequences of the original fact, as in the case of the series of sentences (i) '*p*', "'*p*' is true', "''*p* is true' is true', etc. […].[1]

If the regress is to be harmless, it must be of the implicative sort; though I do not know for certain whether Segelberg believes that. Regrettably, Hochberg does not give any hint of what text to consult for corroboration. Anyhow, he does not agree with what he takes to be Segelberg's view on the alleged regress.

> When Segelberg takes an infinite series of states of affairs, beginning with *aRb*, to be unproblematic, he ignores two problems. First, a theory that allows such a generation of entities is *prima facie* implausible, though not paradoxical. Second, such a theory fails to provide, at any point in the series, the ontological analysis of the original fact. Hence, it fails to specify a sufficient truth ground for the initial atomic sentence. A viable theory will neither recognize such an infinite series of facts nor fail to specify the truth grounds for atomic sentences. In short, a viable theory cannot permit such infinite Bradley-type series.[2]

From what is said with regard to the second problem, it is evident that Hochberg considers the regress to be an analytical one.[3]

If one considers an analytic regress to be running amok whenever a state of affairs is supposed to exist, one must accept that the

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[1] Hochberg 1999, p. 166. The step from '*p*' to "'*p*' is true' has as a prerequisite that *p* obtains. The original fact is *p*. If it does not obtain, the regress does not come off.

[2] Hochberg 1999, pp. 165-6.

[3] I am a bit puzzled by what he says with regard to the first problem. If the regress is of the analytic sort, why is Segelberg's assumption not paradoxical?

analysis of what the original state of affairs consists in never comes to an end. For some reason, Segelberg thinks that the regress is unproblematic with regard to higher order entities. The strategy he uses for avoiding it in connection with the first order objects (where he thinks it is problematic) is to deny that they are contents of such objects. As long as they can be among the contents of higher order objects, he thinks he has got everything he needs. The higher order objects take care of the laundering of (some of)[1] the first order objects, so to speak.

Besides the word 'order' Segelberg also uses 'degree', though not for the same purpose.

> One can order states of affairs in a hierarchy in the following way. Lowest are those facts which are *not* facts about facts, for example, violets bloom in April. We will call such facts, facts of the first degree. One step higher are facts about first-degree facts, for example, $[(a>b)$ & $(b>c)]$ has as a consequence $(a>c)$. If we go one step higher, we find facts about second-degree facts, and so on.[2]

The term 'degree' is only used in connection with states of affairs. It should be fairly easy then not to confuse the notions of first-order and first-degree entities.

Regrettably, 'order' is also used in a way which is somewhat problematic. We find it being used in this way in the following statement.

> Relations and other objects of higher order are not universals in the same sense as, for example, the concept[3] "man" is universal. While universal objects of the first order are logical constructions, this is not true of (universal) objects of higher order. To universal objects of the first order,

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[1] This insertion is made bearing in mind that there might be simple entities completely lacking any internal structure. These entities would be true atoms.

[2] Segelberg 1999/1947, p. 165/47.

[3] The implication here seems to be that a concept is not a higher order entity. My guess is that it is a logical construction — most likely, a similarity class.

> there correspond one or several instances. There are no
> instances corresponding to objects of higher order. The
> relation which obtains from a relational property to the
> object which has the relational property is a relation that is
> totally different from that which obtains from a universal
> object of the first order to an instance corresponding to
> that universal. The use in English of the same expression
> — 'instance of' — for the two relations — that from an
> object to its relational properties and that from an instance
> to a universal object of the first order[1] — causes a great
> deal of confusion.[2]

The phrase 'universal object of the first order' is a bewildering com-
pound. It even looks like a contradiction in terms. Though it is hardly
a successful formulation, it need not be contradictory. As it occurs
above it is a harbinger of Segelberg's doctrine on qualities. A more
transparent phrase to use when referring to what is called 'universal'
here would be 'surrogate for universal' where "universal" is a class of
moments. Such a class is considered to be a first-order object.

A number of ordinary objects can be thought of as combining
to make up a complex entity; an example of this would be four books
which constitute a pile of books and can be viewed as constituting a
collection. In a collection, the ordering of the elements has no
relevance. However, if the books are thought of as constituting a
complex unity instead, the ordering of them, their relative positions,
are essential.

> When one says that these perspectives are different ways
> of looking at the *same* objects, one has, however, expressed
> oneself inadequately. The pile of books abstracted from
> the ordering is a different object than the pile of books *in-
> cluding* the ordering. The collection of books is an abstract

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[1] The word used in the translation is 'level'. I have changed it to 'order'
though. My justification is that the word used by Segelberg here is the same
as that which has been translated into 'order' earlier. The translators also use
'level', instead of 'order, in the summary of Segelberg 1947. This is equally
unmotivated. Cf. Segelberg 1999/1947, p. 228/137.

[2] Segelberg 1999/1947, pp. 166/48-9.

> component in the complex unity, which constitutes the concrete[1] pile of books. One can say that the collection of books provides the "building blocks" for the concrete pile of books. One can easily see that the same pile[2] of books can form several different *concrete* piles of books. If the books are *a*, *b*, *c*, and *d* one can form pile *abcd*, in which, *a* is on the top and *d* is on the bottom, the pile *bacd*, and so on. Therefore, we must distinguish between, on the one hand, the collection *a+b+c+d* and, on the other hand, different wholes, for which this collection furnishes the building blocks, e.g. *abcd*, *dcba*, and so on.[3]

In order for the books to form a complex unity together, none of them needs to be e-connected with another. I am quite certain that a book cannot be e-connected to another book; only moments have the capacity to be connected with each other in that way.

What is the pile of books including the ordering? Is it a first order object? According to the official doctrine, it cannot be since ordering is a relational matter. It seems natural though to think of a complex unity, of whatever order, as an entity with a qualitative content as well as a relational content. Its relations connect the disparate non-relational contents in an internal structure. As one might expect, Segelberg rejects this.

> One tends to picture a connecting relation as a content in the complex unity disparate from the connected objects. If *x* and *y* are connected into the complex unity *xy*, one then thinks one can, in *xy*, distinguish a relation *R*, disparate from *x* and *y*, which connects *x* and *y* into the unity. It is obvious that a union of two objects, *x* and *y*, often contains moments which are disparate from *x* and *y*. But, it is a mistake to think that *every* union of *x* and *y* must contain objects disparate from *x* and *y*. Such an idea is dependent on a collectionist outlook: As the collection *x+y* and a

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[1] I think we can assume that neither 'abstract' nor 'concrete' is used here in a technical sense.

[2] It would be better to use 'collection' here.

[3] Segelberg 1999/1947, pp. 185-6/75.

unity xy both contain x and y, but are not congruent, from a collectionist point of view one of $x+y$ and xy must contain a moment which the other lacks. Since the collection $x+y$, by definition, does not have a content disparate from x and y, the "differentiating" content must belong to xy, and since some such content cannot be observed in xy, an unobservable relation-moment[1] between x and y is simulated. Collectionism seeks to understand every union of x and y as a collection of x, y and certain "ties", relations, which unite x and y into a unity. The notion, however, is absurd. A collection of x, y and one or more relations z can never be the same as a unity xy. For, the collection $x+y+z$ exists whether x, y and z are "dispersed" or form a unity; but, the unity xy does not exist if x, y and z are "dispersed".[2]

It is evident that a complex unity is not a collection, or *vice versa*. From that alone it does not follow though that a complex unity completely lacks relational content. Relations are obviously essential for there being any complex unities at all. This is once again confirmed by Segelberg himself when he says that a complex unity xy does not exist if its components, x and y, are "dispersed". I quote yet another passage to underline my point, which will be presented more explicitly after its content has been digested.

Even though the rectangle xyz[3] is not […] congruent to the collection $x+y+z$, one must not jump to the

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[1] Hochberg takes occurrences of 'moment' such as this one, and a few others, to indicate that Segelberg is contemplating individual instances of relations. Cf. e.g. Hochberg 1999, p. 45. With the possible exception of one occurrence of it, 'moment' is not used in that book in the sense given to it later. 'Moment' is not a technical term in Segelberg 1945. Its sense in the three occurrences of it in the quotation above is more like that of 'element' or 'constituent'. The exception is one place where *exemplars* of a relation R seem to be contemplated. Cf. Segelberg 1999/1945, p. 53/44.

[2] Segelberg 1999/1945, pp. 55/45-6.

[3] The rectangle in question consists of the three squares x, y and z, suitably arranged.

conclusion that the rectangle xyz is not a collection. If an object k contains the mutually disparate objects x, y and z, without being congruent to the collection $x+y+z$, there are, then, two possibilities: (*a*) There is an object u, such that k is congruent with the collection $x+y+z+u$. — (*b*) There is not an object u, such that k is congruent with the collection $x+y+z+u$. Only in the latter case is k a unity.

Does k contain an object u, disparate from x, y and z, and such that k is congruent to the collection $x+y+z+u$? One can think of two possibilities here. (*a*) One often assumes that in a spatial whole we can distinguish, along with the parts, separate "contact relations". One can then imagine that u consists of such contact relations. This suggestion can immediately be rejected on the following grounds: o can contain x, y, z and contact relations without having x in contact with y and y in contact with z. (*b*) The rectangle k contains, besides x, y and z, a total extension, t, in the shape of a rectangle. Is xyz congruent to the collection $x+y+z+t$? — No, because an object o can contain the objects x, y and z, as well as t, without o containing elements combined into the rectangle xyz. The rectangle xyz is therefore a different object from the collection $x+y+z+t$.

The reasoning can be generalized. If the rectangle xyz contains x, y, z and an arbitrary object u, disparate from these, one can always imagine a collection $x+y+z+u$, incongruent to xyz, in which x, y, z, and u do not form a rectangle. As the collection $x+y+z+u$ exists, whether x, y, z and u are "spread out" or form a rectangle xyz, the rectangle cannot be congruent with any collection. The rectangle xyz is thus a unity.[1]

Evidently, as the two notions are defined, there is no way a collection and a complex unity can be congruous with each other. My impression is that Segelberg takes the fact that no collection equals a complex unity as a pretext for there not being any relational content in a complex unity. But, of what relevance is the fact that collections

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[1] Segelberg 1999/1945, pp. 49-50/40-1.

fail to be congruent with complex unities as regards the issue of there being relations among the contents of the latter? The obvious answer is: very little, if any at all. The strange thing that seems to happen here is the following: one constituent of the complex unity is rejected because the complex unity is considered not to be a collection, i.e., a mere sum, of its constituents. To reject the non-relational constituents of the complex unity for the same reason would of course be even more striking.

It seems obvious that the relevant difference between a complex unity and a collection of its qualitative contents is the result of one or more relations, which give the complex unity whatever structures it has. In fact, Segelberg does not really deny that. His stratagem is to submit the connecting, which is performed by relations, to states of affairs that accompany the first-order complex unities. Instead of letting relations, being among the contents of a first-order complex, connect its other constituents, he supplies the complex unity with servants, i.e., states of affairs, which take care of that for it.

My conclusion is that the threat of Bradley's regress gives Segelberg reason for postulating that first order objects do not have any relational contents. If relations are allowed to act in accordance with their nature, which is to relate, then it is of little relevance that a first order complex unity is not congruent with any collection, not even a t-collection of its contents. Note that if the analysis of a complex entity, having one or several relations as constituents, is carried out in terms of collections of its constituents, the lack of congruence between the entity and a collection of its constituents is bound to be taken as a pretext for the conclusion that relations are not constituents of the complex in question. The analyses of complex unities presented by Bradley himself are ample cases in point of this. In spite of his assumption that "relations are nothing if not conjunctive,"[1] he ends up with that a relational complex can be analysed without remainder as the class of its constituents, including its structuring relations, although the relations are no longer conjunctive.[2]

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[1] Cf. Bradley 1970, p. 642.

[2] 'Conjunctive' is another word for 'relating'.

And since they are not conjunctive in the *analysans*, they cannot be so in the *analysandum* either. Thus, yet another relation is supposed to be needed to perform the relating. As can be expected, it must share the fate of the first relation. At this point, the regress is rolling along nicely.

4.4 Qualities and Quality-Moments

4.4.1 Overview

In the two final sections of this chapter, sections 4.4.2 and 4.4.3, the qualitative side of Segelberg's ontology is presented and discussed. It is here that his nominalistic persuasions are primarily manifested.

4.4.2 Three Postulates for a Theory of Qualities

In Segelberg 1953 three assumptions are made with regard to moments and what are called 'qualities'.

1. Every quality Q corresponds to one or more quality-moments q', q'', q''', etc.
2. A quality Q is identical to the class of quality-moments which Q corresponds to.
3. An individual object (of the first order)[1] is either a quality-moment or a complex of quality-moments.[2]

Nothing is said explicitly in either of these postulates regarding similarity. Just before the presentation of the postulates a supplementing assumptions are made though.

> A quality is naturally something other than a corresponding quality-moment. We must, therefore, distinguish the

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[1] All individual objects are of the first order. Cf. Segelberg 1999/1947, p. 165/47. In the translation the word 'level' is used, instead of 'order'. Since the Swedish word, which is in line with the terminology introduced earlier, is that of 'order', I have changed 'level' into 'order'.

[2] Segelberg 1999/1953, p. 241/7.

following two relations, both of which hold, when two
objects x and y have the same quality Q.

　　1) x has a relation R to a quality-moment q' and y has a
relation R to a quality-moment q'', and q' and q'' are
exactly alike. (The relation R is here a *content relation*.)

　　2) The object x stands in a relation T to the quality Q; y
also stands in the relation T to Q. This relation is
expressed by the word 'has' ('have') in the sentences 'x has
the quality Q', 'y has the quality Q', 'x and y have the same
quality'.

　　The relation T is a relative product of two relations: the
first is the above mentioned R. The second we call 'S'. It is
a relation which holds from the quality-moments q' and q''
to the quality Q, and which we can express by the sentence
'q' and q'' are cases of Q'.[1]

Thus, an analysis of two objects x and y both having the quality Q,
i.e., $Q(x)$ and $Q(y)$, is performed:[2]

(1) xTQ and yTQ; where $T = R/S$, i.e., (xRq' & $q'SQ$) and
　　(yRq'' & $q''SQ$)
(2) $Q = \text{Sim}\{q', q'', \dots\}$
(3) xRq' and yRq''

R is a specific content relation. S is the relation expressed by the
phrase 'is a case of', holding from a moment to a quality, the latter
being a similarity class. It is not completely clear whether that means
that S is a specific content relation, having the element relation as a
constitutive part, nor is it evident exactly how the correspondence
relation holding between a quality and its cases is to be interpreted.
Perhaps correspondence and being a case of are converses of each
other.

　　Qualities are identified with classes of moments. In the second
quotation we see that the elements of such a class are thought of as
being exactly similar to each other. Later, Segelberg says that they

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[1] Segelberg 1999/1953, p. 240/7.

[2] The order in which I summarise (some of) the content of the postulates and
the addendum is random.

might instead be just rather similar to each other,[1] though he does not expand on that particular subject. But, judging from what he says concerning, e.g., swans, it is evident that the similarity between them is not exact similarity; they are thought of as forming similarity classes in a way which is not different in principle from the way in which moments do.

Evidently, an important issue is the role of (exact) similarity. What relevance does it have as far as the qualitative contents of its relata are concerned? In the following quotation nothing is said with regard to that specific issue. Though, he does say something regarding the need for universals:[2]

> What is it which "unifies" the different instances a_1, a_2,… of A into the group a? Naturally, it is the similarity between a_1, a_2,…, but what does it mean to claim that they are similar, if not that they have a property in common? And the common property in question must be precisely A. Husserl makes the claim that for this reason it is necessary to postulate the universal A. As far as we can see, this is not correct. One must here distinguish between two kinds of similarity: *I*) exact similarity, or as we would rather say, congruence; *II*) relative similarity, which obtains between different objects that have some quality *in common*. When we say that a universal object A occurs in several instances; a_1, a_2,…, which form the set a, we consequently must distinguish two cases: 1) a_1, a_2,… are exactly similar; they form a *congruence-group*; 2) a_1, a_2,… are only relatively similar. Only in the latter case does similarity imply that a_1, a_2,… have a common property. Suppose that they have a property P in common; P then occurs, according to Stout's position, in several instances p_1, p_2,…, and these are all congruent with each other. That which "unifies" the individual instances x_1, x_2,…, if these are distinct instances

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[1] Cf. Segelberg 1999/1953, p. 244/13.

[2] The context of this quotation is a discussion of Stout's arguments for the existence of quality-instances. I think it is clear though that Segelberg is expressing his own view.

of the same object, is, consequently, either a congruence
relation between x_1, x_2, etc. or a congruence relation
between a quality of x_1 and a quality of each of the remain-
ing objects in the group x. There is no need to postulate a
universal here.[1]

The message of what is stated here regarding the need for universals
is a bit puzzling. The first impression is that they are needed in cases
of relative similarity but not in cases of congruence. It would be a
mistake to think that relative similarity requires relata to have uni-
versal content while congruence does not. An argument similar to
that used in connection with the intellectual experiment with spheres
as the only inhabitants of the universe can be used here as well. It
might run as follows. Assume that there are two entities which are
(qualitatively) dissimilar to each other. Assume also that one of them
is changing to become exactly similar to the other. Now, why is there
a need for a shared universal content when the two are dissimilar to
each other, all the way from almost no similarity to almost exact simi-
larity, but none when they are exactly similar? Of course, Segelberg is
not maintaining anything like that; he formulates himself in a mis-
leading way. The final point made in the quotation may be interpreted
as rejecting the notion that there is a need for universals even in cases
of relative similarity. However, this stresses the need for getting a
clear idea of whether the exact similarity has a founding role as
regards the qualitative content of its relata.

It is very clear that Segelberg's relation of exact similarity is not
pseudo-additional; he shows no tendency to deny its existence. But
what role does it perform? According to Hochberg, it performs two
roles:

> The realist's exemplification connection only serves to
> connect particulars to universals to form states of affairs
> that are the truth makers for atomic sentences: it connects

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[1] Segelberg 1999/1947, pp. 152/28-9. Note the oscillation here between
using the term 'group' and that of 'set'. Although group and set are dis-
tinguished between in other places, not so here. Furthermore, I suspect that
'set' and 'class' are synonyms when used as technical terms.

elements into complexes. The instance nominalist's pur-
ported connection is not just such a connection. For it not
only [1] connects exactly similar quality instances into
necessary similarity facts, but, by so doing, it is involved in
[2] connecting a qualitative content to an object. The
realist's connection may or may not obtain, given the exist-
ence of the elements — the particular and the quality —
that are constituents of it. The nominalist's similarity fact
necessarily obtains, given the elements that enter into it.
Thus, the similarity connection may be said to be an
"internal," as opposed to an external connection of exem-
plification, and, hence, while it is a "universal" it is quite
unlike the exemplification connection.[1]

The argument put forward here is formulated so subtly that it is easily
misunderstood, or missed. However, two roles are allegedly per-
formed by exact similarity:

(1)   Connecting exactly similar quality instances into necessary
      similarity facts; e.g., $\square(m_1 \sim m_2)$.

(2)   Connecting qualitative content to quality instances.

In my formulation of the second role I do not use Hochberg's phrase
'connecting a qualitative content to an object'. Since the first role is
explicitly said to concern quality instances, the same presumably
holds for the second role as well. It is therefore potentially misleading
to use 'object' instead of 'quality instance' — or, 'moment'.

The second role is what primarily interests us here. Does Segel-
berg consider his universal relation of congruence to perform that
role? The answer is: no. He might be wrong though. In fact, it could
be that he is forced to recognise something in line with what Hoch-
berg suggests. I would say that he attempts to avoid the question by
not ever asking it. He presupposes that there are individual moments
and that they resemble each other in various ways due to their indi-
vidual natures. Similarity is considered to be a uniform phenomenon.

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[1] Hochberg 1999, p. 46. As far as I can see, Hochberg is repeating an argu-
ment which is also stated in Hochberg 1988.

Although there are various degrees of similarity, strictly speaking there is just one similarity relation. That relation is exact similarity. All the others are accounted for in terms of that.[1]

4.4.3 Quality Relations

Segelberg takes into account several quality relations that belong to the content relations. The latter are relations having what he calls 'the simple content relation' as part. Schematically a content relation between two relata x and y can be written 'yIx & F'. The first conjunct expresses the simple content relation; the second represents a state of affairs about the relata.

Before anything else is said about quality relations, Segelberg thinks that something should be said about the concept of quality (i.e., moment).[2] The message of the following quotation is interesting in more ways than one.

> In order to be characterized as a quality, an object must be simple. [...] [Although] there is nothing to prevent a quality containing a multitude of mutually incongruent moments, if only these are not disparate. A certain shade of purple-red, for example, contains certainly the general determinable red and indefinitely many other determinables in the series — color : red : purple-red. But, a less general determinable in this series contains each and every of the more general determinables, hence the purple-red shade is not a complex in which the different determinables are components. In regard to a quality, one cannot just distinguish over and under-determined contents, as it can also have contents that are, so to speak, laterally ordered. In the case of the purple-red shade, one not only distinguishes a strain of red, but also, with that, a strain of

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[1] It has been seen earlier that the same should hold for Williams. It turns out that he is flirting with different sorts of similarity relations though, of which neither is reducible to any other.

[2] The terminology using 'moment' as the preferred term instead of 'quality' or 'quality instance' had not been settled when this was published. That happens in Segelberg 1953. The quotation above is from Segelberg 1947.

the laterally ordered determinable violet. But neither the red nor the violet strains are disparate components or the purple-red quality, as both have the general color determinable in common.[1]

We learn here that qualities (i.e., moments) are simples; though that does not mean that they necessarily have just one component. A relatively low determinate of the determinable colour has every higher determinable as content. Although Segelberg perhaps does not explicitly say so anywhere, I presume that wherever a colour determinable is present all of its lower determinates are also present. Thus, we cannot expect to find a thing which is coloured but not coloured in any determinate way. What is referred to above using the term 'purple-red' might be such a determinate. But, if it is not a lowest determinate, it cannot occur without being the content of something which is a lowest determinate. That is the message of approximately the first half of the quotation. The message of the second half is that a colour (moment) can have contents which are laterally ordered. Purple-red is said to be an example of that. It does not only have the content of the red-series; there is also a strain in it from a laterally ordered colour-series: violet. All these various contents do not make the quality (moment) a complex entity. It is simple since none of its contents are disparate from every other.

Segelberg distinguishes between three different quality relations. As a prelude to the presentation of these, he asserts:

> That an object *o* *contains* a quality *q* is not the same as *o* *having* the quality *q*. If, for example, *o* has a yellow part, *o* contains the quality yellow, but *o* does not *have* this quality; *o* is not yellow. In order for *o* to have the quality, something more is required than that *o* contains the quality. What is this 'more'?[2]

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[1] Segelberg 1999/1947, pp.218/123-4.
[2] Segelberg 1999/1947, p. 219/124.

The first quality relation

So what is the first quality relation? It is that which holds between one quality (moment) and another when the first contains the latter. The example given is a purple-red shade q which is red. Differently put, the former has the quality red.

Earlier it was said that 'x has the quality Q' expresses a relative product, which in this particular case would be: qRm & mSQ. Here m is a moment of redness. The relation S probably is the element-relation, which in this context holds from moments to a class, which in turn form the congruence class Q. Finally, R is a content relation. I suspect that Segelberg's characterisation of it is simply that it is, or involves, the simple content relation holding between two moments.

The second quality relation

> Example: 'The surface y is red'. The surface y is a certain complex, in which one can distinguish extension (u) of a certain degree, a certain form (f) and a certain color (r). The collection $u+f+r$ constitutes a total collection of the surface. This contains, furthermore, a partial unity with the total collection $u+r$ as a total collection, but no partial unity with $f+r$ as a total collection. One can say that the extension quality forms a certain "center" of this complex. That a unity x is a *center* in a complex E then means that the following conditions obtain:
>
> (1) E has a total collection $x+y+z+...$ (2) Each and every one of the elements in E's total collection (except) x) constitutes, together with x, a total collection of a partial unity of E. Expressed differently, x forms a dyadic ele-mentary-complex together with each and every one of the remaining members of the total collection.[1]

Judging from what is stipulated in the second paragraph, there should be a partial unity with the t-collection $u+f$. I suspect that it has been left out by mistake. Without that partial unity, u will not form a dyadic elementary-complex with each and every one of the remaining

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[1] Segelberg 1999/1947, pp. 219/124-5.

members of the t-collection of the entire surface. Note that Segelberg is in effect saying that f and r are not e-connected with each other. That is implied by there being no partial unity having $f+r$ as t-collection.

Why is the extension moment the centre of the complex, i.e., the surface? Why is the form moment, or the colour moment, not the centre? Why is there a centre at all? I presume that it is not an *ad hoc* stipulation that the extension moment is the centre. A special significance is ascribed to extension, but it is not explained why. There is room for speculation here.

Anyhow, a moment q having the second quality relation to a complex H means:

1. H contains q.
2. H has a centre c.
3. q is either the center of H or q forms together with H's center a total collection of a partial unity in H.[1]

Since each moment of the complex forms a partial unity with its centre, each and every one of the moments also stands in the second quality relation to the complex itself.

The third quality relation

> Example: 'The tonal series H has the melody quality g'. One has to distinguish between (1) the tonal series including the gestalt-quality; we call this complex H. (2) the tonal series minus the gestalt-quality; we call this complex H'.[2]

If a moment g has the third quality relation to a complex H, it means:

1. H has a total collection $g+H'$.
2. g is directly connected with H'.[3]

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[1] Segelberg 1999/1947, p. 219/125.
[2] Segelberg 1999/1947, pp. 219-20/125.
[3] Segelberg 1999/1947, p. 220/126. It would be better to use 'united' here,

What this means *en clair* is that *g* and *H′* are e-connected. This should not be confused with the fact that the second quality relation holds. In that case, *g* would be the centre of the complex; as it is now, there is no partial unity in the complex which has *g*+*H′* as t-collection.

The third quality relation brings up the issue of how a moment can be e-connected to a complex without being so connected with any of its constituting entities singly. In the particular case at hand it is perhaps intuitively attractive that the moment *g* should be e-connected with the rest of the complex, without being connected with any of its parts, since *g* is a melody quality. Then, it is convenient to assume that the complete tonal series must be e-connected with this particular *g*. Imagine though that the tonal series is interrupted halfway. Can *g* be e-connected with what is just a segment of the complete tonal series?[1] This question will be dealt with after an excursus regarding the internality of quality relations.

The quality relations are internal relations if they hold between individual entities. This follows from the definition of internal relation presented earlier. If quality moments are recognised, the quality relations are unilaterally internal, according to Segelberg. Using a bit of formalism which he uses in part himself, this means that a quality relation satisfies the following condition:

(I) $(xRy \rightarrow x'Ry'') \vee (xRy \rightarrow y'R*x'')$.[2]

The first disjunct is deciphered: If *x* has *R* to *y*, then *R* obtains from every object congruent to *x* to at least one object congruent with *y*. The second disjunct is deciphered: If *x* has *R* to *y*, then the converse of *R* obtains from every object congruent to *y* to at least one object congruent with *x*.

Now, assume that the third quality relation is unilaterally internal. Can a melody quality *g* be e-connected to a segment of the tonal

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instead of 'connected'.

[1] I am simplifying the description of the situation. Evidently, neither the moment *g*, nor the tonal series *H′*, can be recycled and appear in other complexes similar to *H*.

[2] Note that '′' and '″' are heavily loaded with information.

series H' given the other premises of the definition? What Segelberg says in this context does not settle this. However, in another place he asserts:

> [A]ctually, we often experience melodies — for example, when we remember a piece of music — without evidently experiencing any sound qualities. This kind of apprehension can be characterized as an experience of a "free-standing" gestalt-quality. In the same way, one can remember a facial expression without visually experiencing the spatial and color qualities which constitute the sense data corresponding to the face. On the whole, free-standing gestalt qualities seem to play a surprisingly large role in so-called imageless (non-visual, non-auditory, etc.) thought.[1]

In the light of what is said here, g need not be e-connected to any tonal series. Presumably, every tonal series congruent with H' is connected in this way to a gestalt quality congruent with g.

Note that e-connectedness, which figures in the determinations of the quality relations, is not a quality relation in itself. The trivial reason for that is that it is a *connection*; if it were to be internal, it would have to be so in a radically different sense of 'internal'.

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[1] Segelberg 1999/1947, p. 207/107.

Moderate Realism

5.1 Introduction

Chapter II contained an analysis of the moderate realism of the young Donald Williams. After that followed discussions of versions of moderate nominalism. In the present chapter, the circle is closed and moderate realism is once again the subject.

The tradition of moderate realism goes back a long time in the history of philosophy. Traces of it can be found in Plato[1] as well as in Aristotle.[2] Some of the leading scholastic philosophers, including Thomas Aquinas[3] and John Duns Scotus,[4] are moderate realists. Before the scholastic era, moderate realism was expressed by philosophers such as Boethius[5] and Avicenna.[6] The latter has formulated two arguments for particularism, presented below. Being one of the leading scientists of his time,[7] Avicenna knew his Aristotle well. Both of his two arguments set out from premises found in Aristotle.

The majority of this chapter deals with the moderate realism of Donald Mertz. My discussion of it is based on Mertz 1993, 1996, 2001, 2003 and 2006.[8] Being a versed scholar in philosophy and its history, his articles are veritable goldmines of information and ideas.

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[1] Cf. *Phaedo*, 102b-e, and *Theaetetus*, 209a-d.

[2] Cf. *Categories*, 1a24-b9, and *Metaphysics*, 1017b25, 1039b24-6, 1042a29, 1049a28ff, 1057bff, 1071a27-9.

[3] Cf. Aquinas 1955, p. 127.

[4] Cf. Harris 1959, pp. 94-5.

[5] Cf. Gracia 1984, p. 78.

[6] Cf. Morewedge 1973, pp. 33-4.

[7] It is no exaggeration to say that he is one of the most eminent scientists of all time.

[8] Mertz 2006 is an anthology containing seven articles, six of which are published separately.

This chapter also includes an argument for the existence of instances from the possibility of symmetrical universes.

5.2 One Partial and Two Mistaken Arguments for Particularism

5.2.1 Overview

Presentations of Avicenna's two arguments for particularism are given in sections 5.2.2 and 5.2.3. Both the arguments are mistaken to the extent that they assume false premises. However, the second argument in particular is very interesting. My main reason for presenting it is that a refined version of it is discussed in section 5.3.3.

Yet another argument for particularism is presented in section 5.2.4. It is not more than a partial argument though. It assumes the existence of universals and combines that with the possibility of there being Segelbergian-Blackian universes.

5.2.2 Avicenna's First Argument

Avicenna[1] (980–1037) presents two arguments for particularism.[2] One of these, which will be referred to here as the first, is stated in his *The Book of Scientific Knowledge*.[3] In this argument, as well as in the second, transcendent realism, or Platonism, is rejected in favour of immanent realism.[4] The first also takes a view on predication for granted: every property predicated of an individual substance is likewise predicated of its corresponding species and genus. If the assumption is made that predicates are the same throughout and combine it with this particular view on predication, the result is a

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[1] In his own cultural sphere this true polyhistor is known by the name 'ibn Sina', short for 'Abu Ali al-Husayn ibn Abd Allah ibn Sina'.

[2] I rely heavily on Mertz 1993 and 1996 in this section as well as in section 5.2.3.

[3] There is a translation of it in Morewedge 1973.

[4] Cf. Morewedge 1973, p. 33.

contradiction. The presupposed view on predication is ascribed to Aristotle.[1]

As everyone knows, Plato was a learned man. Meno, on the other hand, was not. Although they do not share the property of being learned, they are both men. Since they are men (species), they are animals (genus) as well. Unfortunately, the result of all this is that the species and the genus are not just learned but ignorant too. With the help of a simple formalisation this can be formulated:

Learned (Plato) → [Learned (Man) & Learned (Animal)]
Ignorant (Meno) → [Ignorant (Man) & Ignorant (Animal)]

The conjunction of these two implications entails that being a man has contradictory properties; the same holds for being an animal. Regarding this Avicenna says:

> The identical form of man-qua-man cannot be a knower like Plato and also an ignoramus like someone other than Plato. It is not possible for knowledge to be and not to be in one and the same thing. Neither is it possible for one and the same thing to contain both blackness and whiteness simultaneously. It is similarly impossible for the universal animal to be a particular real animal, for it would then have to be both walker and flyer, as well as not walker and flyer, and be both biped and quadruped.[2]

Since nothing can have such a set of properties, something must have gone wrong here. Avicenna's solution to the problem is to consider predicates as particulars. Using the same formalisation slightly changed, this becomes:

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[1] Cf. *Categories*, 2b38-3a5. What Aristotle explicitly says is:
> When one thing is predicated of another, all that which is predicable of the predicate will be predicable also of the subject. Thus, 'man' is predicated of the individual man; but 'animal' is predicated of 'man'; it will, therefore, be predicable of the individual man also: for the individual man is both 'man' and animal'.

I leave open whether Avicenna has interpreted Aristotle correctly.

[2] Morewedge 1973, p. 33.

Learned$_1$ (Plato) → [Learned$_1$ (Man$_1$) & Learned$_1$ (Animal$_1$)]
Ignorant$_1$ (Meno) → [Ignorant$_1$ (Man$_2$) & Ignorant$_1$ (Animal$_2$)][1]

Here, all occurrences of properties are unit properties, i.e., particulars. Therefore, no contrary properties are ascribed to the same subjects.

5.2.3 Avicenna's Second Argument

The premise of Avicenna's first argument, that what is predicated of a primary substance is also predicated of its species and genus, is shaky. In Aristotle's *Metaphysics* the doctrine is no longer the same; in it property predicated of a primary substance is predicated of a composite of matter and form. Thus, according to this hylomorphism, it is of such a composite that ignorance is predicated whenever it is predicated of a particular man, for example, Meno.

The second argument contains a questionable premise, that relations are reducible to the monadic attributes of their relata. From antiquity to the end of the nineteenth century, this was the majority view among occidental philosophers.[2] It seemed to be sanctioned by Aristotle himself, whose description of relations as the "least of all things a kind of entity or substance"[3] was frequently referred to. Perhaps that description was nothing more than an unguarded remark casually made. Regardless, Avicenna is among those who rely on the authority of the Philosopher. Additionally, the view has its proponents nowadays, especially among the trope theorists. Thanks to the arguments put forward by the young Bertrand Russell among others, the premise has been on the defensive during the twentieth century.[4]

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[1] The subscripts indicate that the entities are particulars. Although 'Plato' and 'Meno' lack subscripts, they of course also refer to particulars

[2] There have been a few exceptions to this. Peter Aureoli (1280-1322) might be one. A complication is that he considers relations not to be extra-mental. This is due to his conceptualism. Cf. Henninger 1989, pp. 153-4, 182-3. It makes his view similar to that of John Locke, who thinks of relations as the result of comparisons. Cf., e.g., *Essay*, bk. II, ch. 25, par. 8.

[3] Cf. *Metaphysics*, 1088a22.

[4] Cf. Russell 1903, pp. 221ff.

Avicenna presents his second argument in the book *The Healing*.[1] I repeat that an essential premise of the argument is that relations are reducible to properties of their relata. In the following passage, the father-son relationship is used by way of illustration.

> Each of two things has in itself an idea with respect to the other, which is not the idea the other has in itself with respect to the first. This is evident in things whose related terms differ, as in the case of the father. Its relation to fatherhood, which is a description of its existence, is in the father alone. […] The same applies to the state of the son with respect to the father. There is nothing here at all which is in both of them.[2]

The attributes (ideas) referred to in the first sentence are the *esse ad*s of the relevant *esse in*s of the two relata, the father and his son. The term 'esse ad' is the scholastic counterpart of the Greek 'το προξ τι'.[3] Both can be translated 'being towards'. The scholastic term 'esse in', having the meaning of 'being in', refers to the relevant monadic attributes of the relata. An *esse ad* is thought of as a second-order attribute of an *esse in*. In this particular case, the relevant *esse in*s are the attributes being father and being son respectively. An English alternative of 'esse in' is 'relation-property'.[4]

The first formalisation[5] below is a preliminary version of the property-reduction of a relation in the general case. The *esse in*s of the relata are R' and R" respectively. Towards-*x* and Towards-*y* are the

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[1] There is a translation of it in Marmura 1975.

[2] Marmura 1975, pp. 87-8.

[3] Aristotle's name of the category of relation is 'προξ τι'.

[4] The meaning of 'relation-property' is of course closely related to, if not the same as, that of 'relational property'. Having a relation as constituent, a relational property is itself subjected to the property-reduction. Likewise, a relation-property is bound to involve an unreduced relational element. However, this seems to have been repressed by the adherents of the doctrine.

[5] It is proposed by Donald Mertz. Since he is using it when formulating his own refined version of the argument, it is practical to use it here as well.

*esse ad*s. The capital 'R' names the relation to be reduced. The colon in front of a formula indicates that whatever comes after it is a fact.[1]

> For any binary relation predicate 'R' and relata x and y, there exist relation-properties R' and R" such that 'R(x,y) is true ≡ [:R'(x) • :Towards-y (R') • :R"(y) • :Towards-x (R")][2]

Applied to the particular case of the father and his son:

> 'a is the father of b' is true ≡ :Fatherhood (a) • :Towards-b (Fatherhood) • :Sonship (b) • :Towards-a (Sonship)[3]

The argument for particularism begins to show itself when the analysis is applied to equivalence relations. Avicenna's example is being-similar-as-white-to. One would expect that the relevant *esse in* is the universal whiteness. However, appearances are deceptive.

> If such a state of affairs [an equivalence relation between two subjects] consists in the fact that each of the two [subjects] has a state [relation-property] with respect to the other, this is similar to the case of the swan and snow, each of which is white. Nor is this state [the white of one subject] rendered identical by the fact that it stands with respect to the other; for whatever belongs to each individual with respect to the other belongs to that individual and not the other; but it possesses it with respect to the other.
>
> If you have understood this from what we have given you by way of example, then know that the identical state of affairs obtains in the rest of the relatives that do not disagree in their two terms.[4]

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[1] Colons are not used in Mertz 1993. They are part of Mertz' considered formalism and used in his later works. I have therefore taken the liberty of inserting them when it is warranted.

[2] Mertz 1993, p. 197.

[3] Mertz 1993, p. 197.

[4] Quoted from Marmura 1975, p 88. The inserts are made by Mertz.

The way Avicenna expresses himself here is somewhat compressed. It is quite clear though what his message is. If universal whiteness is the *esse in*, the reduction of the equivalence relation can (preliminarily) be written, using the same formalism as above:

'*a* is similar as white to *b*' is true $\equiv$:White (*a*) • :Towards-*b* (White) • :White (*b*) • :Towards-*a* (White)[1]

It is evident that this can be nothing more than a preliminary rendering of the situation. This since the whiteness which is the *esse in* of *a* cannot be identical with that of *b*. The relevant *esse ad*s — Towards-*b* and Towards-*a* respectively — are contraries in this context. Therefore, the formalisation should be reformulated:

'*a* is similar as white to *b*' is true $\equiv$:White$_1$ (*a*) • :Towards-*b*$_1$ (White$_1$) • :White$_2$ (*b*) • :Towards-*a*$_2$ (White$_2$)[2]

The universal whiteness itself is not ascribed contrary *esse ad*s here. Instead, the contrary *esse ad*s are ascribed to separate instances of whiteness: White$_1$ and White$_2$, respectively.

Finally, in generalised form the traditional property-reduction of binary relations looks like this:

For any formal binary relation predicate 'R' and relata *x* and *y*, there exist relation-properties R'$_i$ and R"$_j$ such that 'R(*x*,*y*)' is true $\equiv$ [:R'$_i$(*x*) • :Towards-*y*$_k$ (R'$_i$) • :R"$_j$ (*y*) • :Towards-*x*$_l$ (R"$_j$)][3]

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[1] Mertz 1993, p. 198.

[2] Mertz 1993, p. 198. The subscripts in 'Towards-*b*$_1$' and 'Towards-*a*$_2$' belong to the predicates as wholes. More perspicuous formulations would perhaps be '(Towards-*b*)$_1$' and '(Towards-*a*)$_2$'.

[3] Cf. Mertz 1993, p. 197, and 1996, p. 123. In a reduction carried through completely, the *esse ad*s should of course also be reduced. If not, unreduced relational elements will be left over, not accounted for. An apposite speculation as regards the *esse ad* element is:

Perhaps, historically, the 'towards' aspect was not taken to be another relation because it was conceived to be analogous to the act of pointing which achieves reference to another without any

Avicenna intends his second argument to be completely general. This is obvious from his admonition that "[y]ou must never think that an accident, one in number, exists in two substrata."[1] In other words, the attributes of things are without exception particulars. This is more easily seen if one accepts the notion that things resemble each other in respect of whatever attribute they seemingly have in common. That means that there is an equivalence relation holding between them. It has the form: being-similar-as-*P*-to. And as the second argument shows, what seems to be the same *esse in* will, due to contrary *esse ad*s, be different *esse in*s.[2]

Mertz's refined version of Avicenna's second argument is discussed in section 5.3.3. The main difference between it and its model is due to Mertz's rejection of the monadic reduction of polyadic ontic predicates.

5.2.4 A Partial Argument from Segelbergian-Blackian Universes

The intellectual experiment put forward in Segelberg 1947 is essentially the same as that of Black 1952. In the present section, this experiment provides the setting for a partial argument for the existence of instances of universals. The immediate point of departure is neither

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> physical/causal connection. Of course, reference itself is an unreduced semantic relation, albeit of a more implicit and abstract kind. It is erroneous to think that polyadic relations are eliminated completely in terms of monadic properties. (Mertz 1993, p. 197)

[1] Marmura 1975, p. 88.

[2] In connection with Avicenna's admonition Mertz makes an interesting reflection:

> [T]his admonition has come to be associated with Leibniz, in whose work it is standardly interpreted to be but the insistence of the property reduction of relations […]. But Avicenna's intent goes deeper, and he uses the property reduction of relations as a means of demonstrating the nonrepeatability of property reducta themselves. (Mertz 1996, p. 125)

Leibniz's view is subjected to various interpretations. However, none of these interprets the reductive doctrine as supplying the premises for an argument like that of Avicenna.

Segelberg 1947 nor Black 1952; instead, it is the discussion in Rodriguez-Pereyra 2004.

In the latter work, the author acts as spokesman for a realistic version of the bundle theory.[1] Its fundamental principle reads:

(BT)   Necessarily, for every particular x and every entity y, y constitutes x if and only if y is a universal and x instantiates y.[2]

The modal operator indicates that (BT) concerns itself with every concrete particular there is and might be. The term 'particular' is short for 'concrete particular'.

Constitution and instantiation are treated as reciprocal. An entity constitutes or is among the constituents of a concrete particular if and only if the latter instantiates it. Furthermore, concrete particulars must have constituents.[3] Only universals can be constituents.[4] I

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[1] As reported earlier, Rodriguez-Pereyra is not a realist of any kind. He describes himself as a resemblance nominalist. Cf. Rodriguez-Pereyra 2002. I take it that what he is doing in Rodriguez-Pereyra 2004 is defending a version of realism, which he considers to be second best after his own version of resemblance nominalism. I would say that the version of realism defended is a moderate realism.

[2] Rodriguez-Pereyra 2004, p. 72. We are informed that there is also another version of the bundle theory, according to which tropes constitute concrete particulars. Evidently, if (BT) is supposed to be constitutive for the bundle theory, tropes must be interpreted according to some version of moderate realism. However, that is not what Rodriguez-Pereyra has in mind. He takes tropes to be nominalistic in nature. The following principle, which is not mentioned by Rodriguez-Pereyra, might be a trope theoretical counterpart of (BT).

(Bt)   Necessarily, for every particular x and every entity y, y constitutes x if and only if y is a trope and x instantiates y.

What I have in view is an interpretation of (BT) which is in line with moderate realism. In that context (Bt) does not fit in.

[3] Cf. Rodriguez-Pereyra 2004, p. 72.

[4] Although Rodriguez-Pereyra does not explicitly mention it, instantiation cannot itself be a constituent of any particular. If it were, it would have to be instantiated, according to (BT). That would immediately result in an analytical (vicious) regress.

would say that the description of concrete particulars as bundles of universals, which is used in connection with the presentation of (BT), is a hazardous one. It suggests that concrete particulars lack internal structure. (BT) is not intended to have that implication.

There is an alleged knock-down argument against the bundle theory. It assumes that it is committed to a false version of the principle of the identity of indiscernibles.[1] The latter is rendered by Rodriguez-Pereyra:

> (PII)   Necessarily, for all particulars x and y and every universal z, if z is instantiated by x if and only if z is instantiated by y, then x is numerically identical with y.[2]

Max Black puts forth his intellectual experiment as a counterexample of (PII).[3] It is presented in the middle of a dialogue between two persons. One of them is an adherent of (PII) and the other is not. It is the latter who is speaking.

> Isn't it logically possible that the universe should have contained nothing but two exactly similar spheres? We might suppose that each was made of chemically pure iron, had a diameter of one mile, that they had the same temperature, colour, and so on, and that nothing else existed. Then every quality and relational characteristic of the one would also be a property of the other. Now if what I am describing is logically possible, it is not im-

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[1] Cf. e.g. Armstrong 1978*a*, p. 91.

[2] Rodriguez-Pereyra 2004, p. 72. A trope version of the principle, not mentioned by Rodriguez-Pereyra, might be:

> (PIIt)   Necessarily, for all (concrete) particulars x and y and every trope z, if z is instantiated by x if and only if z is instantiated by y, then x is numerically identical with y.

If we modify this principle by replacing 'every trope z' with 'every $\text{Sim}\{z_1,\ldots,z_n\}$', the revised principle — call it '(PIIt*)' — will most certainly be false.

[3] The refutation of this principle is not what Segelberg is aiming at. On the contrary, it seems to be a (tacit) premise for his application of the intellectual experiment.

possible for two things to have all their properties in common. This seems to me to *refute* the Principle.[1]

Earlier in the dialogue, the adherent of (PII) claims that it is logically impossible for two things to have all their properties in common.[2] Armed with the ammunition he believes the intellectual experiment supplies him with, the other thinks he can refute that. According to Rodriguez-Pereyra the bundle theory does not imply (PII); (BT) can even be used to refute (PII), since the latter may be false while (BT) is true.[3]

There is another defence of the bundle theory. John O'Leary-Hawthorne argues that a universe[4] like Black's does not pose a threat to the theory. According to him, the description that the universe contains two indiscernible particulars is not adequate; strictly speaking it contains only one entity, a bundle of universals. Furthermore, this is compatible with (PII).[5] What the intellectual experiment does is that it reminds us of a consequence of the bundle theory. This consequence is that a bundle of universals can be at a distance from itself in the same way as a single universal can be at a distance from itself.[6] The two spheres are but one single bundle of universals, which is fully present at two places.[7] O'Leary-Hawthorne follows this up by saying that a defender of (PII) should not appeal to relational differences when confronted with a case of, for example, two indiscernible drops of water because what is two drops of water, loosely speaking, is only one drop fully present at two places, strictly speaking,.[8] Rodriguez-Pereyra's verdict upon this is:

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[1] Black 1952, p. 156.

[2] Cf. Black 1952, p. 154. The adherent of (PII) claims that if not anything else separates the two, there are at least two properties that do: being identical with *a* and being identical with *b* respectively — *a* and *b* are the two spheres.

[3] Cf. Rodriguez-Pereyra 2004, p. 73.

[4] The word he actually uses is 'world'. So does Rodriguez-Pereyra.

[5] O'Leary-Hawthorne 1995, p. 194.

[6] O'Leary-Hawthorne 1995, p. 196.

[7] O'Leary-Hawthorne 1995, p. 195.

[8] O'Leary-Hawthorne 1995, p. 194.

> […] Hawthorne's defence is not effective. The possibility
> that allegedly refutes the Bundle Theory is the possibility
> that there is a world with *two* indiscernible particulars.
> Hawthorne shows neither that this is not a genuine possi-
> bility nor that the Bundle Theory can accommodate this
> possibility. What Hawthorne shows is that a world that
> apparently contains indiscernibles may instead be a world
> containing a multiply located bundle of universals and no
> numerically distinct but indiscernible particulars. But for
> Hawthorne's defence to succeed what needs to be shown
> is that Black's world *is* a world that contains a multiply
> located bundle of universals and no numerically distinct
> but indiscernible particulars. For if Black's world contains
> *two* indiscernibles then it cannot be correctly described as a
> world that contains no numerically distinct but indi-
> scernible particulars. But Black's world contains *two* indi-
> scernible iron spheres, and so it cannot be correctly
> described as not containing two indiscernible particulars.[1]

An overall claim here is that Black's universe is possible. It contains a
bundle of universals which is multiply located. However, it also
contains two indiscernible iron spheres and these are particulars; each
of which is singly located. The argument showing the correctness of
the overall claim is that there might be universes containing two
almost indiscernible spheres.

> No one should deny the possibility of such worlds, and
> certainly there is nothing in them that a bundle theorist
> cannot accept. That world contains *two* particular spheres,
> *a* and *b*. But if *a* has a temperature T and a different parti-
> cular *b* of the same kind as *a* has a temperature T* in-
> finitesimally different from T, then it is possible for *a* to
> have T*. Thus if the world with the almost indiscernible
> spheres is possible, so is another world in which the
> spheres are completely indiscernible. So Black's world,
> which contains two indiscernible particulars, is possible.
> And, if so, Hawthorne's defence fails, for Black's world

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[1] Rodriguez-Pereyra 2004, pp. 73-4.

cannot be correctly described as a world not containing two indiscernible particulars.[1]

I suspect that this argument would not worry O'Leary-Hawthorne. His response to it would probably be that the universe, which is described here as containing two almost indiscernible spheres, contains two bundles with one location each. There are other things that might worry him, though; I will say something about those below.

If (PII) is entailed by (BT), the bundle theory is incompatible with the possibility of there being a universe such as the one described by Black, and Segelberg. Fortunately, (BT) does not entail Leibniz's principle.

> For all BT asserts is that particulars are entirely constituted by the universals they instantiate. This entails that particulars instantiating the same universals have the same constituents. But this is compatible with the falsity of PII — unless particulars with the same constituents must be numerically identical.[2]

It is easy to take it for granted that completely sharing the (universal) constituents with something else equals being numerically identical with it. However, to reach that conclusion from (BT), an extra premise is needed, for example, the following:

> (PCI)[3] Necessarily, for all complex objects x and y and every entity z, if z is a constituent of x if and only if z is a constituent of y, then x is numerically identical with y.[4]

Although the need for an extra principle to reach (PII) from (BT) shows that the latter does not imply the former, we will remain committed to (PII), given that (PCI) is true. So, is it true?[5] Well, it is true

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[1] Rodriguez-Pereyra 2004, p. 74.

[2] Rodriguez-Pereyra 2004, pp. 75-6.

[3] The decoded name of this principle is 'the Principle of Constituent Identity'. It is borrowed from Loux 1998, p. 107.

[4] Rodriguez-Pereyra 2004, p. 76.

[5] Michael Loux thinks so. According to him, one "can provide a complete

for mereological sums and sets. Rodriguez-Pereyra reminds us that ontologists who recognise universals tend to deny that mereological composition is the only mode of composition. States of affairs should be recognised as well, but these do not obey mereological composition. As a result, an adherent of the bundle theory has reason to reject (PCI).[1]

A restricted version of (PCI) is (PCI*). It concerns particulars, instead of complex objects, which makes it slightly weaker than the former.

> (PCI*)   Necessarily, for all particulars x and y and every entity z, if z is a constituent of x if and only if z is a constituent of y, then x is numerically identical with y.[2]

Since PCI should not be recognised, independent reasons for recognising PCI* are needed. There does not seem to be any though.

> [T]o accept (PCI*) one would need a previous account of the kind of complex objects particulars are that commits us to (PCI*). But although it may not be clear what kind of complex objects particulars are, they are not those kinds of complex objects, like sets or mereological sums, that would render (PCI*) true. So there seem to be no reasons to accept (PCI*).
>
> Thus the way seems to be open for the bundle theorist to reject (PCI*). By rejecting (PCI*) the Bundle Theory is liberated from its commitment to (PII). So by rejecting

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"recipe" for complex things by identifying the items that count as their constituents." (Loux 1998, p. 156) In Segelberg's terminology, by identifying the t-collection of a complex, one provides a complete recipe for it. Segelberg would not agree with this.

[1] I would say that this once more illustrates that the term 'bundle' is not a particularly successful one. It suggests that the complexes referred to are extensionally determined, like sets and mereological sums.

[2] Rodriguez-Pereyra 2004, p. 77.

(PCI*) the Bundle Theory can accommodate Black's world.[1]

As indicated above, particulars' being entirely constituted by universals does not entail their being *identical with* bundles of universals. Rodriguez-Pereyra proposes that we distinguish between a bundle of universals, on the one hand, and instances of it, on the other. Although an instance of a bundle of universals is entirely constituted by the bundle, the two are distinct entities.[2] What holds for the former need not do so for the latter, and *vice versa.* An instance is uniquely located, while a bundle might be simultaneously multiply located. A bundle is located at the same places as its instances are located, but an instance need not be located wherever the bundle is located. So, wherever an instance of a bundle is found, the bundle is there also, but not the other way round.

> So when a bundle of universals has more than one instance, there are some numerically distinct particulars with exactly the same constituents. So it is not incoherent for the bundle theorist to reject (PCI*).
>   Not only that. By claiming that particulars are instances of bundles, the bundle theorist must reject (PCI*). For bundles can be in more than one place at once. So a bundle can have more than one instance. So there can be numerically distinct particulars with exactly the same constituents. So (PCI*) is false.[3]

Referring to the terminology of chapter II, a bundle of universals is a concrete universal since it exhausts the universal content of a concrete particular, or several concrete particulars. Now, if no distinction is made between a bundle and the instances of it, there will be a few odd results with regard to their locations.

Assume *relationism* about space. The location of an entity is then caused by its spatial relations to other entities. Space is constituted by

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[1] Rodriguez-Pereyra 2004, p. 77.

[2] Cf. Rodriguez-Pereyra 2004, p. 78.

[3] Rodriguez-Pereyra 2004, p. 78.

the spatial interrelatedness of entities. A peculiar consequence of the
premises of a bundle theorist such as O'Leary-Hawthorne's is that
there need not be a difference between a case where a bundle is
located in two places and one in which it is located in three places.
Further, its circumstances must of course be rather special. Imagine a
universe with two exactly similar spheres separated by a certain
distance. Compare this with another universe with three exactly
similar spheres which are separated by the same distance as in the
former universe. Together, these form an equilateral triangle. Since
there is no distinction made between bundles and instances, there is
no relational difference between these two cases. However, if
instances of the bundle were allowed for, that would result in a differ-
ence. There would be two spheres in the first universe and three in
the latter. O'Leary-Hawthorne should, and perhaps even would, be
impressed by this. An indicium of that is the suggestion, made by him
and Jan Cover, that the difference between the two situations is that a
triadic distance relation is applicable in one case but not in another.

> Consider some sphere *s*. There is one possible world W
> containing *s* where the sole occupants are what we ordi-
> narily describe as spheres in relational space five feet apart.
> There is another possible world W′ containing *s* where the
> sole occupants are what we ordinarily describe as three
> spheres in a relational space, each five feet from each other
> (thus making up an equilateral triangle). How can the
> bundle theorist distinguish these worlds? Clearly, if the
> bundle theorist restricts himself to dyadic facts, he will
> struggle. If the relata of dyadic facts are immanent univer-
> sals, it is hard to find a dyadic fact instantiated by one of
> W or W′ but not the other. But, once again, unless there is
> some obligation to restrict oneself to dyadic facts or to
> insist that all triadic facts supervene on dyadic ones, the
> Triplication Problem is no objection to the Bundle Theory
> *per se*.[1]

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[1] O'Leary-Hawthorne & Cover 1998, p. 214.

Since O'Leary-Hawthorne obviously wants there to be a difference between the two situations, it should worry him that his ontology cannot account for it. In fact, in the case at hand it cannot. The triadic relation does not deliver the difference he believes is there.

If *absolutism* about space is assumed instead, the outcome is even more counter-intuitive. Since all places are the same place, according to the premises of the bundle theory in question, each spatially located entity is in the same place as every other entity. The assumption is here that space is a set of points. Further, if universal pointhood is recognised, but not instances of it, there will only be one single point to occupy.[1] This, by the way, indicates that an absolute space must be particular, not just universal.[2] Obviously, the notion that each bundle of universals having spatial location would have the same location as every other bundle that is identical to or different from it is nothing short of an absurdity.

The problems referred to in the two previous paragraphs are remedied if instances of bundles are recognised. The problems in connection with relationism are met if the locations of instances are prior to those of the universals they are instances of. Then, the bundles will be located due to their instances being located while the latter are located due to the spatial relations holding between them. Furthermore, the problems connected with absolutism evaporate. It is instances of bundles of universals which have locations primarily; the places they occupy are instances themselves. Places are instances of a universal we might call 'pointhood'. Since the instances of pointhood are separate from each other, the instances of other universals occupy different points. In both of these alternatives, the number of spheres equals the number of instances.

What has been pointed out here constitutes a more or less conclusive reason for there being instances. Given that there are universals, the absurdities which result from recognising them and bundles of them, but not their instances, show that instances should

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[1] Cf. Rodriguez-Pereyra 2004, p. 75.

[2] Cf. Johansson 1989, p. 147, where the particularity and universality aspects of absolute space (container space, in Johansson's terminology) are discussed.

be recognised as well. An account of instantiation remains; to that end, the analytic ontology proposed by Donald Mertz is discussed in section 5.3.

5.3 The Moderate Realism of D. W. Mertz

5.3.1 Overview

According to Donald Mertz, Avicenna's second argument is potentially a conclusive argument for particularism. In Mertz's own refined version of it, he claims that its potentiality has become actual. An analysis of the refined version is found in section 5.3.3. Before that, the principles defining Mertz's own moderate realism are presented in section 5.3.2.

Section 5.3.4 details the notion of unit attributes, describing how each unit attribute is considered to have two aspects. In section 5.3.5, one of these aspects is examined more closely with regard to whether it is a simple or complex entity. Section 5.3.6 defines continuous composites and considers the issue of whether unit attributes are continuous composites. The predicative aspect of unit attributes is the subject of section 5.3.7. Finally, in section 5.3.8 a short presentation is given of how unit attributes form network structures.

5.3.2 Principles of Moderate Realism

A reason for not using the term 'trope' as a comprehensive term is its strong association with nominalistic particularism. There are other terms which can better fulfil that role. Among these are 'property instance', 'attribute instance', or just 'instance', as well as 'unit property' and 'unit attribute'. Mertz uses all of them. In addition, he uses the pair 'relation instance' and 'unit relation'. As regards the two latter terms, it should be noted that it is not just that he considers relations to occur as particulars. More importantly, he does not think that the distinction between monadic ontic predicates, on the one hand, and polyadic ones, on the other, should be assigned any importance of principle. Ontic predicates, irrespective of their adicities, should be

recognised as forming one single category. What is essential is that an ontic predicate has adicity, not of what degree the adicity is.

Ontological particularism at its minimum is said to satisfy two principles. These two principles are:

> For instances R^n_i and R^n_j, of the same n-place relation R^n,
>
> Principle of subject uniqueness (SU):
>
> If $:R^n_i(a_1,a_2,\ldots,a_n)$ and $:R^n_i(b_1,b_2,\ldots,b_n)$, then $a_1 = b_1,\ldots, a_n = b_n$, and
>
> Principle of instance uniqueness (IU):
>
> If $:R^n_i(a_1,a_2,\ldots,a_n)$ and $:R^n_j(a_1,a_2,\ldots,a_n)$, then $R^n_i = R^n_j$.[1]

Since these two principles supposedly constitute the minimum content of particularism, the phrase 'of the same n-place relation R^n' should be neutral between realistic and nominalistic interpretations of the general particularistic doctrine. Keep that in mind when reading the following.

> As subject-unique (SU), no relation instance can have more than one distinct n-tuple of relata. It is not the case, for example, that Red_1 inheres as numerically the same in both apple a and distinct apple b, for otherwise Red_1 would have the nature of a universal and not an un-repeatable instance. The principle of instance-uniqueness (IU) formalizes the non-redundancy thesis: for example, that apple a cannot have (at the same time and corresponding to the same spatial region) numerically different instances of the property Red. The doctrine of instance uniqueness can be supported not only by an argument from ontic economy ('Ockham's razor'), but also an argu-

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[1] Mertz 1996, p. 10. Again, I have taken the liberty of inserting the colons. While the superscript of 'R^n_i' indicates adicity, the subscript indicates individuality. Quite often a simplified notation is used, omitting super- and subscript. In this practice, 'R' sometimes stands for either a relation or an instance of it. This more ambiguous use can make it quite difficult to interpret what the intended sense is.

ment from the identity of indiscernibles:[1] namely, that
there is simply nothing that could serve to intrinsically
differentiate two relation instances if they have numerically
the same relata *n*-tuple and are of the same relation con-
stant R''. The central problem for particularism is to pro-
duce cogent arguments for the existence of instances that
satisfy the requirement of subject uniqueness SU.[2]

In chapter III we saw that Maurin is not entirely out of sympathy
with the idea that tropes are recyclable.[3] However, (SU) rules that out.
One may ponder upon whether this means that (SU) should be
revised in some way so that her view fits in or if she should recon-
sider her position. Anyhow, since (SU) and (IU) are declared to be the
common content of all versions of particularism, what category the
referent of 'R' belongs to should be left open. For example, it must
not be presupposed that it designates a universal. The use of the term
'intension' in the quotation probably offends that provision since
'intension' and 'universal' are synonymous in Mertz's own termino-
logy.

Evidently, if universals are to have any role to play in this con-
text, this is to be stipulated by yet another principle, which has to be
added to the minimum principles. The following is such an additional
principle:

---

[1] Cf. Mertz 1996, pp. 148ff, mentions some of Leibniz's own opinions on the
principle. Among other things, he considers it to be a metaphysical, not a
logical, principle. While it is logically possible that $\exists x \exists y[(x \neq y) \ \& \ \forall P[P(x) \leftrightarrow P(y)]]$, it is inconsistent with God's wisdom and therefore inconsistent with
the way things must be. Cf. Leibniz 1969, p. 699. I do not know to what
extent Mertz relies on God's wisdom here.

[2] Mertz 1996, p. 11.

[3] Her compresence tropes cannot be recycled. Presumably, the same holds
for all the other external relations. A well-founded suspicion is that the
predicativity of relations makes all the difference here.

Principle of immanent instance realism (IR):

For distinct relation instances R^n_i, R^n_j,… there exists and entity R^n which is a numerically identical aspect of each of the instances R^n_i, R^n_j,…[1]

There are quite a few adherents of (IR). An inexhaustive enumeration of is: Boethius,[2] Avicenna,[3] Thomas Aquinas,[4] John Duns Scotus,[5] John Cook Wilson,[6] Edmund Husserl,[7] Nicholas Wolterstorff[8] and Peter Strawson.[9] It is quite possible that Plato[10] and Aristotle[11] also belong to this list.[12]

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[1] Mertz 1996, p. 11. (IR) is not intended to imply that only extra-conceptually instantiated universals exist. Universals which are merely conceptually instantiated are also recognised. Cf. Mertz 2006, p. 39.

[2] Cf. Gracia 1984, p. 78.

[3] Cf. Morewedge 1973, pp. 33-4.

[4] Cf. Aquinas 1955, p. 127.

[5] Cf. Harris 1959, pp. 94-5.

[6] Cf. Cook Wilson 1926, Vol. I, pp. 171, 187, 199, 207-8, 233; Vol. II, pp. 665, 670-1, 713.

[7] Cf. Husserl 1970, Vol. I, pp. 376-7.

[8] Cf. Wolterstorff 1970, pp. 90ff.

[9] Cf. Strawson 1971, pp. 168-9, footnote 1.

[10] Cf. *Phaedo*, 102b-e, and *Theaetetus*, 209a-d.

[11] Cf. *Categories*, 1a24-b9, and *Metaphysics*, 1017b25, 1039b24-6, 1042a29, 1049a28ff, 1057bff, 1071a27-9.

[12] Francisco Suarez is not on the list. He seems to be a nominalist of some sort. Cf. Suarez 1964, pp. 30, 36, 47-8. However, he is classified as a particularist. To some extent, that fact undermines the status of (IU) as a necessary condition of particularism. Regarding Suarez and (IU) Mertz says:

> […] Suarez maintains that an entity is its own principle of individuation […]. […] But, if accidents are not individuated by their subjects, it is improper to explain the individuality of accidents, which is something intrinsic and tied to their very natures, by something extrinsic […]. He thus goes on to assert that there is no apparent reason in principle why multiple instances of the same accident cannot be simultaneously in the same subject (a denial of the principle of instance uniqueness, IU), though, as a matter of fact, no such duplicated inherence occurs naturally […]. (Mertz 1996, pp. 128-9)

Mertz is scanty with own arguments for realism. He mainly refers to arguments presented by others, in particular those of Arthur Pap, David Armstrong, Reinhardt Grossmann, Herbert Hochberg and Frank Jackson.[1] Since none of these is a particularist, their arguments support realism in general. He is of course right that the philosophers listed probably have supplied the best arguments for realism which can be found.

Moderate nominalisms do not satisfy (IR). Depending on which moderate nominalism we are dealing with, the stipulated substitute principle will vary. Take for example G. F. Stout's moderate nominalism. His unit attributes are the same type because they all belong to a certain class. Belonging to this class is what gives them their qualitative content.[2] This makes his ontology a version of class nominalism.

Neither should (SU) and (IU) involve any particular view on predicativity. The quality tropes of many, if not all, moderate nominalisms are not predicative entities. The quality tropes of Campbell constitute a case in point. An apposite description of them is:

> [T]ropes are not ontically *predicative*, they do not exist as 'inhering' in a subject, but rather 'free-float', as it were. The grouping of tropes (e.g., $bald_2$, $snubnose_5$, $white_1$, etc.) which constitutes ordinary individuals (e.g., Socrates) is a function of the unique *compresence* relation.[3]

I suppose that Suarez's claim that duplication in fact never occurs explains why he is on the list of particularists. By the way, it is stated here that the individuality of unit attributes is in some way dependent on their subjects. This is not part of either principle (SU) or (IU). It is a consequence of Mertz's own view on predication.

[1] Mertz 1996 and 2001 mention: Pap 1959, Armstrong 1978 and 1989, Grossmann 1983, Hochberg 1988 and Jackson 1977.

[2] Cf. Stout 1930, Essay XVII. Caution is called for here. Stout's notion of class may very well differ from that which is used nowadays.

[3] Mertz 1993, p. 190.

Earlier Campbell often said that instances of compresence should also be reduced to their relata.[1] He seems to have changed his mind in recent years though.[2] The goal he used to try to attain was the reduction of all polyadic attributes. The former were supposed to supervene on their relata. Compresence was no exception to this. Using a bit of picturesque language, the alleged cement of a complex was looked upon as nothing in addition to the bricks of the complex in question.[3] In this vision of reality nothing is predicative. In contradistinction to that view, Maurin has recognised unreducible predicative instances of compresence from the start, though her quality tropes totally lack predicativity.[4]

In addition to (SU), (IU) and (IR), Mertz recognises two other principles:

> Principle of instance predicates (IP):
> Only unrepeatable relation instances, R^n_i, are *ontic predicates* — that is, exist as *predicative* among specific subject n-tuples, the universal R^n is not ontically predicative.[5]

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[1] Cf. Campbell 1990, pp. 40ff.

[2] Cf. Campbell 2003.

[3] Cf. Campbell 1990, pp. 130ff.

[4] For some reason both she and Campbell refer to quality tropes as being monadic. It would be more apposite to describe them as monads. Not necessarily interpreted idealistically, although the history of the term 'monad' suggests that.

[5] That universals are not predicable is contrary to Aristotle's view, though the notion that particulars (instances of universals) are predicable need not be. This can be seen from his definitions of universal and particular, in *De Interpretatione*, 17a38-40:

> Some things are universal, other individual. By the term 'universal' I mean that which is of such a nature as to be predicated of many subjects, by 'individual' that which is not thus predicated.

This allows for two different interpretations: *either* that particulars are not predicable at all *or* that they are not predicable of many subjects.

Principle of relata-linking (RL):

No n-adic relation instance R^n_i exists except as ontically *predicative* among, and hence necessarily presupposing, some n-tuple of entities which as such it relates.[1]

The introduction of these two principles corroborates the impression that predicativity is not supposed to be a part of the content of any of the three former principles. It is thanks to (IP) that relation instances are predicative and that universals are not. Since the second half of it is negative, I suppose a nominalist could in principle concur with it in its entirety. However that may be, the predicative entities are unit attributes and are characterised as being *ontoglial*.[2] Their ontoglial nature is manifested thus: monadic ontic predicates *link to* subjects; polyadic ontic predicates *link among* subjects.[3] The subjects of ontic predicates may be other ontic predicates. On the lowest level of reality they must be since substrata are repudiated. Free-floating unit attributes are also repudiated, by (RL).

Mertz's preferred name for his own analytic ontology is 'moderate realism'.[4] He does not intend it as an exclusive name for his own particular version of particularism though.

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[1] Mertz 1996, p. 26. Although unit relations only exist as actually relating entities, there are universals which are not instantiated.

> [I]ntensions exist for which there are no corresponding ontic predicates and so facts, e.g., Unicorn[1], Phlogiston[1] […]. (Mertz 2006, p. 107)

Also mentioned are the intensions Spouse[2] and Employer[2], as exiting in a universe reduced to one extant human being who has retained these intensions by abstraction. With regard to the issue of uninstantiated universals, the two latter are evidently irrelevant. The two former are more interesting. I suspect that neither of them is a totally free creation of the mind. Presumably, they are synthesised from intensional material gained from experience.

[2] Cf. Mertz 1996, p. 25. The term 'ontoglial' is derived from *the glue of being* in Greek. Unfortunately, Mertz wavers a bit concerning which entity is the actual glue. In Mertz 1996, p.25, the implication is that it is the unit attributes. In Mertz 2006, p. 25, it is said to be the predicational aspects of unit attributes.

[3] Cf. Mertz 1996, p. 24.

[4] An alternative denomination is 'network instance realism', it suggests that

> The conjunction of Principles SU, IU, and IR, with R
> restricted to the limiting case of monadic properties, con-
> stitutes the *Moderate Realism* of Avicenna and the Christian
> scholastics, and represents a median between the extremes
> of Platonic realism on the one hand and nominalism on
> the other.[1]

The doctrine which restricts R to monadic attributes is the one men-
tioned in section 5.2.3. In its classical form it decrees polyadic predi-
cates to be reducible to monadic ones in combination with a peculiar
characteristic of pointing. Perhaps it originates from Plato.[2]

5.3.3 A Refined Version of Avicenna's Second Argument

Earlier, we saw certain second-order attributes being essential for
Avicenna's arguments. It holds correspondingly for Mertz's refined
version of the second argument. This is evident from the following
concise account of it:

> Like Avicenna's arguments, the following turns upon the
> fact that a relation R as it occurs in the complexes aRb and
> bRa has distinct and incompatible second-order properties.
> In particular, let it be the case that both facts aRb and bRa
> obtain, where R is a non-symmetric relation, for instance,
> x loves y.[3] We have in this case two distinct complexes, or
> facts, composed of apparently *exactly* the same parts. Of
> course, this is impossible. The standard and intuitive
> observation is that there is an order in which R relates its
> relata and this order is distinct for the two complexes. In

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instances form networks together. Among the networks are the ordinary
objects. The network aspect is worked out, e.g., in Mertz 2004.

[1] Mertz 1993, p. 193.

[2] Cf. Cavarnos 1975, pp. 17-25, for an account of Plato's view. Although this
doctrine is found in the writing of Plato, he need not be its originator. For all
we know, it may originate from ancient Egypt.

[3] Since loving is an intentional relation, it might happen that an existing sub-
ject loves a non-existing relatum, and surprisingly often actually does so. The
inverse is yet to happen. I take it that John and Mary both exist.

the fact that Mary loves John, the loving is from Mary to
John, and not the other way around. The latter would be a
separate arrangement which may or may not obtain. The
distinction between the two complexes, $a\mathrm{R}b$ and $b\mathrm{R}a$, is a
function of the relation, and specifically of its ordering
connectedness among its relata. In $a\mathrm{R}b$, R relates a-to-b
and not b-to-a, whereas in $b\mathrm{R}a$, R relates b-to-a and not a-
to-b. But then, if R is numerically identical in both com-
plexes, then R possesses contrary next-level properties. We
must conclude that R is numerically distinct in its occur-
rences across these complexes.[1]

Throughout this quotation the term 'R' is used. What 'R', or 'relation',
indicates is a relation instance of the form 'R^n_i'. In fact, there is
supposed to be two such instances; the argument can be summed up
as follows. If one and the same relation instance is supposed to
obtain in one fact as well as in another, where it is holding in the
opposite direction, it has contrary properties. This is impossible.
Therefore, the relating entities of the two facts cannot be numerically
identical with each other. The two contrary properties, which are
relevant in this particular example, are relating-a-to-b and relating-b-
to-a respectively.

Evidently, Leibniz's law is invoked here.[2] The contrary proper-
ties indicate that there cannot be the same relating entity in both
cases. Thus, the two facts should be rendered $a\mathrm{R}_1b$ and $b\mathrm{R}_2a$ res-
pectively. Or, more in line with the canonical notation: $:\mathrm{R}^2_1(a,b)$ and
$:\mathrm{R}^2_2(b,a)$. Here the relating entities are particulars, not universals.

It is important to note that there is a universal R^2 involved here
and that it makes a difference.

There is a sense in which R is the same in both complexes
(as intension R — e.g., Loves); yet, as relating distinct spe-
cific relata and thus establishing a specific order among
them, R is particularized (as instances R_i and R_j). If one
fails to make a distinction between the intension of a rela-

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[1] Mertz 1993, p. 199.
[2] Cf. Mertz 1996, p. 184.

tion and the actual relating or linking that is unique to a specific ordered *n*-tuple of relata, then the above argument does away with relation universals, and we end up at best with trope nominalism. The combinatorial state constituting one ordered *n*-tuple is not the combinatorial state of a differently ordered *n*-tuple. Yet the intensions under which all relating must take place are repeatable.[1]

One problem which classical realism has failed to solve is satisfactory explanation of the role of universals. The regress, named after Bradley, can be seen as an illustration of that. Although Mertz, strictly speaking, agrees with the (tacit) premise of the regress argument, that (universal) relations do not relate, he does not agree with the conclusion of the argument. The conclusion being that there is no such thing as a relating. The entities which actually relate relata are unit relations, which are numerically distinct from each other. That is what is supposed to be shown by the arguments for particularism. While Avicenna and the tradition offer analyses in terms of *esse in*s and *esse ad*s, what is proposed here is an analysis in which a unit attribute is an *esse inter*; i.e., a fully real interconnective.[2] For relations, to be is to bond.[3] I hasten to add that is instances of relations that are supposed to bond, not relations themselves.

What about the second-order attributes appearing in the presented argument for particularism? The direction of a unit relation is said to be a second-order attribute, or at least that it founds one. Furthermore, it is due to that second-order attribute that the unit relation is not the same as another. The form of the second-order attribute mentioned is: being-from-*a*-to-*b*. Which formula can be used to adequately express that the unit relation of the fact has this second-order attribute? Is it perhaps ':$R^3_2(R^2_1,a,b)$'? In this rendering it is a triadic unit relation holding between R^2_1, *a* and *b*. A regress may lie in wait here. If that is in fact the case, which kind is it? If it is analytical, R^4_3 will need to do the relating of R^3_2 to the rest; the next step after

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[1] Mertz 1996, p. 185.

[2] Cf. Mertz 2001, p. 55, and 2006, p. 26.

[3] Cf. Mertz 1996, p. 187.

that is the need of R^5_4 to do the relating of R^4_3 and rest; etc. Mertz would most certainly not admit that an analytical regress is inherent here. If there is a regress here, perhaps it is an implicative one.

One could also deny that there is any regress here at all. Part of that denial would be that the first step in the proposed rendering of the situation — i.e., '$:R^3_2(R^2_1,a,b)$' — is a misrepresentation. The second-order property is expressed in the relative order the constituents have in the formula '$:R^2_1(a,b)$', particularly that of 'a' and 'b'. This since the predicational aspect of R^2_1 is specific for the pair a and b and no other.[1]

The argument from converse second-order properties has been questioned. One objection is made by Reinhardt Grossmann. The particular version of the argument from which he starts is found in Alexius Meinong.[2] Meinong maintains that the triangularity of a particular triangle, *A*, is not the same as that of another triangle, *B*. The reason for that is that the two have different properties: being the triangularity of *A* and being the triangularity of *B,* respectively.[3] In order to show that this is deceptive, Grossmann invokes an analogy.

> [T]his argument is of the same form as the following falla-
> cious argument. The son of John cannot be the son of
> Mary; for the former has the property of being the son of
> John while the latter does not. […] But, of course, Tom —
> the only son of John and Mary — has both properties; he
> is both the son of John as well as of Mary. And so, too,
> the property of being a triangle has both the property of
> being the triangularity of *A* as well as that of being the
> triangularity of *B*.[4]

I take it that the counter-argument here is as follows: If the argument from converse properties is sound, Tom cannot be the son of both

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[1] Using an ugly formula: $:R^2_1(a,b) \rightarrow \forall x \forall y[(:R^2_1(x,y) \leftrightarrow ((x = a)\ \&\ (y = b))]$.

[2] According to Grossmann, the same kind of argument can be found in Wolterstorff 1970, p. 139, and Cook Wilson 1926, vol. I, pp. 346, 394. He might be right about that. However, in both cases it is rather implicit.

[3] Cf. Meinong 1968-78, vol. 1, p. 75.

[4] Grossmann 1983, p. 109.

John and Mary. If he were, he would have two properties which are converses of each other: being the son of John and being the son of Mary. However, since Tom in fact is their son, he can simultaneously have these properties. Hence, the argument is not sound.

Classification of the two relational properties mentioned as being converses of each other is dubious. Never mind that though. Contemplate instead the remark that Grossmann's counter-argument misses the point. The criticised argument does not rule out that a person can have two parents. What it is meant to show is that there is not just one but two instances of the parent relation involved. One of these holds between the father and the son. The other holds between the mother and the son. The claim is that if it were the same relating entity, it would have two properties which it cannot have simultaneously: holding-from-John-to-Tom and holding-from-Mary-to-Tom. However, in Grossmann's rendering of the argument what he takes to be relevant is that the son has converse properties: being-the-son-of-John and being-the-son-of-Mary. Evidently, that is a misrepresentation of the argument.

If there is a relation in the example with the two triangles, being the analogue of the parent relation, it would be instantiation. Now, is it the same relating obtaining in both triangles? If instantiation is supposed to be a relation just like any other, a particularist would give a negative answer. The reason for that is the same as in the case with the parents and their son. If we instead concentrate on the triangularity of the two triangles, it is of course less evident that there are in fact two instances of it: one in A and another in B. Meinong's claim, that they are two since they have different properties, is taken by Grossmann to be no more than an assertion.

As will be seen below, Mertz does not think that there are any instances of an instantiation relation. Further, since there is no such relation, there can be no instances of it. However, he has a notion which can be said to correspond to instantiation. It is called 'predicational aspect' among other things. It will be seen in what follows that since it *per definitionem* is particular, the triangularity of A is not identical with that of B. What is said in the previous sentence is of

course not a valid inference. A few more premises are needed. They are supplied below.

5.3.4 Unit Attributes: Preliminaries

Every unit attribute has two aspects according to Mertz. One of these he refers to using denominations such as 'universal aspect', 'intensional aspect' or simply 'universal' or 'intension'. The other aspect has several alternative names, some of which are: 'predicational aspect', 'predicational tie' or just 'predication' or 'tie', 'unification under an intension' or just 'unification', 'relating under an intension', 'relating aspect' or just 'relating', 'combinatorial aspect', 'agent unifier', 'unifying agency', 'agent-combinator', etc.[1] Since the intensional aspect is a universal, it is shareable. The predicational aspect, on the other hand, is not shareable. Consequently, it is a particular, or, it is at least particular (adjective). For the rest of this chapter I will be using most of the denominations mentioned, and also a few in addition to these.

Two arguments are frequently adduced by Mertz. Both are intended to show that the predicational aspect under an intension must be a particular. A version of one of these reads:

> [T]he relating-under-R is unique and unrepeatable to each fact because the existence sustaining unification under R among one set of relata can obtain while the like unification under R among the other (or any other) set of relata ceases to exist. [---] Restated as a *reductio*, if it were one and numerically the same unification under R sustaining the existence of each fact, just as for realists it is numerically the same intension R 'in' each fact with ontic predi-

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[1] While the terms of the first group are used univocally, some of the second are used equivocally. E.g., by 'agent-combinator' is often meant an entire ontic predicate. But, equally often is meant just its predicational aspect. The same is true of a phrase like 'relating under an intension'. One of its possible senses is that of 'instance of an intension'. Another is that of 'predicational aspect'. There is even a third sense, which is an intermediate of the former two. Thus, a tristinction is indicated: (i) instance of an intension, (ii) predication under an intension, and (iii) predication. The distinction between the intermediate and either of the other two is easily blurred.

cate R, […] all such facts would obtain or cease to exist simultaneously. A content or intension R might persist, but all of its relatings, being identical (numerically one), would come into and go out of existence together. All of this is counter-factual. An intension R can be shared, but a union under it among a specific relata set cannot.[1]

Thus, if the assumption is made that the same specific predicational aspect is the unifier of distinct facts; all these facts must go out of existence whenever one of them ceases to exist since all these facts have identically the same predicational aspect. However, this is counter-factual. The assumption must be repudiated. When the intension Love is involved, we realise that John's love for Mary can obtain even when her love for him ceases to exist, and *vice versa*. The same applies to the predicational aspects of monadic predicates. When one of the apples of a pair of red apples ceases to be red, the other does not automatically stop being red. Since one and the same predicational aspect cannot behave differently from itself, it cannot be the same predicational aspect everywhere doing that. Instead, there are as many particular predicational aspects under a specific intension as there are instances of it.

A generalisation of the argument would be that it cannot be the same predicational aspect that is doing the job in every obtaining fact, irrespective of intension. Given that assumption, when one fact goes out of existence, every other fact must also cease to exist since the relating aspect in all facts is identical.

The other argument is the one from contrary second-order properties. In one of his formulations of it Mertz refers to a principle which he calls 'the constituent analogue of the identity of indiscernibles':

(CII)   Entities having exactly the same constituents are identical, i.e.,

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[1] Mertz 2001, p. 55-6.

$$(x)(y)[(z)(z \text{ is a constituent of } x \equiv z \text{ is a constituent of } y)$$
$$\supset x = y].^1$$

While the original version of the principle of the identity of indiscernibles — with 'universals' instead of 'constituents' — is controversial, Mertz considers (CII) to be fairly uncontroversial.[2] It is said to be intuitive and consequential,[3] similar to the principle, or axiom, of extensionality for set theory.

The second argument can now be stated quite briefly.

> [I]f the relating-under-R between *a* and *b* were numerically one and the same in all of its facts, then, because R, *a* and *b* are also numerically the same in all these facts, under CII it would be the case that :R(*a*,*b*) = :R(*b*,*a*).[4]

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[1] Mertz 2001, p. 49. The principle is found in Moreland 1998, p. 252, where it is stated that "[i]t is hard to see how two entities could share literally *all* their constituents in common and still be two."

[2] Cf. Mertz 2006, p. 15. (CII) is rejected by Armstrong. Cf. Armstrong 1986, pp. 85-8; 1989, p. 90; 1997, pp.118-21. According to him, the differences between entities having the same constituents are due to differences in how the constituents are organised. The implication is then that organisation is separated from the constituents. Thus, :R(*a*,*b*) and :R(*b*,*a*) are different due to difference with regard to organisation, not constituents. A slightly misleading way of specifying the sense 'constituent' has in Mertz' terminology is to say that organisation is an aspect of the constituents. This illustrates the importance of keeping track of how 'constituent' is being used. Cf. the following footnote.

[3] The inversion of (CII) might be called 'the constituent analogue of the indiscernibility of identicals' (CII*):

(CII*)   Entities being identical have exactly the same constituents, i.e.,
$$(x)(y)(z)[(x = y) \supset (z \text{ is a constituent of } x \equiv z \text{ is a constituent of } y)].$$

This principle, just as (CII), is intuitive and consequential. This holds good also when 'constituent' is replaced by 'universal' in (PCI*). In contrast to Leibniz's principle, Leibniz's law is considered valid by most philosophers. Now, I would say that given the sense in which Mertz is using 'constituent', the significant difference between Leibniz's principle and law is made trivial.

[4] Mertz 2001, p. 55. I remind of (PCI), presented in section 5.2.4:

(PCI)   Necessarily, for all complex objects *x* and *y* and every entity *z*, if

Since the relating aspect, according to the assumption, is numerically the same in :R(*a,b*) and :R(*b,a*), it has the same second-order unit property in both facts. That would be one, but not both, of the following two: from-*a*-to-*b* or from-*b*-to-*a*. However, that is impossible.

What now of the distinction between the two aspects of a unit attribute? A decision has to be made with regard to analysis. There seems to be only two alternatives. According to one of these, a pre-abstraction real complexity exists within the unit attribute. According to the other, there is only a post-abstraction distinction between partial and incomplete aspects of what is itself a simple entity.[1]

Mertz considers the first analysis to be untenable. If it is accepted, one out of two absurdities must also be accepted. One of these absurdities is a vicious regress. The other is the non-relational tie theory.

Let us see first how the regress supposedly arises.

> [A]ssume analysis 1), i.e., that a fact of the form :R(*a,b*) has as real and distinct constituents relata *a* and *b*, intension R, and the latter's predicational tie. So construed, the predicational tie under R will have R as an additional term or relatum. This is so since the tie, to be a *tie* and to be R's tie, must do the connecting of R to *a* and *b*. Now, clearly the tie cannot itself be an additional and full relation[2] (a tie

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       z is a constituent of *x* if and only if *z* is a constituent of *y*, then *x* is numerically identical with *y*.

This principle is similar to (CII). However, I take it that the intended sense of 'constituent' in (PCI) is not the same as that of (CII). In Mertz' interpretation of the principle (CII) the predicational aspects of constituents are included. (PCI) does not include corresponding instantiation among the constituents. An objection to this might be that constitution and instantiation are reciprocal in the sense that what is a constituent is instantiated and what is instantiated is a constituent. However, the notion of instantiation, which seems to be presupposed by Rodriguez-Pereyra, does not rule out the possibility that the constituents of a complex are arranged differently in another complex.

[1] Cf. Mertz 2001, p. 57.

[2] The term 'full relation' has not been used before. It means the same as 'unit relation'.

with its own intension) R', for otherwise R' would be the
first step in Bradley's vicious regress of further and further
relations. In effect, the original fact :R(*a*,*b*) would turn up
on this analysis to be identical to the fact :R'(R,*a*,*b*). But, of
course, the latter fact is exactly the same kind of entity as
the original fact and so would itself dissipate upon the
present analysis into the further fact :R"(R',R,*a*,*b*), and so
on, evaporating into the oblivion of an endless regress.[1]

The overall assumption of this *reductio* is that the predicational and
intensional aspects of what appears to be the relating entity of :R(*a*,*b*)
are distinct from each other. That means that the referent of 'R' is not
doing the relating in the fact. Instead, R is one of the relata of the
relating entity, which is the predicational aspect of R. Now, if this
predicational aspect is itself a unit relation, *its* predicational aspect
must also be a unit relation. As such, it has an intensional aspect as
well as a predicational aspect. That predicational aspect is a unit
relation in itself, with an intensional aspect and a predicational aspect.
By now, we see how the regress is progressing. But, why should we
admit that the predicational aspect of the first unit relation in this
series is a unit relation itself? The answer is that this is one of two
possibilities. The other possibility is that it is nothing more than the
predicational tie itself; it is not a unit relation in itself. The next *reductio*
involves the latter assumption.

Let us move on then to that *reductio*. Now the assumption is that
the predicational aspect of a unit relation is a bare tie. Part of the
argument reads:

> Failing on this analysis [i.e., the previous one], we will
> assume the alternative — that the predicational tie in the
> fact :R(*a*,*b*) is bare, i.e., has no content or intension. So
> under the present assumption, for a fact with an *n*-adic
> intension R, the predicational linking is characterised as
> both a blank tie, a mere togetherness, and one that is *n*+1-
> adic, e.g., for dyadic intension Love, its tie in fact
> :Love(*a*,*b*) must be triadic, or for triadic intension Between,

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[1] Mertz 2001, p. 57.

its tie in fact :Between(a,b,c) must be four-term. Now I note first that this latter characteristic should render the present assay implausible on the face of it. For, it declares to be a pervasive illusion what we understand when we are cognisant of a property or relation — that the n-subject specification that constitutes part of the very apprehension of any intension R is always false by one term. An intension carries its n-adicity as a part of its very meaning. To understand the intension is to grasp the number of subjects the corresponding predicate can have. Yet the present assumption renders this understanding false in every case.[1]

An objection to this might be that the analysis brings us new knowledge. We thought we had correctly understood the adicity of the relating entity of the fact. Unfortunately, we were wrong. What seemed to be the relating entity turned out not to be that entity. As a consequence we were mistaken regarding the adicity of the proper relating entity. Now we know better.

The rest of the argument runs like this:

Beyond this is the further and, I contend, compelling critique deriving from the untenability of the very notion of a bare linking. Here the fact :R(a,b) is supposed to resolve into three subjects, R, a, and b, held together by a tie that itself has no content (no intension R'), its content having been separated out as R. This is the 'non-relational tie' theory that some ontologists contend is the proper conclusion in the face of Bradley's regress. But if this is the case, [...] it implies that the unity among R, a, and b in the fact :R(a,b) is no different in kind than the unity among them as elements of the set {R,a,b}. On a blank association the unification between the terms is conditioned on nothing but their existence, the natures and characteristics of the terms are irrelevant. In particular, no ordering among the terms is specified.[2]

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[1] Mertz 2001, p. 57.

[2] Mertz 2001, p. 57.

In the former *reductio* it was part of the assumption that the predicational aspect of a unit attribute is a unit attribute. The assumption of the present *reductio* is instead that it is a bare linking. The conclusion of the latter is that the unity among the constituents of :R(a,b) is not more intimate than it is among the same entities when they combine to form a set. In other words: {R,a,b} = :R(a,b). Evidently, that is an absurdity. Furthermore, since there is no controlling intensional input to a bare linking, every fact will have the same modal character. Presumably, they will all be contingent. This constitutes a *reductio* on its own.[1]

There are only two conceivable analyses of the "relationship" between the two aspects of a unit attribute. One of these has been dealt with in the previous paragraphs. It turned out to be abortive. The conclusion is that what underlies the distinction between them cannot be a pre-abstraction real complexity. What is left then is the other alternative, according to which there is no ontic distance between the two aspects. This being so, what we have is a post-abstraction distinction. According to this second analysis, the true picture of the situation is that although a unit attribute is a simple entity, there is a real foundation within it for making a distinction between two aspects.[2]

The analysis hinted at in the second part of the previous paragraph is difficult to spell out and to understand. In section 5.3.5, the two aspects of a unit attribute are discussed. Mertz's proposed analysis of their union is examined after that. But first, preliminary determinations of simplicity and complexity are introduced.

The kinds of simplicity supposed to inhere in unit attributes are defined in terms of its opposites, which are two notions of complexity. One of these kinds of complexity, in turn, is defined in terms of having predicative structure. An entity is complex in this sense if at least one of its constituents, or aspects, is predicated of another of its constituents or aspects. Since facts *per definitionem* involve ontic predicates' linking to subjects, or linking between subjects, facts are

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[1] Cf. Mertz 2001, p. 58.
[2] Cf. Mertz 2001, p. 58.

complex entities in this sense. Evidently, ordinary objects are also complex entities. With this kind of complexity, comes what Mertz calls 'ontic distance': "Relations as 'actually relating' maintain 'ontic distance' among their relata — a real distinction in the containing entity (i.e., fact or state of affairs)."[1]

If sets and sums are conditioned by nothing else than the existence of their elements or members, perhaps they are simple entities in the sense hinted at in the previous paragraph? The elements or members may of course be complex entities in themselves. For example, the set of all human beings obviously involves complexity since each human being is a complex entity by itself. However, the complexity of the set depends primarily on whether there is any set forming (unit) relation; likewise with regard to mereological sums. I would say that it is reasonable to assume that there is a set-forming relation, as well as a sum-forming one since set theory has its element-of relation and mereology its part-of relation, governed by axioms which are non-arbitrary.[2] Therefore, neither sets nor sums are simple entities in the sense hinted at here.

The way unit attributes are talked about suggests that they have a nature. Perhaps that is unavoidable. It is difficult to say anything without at least formally predicating something. That is also true of unit attributes. What is predicated of a unit attribute is, among other things, that it is simple and unrepeatable. Does this imply that it has two unit attributes as some sort of constituents? The predicational aspects are talked about in a similar way. They are said to be unrepeatable and unique. Presumably, if these predicates really are ontic predicates of their respective subjects, they are of their essence. At least in one place, the scholastic principle that what is of the essence of an entity must be a constituent of it is referred to approvingly by Mertz.[3]

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[1] Mertz 2001, p. 47.

[2] Cf. Mertz 2006, p. 25, where it is pointed out that the element-of and part-of relations are in principle unreducible to extensional surrogates of any kind within their respective theories.

[3] Cf. Mertz 2006, p. 14.

It may seem petty to make a fuss about attributes such as sim-plicity, unrepeatability, uniqueness and the like. They seem awkward anyhow. However, the impression is given that Mertz takes them seriously. In fact, he seems to be using them as ammunition when shooting at the notion of a bare particular.[1] But, since it is hard to make heads or tails of all this, I leave it at that.[2]

5.3.5 Intensional Aspect: Simple or Complex?

Interpretational efforts are needed to figure out what the structure of a unit attribute is. Allegedly, use of 'structure' here is contradictory, strictly speaking since a unit attribute cannot *per definitionem* have an internal structure. If it had, it would be complex in a sense which Mertz cannot permit. Anyhow, as preparation for a discussion of the "structure" of a unit attribute, I will briefly discuss the constituents or, as he prefers to say, aspects of unit attributes.

There is a kind of simplicity which we might call 'absolute sim-plicity'. According to Mertz, an ontic predicate in its entirety is not an

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[1] Cf. Mertz 2001, pp. 50f, where, among other things, the following is asserted.

> [B]are particulars do have properties, and moreover they have them necessarily, e.g., the properties of unrepeatability and sim-plicity, the property of not having properties (in some sense), and the property of being the constituent of at most one object at a given time.

I would say that these are doubtful cases of properties, especially if they are supposed to be constituents of entities. Cf. also Mertz 2003.

[2] It should be pointed out that what I have clumsily expressed in the last two paragraphs might prove to be a failure since Mertz also says:

> [A]ll predicates are *external* to their subjects in the sense that what is predicable of a subject (or subjects) is not a constituent of the subject(s), contrary to the popular containment model of predi-cation." (Mertz 2006, p. 31)

What is stated here is not intended to rule out the possibility that an entity might be a complex as a result of having ontic predicates as constituents. Predicates being external, in the intended sense, to their subjects is a result of Mertz' network model for complexes.

absolute simple. Though, he is inclined to consider each one of its aspects to be simple in the absolute sense.

> [A]n 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.[1]

I will dwell upon the alleged absolute simplicity of redness and other intensions for a moment. The determination of the notion of absolute simplicity itself will have to be intuitive. I rely, as Mertz seems to do, on an inarticulate intuition of absolute simplicity.

Note first that instances of redness are said to resemble each other. The previous quotation suggests that they resemble each other exactly evenly. Furthermore, this is explained by their sharing the same intension, which is redness.

> The fact that there are multiply exactly resembling instances of a 'kind' […] is, in this ontology, the result of numerically the same intension-content being a constituent of each such instance, i.e., exactly resembling instances share as their sole qualitative content one and the same universal […].[2]

Thus, exact resemblance is explained in terms of qualitative identity. Now, is redness absolutely simple? Let us assume that what is meant by 'redness' is a determinate, a lowest determinate even. Assume also that 'yellowness' denotes another lowest determinate.[3] Now, what would Mertz say of the resemblance that holds between an instance of the former and an instance of the latter? If they are similar to each other, which he would say that they are, the explanation cannot be that they are exactly similar to each other. It presents itself immediately that there is something in each which makes them partially

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[1] Mertz 2006, p. 112.

[2] Mertz 2006, p. v.

[3] Whether these two are lowest determinates is not decisive. What is decisive is that they are not highest determinables.

similar to each other. Reasonably, this something is a determinable they share. This would cause resemblance between instances to have a uniform explanation. On the other hand, if less than exact resemblance between instances is not to be explained in terms of a common content, but exact resemblance is, resemblance is treated as a heterogeneous phenomenon. What would the explanation of less than exact resemblance look like? As far as Mertz is concerned, it can be ruled out that less than exact resemblance is primitive in relation to the qualitative contents of instances. That would be to invite some form of resemblance nominalism. He rejects all forms of nominalism, including versions of resemblance nominalism.[1] Since it is difficult to see what other alternatives there can be left for him, the chances are that he would accept the explanation hinted at here. Thus, redness is not absolutely simple. Neither is yellowness.

I would say that what is said regarding non-instantiated intensions also supplies circumstantial evidence for the claim that intensions are not absolutely simple. Ponder upon the implications of the following statement.

> Intensions and combinatorial acts when separated in abstraction from any relation instance have a conceptual existence only, as do any constructed non-instantiated intensions, e.g., Unicorn, Phlogiston [...].[2]

What is interesting here is that the intensions mentioned are said to be constructed. I take it that a non-instantiated intension is either a part of an instantiated intension or it is a combination of several instantiated intensions. In the former case, the instantiated intension is not absolutely simple. In the latter, the non-instantiated intension is not absolutely simple. What I have in mind here might be called 'intension empiricism'. It is through our senses that we get acquainted with intensions. By means of various intellectual tools these intensions are manipulated in various ways. Among the products of these manipulations is the intension of being a unicorn. It is not pre-

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[1] Cf. Mertz 1996, pp. 13, 63-5, 149, 157.
[2] Mertz 2006, p. vii.

requisite here that intension empiricism is the only conceivable option. Presumably, complex intensions would be constructible from other intensions irrespective of whether the latter are empirically obtained or innate. The existence of innate intensions would mean that intension rationalism is to be seriously reckoned with. However, it does not change anything in principle as regards the possibility of there being complex intensions.

Another indicium that speaks against the notion that intensions are absolutely simple is the amount of information they are supposed to contain. The message of the following three quotations indicates what I am referring to.

> R-as-an-ontic predicate is not simply intension R, it is more; it is the linking of specific relata under the concomitant controlling content of R, the latter determining the nature, number, and order of the former combination.[1]

> The intension is the source (i.e., is the cause of) the number, order, and compatibility/admissibility of the linked relata, and, more globally, of the relation's formal/logical properties. This is the more obvious the higher the adicity. For example, in the fact :Between(a,b,c), which is the linear spatial arrangement of objects b between objects a and c, there is the unification of three objects under the intension Between. The intension specifies the second-order attributes of triadicity, the a–b–c order, and the logical properties such as the triadic version of symmetry, i.e., if :Between(a,b,c) obtains then so does :Between(c,b,a).[2]

> [C]onsider 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″ and the determinate natures of (and

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[1] Mertz 2001, pp. 53-4.
[2] Mertz 2006, p. 31.

ordering 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*>.[1]

We see here that intensions determine a number of things. Among these are such things as the nature, number and order of the entities which are possible subjects of the ontic predicates of which the intensions are the intensional aspects. Add to that the formal properties of the ontic predicates. In the light of this, my rhetorical questions are: Can intensions really be absolutely simple in general? Can even an intension such as redness be absolutely simple? The answers should be: no and no.

5.3.6 Unit Attributes: Continuous Composites

The following list provides another selection of descriptive names of unit attributes, supplementing the one which was given earlier: composite simple,[2] continuous composite,[3] composite continuous simple,[4] continuous whole[5] or non-standard composite.[6] These denominations have in view the peculiar structure of unit attributes.

When a definition of simplicity is sought for, the immediate reflex is to take simplicity to be the opposite of complexity. The latter, in turn, is naturally thought of as having parts; put more precisely, as having proper parts. That which is actually undivided and potentially indivisible is simple. Another angle is to think of simplicity in terms of categorial divisibility, thus, a simple entity is something which cannot be divided into entities belonging to different categories. In the chapter III we saw simplicity being defined in that way. However, the

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[1] Mertz 2006, pp. 106-7.
[2] Cf. Mertz 2006, p. 83.
[3] Cf. Mertz 2006, p. 85.
[4] Cf. Mertz 2006, p. 112.
[5] Cf. Mertz 2006, p. 86.
[6] Cf. Mertz 2006, p. 91.

notion of simplicity invoked there is a different one that approximates the intuitive notion of absolute simplicity.

The notion of having internal predicative structure is the notion of complexity that is relevant for the notion of a continuous simple. According to Mertz, unit attributes lack this kind of complexity; therefore, they are simple in the corresponding sense, not in the sense of not being categorially complex. Each and every one of them has a universal aspect (its intension) as well as a particular one (its predicational aspect). In fact, a prerequisite for an entity's being a composite simple seems to be that its constituents belong to different categories.[1] Suppose that I am right in my claim from section 5.3.5 where I said that not every intension is absolutely simple. In that case, if Mertz is right, that does not automatically imply that they have an internal predicative structure. Thus, an entity being categorially simple while being complex in another sense does not imply that the entity is an articulated complex. Being an articulated complex is the same as having internal predicative structure; having such a structure rules out its being a composite simple.

After these preliminaries, let us try to come to grips with the somewhat bewildering notion of a continuous simple. As shown in the previous paragraphs, unit attributes are continuous simples. Analysis of these reveals the nature of this kind of entity.

> A clarifying thesis argued […] 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.[2]

Thus, the unit attributes are in a sense the fundamental entities of reality. The qualification 'in a sense' is inserted because unit attributes

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[1] Cf. Mertz 2006, p. 111.
[2] Mertz 2006, p. 83.

have aspects. I take it that the latter are even more fundamental than the former. Although the two aspects are fundamental, it is crucial to realise that they are non-identical constituents of the unit attribute without there being a real division between them. This explains why Mertz considers the entire unit attribute to be the fundamental entity of reality.

According to William of Ockham (c. 1288–c. 1347), "[a]ll things which are distinct are really distinct and therefore, different things."[1] The apparent claim here is that entities which are distinct are also discrete. Irrespective of their being constituents of the same whole, they are separate from each other.[2] Thus, Ockham's view is that every composite involves real internal differentiation between its constituents, irrespective of what its parts might be. Furthermore, we can expect him to claim that all entities on all levels of analysis are particulars. The latter is a, if not the, defining thesis of nominalism. Mertz's description of Ockham's view is that he considers all distinctions to presuppose ontic distance between what is being distinguished. Lack of ontic distance means that there is in fact no real distinction. If there is no real distinction between two entities, they are in fact identical with each other. If they are identical, there is no real composition.

John Duns Scotus (1265/6–1308) is an ally of Mertz. His famous formal distinction is the one Mertz has in view between the aspects of a unit attribute, or comes close to it. Duns Scotus' name of the distinction is 'distinctio formalis a parte rei'. As the name indicates, there is supposed to be a difference in reality. The formal distinction is an intermediate between a real distinction, on the one hand, and a merely conceptual distinction, on the other. The latter has no extra-conceptual basis.[3] Duns Scotus applied the formal distinction to the union of *natura* and *haecceitas*. . While the *natura* is

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[1] William of Ockham 1974, p. 84.

[2] Cf. Mertz 2006, p. 81.

[3] A merely conceptual distinction is called by the scholastics 'distinctio rationis ratiocinantis'. It can be translated 'distinction of the reasoning reason'. Duns Scotus' formal distinction is also called 'distinctio rationis ratiocinatae'. In English: 'distinction of the reasoned reason'. Cf. Suarez 1947, p. 18.

universal, the *haecceitas* is particular; it is what combines with the *natura* to compose a substance.[1] I confine myself to this extremely brief account of Duns Scotus's doctrine. It is very subtle. It was not for nothing that his contemporaries called him by the nickname 'Doctor Subtilis'.

Now, note that the notion of a continuous simple, or continuous composite, is theoretically necessitated. Mertz explicitly says so himself.[2] Remember what was said to be the first conceivable alternative concerning the relationship between the intensional and predicational aspects of a unit attribute: a pre-abstraction real complexity exists within the unit attribute. That proposal turned out to be wrong. The reason for that is that it gives rise to one out of two absurdities: a vicious regress or the non-relational tie view on predication.[3] What is left then is its alternative: there is only a post-abstraction distinction between partial and incomplete aspects of what is itself a simple entity.

Ponder upon the following statement.

> [W]e must give up the naive 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 adicity 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 subscript 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

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[1] Cf. John Duns Scotus, *Ordinatio II*, d. 3, part. 1, pp. 1-6.

[2] Cf. Mertz 2006, p. 83.

[3] Cf. section 5.3.4.

> 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 homogenous — it is not the same through-
> out.[1]

I would like to call attention to a few things which are said or implied
here. Note that each constituent of a relation instance is said to have
its own essence-specific reality. Further, it is because of these essence-
specific realities the instance is a composite. One of the constituents
of the instance is an intension. Presumably, since it is a universal, it
constitutes its own essence. The predicational aspect, on the other
hand, is not a universal; it is a particular which cannot constitute its
own essence. Since no contrary information has been given, it
suggests itself that its essence is supplied by one or several universals.
According to the description of it, it is a combinatorial agency. I take
it that that is a serious determination of its nature, or essence. The
moral of this is that the predicational aspect of an instance is some-
thing in itself; it is not a *no*-thing. The notion of a bare particular, the
perennial nudist of ontology,[2] is rejected by Mertz. Among his
reasons is that the determination makes it into precisely that — i.e., a
no-thing.[3]

To what is asserted in the last quotation with regard to the par-
ticular predicational aspect of an instance we can add the following
quote concerning particulars.

> Every individual is of one or more kinds (types, catego-
> ries), 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,

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[1] Mertz 2006, pp. 85-6.

[2] Armstrong, perhaps owing to prudishness, feels more comfortable with the
designation 'thin particular' for his own version of it.

[3] Mertz 2006, p. 89. Cf. also Mertz 2006, pp. 132-3. Another of Mertz's
reasons for rejecting bare particulars is that his network doctrine makes them
unneeded. More is said about the networks in section 5.3.8.

every other individual of kind F but distinct from every other individual of kind G contrary to G. 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.[1]

Thus, to the extent that the predicational aspect of a unit attribute is a particular, or individual, it is of one or more kinds. It also has an individuating aspect. In light of this, it seems that a predicational aspect does have an intensional aspect as well as an individuating one. It is perhaps a composite simple?

The essence of the predicational aspect can be approached from another angle. Mertz often asserts that if the predicational aspect is not controlled by any intension, it will be a blank tie, bare linking, free association, etc. To this, it is frequently added that as such it can only produce a list, set or mereological sum of the entities linked.[2] That in itself indicates that it is of a kind: linking.

I will come back to the notion of predication in section 5.3.7. But before that, let us see what more is said about the notion of a continuous composite.

What is essential for continuous composites is that they lack internal predicative structure. In a quotation earlier it was said that such a whole is internally undifferentiated. Its being undifferentiated must not be exaggerated. After all, it is not homogenous. This is also indicated in the same quotation. There are also complexes which are not continuous composites; these are the standard composites which

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[1] Mertz 2006, p. 88.

[2] It is hard to evaluate the relevance of the claim that a blank tie is the same as a set forming unit relation since it is said on occasion that a set forming unit relation is controlled by a specific intension. Another specific intension would be the one of a sum forming unit relation.

Mertz likes to call 'articulated composites'. He hints at the cause for
this descriptive name like this:

> 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 effect-
> ing unity-at-a-distance, i.e., unity among the yet discrete.
> This analysis explains the fact of structure […].[1]

The continuous composites are not internally articulated. Particularly,
the intensional aspect of an ontic predicate $R^n_i(x_1,x_2,\ldots,x_n)$ is not
predicated of the predicational aspect of the same ontic predicate.
Allegedly, there is no unifier between the two aspects of an ontic pre-
dicate. This makes it, and all the other ontic predicates, to non-
standard composites.[2] Yet another description of these composites is
that they are internally non-differentiated wholes.[3]

Now, the notion of simplicity which comes out of this is that of
lacking internal predicative structure. Thus, this notion of simplicity
can be defined as absence of division. An entity is simple, in this
sense, if and only if it has no constituent which is a predicate of
another of its constituents. This is the promised clarification of the
pre-critical concept of the simple. Supposedly, it can replace what was
pejoratively described earlier as the naive definition of simplicity; i.e.
x is simple $=_{df} x$ has no proper parts. The corresponding notion of
complexity is that of having internal predicative structure. This is the
characterisation of an articulated composite. Together these form the
disjunctive notion of a compound.[4]

Instead of having an internal predicative structure, the unit attri-
bute is seamless. Mertz refers to Francisco Suarez, who describes the
union of a quantity and its inherence in a substance as follows.

> [I]n quantity, for example, which inheres in a substance,
> two aspects may be considered: one is the entity of quanti-

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[1] Mertz 2006, p. 84.

[2] Cf. Mertz 2006, p. 91.

[3] Cf. Mertz 2006, p. 83.

[4] Cf. Mertz 2006, p. 118.

ty itself, the other is the union or actual inherence of this quantity in the substance.[1]

What is referred to as the actual inherence is perhaps better known under the denomination 'mode of inherence'.[2] It turns up in one of the names of the distinction exemplified here: 'modal distinction'. Though it was an appropriate one four hundred years ago, that denomination is more or less impossible to use in our time. It distinguishes between what exists in the real order but it is less than a real distinction. What is distinguished does not exist as two separate things.[3] Mertz recognises in Suarez what he himself is contemplating in the case of continuous composites.

> That this union between an entity and its mode is very similar to that of a continuous composite as characterized above is evident from Suarez's description: "[A] mode is not, properly speaking, 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 the sitter, union to the things united, and so of other cases…."[4] Specifically, then, for a property intension[5] and its 'mode of inherence' in (i.e., its ontic predicativity 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

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[1] Suarez 1947, p. 28.

[2] The Latin term 'modus' is used by Suarez.

[3] Cf. Suarez 1947, p. 97.

[4] This is quoted from Suarez 1947, p. 31.

[5] To use 'intension' here is potentially misleading. In Mertz's terminology it is synonymous with 'universal'. Suarez is a nominalist. Therefore, its realistic connotations should be ignored. By the way, being a nominalist Suarez considers both the quantity and its mode of inherence in the subject to be particulars. According to Mertz, one of the constituents in a continuous composite must be a universal. Mertz 2006, p. 111.

that if it were otherwise then Bradley's Regress would result.[1]

If the quantity and its mode of inherence were really distinct, there would be a need for an ontic predicate to unite them. Moreover, the union would then be an articulated composite and not a continuous one. But, as it is now, the two are joined without there being any medium which joins them.

As stated a few times previously, the notion of a continuous composite is theoretically necessitated. That might be so. But, is it true that a unit attribute is utterly devoid of internal predicative structure? According to Mertz, the intensional aspect of a unit attribute $R^n_i(x_1, x_2, \ldots, x_n)$ *controls* or *delimits* its predicational aspect.[2] The use of either of these two verbs suggests that the unit attribute has an internal predicative structure. If either of these two had been used in almost any other context, one could be certain that Mertz would have considered them to express relational intensions. Though, not in this context. However, when reading passages such as the following, it is quite easy to forget what is supposed to be the case.

> [I]f 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', analogues to and as illegitimate as a 'bare particular'. 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 the sense of requiring either nothing or abso-

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[1] Mertz 2006, p. 97. I suspect that the two following sentences are relevant when Mertz says that Suarez at least implies that Bradley's regress would result:

> That inherence does not add a proper new entity can scarcely be doubted. If it were an altogether new entity, it could not be the actual union between quantity and its subject, but would require some medium for union with subject and quantity, just as quantity itself requires an inherence whereby it is united to its subject. (Suarez 1947, p. 29)

[2] Cf. e.g. Metz 2006, p. 90.

lutely everything to be unified at once — total reality —
without differentiation into any sub-wholes of sets, facts,
or complexes.[1]

What is of interest here is that intensions are supposed to control the
predicational aspects of unit attributes without giving rise to internal
predicative structure in the unit attributes.

Let us for a moment disregard what is theoretically motivated.
Instead, rehearse one of Mertz's standard arguments. Assume that the
intension R^n controls the predicative aspect of the ontic predicate of
$:R^n_i(a_1, a_2, \ldots, a_n)$ as well as that of $:R^n_j(b_1, b_2, \ldots, b_n)$. Assume also that the
first fact ceases to obtain; then the latter must also do so since the
same entity is the controller in both cases. When this argument is
used against realists who take universals to be the ontic predicates of
facts, the conclusion is that the predicates must be individuated.
However, if we try the same move in the case at hand, it does not
prevent the ontic predicates from not being continuous composites.
The unit attributes $control^n_k$ and $control^n_l$ give rise to internal predica-
tive structures in their respective wholes. To block this, the control
performed by R^n is declared to be a non-predicative one.

5.3.7 Predication

Traditionally, instantiation, or exemplification, has been looked upon
as a relation. The well-known problems this gives rise to have been
handled in accordance with different strategies. One of the strategies
is one which can be expected from the legendary ostrich: pretend that
there is no problem. Another is to stipulate that the instantiation rela-
tion does not behave the same way other relations do. In contrast to
all the others, is it neither instantiated nor is it in need of being in-
stantiated. It is still a relation though.

When discussing his own ontology, Mertz does not use
'instantiation'. However, predication, which is traditionally considered
to be the converse of instantiation, appears to be constantly present
in that it is an aspect of each unit attribute. What does he say con-

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[1] Mertz 2006, p. 107.

cerning there being a relation of predication? Not much explicitly. Among the few places where he addresses the issue in clear terms is the following.

> […] I 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.[1]

A significant difference between Mertz's unit attributes and the tropes of many a trope theorist is that the former are ontic predicates. Tropes are substances in the sense that they lack predicativity. As a consequence there is the need for a compresence relation. Thanks to instances of this compresence relation, tropes are bundled together, forming complexes. Without the instances of compresence, there will not be any complex entities of that kind. Exactly what the constituting relations of sets and sums are is seldom, if ever, dealt with explicitly.

Mertz characterises predication as an intension-determined unifying agency.[2] In his later works, four principles are stated which jointly explicate ontic predication. They rehearse what has been stated in his earlier works. I quote them here with the purpose of pointing out a few details.

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[1] Mertz 2006, pp. 114-5.
[2] Cf. Mertz 2006, p. 98.

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

Principle II:
Every ontic predicate $R^n_i(x_1,x_2,…,x_n)$ has as a constituent a single universal intension R^n whose ontic role is that of delimiting or determining non-arbitrarily the possible n-tuples of relata $<a_1,a_2,…,a_n>$, that predicate $R^n_i(x_1,x_2,…,x_n)$ can unify into a fact. However, an intension R^n 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 $R^n_i(x_1,x_2,…,x_n)$ its actual mode[1] of union, its combinatorial or linking agency, among and to its particular n-tuple of subjects. The linking aspect of predicate $R^n_i(x_1,x_2,…,x_n)$ 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. Of fundamental importance, the unifying act of an ontic predicate is unrepeatable and particular, rendering the containing predicate an individual, i.e., a unit attribute (hence the subscripts, e.g., 'i').

Principle IV:
The unifying act among an n-tuple of subjects is unique to that n-tuple. Hence, an instance ontic predicate subsuming this act is unique to this n-tuple of subjects, i.e., if $:R^n_i(a_1,a_2,…,a_n)$[2] and $:R^n_i(b_1,b_2,…,b_n)$, then $a_1 = b_1$, $a_2 =$

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[1] The use of 'mode' here is of course inspired by Suarez.

[2] I have taken the liberty of inserting the colons here and in the other three

$b_2,\ldots,\,a_n = b_n$. In the opposite way, ontic economy requires that no n-tuple of subjects have more than one instance of the same intension R^n, i.e., if $:R^n_i(a_1,a_2,\ldots,a_n)$ and $:R^n_j(a_1,a_2,\ldots,a_n)$, then $R^n_i = R^n_j$. Also, because it is intrinsic to an instance ontic predicate to be an agent unifier of an n-tuple of subjects, it cannot exist independent of this n-tuple except cognitively in selective abstraction.[1]

Of particular interest is what is stated in the second principle. The same principle is stated, with a slightly different wording, in Mertz 2004*a*. In both versions the same claim is expressed: the predicate $R^n_i(x_1,x_2,\ldots,x_n)$ can have more than one n-tuple as relata. Note the phrase 'the possible n-tuples of relata $<a_1,a_2,\ldots,a_n>$, that predicate $R^n_i(x_1,x_2,\ldots,x_n)$ can unify into a fact'. If the plural used here, as well as in Mertz 2004*a*, is not a slip of the pen, what we are presented with is a *universal* ontic predicate. If in fact entities of this kind are contemplated, the way to obtain them is hinted at in the following quotation.

> The process 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., $:Red^1(a)^2$, $:Loves^2(b,c)$, $:Father-of^2(e,f)$, or $:Similar-to^2(g,h)$, 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

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formulas with the same form.

[1] Mertz 2006, p. 140. This quotation is from what originally is Mertz 2004*b*. Together with Mertz 20004*a* and five other articles it constitutes Mertz 2006. In Mertz 2004*a* the subscripts of the predicate symbols are omitted. This is unfortunate since it complicates the interpretation of what is being asserted.

[2] In this formula, as well as in the following ones in this quotation, the subscript is omitted. As was remarked in the previous footnote, this is unfortunate.

ontic predicates proper, e.g., $\text{Red}^1(x_1)$, $\text{Loves}^2(x_1,x_2)$, $\text{Father-of}^2(x_1,x_2)$, and $\text{Similar-to}^2(x_1,x_2)$, expressed in the verb phrases, respectively, as 'is red', 'is in love with', 'is a father of', and 'is similar to'.[1]

Thus, the process of abstraction starts from a fact: $:R^n_i(a_1,a_2,\ldots,a_n)$. From this an ontic predicate is abstracted: $R^n_i(x_1,x_2,\ldots,x_n)$. Next, an intension abstracted: R^n according to the message of the quotation. Now, the plural form of 'n-tuples of relata' suggests that there is another abstracted entity, one which is to be found between the abstracted entities $R^n_i(x_1,x_2,\ldots,x_n)$ and R^n. The formula expressing it would then be: $R^n(x_1,x_2,\ldots,x_n)$. Here, the omission of the subscript marks the significant difference. While $R^n_i(x_1,x_2,\ldots,x_n)$ is an ontic predicate which can only have one single n-tuple as its relatum, $R^n(x_1,x_2,\ldots,x_n)$ is a universal ontic predicate. While the former is a one time occurrence, the latter would be a repeatable entity.

Although this discussion might emanate from a misprint, which occurs twice, it actualises the issue of the status of predicativity. The traditional pattern of predication might be rendered: $\text{Pred}^{n+1}(U^n(a_1,a_2,\ldots,a_n))$. Here U^n is a universal which is predicated of the n-tuple $\langle a_1,a_2,\ldots,a_n\rangle$. Since the predication relation is supposed to be the unifier, its adicity should be $n+1$, given that the adicity of the universal, which it predicates of the tuple, is n. It is of course inappropriate to describe the latter as having adicity. Strictly speaking, only Pred has adicity. Furthermore, it seems as if this model must postulate one predication relation per adicity.

The pattern of Mertz's model is more difficult to formalise since a universal, R^n, is supposed to operate on what is described as a predicational aspect. In turn, the predicational aspect, as controlled by R^n, is what operates on an n-tuple. Judging from what Mertz often says with regard to the forming of a set/sum, it might be the predicational aspect which operates on an n-tuple. Furthermore, since the predicational aspect is described as a linking, it is a bare linking in cases where there is no intension controlling it. Perhaps the last case might be rendered: $\text{Predasp}_i(a_1,a_2,\ldots,a_n)$. An implication here might

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[1] Mertz 2006, pp. 107-8.

then be that there must be predicational aspects with different adici-
ties. After all, the cardinalities of sets/sums vary.

Enough of these speculations for now. Instead, I will say some-
thing about Mertz' network theory. That concludes, for now, my
discussion about his moderate realism.

5.3.8 Networks of Unit Attributes

Mertz presents his network model as an alternative to the traditional
doctrines of complex entities. Crudely put, realists have tended to
analyse complexes either as bundles of universals or as universals
predicated of one or several bare particular(s). A version of the latter
view is that some universals are predicated of the combinations of
bare particulars and universals. Equipped with the notion of a net-
work of unit attributes, we can dispense with bundles of universals as
well as universals predicated of bare particulars.

What the philosopher can do, and what Mertz has done, is to
offer a model for how the structures of reality can be constructed
given that instances of attributes are the only building stones avail-
able. The principles I-IV, quoted in section 5.3.7, characterise these
building stones.

At the lowest level of spatiotemporal reality, networks are
formed by unit attributes linking to each other.[1] Thus, at this lowest
level, the relata and the unit attributes are instances. Undoubtedly, it
is an empirical question what instances exist at this level, as well as
practically every other level. It cannot be answered at the writing-
desk, at least not the writing-desk of a philosopher. However, a
matter of principle which the philosopher Mertz ventures to claim is
found in the following quotation.

> Here we have the closed chain of three dyadic facts
> $:J^2_i(K^2_j, L^2_k)$, $:K^2_j(L^2_k, J^2_i)$, $:L^2_k(J^2_i, K^2_j)$. It is easily seen that

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[1] A similar, if not the same, idea is expressed by Ernst Cassirer. He takes
quantum entities to be points of intersections of certain relations. He also
demonstrates how they can be mutual intersections of individuated relations.
Cf. Cassirer 1956, p. 180.

this scheme of mutually sustaining instances can be extended logically to networks composed of any number of relation instances and of any mixture of adicities, as long as each instance has as subjects in its relata *n*-tuple only other instances of the network. The only constraints in these regards would be via the intension of each composing instance and what it allows as to the natures of and the ordering among its relata.[1]

The claim I am referring to is expressed in the last sentence. The intensions of the composing instances set the limits for what can be combined. In view of this, a descriptive term may be coined: 'intensional determinism'.[2] Depending on to what degree the intensions allow their instances to form complexes with others, the degree of intensional determinism will vary. At one extreme there is no elbow room; at another it might be limitless. The repeatedly made reference to bare linking might be the latter extreme. The intension which determines what can make up a set or sum in general, if there is such an intension, does not set any limits whatsoever. This constitutes a state of intensional *in*determinism. At the other extreme we might find various mathematical structures. Intensional determinism will then be the prerequisite of the rigour with which these structures can be investigated by means of deductive reasoning.[3]

Two principles of network composition are discerned: horizontal and vertical composition respectively. These two constitute a

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[1] Mertz 2006, pp. 154-5. Mertz mentions the Trinity as an example of a triad of unit relations forming a closed network:

> Since each Person is an individual, this would presumably require that the respective relations be individuated — that is, be instances. So understood, they would together constitute the inter-linking, self-contained whole described discursively as :$Father_1(Son_1,Spirit_1)$, :$Son_1(Father_1,Spirit_1)$, and :$Spirit_1(Father_1, Son_1)$. (Mertz 1996, p. 77)

An obvious comment on this is that the three predicate names used here cannot have their ordinary meanings.

[2] This term is not used by Mertz; I have invented it myself.

[3] Nothing of this is explicitly asserted by Mertz. However, I think that it is implied by what he does assert.

partition; they exhaust all the possibilities. The definitions of them are formulated in a fifth principle:

> Principle V: All plural unity — and thus plural wholes (complexes or structures) — is by the following:
> a) A relation instance R^n_i predicable of an n-tuple of relata, $<a_1,a_2,\ldots,a_n>$, is the cause of an individual plural whole, viz., the fact $:R^n_i(a_1,a_2,\ldots,a_n)$, having R^n_i, a_1, $a_2,\ldots, a_n$, 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 $:R^n_i(a_1,a_2,\ldots,a_n)$, 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).[1]

The significant difference between the two composition principles is that in vertical composition entire structures are treated as relata. This is not so in horizontal composition.

One of the gains with this model is that the need for a substratum is gone. Since unit attributes of various adicities form networks, there is no first "point" where everything has to start with a property being predicated of what itself is not predicable of anything.

Emergent unit properties can be understood in terms of horizontal composition. An emergent unit property is one which is predicated of an entire structure. In other words, it does not have any particular constituent included in the structure as its subject.

Mertz says this regarding the subject:

> Now, it is easy to conceive how this vertical compounding could be continued indefinitely up through further and further levels, and how at certain levels there could be properties and relations, say U^3, whose instances emerge *sui*

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[1] Mertz 2006, p. 145.

generis, i.e., do not occur at lower levels and presuppose as at least some of their relata certain types of sub-structures. This fits the bill precisely for an ontology of ordinary objects […]: ordinary objects are immense though finite hierarchies of horizontally and vertically composed structures generated upwardly from what science determines are the ultimate sub-atomic entities. Similarly, once alerted to these two forms of composition one can see their iterations exemplified in cognitive, mathematical, logical, social, etc., structures.[1]

Evidently, this is truly a comprehensive model, given that the expectations aroused by descriptions like this can be redeemed.

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[1] Mertz 2006, p. 144.

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