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Is Zalta's Individuation of Intensional Entities Circular?*

According to Quine's influential critique of intensional semantics, properties and propositions are "twilight half-entities" lacking a satisfactory principle of individuation. Edward N. Zalta, on the other hand, has argued that the identity-conditions of these entities can be successfully explained in terms of the so-called "encoding" relation. The aim of this paper is to show that, according to Quine's standard, Zalta's individuation is circular. In section 1, Quine's criteria of adequacy for individuations are recapitulated, and, in section 2, the circularity of Zalta's individuation is established. Finally, in section 3, the implications of this circularity are examined.

1.

Quine's rule "No entity without identity" says that the ontological recognition of a sort of objects *f* (sets, properties etc.) is legitimate only when the *f*s have been provided with a satisfactory individuation. The point of individuating the *f*s is to show that the notion of being an *f* can be made intelligible, by explaining what it means for two *f*s to be identical.

To be satisfactory, an individuation must meet mainly two criteria of adequacy.[1] The first is a criterion of material adequacy demanding that the identity-conditions ascribed to the *f*s agree with the identity-conditions the *f*s actually have. The individuation of properties by the principle 'The property of being an F = the property of being a G iff for all x: F(x) iff G(x)', for instance, is materially inadequate because coextensive properties may not be identical (cf. Quine 1963, p. 2). The second criterion demands that the identity-conditions of the *f*s be explained in a non-circular way, i.e., without presupposing that the notion of *f* and its cognates are already intelligible (cf. Quine 1981c, p. 236). There are mainly two methods of individuation this criterion rules out. The first is to individuate the *f*s "impredicatively", i.e. in

* I am indebted to E. Zalta for his critical comments on an earlier version of this paper.

[1] For more details, see Greimann 2000.

terms of themselves. Thus, Davidson's individuation of events by the principle 'Events are identical iff they cause and are caused by all and only the same events' fails through circularity, on Quine's standard, because it "already presupposes a grasp of the notion of event, quantifying as it does over events in an essential way" (cf. Quine 1981c, p. 236, and Quine 1985, p. 166). The second method is to individuate the *f*s by means of kindred notions whose intelligibility is questionable as well. Thus, the individuation of properties by the principle 'The property of being an F = the property of being a G iff it is analytically (necessarily) true that for all x: F(x) if and only if G(x)' is circular, because the intelligibility of the notion of analyticity (or necessity) is presupposed (cf. Quine 1981b, p. 105).

2.

Historically, Zalta's ontology has its origin in the so-called "naive theory of nonexistent objects" which Meinong investigated at the beginning of the twentieth century. The main doctrine of this theory is a kind of comprehension principle according to which for every describable set of properties, there is an object which exemplifies just the members of the set. This principle implies an ontological doctrine that has come to be known as "Meinong's shocker", viz. the doctrine that there are unreal objects like the golden mountain and even impossible objects like the round square.

The specific characteristic of Zalta's version is the distinction between two types of predication: the *exemplification* of properties by "ordinary" (existent) objects and the *encoding* of properties by "abstract" (non-existent) objects.[2] Thus, the round square does not exemplify the property of roundness but encodes it. The encoding relation is considered by Zalta as a primitive metaphysical relation that can be explained only by examples. The sentence 'Sherlock Holmes is a detective', for instance, expresses the encoding of the property of being a detective by Sherlock Holmes (considered as an abstract object), whereas the sentence 'Snow is white' expresses the exemplification of the property of being white by an ordinary object. The distinction between the encoding and the exemplification of a property is thus associated with two

[2] Cf., for instance, Zalta 1983, Zalta 1988, and Zalta 1999. As Zalta points out, the distinction between encoding and exemplifying a property derives from Mally; cf. Zalta 1988, p. 17.

corresponding senses of the copula 'is': the sense of 'is' in 'Sherlock Holmes is a detective' and its sense in 'Snow is white'.

The recognition of abstract (non-existent) objects enables Zalta to account for the ontological commitments of nearly all areas of discourse such as talk about Platonic forms, talk about Leibnizian monads and possible worlds, talk about Fregean senses, fictitious entities, etc. These are all construed as talk about abstract objects and properties and relations. The foundation of his ontology consists mainly of the following principles:[3]

(P_1) Ordinary objects necessarily and always fail to encode properties.
(P_2) For every condition on properties, it is necessarily and always the case that there is an abstract object that encodes just the properties satisfying the condition.
(P_3) Two objects are identical iff one of the following conditions holds: (a) they are both ordinary objects and they necessarily and always exemplify the same properties, or (b) they are both abstract objects and they necessarily and always encode the same properties.
(P_4) Two properties are identical just in case it is necessarily and always the case that they are encoded by the same objects.

The principles (P_3) and (P_4) are the principles of individuation of Zalta's ontology. They are designed to provide the ground elements of this ontology with clear and precise identity criteria.[4] In particular, (P_4) is supposed to show that properties (and more general relations) are not "creatures of darkness".[5]

Notice that in order to understand the quantification over properties and abstract objects in (P_1) to (P_4), we must already know what the identity-conditions of these entities are supposed to be. For, quantification over properties and abstract objects makes sense only insofar as properties and abstract objects make sense, and hence only insofar as these entities have been supplied with a satisfactory principle of individuation.[6] This means that the lan-

[3] These principles are listed in Zalta 1988, p. 19. Zalta's list includes some principles that I have omitted.
[4] Cf. Zalta 1983, p. 1.
[5] Cf. Zalta 1983, p. 32.
[6] An analogues point is made in Quine 1985, p. 166.

guage of Zalta's theory is intelligible only insofar as his individuation of abstract objects and properties is successful.

Now, the key of Zalta's solution of the problem that different properties may have the same extension is to distinguish between two types of extensions of a property P: the extension of the exemplification of P by ordinary (or abstract) objects (henceforth: "extension$_R$"), and the extension of the encoding of P by abstract objects (henceforth: "extension$_A$").[7] On this account, the difference between sets and properties is that the set of Fs and the set of Gs are identical when the extension$_R$ of being an F is identical with the extension$_R$ of being a G, whereas the property of being an F and the property of being a G are identical when the extension$_A$ of being an F is identical with the extension$_A$ of being a G. This means, in other words, that two predicates 'F(x)' and 'G(x)' determine the same property when they have the same extension$_A$, i.e., when for all x: x encodes the property of being an F just in case x encodes the property of being a G.

The first thing to note is that, regarded as an attempt to provide a definition of the identity of ordinary and abstract objects and of properties meeting the standards of modern logic, Zalta's principles are not circular, of course, because they allow us to *eliminate* the definienda. Furthermore, we can say that the individuation of sets in terms of the membership relation by

(1) The set x = the set y iff for all z: z is a member of x iff z is a member of y

and the parallel individuation of properties in terms of the encoding relation by

(2) The property x = the property y iff for all z: z encodes x iff z encodes y

are satisfactory to exactly the same degree, at least on the condition that the notions of membership and of encoding are equally clear. Nevertheless, we can show that (P_4), regarded as an attempt to provide a satisfactory individuation of properties, is circular, on Quine's standard. The reason is that properties are individuated by the encoding relation *only in a relative sense*, as

[7] See, for instance, Zalta 1983, pp. 20-23. For brevity's sake, I do not distinguish between the extension of a predicate and the extension of the property expressed by a predicate.

Quine would put it.[8] To see this, consider the following analogy. The principle that sets are identical when their members are identical achieves a satisfactory individuation of a given set only when the members themselves have already been individuated in a satisfactory way. Hence, sets are satisfactorily individuated by (1) only in a relative sense, namely, relative to their members. To overcome this difficulty, Quine individuates sets *recursively*, starting with physical objects as ground elements.[9] Since, as Quine assumes, physical objects enjoy a crystal-clear principle of individuation – they are identical when they are spatiotemporally coextensive[10] –, sets of physical objects are well-individuated, too, namely, by the principle

(3) If x and y are sets of physical objects, then x = y iff for all physical objects z: z is a member of x iff z is a member y.

The objects of third level are satisfactorily individuated by the principle

(4) If x and y are sets whose members are physical objects and/or sets of physical objects, then x = y iff for all physical objects and sets of physical objects z: z is a member of x iff z is a member of y

and so on. The moral of this is that, taken by itself, the membership relation cannot be used to achieve a satisfactory individuation of sets; it can only be used to reduce the identity-conditions of sets to the identity-conditions of their members, by stipulating that sets are identical when their members are identical. This implies that the following principle of individuation, which is completely parallel to (P_3), is unsatisfactory:

(5) Two objects are identical iff one of the following conditions holds: (a) they are both sets and they have exactly the same members, or (b) they are both non-sets and they are members of exactly the same sets.

Analogously, the individuation of properties and abstract objects by (P_4) and (P_3) is circular, because the encoding relation, taken by itself, is powerless to

[8] Cf. Quine 1981b, p. 102.
[9] See Quine 1981b, pp. 102 ff., and Quine 1985, pp. 166 ff.
[10] Cf. Quine 1981b, p. 101.

achieve a full individuation of these entities. Thus, the principle that properties are identical when they are encoded by the same abstract objects individuates properties only in a relative sense: it ensures only that properties are as satisfactorily individuated as abstract objects. But, in order to achieve a full individuation of properties, we must provide abstract objects with a satisfactory principle of individuation, and in order to avoid circularity, the envisaged principle must not presuppose that properties have already been satisfactorily individuated. In particular, it would be circular to stipulate that abstract objects are identical when they encode the same properties. This, however, is the essence of clause (b) of principle (P_3). Hence, Zalta's individuation is not acceptable according to Quine's standard, because it violates the criterion of non-circularity.

3.

Given Quine's methodology of individuation, the conclusion to be drawn is that Zalta's talk about properties and abstract objects must be regarded as a scientifically unrespectable form of discourse, because its semantics is seriously defective. The reason is as follows.

The main semantic difference between non-sortal predicates like 'is salt' and sortal predicates like 'is an apple' is that the latter "divide" their reference.[11] Natural language marks this difference by requiring that when we want to apply a predicate dividing its reference, we must use a phrase with an article. Thus, sentences like 'This is *the* apple I bought from Peter' and 'This is *an* apple' are well-formed, whereas sentences like 'Sea-water is *the* salt' and 'Sea-water is *a* salt' are ill-formed.

Since the predicate 'is an abstract object' is a sortal predicate, it is intelligible only on the condition that we are able to explain how it divides its reference. This amounts to the task of saying what the conditions are for two predicates, for example, 'x is the largest number' and 'x is round and x is square', to determine the same abstract object. When, for instance, we stipulate that these predicates determine the same abstract object when the properties expressed by them are exemplified by exactly the same entities, then the largest number and the round square are identical, because the properties of being the largest number and of being simultaneously round and square are

[11] The difference is explained more closely in Quine 1960, § 19.

both exemplified by no entity. When, on the other hand, we stipulate that these predicates determine the same abstract object when the properties expressed by them are identical, then the largest number and the round square are different abstract objects.

Since the principle of individuation of a sortal predicate is an *integral part* of its semantics, a sortal predicate lacking a satisfactory principle of individuation is a semantically defective pseudo-predicate. Suppose, for instance, that our talk about properties is not grounded on a satisfactory principle of individuation. In this case, the positing of properties does not make sense at all, because the predicate 'is a property' is a pseudo-predicate lacking a clear semantic interpretation. This seems to be the core of Quine's scruples about the positing of properties (or "attributes"). He writes:[12]

> "The positing of attributes is accompanied by no clue as to the circumstances under which attributes may be said to be the same or different. This is perverse, considering that the very use of terms and the very positing of objects are unrecognizable to begin with except as keyed in with idioms of sameness and difference. What happens is that at first we learn general patterns of term-talk and thing-talk with the help of the necessary adjuncts of identity; afterwards we project these well-learned grammatical forms to attributes, without settling identity for them. We understand the forms as referential just because they are grammatically analogous to ones that we learned earlier, for physical objects, with full dependence on the identity aspect." (Quine 1958, p. 19)

The rule "No entity without identity" accordingly says that it is legitimate to regard a sort of singular terms as referential only when their division of reference has been satisfactorily explained. It is precisely this semantic requirement that Zalta's individuation of properties and abstract objects does not meet. For, to understand what it means for two entities to be encoded by exactly the same entities, we must already know what the identity-conditions of the encoding entities are, and, to understand what it means for two entities to encode exactly the same entities, we must already know what the identity-conditions of the encoded entities are. The circularity of Zalta's individuation results from the fact that the identity-conditions of the encoding entities are explained in terms of the identity-conditions of the encoded entities, and vice versa. A speaker who does not already know what the conditions are for two encoded entities to be identical could not learn this by consulting Zalta's the-

[12] See also Quine 1981b, p. 102.

ory, even on the assumption that he fully understands what it means for an entity to be encoded by another.

Judged by Quine's criteria of adequacy for individuations, it is, therefore, an illusion to think that the language of Zalta's theory is really intelligible; rather, this kind of discourse is mere "gibberish". To this it might be objected that Quine's criteria of adequacy are unduly restrictive. It can, indeed, be shown that, given Quine's standard of adequacy, his own individuations of physical objects and sets are not acceptable, because they do not meet his criterion of non-circularity: the identity of physical objects is explained by Quine in terms of the identity of sets, and vice versa.[13] It seems to be reasonable, therefore, to liberalize Quine's methodology of individuation in such a way that the mutual individuations of different sorts of objects can be acknowledged as legitimate.[14]

Nevertheless, I think it is fair to say that, even when we liberalize our methodology of individuation in this way, Zalta's principles cannot be regarded as satisfactory, because they do not make any substantial contribution to explaining the identity-conditions of properties. For, our sole means of arriving at a determinate abstract object and of recognizing it as the same again are the properties encoded by it. We are acquainted with, e.g., Sherlock Holmes only through the properties he encodes. Our capacity to distinguish him from other abstract objects and to recognize him as the same again derives completely from our capacity to distinguish between the properties he encodes. Indeed, it would be natural to identify Sherlock Holmes with the bundle of properties ascribed to him in the fictional discourse in which he occurs. For this reason, to say that properties are identical when they are encoded by the same abstract objects amounts to saying that properties are identical when they are encoded by the same bundles of properties. This shows, finally, that Zalta's principles do not make a proper contribution to explaining what the identity-conditions of properties are: the introduction of abstract objects that are said to "encode" properties is an empty step that sheds no new light on what it means for two properties to be identical.

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[13] This is shown in Greimann 2000, pp. 19-24.

[14] In Greimann 2001, pp. 126-139, I have sketched a "holistic" methodology of individuation according to which the mutual individuation of different sorts of objects is legitimate.

REFERENCES

Greimann, D.: 2000, "No Entity without Identity: A Reductionist Dogma?", *Grazer Philosophische Studien* 60, pp. 13-29.

Greimann, D.: 2001, "Individuating Abstract Objects: The Methodologies of Frege and Quine", in: U. Meixner and A. Newen (eds.), *Logical Analysis and History of Philosophy*, Vol. 4, Paderborn, Mentis Verlag, 2001, pp. 121-142.

Quine, W. V.: 1958, "Speaking of Objects", reprinted in: Quine, *Ontological Relativity and Other Essays*, New York: Columbia University Press, 1969, pp. 1-25.

Quine, W.V..: 1960, *Word and Object*, Cambridge, Mass.: MIT Press.

Quine, W.V.: 1963, *Set Theory and Its Logic*, Cambridge, Mass.: Harvard University Press.

Quine, W.V.: 1981a, "Things and Their Place in Theories", reprinted in: Quine, *Theories and Things*, Cambridge, Mass.: Harvard University Press, 1981, pp. 1-23.

Quine, W.V.: 1981b, "On the Individuation of Attributes", reprinted in: Quine, *Theories and Things*, Cambridge, Mass.: Harvard University Press, 1981, pp. 100-112.

Quine, W. V.: 1981c, "Replies to the Eleven Essays", Philosophical Topics 12, 1981, pp. 227-43.

Quine, W.V.: 1985, "Events and Reification", in: LePore, McLaughlin (eds.), *Actions and Events. Perspectives on the Philosophy of D. Davidson,* Oxford: Blackwell, 1985, pp. 162-171.

Zalta, E.N.: 1983, *Abstract Objects: An Introduction to Axiomatic Metaphysics*, Dordrecht: D. Reidel.

Zalta, E.N.: 1988, *Intensional Logic and The Metaphysics of Intentionality*, Cambridge, Mass.: The MIT Press.

Zalta, E.N.: 1999, *Principia Metaphysica*, Internet-Draft, <http://mally.stanford.edu/theory.html#principia>.