

Kvantifikator för en Dag

Essays dedicated to Dag Westerståhl on his sixtieth birthday



Two Versions of an Argument for Particularism

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Abstract

In the article two versions of an argument for particularism are presented and discussed. The first has Avicenna as originator; Donald Mertz is the originator of the second version. While the first version takes for granted a reduction of polyadic attributes, the second does not. In fact, Mertz vehemently rejects the reduction. The article ends with an attempt to make it plausible that Mertz's analytic ontology implies intensional determinism. If the implication is valid, it constitutes something of a *reductio*-argument against the theory.

1. Particularism: Overview

The doctrine that attributes appear as individuals is an element of a rather heterogeneous group of analytic ontologies. In order to avoid misunderstandings, the name of this general doctrine should be selected with care. One name, which is quite in vogue nowadays, is 'trope theory'. Besides being a bit clumsy,¹ it is potentially misleading. This is due to a tendency among those who call themselves 'trope theorists' to reject universals entirely. Since there are also realists who recognise the existence of individual attributes, a more neutral name of the general doctrine is needed. 'Particularism' as well as 'instance ontology' seem to be sufficiently neutral. As names of individual attributes, terms such as 'attribute instance' or just 'instance' therefore seem to be better choices than 'trope'. Alternatives are 'unit attribute', 'unit property' and 'unit relation'. With the exception of 'trope', all of these terms will be used indiscriminately in the present article. This is not least motivated by the fact that it is the analytic ontology of Donald Mertz which I take a particular interest in here. The term 'trope' is absent in his works. Instead he makes use of the other terms mentioned. He has a predilection though for 'unit relation' and 'relation instance'.

¹ A better term would be 'tropism'. Nobody seems to have made use of it though.

Particularism at its minimum, according to Mertz, satisfies — or should satisfy — two particular principles.² Using a bit of formalisation, these two can be rendered:

For instances R_i^n and R_j^n , of the same n -place relation R^n ,

(SU) Principle of Subject-Uniqueness:

If $:R_j^n(a_1, a_2, \dots, a_n)$ and $:R_i^n(b_1, b_2, \dots, b_n)$, then $a_1 = b_1, \dots, a_n = b_n$, and

(IU) Principle of Instance-Uniqueness:

If $:R_i^n(a_1, a_2, \dots, a_n)$ and $:R_j^n(a_1, a_2, \dots, a_n)$, then $R_i^n = R_j^n$.³

The phrase ‘of the same n -place relation R^n ’ is intended to be neutral between realist and non-realist interpretations of the general doctrine of particularism. The intended interpretation as to the rest of the two formalisations is accounted for in the next quotation. In it is also stated what is the central problem of particularism.

As subject-unique (SU), no relation instance can have more than one distinct n -tuple of relata. It is not the case that, for example, red_i inheres as numerically the same in both apple a and in distinct apple b , for otherwise red_i would have the nature of a universal and not an unrepeatable instance. The principle of instance-uniqueness (IU) formalizes the non-redundancy thesis, that, for example, apple a cannot have (at the same time and corresponding to the same spatial region) numerically different instances of the property Red. In addition to the argument from ontic economy (‘Ockham’s razor’), the doctrine of instance-uniqueness is supported by an argument from the Identity of

² This is explicitly asserted in Mertz 1993, pp. 191-192, and is repeated in Mertz 1996a, p. 10.

³ Mertz 1993, p. 192. The formalism used here and below are Mertz’s own. The colon is his sign for fact. A formula without a colon in front of it — for example ‘ $R(a,b)$ ’ — designates a proposition. If the proposition is true, there is a corresponding fact — in this particular example, $:R(a,b)$. Cf. Mertz 1996, p. 18. The colon convention is not used in Mertz 1993. I have inserted the colons because they belong to what seems to be his considered formalism in later works. The superscript of ‘ R_i^n ’ indicates adicity; the subscript indicates individuality. Quite often Mertz uses a simplified notation in which superscript and subscript are omitted. According to this more ambiguous practice ‘ R ’ stands for a relation or a unit relation. I would also like to point out another detail. An implication of what is stated on the first line of the quotation is that a relation, there formalised ‘ R^n ’, is n -adic. It follows from Mertz’s official doctrine that relations — i.e., universals — do not have any adicity though. According to the doctrine, universals are not ontic predicates; i.e., they lack adicity. It would be more accurate for Mertz to say that universals provide the foundations of the adicities of unit relations. Furthermore, applied to at least some trope theories the interpretation of the superscript is problematic, since any adicity higher than zero is discarded by these theories.

Indiscernibles: there is simply nothing that would distinguish two relation instances, if they have numerically the same relata n -tuple and are of the same relation content or intension. The major challenge to instance ontology is to produce cogent arguments for the reality of property instances possessing the feature of subject uniqueness, SU.⁴

Notice that Mertz's way of expressing himself here suggests that the term 'relation' denotes properties as well. This is also his explicit view. He considers properties to be but the limiting case of polyadic relations. To underline the lack of any relevant difference between monadic and polyadic ontic predicates, the term 'relation' is used to comprise them all.⁵

Since SU and IU are supposed to be the common content of all versions of particularism, it should be left open what category the referent of 'Red' belongs to. For example, it must not be presupposed that it designates a universal. The use of the term 'intension'⁶ in the quotation seems to offend against this provision. Universals having any role to play in this context is something which must be stipulated by yet another principle. The principle IR is such an addition.

(IR) Instance Realism:

Any two distinct relation instances, R_i^n and R_j^n , are of *the same kind* R because there exists a universal or intension R which is an identical constituent of R_i^n and R_j^n .⁷

Mertz lists, besides himself, quite a few who accept IR. Among these we find Boethius,⁸ Avicenna,⁹ Thomas Aquinas,¹⁰ John Duns Scotus,¹¹ Francisco Suárez,¹² John Cook Wilson,¹³

⁴ Mertz 1993, p. 192. What is stated here is, with regard to content, repeated in Mertz 1996a, p. 11.

⁵ Cf. Mertz 1996a, Ch. I, for more details regarding this matter.

⁶ In Mertz's terminology 'universal' and 'intension' are synonyms. This is not supposed to imply conceptualism though. Cf. Mertz 1996a, p. 30.

⁷ Mertz 1993, p. 192. In Mertz 1996, p. 11, there is a slightly different rendering of this principle — which is there called 'Principle of immanent instance realism', 'IR' for short. Since Mertz does not reject non-instantiated universals, he does not intend IR to imply that only universals which are extra-conceptually instantiated exist. Cf. Mertz 2002, p. 196. The latter view is otherwise historically connected with the name 'immanent realism'.

⁸ Cf. Gracia 1984, p. 78.

⁹ Cf. Morewedge 1973, pp. 33-34.

¹⁰ Cf. Aquinas 1955, p. 127.

¹¹ Cf. Harris 1959, pp. 94-95.

Edmund Husserl¹⁴ and Peter Strawson.¹⁵ He thinks that Plato and Aristotle also belong to the list.¹⁶

It should be mentioned that Mertz is scanty with presenting own arguments for realism. Instead, he refers, in the main, to arguments presented by others. In particular those presented by David Armstrong, Reinhardt Grossmann, and Herbert Hochberg.¹⁷ Their arguments allegedly support realism in general, since none of them is a particularist.

A non-realist particularism, of course, does not satisfy IR. Depending on which particularism we are dealing with, it will vary which substitute principle is stipulated. For example, according to the abstract particularism¹⁸ of George Frederick Stout, unit attributes are of the same kind, for example the kind Red, because they all belong to a certain class. Belonging to this class is what gives them their qualitative content.¹⁹ This makes abstract particularism a version of class nominalism. It could perhaps be classified as a form of trope theory.

¹² Cf. Gracia 1982, pp. 121-122. Despite the opposite being official policy, having Suárez on the list to some extent undermines the status of IU as a necessary condition of particularism. Mertz says concerning Suárez and the principle IU:

[...] Suárez 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 1996a, pp. 128-129)

What is said here suggests that the individuality of a unit attribute is in some way dependent on its subject. That the minimum content of particularism stipulates this is not obvious from what is asserted in connection with the introduction of SU and IU though. Cf. Mertz 1993, pp. 192f, and 1996, pp. 10f.

¹³ Cf. Cook Wilson 1926, Vol I, pp. 171, 187, 199, 207-208, 233; Vol. II, pp. 665, 670-671, 713.

¹⁴ Cf. Husserl 1970, I, pp. 376-377.

¹⁵ Cf. Strawson 1971, pp. 168-169 note 1.

¹⁶ Cf. Mertz 1996a, pp. 83-117.

¹⁷ In Mertz 1996a and 2001 the following works of these three philosophers are listed: Armstrong 1978 and 1989, Grossmann 1983, and Hochberg 1988. In Mertz 1996a, the arguments of Pap 1959 and Jackson 1977 are pleaded as well.

¹⁸ Stout himself does not use this as a name of his own analytic ontology. ‘Abstract particular’ is one of his names of unit attributes though.

¹⁹ Cf. Stout 1930, Essay XVII — titled ‘The Nature of Universals and Propositions’. Caution is called for here, since Stout’s notion of class may very well be different from the one commonly used nowadays. Cf. Seargent 1985 for an eminent account of Stout’s analytic ontology.

Other examples of non-realist particularisms are the trope theories of Donald Williams,²⁰ Keith Campbell²¹ and Anna-Sofia Maurin.²² According to these, tropes — i.e., unit attributes — are of the same kind if they are (exactly) similar to each other. This may give the impression of their ontologies being versions of resemblance nominalism. Neither of them would agree though. The pleaded reason being that tropes have their qualitative content(s) primitively. Tropes are of the same kind, to be sure, because they are (exactly) similar to each other. But, these similarities are due to their qualitative content(s); not the other way around. Whether this is a tenable position in the end I leave open.

Having mentioned these versions of particularism, I would like to point out that SU and IU supposedly do not involve any particular view on predicativity. Mertz's unit attributes are predicative. This is not (at least generally) the case with regard to the unit attributes of trope theories though. The unit properties of Campbell's trope theory constitute a case in point. The lack of predicativity of his tropes is quite adequately described by Mertz when he says:

[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., bald₂, snubnose_s, white_i, etc.) which constitutes ordinary individuals (e.g., Socrates) is a function of the unique *compresence* relation.²³

According to Campbell, the correct assay of complex entities, such as ordinary objects, should be carried out in terms of a relation he calls 'compresence'.²⁴ In the end it turns out that he does not consider (instances of) compresence to be predicative though. This follows from his view that polyadic attributes supervene on the monadic attributes of relata. Supervenience is looked upon as a form of reduction. That which supervenes is nothing in addition to what it supervenes on. This applies to compresence as well. Thus, using a bit of picturesque language, the alleged cement of complexes is supposedly nothing in addition to the bricks.²⁵ What is more, the bricks are not predicative either. Since the monadic ontic predicates are free-floating, they are, in Frege's sense of the term, saturated entities. As a

²⁰ Cf. Williams 1953. Williams is the institutor of 'trope' as a name of unit attributes.

²¹ Cf. Campbell 1990, Ch. 2.

²² Cf. Maurin 2002, Ch. 5.

²³ Mertz 1993, p. 190.

²⁴ Cf. Campbell 1990, pp. 40ff.

²⁵ Cf. Campbell 1990, pp. 130ff.

consequence of this there is nothing which is predicative. In the light of all this it is not easy to see what the meanings of ‘monadic’ and ‘polyadic’ are supposed to be, according to a trope theory such as Campbell’s. I dare say that the perplexity comprises even the meaning of ‘predicate’.

In addition to SU, IU, and IR Mertz’s own analytic ontology satisfies the following two 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.

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.²⁶

The introduction of these two principles corroborates the impression that predicativity is supposed not to be a part of the contents of any of the former three principles. The principle IP stipulates that relation instances are predicative, and that universals are not. Since the second half of it is negative, I suppose that in principle a non-realist could concur with its both halves. However that may be, the predicative entities are unit attributes. He characterises the unit attributes as being *ontogial*; i.e., they are the glue of being.²⁷ Their ontogial nature is manifested thus: monadic ontic predicates *link to* subjects; polyadic ontic predicates *link among* subjects.²⁸ The subjects of ontic predicates may be other ontic predicates. On the lowest level of reality they must be, since on that level there supposedly is nothing else but ontic predicates. The principle RL excludes the possibility of there being any free-floating unit attributes.

The name Mertz prefers for his own analytic ontology is ‘moderate realism’.²⁹ He does not use it exclusively for his own particular version of particularism though. This is implied by what he says in the following quotation.

²⁶ Mertz 1996a, p. 26.

²⁷ Cf. Mertz 1996a, p. 25.

²⁸ Cf. Mertz 1996a, p. 24.

²⁹ An alternative name he frequently uses is ‘network instance realism’. It has in view that instances form networks. Among the networks are the ordinary objects. The network “aspect” is worked out in Mertz 2004.

The conjunction of Principles SU, IU, and IR, with R restricted to the limiting case of monadic properties, constitutes 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.³⁰

The limitation to monadic attributes hinted at here is due to the doctrine that polyadic ontic predicates are reducible to monadic ones. This doctrine may originate from Plato.³¹ It is taken over by Aristotle. According to its classical shaping it decrees that polyadic predicates are reducible to monadic predicates combined with a peculiar characteristic of pointing.³² In Greek this pointing is called ‘το προς τι’.³³ The scholastic Latin counterpart is ‘*esse ad*’, which can be translated ‘being towards’. Furthermore, the term used by the scholastics for the relevant monadic attributes is ‘*esse in*’, having the same meaning as the English ‘being in’. An *esse ad* is thought of as being a second-order attribute of an *esse in*. More about this in the section which follows next.

2. Avicenna’s version of the argument for particularism

Two of the arguments for particularism have Avicenna as originator. Information about the first one can be found in a footnote below.³⁴ His second argument and Mertz’s refined

³⁰ Mertz 1993, p. 193.

³¹ Cf. Cavarnos 1975, pp. 17-25, for an account of Plato’s view. Just to be on the safe side, I say the doctrine may originate from Plato since no one knows whether he thought it out himself or got it from someone else. For all we know it may originate from ancient Egypt.

³² Cf., for example, the *Categories* 6a3727ff.

³³ ‘προς τι’ is Aristotle’s name of the category of relation.

³⁴ Avicenna’s first argument is stated in his book *The Book of Scientific Knowledge*. There is a translation of it in Morewedge 1973. The argument takes for granted an (mistaken) aristotelian view on predication. According to the *Categories* [2b38-3a5], what is predicated of a primary substance is also predicated of its corresponding species as well as of its genus. From this, together with the assumption that the predicates are the same throughout, a contradiction can be deduced. This is illustrated in an example in which the learned Plato and the ignorant Meno have leading parts.

Learned(Plato) → [*Learned*(*Man*) & *Learned*(*Animal*)]

Ignorant(Meno) → [*Ignorant*(*Man*) & *Ignorant*(*Animal*)]

Learned is predicated of the species *Man* and the genus *Animal* since Plato is a man and an animal. In the case of Meno the same holds *mutatis mutandis*. The conjunction of the two implications entails that *Man* has contrary properties; and so has *Animal*. Since nothing can have contrary properties, something must be wrong here. Avicenna’s solution is to consider subjects as well as predicates to be individuals. In other words:

version of it will be presented and discussed in the main text below. According to Mertz the argument (presumably in his own refined version) is one of the best there is for particularism.

Avicenna presents his argument in the book *The Healing*.³⁵ Its premises are supplied by Aristotle in his *Metaphysics*. All the same, Aristotle himself nowhere explicitly presents the argument. Perhaps he considered this and the first argument to be obvious consequences of his doctrines. Anyhow, in accordance with the aristotelian tradition, Avicenna takes binary relations to be reducible to the monadic attributes of their relata combined with towards-attributes of these monadic attributes. He accounts for the reduction using the relation being-a-father-of as an illustrative example.

Each of two related 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.³⁶

The attributes (in the quotation called ‘ideas’) referred to in the first sentence are the two *esse ads* of the relevant *esse ins* of the two persons. In this particular case the *esse ins* are the attributes of being-a-father (Fatherhood) and being-a-son (Sonship). Mertz proposes a formalisation in which the property-reduction can be written in schematic form. The following is a preliminary version of the reduction. The term ‘relation-property’ is an alternative for the Latin ‘*esse in*’.

For any formal binary³⁷ relation predicate ‘R’ and relata *x* and *y*, there exist relation-properties R’ and R” such that ‘R(*x*,*y*)’ is true \equiv [$\text{:R}'(x) \cdot \text{:Towards-}y(\text{R}') \cdot \text{:R}''(y) \cdot \text{:Towards-}x(\text{R}'')$]³⁸

$\text{Learned}_1(\text{Plato}) \rightarrow [\text{Learned}_1(\text{Man}_1) \ \& \ \text{Learned}_1(\text{Animal}_1)]$

$\text{Ignorant}_1(\text{Meno}) \rightarrow [\text{Ignorant}_1(\text{Man}_2) \ \& \ \text{Ignorant}_1(\text{Animal}_2)]$

No contradiction is deducible from the conjunction of these two implications. This is so since all occurrences of attributes are unit attributes, and nothing is ascribed contrary unit attributes.

³⁵ Translated in Marmura 1975.

³⁶ Marmura 1975, pp. 87-88.

³⁷ What is valid for binary relations presumably is so also for polyadic relations in general.

Applied to the particular case of the father and his son the result is:

‘*a* is the father of *b*’ is true \equiv :Fatherhood(*a*) • :Towards-*b*(Fatherhood) • :Sonship(*b*) •
:Towards-*a*(Sonship)³⁹

Notice that the intended sense of ‘relation-property’ is not the same as the sense usually intended for the term ‘relational property’. A relational property supposedly is a complex having at least one relation as constituent. (Possible examples of relational properties would be being-a-son-of-Napoleon and being-a-son-of-a-short-emperor.) This is not true of relation-properties. Instead, the relational elements are smuggled in by way of towards-attributes. An upholder of the traditional view would not use the phrase ‘smuggled in’ though. Towards-attributes are conceived of as being second-order attributes of the relation-properties. In other words, an *esse ad* is a second-order attribute of an *esse in*.⁴⁰

The actual argument for particularism begins to show itself when the analysis is applied to equivalence relations. Avicenna puts forward the relation being-similar-as-white-to as an example. If its *esse in* is a universal, it should be Whiteness. Ponder upon what he has to say about a case like the following.

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.

³⁸ Mertz 1993, p. 197.

³⁹ Mertz 1993, p. 197.

⁴⁰ In a reduction carried through completely the *esse ads* should of course also be reduced. If not, unreduced relational elements will be left over, not accounted for. Mertz dares a speculation regarding this matter.

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 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)

Mertz is obviously not an advocate of the property-reduction doctrine. In fact, he considers it to be one of the major mistakes in the history of philosophy.

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.⁴¹

Although Avicenna's way of expressing himself is somewhat cryptic, it is quite clear what his main thesis is. If Whiteness is the relevant *esse in*, the reduction can be written in Mertz's formalism:

'*a* is similar as white to *b*' is true \equiv :White(*a*) • :Towards-*b*(White) • :White(*b*) • :Towards-*a*(White)⁴²

The Whiteness which is the *esse in* of one relatum cannot be identical with the Whiteness being the *esse in* of the other relatum, since these Whitenesses have different *esse ads*. After all, Towards-*a* and Towards-*b* are contraries and no single entity can have them both at the same time. Thus, the formalisation should be rewritten accordingly:

'*a* is similar as white to *b*' is true \equiv :White₁(*a*) • :Towards-*b*₁(White₁) • :White₂(*b*) • :Towards-*a*₂(White₂)⁴³

In generalised form the traditional property-reduction can thus be rendered:

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*_{*i*}(*R*'_{*i*}) • :*R*'_{*j*}(*y*) • :Towards-*x*_{*j*}(*R*'_{*j*})]⁴⁴

Since 'White' can be replaced by any attribute name, Avicenna's argument can easily be generalised. That he himself has the generalisation in mind is obvious from his assertion that "[y]ou must never think that an accident, one in number, exists in two substrata."⁴⁵

⁴¹ Quoted from Marmura 1975, p. 88. The inserts are made by Mertz.

⁴² Mertz 1993, p. 198. The spelling Mertz actually uses in this quotation and the next is 'toward'. I have changed it to 'towards', which is in line with the spelling used earlier in Mertz 1993.

⁴³ Mertz 1993, p. 198. The subscripts occurring in 'Towards-*b*₁' and 'Towards-*a*₂' are easily misinterpreted. They belong to the predicates as wholes, not just to '*b*' and '*a*' respectively.

⁴⁴ Of course, the "superscripts" used here do not indicate adicity. Instead, '' and '' indicate (possible) differences of content of the *esse ins* of the relata.

⁴⁵ Marmura 1975, p. 88.

Hence, the attributes of entities are without any exception individual entities, not universals. For a realist there must be some role for universals to play though. More about this below.

3. Mertz's version of the argument for particularism

As seen above, certain second-order attributes are essential for Avicenna's (both) argument(s). The same holds for Mertz's refined version of Avicenna's second argument. The presentation of it reads as follows.

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 .⁴⁶ 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 that this order is distinct for the two complexes. In 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, aRb and bRa , is a function of the relation, and specifically of its ordering connectedness among its relata. In aRb , R relates a -to- b and not b -to- a , whereas in bRa , R relates b -to- a and not a -to- b . But then, if R is numerically identical in both complexes, then R possesses contrary next-level properties. We must conclude that R is numerically distinct in its occurrences across these complexes.⁴⁷

Summed up the argument is: If a relation R is supposed to be holding in one fact as well as in another, it must have contrary properties. This is impossible though. Therefore, the relating entities of distinct facts cannot be numerically identical with each other. In other words, it cannot be the same R doing the relating in both $:R(a,b)$ and $:R(b,a)$.

The principle invoked here — as well as in Avicenna's version of the argument — is in line with a celebrated principle often called 'Leibniz's Law'. Actually, there are two

⁴⁶ Loving is an intentional relation. Instances of intentional relations can apparently hold between, on one hand, existing persons and, on the other hand, non-existing entities. For example, Julius Caesar may have been in love with the goddess Juno, despite the fact that she, like the rest of the deities, does not exist. Obviously, a presupposition of the example used in the quotation is that both John and Mary exist.

⁴⁷ Mertz 1993, p. 199. Since the formulas in this quotation are of the infix type, I have not bothered about the lack of colons in front of them.

principles referred to by that name. The first one decrees identity of indiscernibles. The second decrees indiscernibility of identicals. It is the latter leibnizian law which is more or less invoked in the last quotation. In fact, the careful reader is bound to notice that this leibnizian law is playing an essential role on several levels of Mertz's argumentation. In the long quotation on pp. 2-3 the first leibnizian law is invoked in support of the principle IU. I do not think though that this can be interpreted as implying that Mertz accepts this law without any restrictions.

Mertz's refined version of Avicenna's argument from contrary attributes is with that presented. In the rest of this article a few details of his analytic ontology are discussed.

3.1 The structure of unit attributes

Regarding a case like the one made use of above — i.e., the love affair of Mary and John — someone might suggest that the relevant relation is the same in both facts after all. Accordingly, the difference between the two facts is due to the relations which relate R to *a* and *b* in each fact not being the same. Unfortunately, this suggestion invites Bradley's regress. This is hinted at in the following quotation.

Either R itself succeeds in relating its relata or no iterating sequence of relating relations will do it, a point emphasized by Avicenna himself.⁴⁸ Hence, if R does not contradict its own definition as a relation in actually relating its relata, then the argument above prevails and R is individuated. Once non-symmetric relations are admitted to be individuated, there is no good reason not to extend this treatment to attributes of all polyadicity, including monadic properties.⁴⁹

The regress argument, as it is interpreted by Bradley and his allies, seems to implicitly take for granted that relations do not relate. Thus, their *credo* is that there is no such thing as

⁴⁸ Despite its entrenched name, the regress argument does not have Bradley as its inventor. The Stoics may have been the first to make use of it. However that may be it is pleaded by the early mediaeval muslim school Mutakallimun. According to the doctrine of this school the regress shows the notion of (polyadic) relation to be incoherent. This is something which Bradley concurs with. In explicit opposition to the school of Mutakallimun, Avicenna maintains that the infinite line of relations is purely conceptual. Of course, this thesis is to be seen in the light of the overall view on polyadic attributes as being reducible to *esse ins* and *esse ads*. Cf. Avicenna 1495, tract iii, chap. 10; cf. also Weinberg 1965, p. 78 and pp. 89-93, and Mertz 1996a, pp. 132-134.

⁴⁹ Mertz 1993, p. 199.

relating. Strictly speaking, Mertz agrees with them in that relations do not relate. He differs from them in considering there to be unit relations which actually relate though. The actual relating entities of various relational facts are numerically distinct from each other. Exactly this is supposed to be the conclusion of the argument for particularism. Where Avicenna and the tradition offer an analysis in terms of *esse ins* and *esse ads*, Mertz proposes an analysis in which a unit attribute is an *esse inter*; i.e., a fully real interconnective.⁵⁰

Mertz, being a realist, should also give a role for universals to play. The role he bestows them is as being aspects of various unit attributes. Every unit attribute is supposed to have two aspects. One of these is a universal; the other is something else. Besides calling the first of these by the name ‘universal aspect’, Mertz also uses names such as ‘intensional aspect’ or simply ‘intension’. The second aspect is also referred to under several alternative names. A selection of these is: ‘predicational aspect’, ‘predicational tie’, ‘tie’, ‘predication’, ‘unification under an intension’, ‘relating under an intension’ or ‘relating’. While the intensional aspect of a unit attribute is thought of as being universal, the predicational aspect is considered to be individual. Two *reductio*-arguments are presented showing that the latter must be the case. One of these *reductios* we find in the following quotation.

[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 predicate R, [...] all such facts would obtain or cease to exist simultaneously. A content or intension R might persist, but all of its relating, 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.⁵¹

One thing to notice here is that it is supposed to be just the relating aspect which is referred to by the phrase ‘relating-under-R’. The ‘under-R’ suggests that more than just the relating aspect is involved though. The “more” being the rest of the unit relation — i.e., the universal R. However that may be, the official view is that ‘relating-under-R’ refers to the

⁵⁰ Cf. Mertz 2001, p. 55, and 2002, p. 185.

⁵¹ Mertz 2001, pp. 55-56.

relating aspect of a particular unit relation. The following is a paraphrase of the argument then: If the same predicational aspect is supposed to be the unifier of distinct facts, all these facts would have to go out of existence whenever one of them does. This because the predicational aspect, according to the assumption, is the same in every case. Since facts, which involve the same universal, do not go out of existence whenever one of them does, the assumption must be false.

The wording of the other *reductio*-argument contains a reference to a principle which can be called ‘The constituent analog of the Identity of Indiscernibles’ (CII). This principle reads as follows:

- (CII) Entities having exactly the same constituents are identical, i.e.,
 $(x)(y)[(z)(z \text{ is a constituent of } x \equiv z \text{ is a constituent of } y) \supset x = y]$.⁵²

While considering the original version of the Identity of Indiscernibles, in which ‘constituents’ is replaced by ‘attributes’, to be controversial, Mertz thinks that CII is a fairly uncontroversial principle. The *reductio*-argument can be stated quite briefly — where R is a non-symmetric or asymmetric relation:

[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 $\text{:R}(a,b) = \text{:R}(b,a)$.⁵³

Since the relating aspect is supposed to be the same in $\text{:R}(a,b)$ and $\text{:R}(b,a)$, it must have the same second-order unit attribute in both these facts. That would be one, but not both, of the following two: From-*a*-to-*b* and From-*b*-to-*a* respectively. The structure of this argument seems familiar.

What now of the distinction between the two aspects of a unit attribute? According to Mertz, a decision has to be made with regard to analysis. The following pair is supposed to constitute a partition of the possibilities.

The distinction between an intension R and its tie describes either 1) a pre-abstraction real complexity in the fact itself, or else 2) a post-abstraction distinction corresponding

⁵² Mertz 2001, p. 49. The principle is borrowed from Moreland 1998, p. 252.

⁵³ Mertz 2001, p. 55.

to two partial and incomplete aspects, each a limited portion of what in itself is a simple entity.⁵⁴

The first analysis takes a unit relation to be a fact.⁵⁵ According to Mertz, if we accept this analysis, we are forced to accept one out of two absurdities: either a vicious regress or the non-relational tie theory. He presents a reductio-argument with regard to the first proposal. It goes like this:

[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 intension R will have R as an additional term or *relatum*. This is so since the tie, to be a *tie* and to be R 's tie, must do the connecting of R to a and b . Now, clearly the tie cannot itself be an additional and full relation⁵⁶ (a tie with its own intension) R' , for otherwise R' would be the first step in Bradley's vicious regress of further and further relations. In effect, the original fact $:R(a,b)$ would turn up on this analysis to be identical to the fact $:R'(R,a,b)$. But, of course, the latter fact is exactly the same kind of entity as the original fact and so would itself dissipate upon the present analysis into the further fact $:R''(R',R,a,b)$, and so on, evaporating into the oblivion of an endless regress.⁵⁷

The vicious regress results from the assumption that the predicational aspect of a unit relation is also a unit relation. If it were, the predicational aspect of this predicational aspect would also be a unit relation, having a unit relation as predicational aspect, etc. Therefore, the predicational aspect of a unit relation cannot itself be a unit relation.

⁵⁴ Mertz 2001, p. 57.

⁵⁵ I suppose Mertz considers James Moreland to be an advocate of this type of analysis. Moreland is an immanent realist for sure. That does not automatically make him a particularist though. In fact, I very much doubt that he is a particularist in any reasonable sense of the word. His quality-instances (which have some affinities with Mertz's unit attributes) are assayed as being complex entities consisting of a bare particular instantiating a universal. Nothing seems to exclude the bare particular from instantiating more than one universal though. Furthermore, if this interpretation is correct, morelandian quality-instances lack adicity. The conclusion is therefore that his analytic ontology is a version of ordinary immanent realism. Cf., for example, Moreland & Pickavance 2003.

⁵⁶ Instead of 'unit relation' Mertz unfortunately uses the term 'full relation' here. Whatever his motives are for this change of terminology, it would be less confusing if he stuck to the terminology which is already established.

⁵⁷ Mertz 2001, p. 57.

What about the proposal that the predicational aspect of a unit relation is a bare tie; i.e., a linking without any intensional content? Here also two *reductio*-arguments are presented. While the first of these is perhaps not particularly convincing, the second seems to have more persuasive power. The first of the two *reductios* is the following.

[W]e will assume [...] 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 ,⁵⁸ 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, its tie in fact $:Between(a,b,c)$ must be four-term. Now I note first that this latter characteristic should render the present essay 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.⁵⁹

I suppose it could be said against this *reductio* that the analysis brings us new knowledge. We thought that we had correctly understood the adicity, but in fact we were slightly wrong. Now we know better. However that may be, the next argument is more convincing. Ponder upon the following.

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

⁵⁸ This is of course an inappropriate way of expressing the matter. Intensions — i.e., universals — do not have adicity, since they are not ontic predicates. Mertz should say instead that intension R is the content of certain n -adic unit attributes. The phrase ‘the corresponding predicate’, near the end of the quotation, indicates a characterisation in line with this remark.

⁵⁹ Mertz 2001, p. 57.

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.⁶⁰

What is asserted here with regard to the set $\{R,a,b\}$ presumably applies to the mereological sum $R+a+b$ as well. It seems plausible that the fact $:R(a,b)$ is not just the set, or sum, having R , a , and b as members. I find it more likely that the set, or sum, of R^2_1 , a , and b is identical with $:R^2_1(a,b)$. This is so since the relevant predicational aspect of this particular fact comes with the unit relation R^2_1 . Whether this is so is not the issue here though. Mertz does not touch upon it either. The objection, presented in the quotation, still holds: a bare linking can hardly bring about a fact.

Mertz makes the complementary comment that a bare linking has no bearing on the modal character of a fact.

A bare linking uncontrolled by any content will have the same modal character in every fact. Consequently, we have the absurdity that every fact is either contingent or every fact is necessary. It must be concluded that bare linkings are as bogus as bare particulars, and for an analogous reason — bare linkings are devoid of controlling content.⁶¹

What is stated here expresses the view that the content of a (unit) relation conditions the linking. Of vital importance then is the question how far-reaching this conditioning is. More about this in the last section below.

Mertz concludes, in the light of the two *reductio*-arguments, and there being just two conceivable analyses of the “relationship” between the two aspects of a unit attribute:

The above *reductios* have all been derived from the assumption that in a fact $:R(a,b)$, which is a complex entity, the distinction between an intension R and its predicational tie describes a further pre-abstraction real complexity in the component R -as-it-occurs-as-a-predicate. It follows, then, that there is no ontic distance, no internal complexity, in R -as-it-occurs-as-a-predicate between an intension and its relating. That is, the distinction between intension R and its predicational tie must, on the contrary, be a

⁶⁰ Mertz 2001, p. 57.

⁶¹ Mertz 2001, p. 58.

post-abstraction distinction consisting in two concepts, each a partial and limited but veridical description of what is in itself a *simple* entity. This is what we are to mean by ‘aspects’ and each of these distinct aspects must have a real foundation in, be virtual in, the simple entity.⁶²

So, a unit attribute must be a simple entity, in spite of its having two aspects. The notion of simplicity presupposed here is defined in terms of its opposite, which of course is complexity. An entity is complex only if it has a constituent predicated of another constituent. Since facts *per definitionem* involve ontic predicates linking to subjects, or linking between several subjects, they are complex entities. In Mertz’s analytic ontology, ordinary objects are also complex entities, since they are networks of unit attributes. With complexity comes also what Mertz calls ‘ontic distance’. In his own words:

For an entity to be simple is for it to have an absence of complexity, where the latter means that no relations in the role of ontic predicates are constituents of the entity. This is a crucial but little appreciated point. Relations as ‘actually relating’ maintain ‘ontic distance’ among their relata — a real distinction in the containing entity (i.e., fact or state of affairs).⁶³

In the light of what is stated here, and before, sets and sums seem to be conditioned by nothing else than the existence of their members. Hence, a set or a sum would be simple entities, since supposedly there is no constituting (unit) relation in either case. The members in themselves may of course be complex entities. For example, the set of all human beings “involves” complexity, since each and every human being is a complex entity, but the set is not a complex in itself. I would say though that the thesis that there is no set forming relation, nor any sum forming relation, does not carry much conviction. After all, set theory has its element relation and mereology has its part-whole relation. Furthermore, the axioms for each of these two are not arbitrary. Thus, both of them have some intensional content of their own.⁶⁴

⁶² Mertz 2001, p. 58.

⁶³ Mertz 2001, p. 47.

⁶⁴ Cf. Mertz 2002, p. 184.

3.2 Predicates of unit attributes

The way Mertz talks about unit attributes suggests that he considers them to have a nature. Perhaps this is unavoidable. It is quite difficult to say anything about anything without at least formally predicating something. What is predicated of a unit attribute is, among other things, that it is simple and unrepeatable. Does this imply that there are two unit attributes which the unit attribute has? By the way, the predicational aspect of a unit attribute is also talked about as if it has predicates of its own. It is, among other things, said to be unrepeatable and unique. If all these predicates really are ontic predicates of their respective subjects, I presume they are of their essence. At least at one place Mertz approvingly refers to the scholastic principle that what is of the essence of an entity must be a constituent of it.⁶⁵ But, he also thinks that an entity can have content which is not predicable of it. He says:

[A]n ontology is needed where what is predicable is particular, and where atomic individuals have as their qualitative contents repeatable intensions that are not predicable of them, but where the unity of the individuating and intension aspects requires no additional linking predicates constitutive of the atomic individuals. (To reiterate, this latter requirement is what is meant by a *simple* entity — not that distinct and partially characterizing aspects cannot be abstracted from the entity, but that these aspects do not exist in it as subjects of a further predicable unifier that is also part of the entity.)⁶⁶

The atomic individuals are the unit attributes. According to the thesis of this quotation a unit attribute may have a rich intensional content. Despite that being so, the content need not be a predicative content of it. In the case of a unit attribute — an atomic individual — allegedly it cannot be a predicative content. So, attributes such as simplicity, unrepeatability, etc. could be the non-predicative content of the unit attributes? I think not. After all, these attributes are predicated of the unit attributes themselves. They do not seem to be part of the content which is directed “outward”.

⁶⁵ Cf. Mertz 2002, p. 174.

⁶⁶ Mertz 2002, p. 179. In Mertz 1996, p. 15, a certain thesis is stated just to be rejected:

Thesis of predicable possession:

Any possession of a characteristic or content P by an individual *x* is that of predication; i.e., P is a predicate of *x*, P(*x*).

I presume he has this, allegedly mistaken, thesis in mind in the quotation above.

It may seem petty to make a fuss about such attributes as simplicity, unrepeatability, and uniqueness. They seem awkward anyhow. However, I suspect that Mertz considers them to be real attributes. In fact, he uses them as weapons against the notion of a bare particular.⁶⁷

What about the second-order attributes which are used in the argument for particularism? Ponder upon the following.

[T]he direction of relating-R is different for each fact. Now these directions are, or at least found, second-order properties of R as it occurs in each fact — as relating-R. Hence, it cannot be numerically one and the same relating-R in each fact. The operative principle here is that the same entity (here a predicate) cannot have contrary second-order properties. The relating-under-R in $:R(a,b)$ has a second-order property, i.e., *From-a-to-b*, that is contrary to a second-order property the relating-under-R has in $:R(b,a)$, i.e., *From-b-to-a*, and so the two relatings cannot be numerically identical.⁶⁸

From-a-to-b and *From-b-to-a* are explicitly said here to be second-order properties. This might be a slightly misleading description of them. What is meant is perhaps that they are second-order unit attributes. Anyhow, according to a reasonable interpretation of what is asserted in the quotation, the directions of the occurrences of relating-R are or found second-order properties each of these occurrences have. This suggests that there is a second-order unit attribute predicated of the relating-R in $:R(a,b)$, and another one predicated of the relating-R in $:R(b,a)$. After all, why invoke the principle that nothing can have second-order properties, if there are no such second-order properties which are relevant in this particular case?

Assume that a relating-R — call it ' R_1 ' — in a fact, $:R_1(a,b)$, has a certain second-order unit attribute, R_2 . This means that there is a fact $:R_2(R_1,a,b)$. Perhaps, the formula ' $:R_1(a,b)$ ' is a misleading rendering of the fact $:R_2(R_1,a,b)$? If that is so, the same holds correspondingly with regard to the relating-R of $:R_3(a,b)$; this fact should be rendered ' $:R_4(R_3,a,b)$ '. We might be embarking on a regress here. Hopefully, it is a virtuous one.⁶⁹

⁶⁷ Cf. Mertz 2001, pp. 50f.

⁶⁸ Mertz 2001, p. 55.

⁶⁹ Cf. footnote 48.

3.3 Intensional determinism

As was seen above, bare linking supposedly results in a complete levelling regarding modality. This is due to the (fictitious) bare linking being devoid of any controlling intensional content. In contrast to this, the real unit relations have intensional contents. A question which presents itself then is: To what extent do these contents exercise control over the modal characters of facts having the unit relations as constitutive constituents?

Unfortunately, the relevant information one can find in Mertz's works concerning this matter is rather scanty. The following is an incomplete list of his sayings with regard to order.

[I]n any relation complex $:R(a,b)$ where the relata are ordered (i.e., R is not symmetrical), the unification alone among R, a , and b (whatever its source) does not account for the order of the original complex, and that to avoid vicious regress one must grant the existence of the content R, i.e., the intension or universal R, as the source of the *order*.⁷⁰ [My italics.]

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.⁷¹ [My italics.]

A further and important point to be observed is that the predicational unity provided by a relation in, say, fact $:R(a,b)$ is a *rigid linking* of relata a and b under an intension R. That is, relata a and b are as such held simultaneously together and apart, unified and separate, and, depending upon the content of R, *ordered* [my italics] among themselves.⁷²

[O]rder among relata is always a function of the content or intension R in its conditioning the linking. And having R as one of the linked terms, separate from and thus not conditioning the actual linking, is insufficient to provide any type of *ordering*.⁷³ [My italics.]

⁷⁰ Mertz 1996b, p. 61. Mertz is here approvingly referring the view of Hochberg in Hochberg 1988. I have inserted the colon on the first line.

⁷¹ Mertz 2001, pp. 53-54.

⁷² Mertz 2001, p. 55.

⁷³ Mertz 2001, p. 58.

[A]n ontic predicate is a simple entity with a dual aspect — one aspect a combinatorial state to or among one or more subjects, the other aspect a content or intension (‘sense’) that delimits as to kind and, when the predicate is polyadic, the member and *order* of the unified subjects.⁷⁴ [My italics.]

[I]n each case an *order* [...] is a function of the relation’s intension.⁷⁵ [My italics.]

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.⁷⁶ [My italics.]

Succinctly, then, under the combinatorial analysis, the predication in fact $:R^n(a_1, a_2, \dots, a_n)$ is a rigid linking holding the non-identical relata among a_1, a_2, \dots, a_n both united and distinct, and where the respective natures of a_1, a_2, \dots, a_n are compatible with, and *ordered* (if any) according to, intension R^n .⁷⁷ [My italics.]

For asymmetric or non-symmetric relation R^2 , it is R^2 -as-it-occurs-in-the-fact- $:R^2(a, b)$, i.e., as having dual and mutually influencing aspects of a delimiting intension and a combinatorial state among a and b , that *orders* the latter. If the combinatorial nature is reassigned to a fourth constituent, the bare linking, then intension R^2 becomes just one more relatum for an orderless triadic linking among R^2, a , and b , with no more influence over *ordering* the latter [...] has in the set $\{R^2, a, b\}$.⁷⁸ [My italics.]

I do not know for sure what to make of this. It seems to me though that there is a tendency here: the intension of the unit attribute, which links the relata of a fact, settles the order of the relata. This thesis is a rather strong one. If Mertz is actually advocating it, I do not see how he can avoid intensional determinism being its consequence. By *intensional determinism* is meant the view that the intensional contents of unit attributes determine what are their relata, or at least how certain relata are ordered among each other. A variant of this is that the intensional contents of the relata contribute to the order as well. In either case, intensions settle the structure of reality. Hence, there is no room for contingency. Every fact

⁷⁴ Mertz 2002, p. 168.

⁷⁵ Mertz 2002, p. 185.

⁷⁶ Mertz 2002, p. 188.

⁷⁷ Mertz 2002, p. 189.

⁷⁸ Mertz 2002, p. 190.

is holding of necessity. Is this what Mertz wants to maintain. Probably not. If he cannot escape this consequence, I would say that it constitutes a *reductio* of his moderate realism.

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