



Categories away!

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CATEGORIES AWAY!

Sect. 1.- THE CATEGORIALIST STALEMATE

By 'a category' I mean any set nowise included in any other set at all and nevertheless such that there should be entities of some kind which don't belong to it at all.

Another, linguistic, definition of 'category' is the following: a category is a set, z , of categorematic symbols, such that there are other categorematic symbols nowise belonging to z , such ^{that} it does in no context make sense to substitute one of them for a member of z . I shall call 'categorematic' any symbol " μ " such that there is some variable, " v ", of some type or sort, and for any formula " p " containing some free occurrence(s) of " v ", if " $p_{\overline{v}/\overline{\mu}}$ " (i.e. the result of replacing, in " p ", any occurrence of " v " with an occurrence of " μ ") is true, so is " $\exists v p$ ", where ' \exists ' is the existential-quantifier prefix.

Clearly, there is a correlation between both meanings of 'category'. Let's suppose that there are two categories, in the ontological sense, but that the terms or symbols denoting things of the one ontological category don't make up any linguistic category disjoint from the class of symbols denoting things of the other ontological category; let's suppose that in at least one context-sentence, " p ", wherein there's a free occurrence of a variable, ' x ', ranging over entities of the former ontological category, a variable, ' ϕ ', ranging over things of the latter ontological category can be substituted for ' x '; let " q " be the result of the substitution. Then, in virtue of the principle of excluded middle, " q or not- q " is true; hence, the set of things, x , such that either p or not- p , which comprises all things of the former ontological category, comprises whatever the variable ' ϕ ' ranges over, too, that is to say: everything belonging to the latter ontological category. Then there would be no categorial boundary between the two ontological categories, which runs against the hypothesis.

It's a little more difficult to prove that, if there are linguistic categories, there are bound to be ontological ones, too. But, without there being ontological categories, what would be the rationale for foisting linguistic ones?

I'm going to contend that there are no categories, no ontological categorial boundaries. Hence, we'll be able to rescue univocity. For, a most untoward feature of categorialist ontologies is that they are perforce bound to jettison the univocity of words and phrases such as 'being', 'entity', 'existent', 'something', 'something or other', 'all', 'everything', 'nothing', and so on. For, should they be univocal, there would be a set of all things, viz. the range of those phrases. However, no categorialist ontology can be brought out without resorting to such phrases, or to others of the same ilk. For, in order for you to say that there are

several categories, you need to state that some things, or entities, or existents, belong to the one while they don't belong at all to the other, whereas other things, or entities, belong to the latter without anyhow belonging to the former, and that those categories are supreme sets (sets, that is, which are included in no other set). Hence, if it's true that there are categories, it cannot be said. What is said on behalf of a categorialist opinion should be dismissed once that opinion has been accepted. This is why such philosophers as uphold categorialism -Russell and Rescher, e.g.- have maintained that 'being' is plurivocal. Which seems to me a most unsavoury claim. Awkward ineffabilist results are admittedly yielded by at least major categorialist ontologies, such as Aristotle's and Frege's (remember Frege's troubles when he goes about speaking of some particular function, since "the function ϕ " denotes no function at all, but some object which is a function-correlate!).

A, to myself, particularly obnoxious consequence of categorialist frameworks is multiplication of quantifiers. For the prefixes of quantifiers ought to keep their own semantical role in any context; still, should there be several categories, e.g. entities and facts, then it would be senseless to say that *there were* facts in the same sense wherein *there could be* entities. Furthermore, pluricategorialism does to some extent trivialize ontological controversies. What goes under dispute is, e.g., whether there are (in the plain sense) universals (either sets or properties), not whether there are-as-universals universals.

Sect.2.- REDUCING THINGS TO FACTS, AND FACTS TO SETS

My categoryless ontology hinges upon regarding existence as a redundant predicate (taking inspiration from Hume, Kant's *Beweisgrund*, and Brentano), which means that, for any x, x=x's existence. Now, as Clovis' cruelty is what is meant by the sentence 'Clovis is cruel', Clovis' existence is what is meant by the sentence 'Clovis exists'.

What is meant by a sentence is the sentence's meaning, which is a fact or state of affairs. Hence, everything is a state of affairs, to wit: the fact that it exists. But, if every entity is a fact, every fact is a thing or entity, too, since any fact is something. Facts are quantifiable over: some facts are fairly pleasant, others are rather unpleasant; some facts bring about good effects, others don't.

My second main contention is that every fact is a set. Let me first differentiate transitive facts from intransitive ones. A transitive fact is a fact which can be meant by an atomic sentence whose constituents are a noun phrase and a transitive verb phrase; such are 'Edward eats', 'Aldous begets', 'Muriel owns', and so on. An utterance of a sentence meaning a transitive fact prompts the question 'What?', provided this question can be paraphrased like this: 'What is ... by ---?', with the dots being replaced with the passive-transform of the verb phrase, and the dashes being replaced with the noun phrase. Such facts as can be meant by atomic sentences without being transitive facts are intransitive. An intransitive fact is, e.g., what is meant by 'Aldous begets Adeline', i.e.

Aldous' begetting Adeline.

Now, a transitive fact meant by a true sentence "p" is the set of entities which can be meant by noun phrases such that expanding "p" with one of those phrases is a true sentence, too; as expanding the sentence, the phrase is performing a direct-object function. So, Noe's begetting is the set of entities begotten by Noe, i.e. Noe's offspring.

As for intransitive facts, they are also sets: an intransitive fact is a fact whose only member is that fact itself. This is why "internal accusatives" can be attached without change of meaning: one lives one's life, walks one's walk, sleeps one's sleep, dies one's death, and nothing else.

Since every entity is a fact, every entity is a set, too. Bodies, in particular, are such sets as comprise its parts as members. In other words, x is a body iff any element, y, is a member of x insomuch as y is a part of x. (Consequently, if x is a body, then, for any elements y and z, insomuch at least as y is a member of z and z is a member of x, y is a member of x; that is to say, concerning bodies the membership relation is strictly transitive).

Sect.3.- RELATIONS

A two-place relation is a set such that anything's belonging to it is another set. Begetting is a two-place relation; Ismael's belonging thereto is nothing else but Ismael's offspring, the set of daughters and sons of Ismael. Hence, what is meant by 'Ismael begets' -or by 'Ismael is a father'- is Ismael's fatherhood or Ismael's begetting, which is nothing else but the set of whatever is begotten by Ismael. For us to say that Nabaeoth belongs to that set is equivalent to saying that Nabaeoth is a son of Ismael, or that he is begotten by Ismael. Likewise, a three-place relation is a set such that something's belonging thereto is a two-place relation. And so forth.

An interesting result of all that is that existence is a two-place relation, since it is a set such that any thing's belonging thereto is the set of members of that thing. Members of the Taj Mahal's existence are the same as the members of the Taj Mahal, i.e. its parts. Now, even as the Canterbury Tales' being written by Chancer is the same as their belonging to the fact that Chancer writes, a part of the Taj Mahal's belonging to the fact that the Taj Mahal exists -i.e. to the Taj Mahal itself- is the same thing as that part's being existed by the Taj Mahal. Therefore, every element is existed by whatever properties it possesses. Hence, existence is the converse relation of membership.

Let us bring in some symbolic notation. For any matrix "p", " $\hat{x}p$ " will mean or denote the set comprising such entities, x, as p; so, " $\hat{y}\hat{x}p$ " will denote the set of such things, y, as the set of such entities, x, such that p exists. Let "p" be "y is a husband of x" or "x belongs to y's being a husband"; then $\hat{y}\hat{x}p$ is the husbandhood relation, a relation which, e.g. Moses bears to Sephora. So, for any "p" whatever, $\hat{y}\hat{x}p$ is the relation borne by an element y to an element x insomuch as it's the case that p. Let $\hat{y}\hat{x}p$ be, again, the husbandhood relation.

Then, let 'x' stand for Sephora, and let 'y' stand for Moses; the sentence "yεyxp" will, in virtue of the principle of separation, be equivalent to "xp"; Hence, the sentence "xε(yεyxp)" (which I shall henceforth abbreviate as "xyxp", by replacing 'ε' with mere concatenation, and by taking the membership predicate to be associative to the right) will be equivalent to "xεxp" (i.e. to "xp" in accordance with our first abbreviating convention), which is in turn equivalent to p. That is to say: Sephora's belonging to Moses' belonging to the husbandhood relation is nothing else but the fact that Moses is a husband of Sephora. Existence is $\hat{x}x$, and also $\hat{y}(yx)$: the relation borne by any element x to any element y inasmuch as y belongs to x.

What is more, every entity is a relation. For, any entity, x, is the same as the relation borne by any element, y, to any element, z, inasmuch as z belongs to y's belonging to x: $x = \hat{y}\hat{z}(zyx)$. The proof is most straightforward: $\hat{z}(zyx)$ is the same as (the fact that) yx (i.e. y's belonging to x), since every entity is the same thing as the set of its members; hence, $\hat{y}\hat{z}(zyx)$ is the same as $\hat{y}(yx)$, which is in turn the same as x.

I've thus reduced entities in general to facts; facts to sets, and conversely; relations to sets; entities in general to relations. Everything is an entity, a fact, a set or property, and a relation, too. Moreover, the reduction thus proposed is mutual; we need no fundamental category, to which all others should be reduced. It's immaterial whether we take as fundamental relations, or any other purported category. In fact, there are no categories.

Sect.4 .- SPATIO-TEMPORALITY

Having stricken out all categorial boundaries, I feel bound to comment on one ground purportedly supporting categorialism. It has been said that, whereas things are concrete, entities such as facts or sets are abstract. Since I don't understand what either 'concrete' or 'abstract' mean, I shall put the claim in these words: whereas things, or bodies, have spatio-temporal locations, facts and sets don't. To my mind, that is wrong; but, were it something to it, that by no means would yield the wanted result; what at the very most might be right within that claim would be that such sets (or properties), and such facts, as are different from bodies lack spatio-temporal locations. Nonetheless, I dare say, even that is false. A set comprising spatio-temporal entities (entities, that is, having spatio-temporal locations) has a spatio-temporal location, too, viz. the one whose parts are occupied by its members; and the set may as well have sundry locations, each of them being also occupied by one of its members. True, we need to relinquish the opinion that no two things can have one same spatio-temporal location and that no thing can have two spatio-temporal locations. (What is perhaps true is that no two things can share, the one in the same degree as the other, all their spatio-temporal locations)

As for facts or states of affairs, I've come across no cogent argument showing that, as against events e.g., they are bound to lack spatio-temporal locations. Events are facts, even though not every fact is an event. Such facts as

are not events do also have spatio-temporal locations. Transitive facts being ordinary sets, they have such locations as befit sets of their ilk, which I've just been canvassing. Intransitive facts have whatever locations are occupied by the entities they are about, in a clear sense of 'aboutness' to be clearly explained. (Since Troilus' loving Cressida is nothing else but Cressida's being loved by Troilus, that fact is where Troilus is and also where Cressida is -or perhaps the fact occupies a discontinuous spatial location, whose parts are occupied by Troilus and Cressida- whenever the fact takes indeed place).

Sect.5.- EXISTENCE=TRUTH

My next contention is that existence and truth are one and the same thing. Still, I shall qualify that contention by espousing a gradualist ontology, postulating infinitely many degrees and aspects of truth or reality.

Since every entity is a fact, and since facts are meant by sentences, we can wonder whether every sentence means or denotes some entity or other. My answer is: No! For there are sentences absolutely false, lacking, in all and every respect, any truth-degree whatsoever. We need to differentiate between two senses of 'true': the semantical and the ontological one. In its semantical sense, 'true' applies to sentences; in its ontological sense, to facts. In the latter sense 'true' is equivalent to 'existent'. The two senses are connected like this: to say of some sentence, "p", that it is true (in the semantical sense) is to say that there's something, x, such that, while being denoted by "p", x (exists).

Still, a (Russellian) difficulty arises: what is then the contradictory of truth? For, if (ontological) truth is the same as existence, there's no ontological falseness; then, a sentence will be false only if there's nothing it denotes. So, while any true sentence is such that there's something which, by dint of existing, makes it true, false sentences are such that nothing makes them false.

My answer will be twofold. For one thing, I shall contend that, since there are degrees of truth or existence, there also are degrees of falseness or inexistence; now, many facts or things are to some extent existent; and yet also inexistent in some degree or other. For another, absolutely false sentences are such in virtue of their utterly failing to denote or mean anything at all, while, all the same, being sentences; a town's failing to denote anything doesn't make it false (in the semantical sense).

That there are degrees of truth or existence ensues upon admitting fuzzy properties or sets, such as skillness, strength, poorness, covetousness, righteousness, guilty, and so on. If Harriet is less guilty than Salome, then Harriet's guilt is less real, less existent, than Salome's. In fact, all comparisons are comparisons between the respective degrees of reality or existence of two things or facts. Evidently, there are (undenumerably) infinitely many degrees as regards exemplification of some properties. Therefore, there must be undenumerably many degrees of existence or ontological truth.

Now, whenever a thing exemplifies some property in a smaller degree than

another thing does, the latter exemplifies that property's complement in a greater degree than the former does. This is why there are as many degrees of inexistence as there are of existence. Still, there's an asymmetry between truth or reality and falseness or unreality: while there's a greatest degree of existence, which is possessed by what is entirely or altogether true, there is no degree of inexistence to be possessed by what is entirely false or unreal; for, existing is being true. Anyway, many things are both real and unreal, to some degree. Whether that assertion entails contradictions or not depends on whether the *rule of endorsement* is to be accepted: the rule of endorsement allows us to infer "p" from "It's, at least to some extent, the case that p". Should we

jib at that rule, we would only need some overconsistent fuzzy, or many-valued, logic or other (a logic is overconsistent iff any extension thereof containing contradictions is deliquescent or flimsy, i.e. such that any syntactically well formed formula becomes a theorem). In case we go on and dare to waive overconsistency, by taking up the endorsement-rule, then we shall resort to one of the extant paraconsistent logics (there is plenty of them by now). The latter alternative is to myself more attractive, since it allows us to keep the principle of excluded middle and -surprisingly perhaps- the principle of noncontradiction, too.

Sect.6.- ASPECTS OF REALITY: POSSIBLE-WORLDS AND TIME-INTERVALS

I've identified truth with existence. But what is an entity's truth? Is it its truth-value? I'm going to contend that a thing's truth is its truth-content, which is a (partial) function mapping *alethic angles* into truth-values. (It is a partial function, rather than a function proper, because it may fail to assign anything at all to some alethic angles; remember that, while every degree of truth exists -more or less-, absolute falseness doesn't exist *at all*.) In a derived sense of the phrase, we also can take as a fact's truth-content the (ordered) set of the values assigned by all alethic angles to it. An alethic angle is a partial function mapping facts into truth-values, and fulfilling hoped-for requirements for negation, conjunction, the other sentential functors -including functors of degree or extent-, and quantifiers; requirements which are needed in order to avoid deliquescence of the system. Intuitively, an alethic angle is an ultimate, and coherent, aspect of reality, under which any state of affairs either has a definite truth-degree or lacks any degree of truth. For brevity's sake, I shall speak of truth-values, including 0 or absolute falseness among them; however, saying that a fact has value 0 is a *façon de parler*, and conveys nothing else but that that fact lacks any truth-degree whatever.

Intervals of time and "possible-worlds" are ordered sets of infinitely many alethic angles. Some people think that any state of affairs has only one truth-value in any given world at any given time-interval. That is wrong in my opinion. One same fact may well have a great many different truth-values within

a world, even at one definite time-interval, since time-intervals as well as worlds, encompass infinitely many alethic angles. Loosely speaking, worlds and time-intervals are complex and kaleidoscopic, rather than simple or monolithic; and so are intersections of worlds and times, i.e. world-phases.

Every world and every time-interval is an aspect of reality. Thus, actuality does not exhaust reality. The actual world is but one among infinitely many aspects of reality. This is why being true, or existent, is not the same as being actually true or existent. Therefore, an entity's truth is not its actual truth-content -i.e. its truth-content in the actual world-, but its real truth-content, which doubtless encompasses the actual truth-content, without being identified therewith.

Since any entity is the same as its existence, and existence is truth, should we identify a thing's truth with its actual truth-content and, moreover, hold the simplifying view according to which worlds are monolithic, rather than kaleidoscopic, we should be bound to reduce things in general to truth-values. (Of course, nothing stays in the way of our identifying things in general with truth-values, provided that by 'a truth-value' we understand a truth-content, instead of understanding a *scalar* truth-value, i.e. a particular and definite truth-degree.) Surely no one wants to think of entities in general as being definite truth-degrees, since then, for any two things whatever, x and y, either it could be truly asserted that x was more real than y, or else it could be truly asserted that y was more real than x. Which undoubtedly is not always the case.

It's worth noting that our taking a fact's truth as its truth-content yields an important result concerning true assertion: only what has a truth-content lacking gaps or zeros is truly assertable. (Should we cling to overconsistency, we'd only take as truly assertable such facts as had truth-contents uniformly consisting of 1's). So, even though we keep the principle of excluded middle, so as to regard as truly assertable, for any "p", that either p or not-p, still we don't countenance the internal principle of excluded middle, according to which, for any "p", either it's truly assertable that p or else it's truly assertable that not-p.

Last, but not least, our requiring, in order to bestow true assertability upon a fact, that it should, in all and every respect, lack complete falseness amounts to regarding as assertable only whatever is the case necessarily always; which brings about this difficulty: is a fact not assertable provided only it's actually the case? My answer it may not be assertable. Let's suppose a fact such that, while being more or less true in all actual respects, is utterly inexistent in other, nonactual, respects. Then what is truly assertable is, not the fact, but the fact's actuality, or, put another way, another fact, which is nothing else but the former fact's being actually true -its belonging to the actual world.

Sect.7.- IDENTITY AND EXTENSIONALITY

Having identified every entity with its own existence, and existence with truth, and anything's truth with its own truth-content, we reach the conclusion that "two" things are one and the same iff they have (or, more accurately, are) the same truth-content.

That conclusion could wreak havoc but for our countenancing degrees of truth. Without them, Caesar would be the same thing as Caesar's being a man -which Aristotelians would joyfully vouch for, but which most people would, I think rightly, reject. Now, it's not necessarily always the case that Caesar's existence is exactly as real or true as Caesar's being a man.

Those considerations also bear on the extensionality issue. Some people may have been bothered by my identifying properties with sets. Of course they can, if they want to, read instead 'ε' as 'exemplifies', and, relinquishing talk about sets, cleave to properties. For, after all, I reckon "two" sets identical with one another if, but also *only* if, they are such that, in every respect, whatever belongs to one of them in some degree, belongs to the other, too, and in the very same degree. Put another way: "two" sets are one and the same iff it's truly assertable that whatever belongs to one of them does also, and in the same degree, belong to the other.

I think my approach is extensionalistic, all the same, since it states as a clear necessary and sufficient condition of identity between sets their really comprising the same members in the same degree (really=in all respects). Our thinking of worlds as aspects or facets of reality allows us to countenance a strong enough extensionalism, without being thereby compelled to say that, whenever it's actually the case that two sets have the same members, they are in fact one and the same set. Far from it!

My account is extensionalistic because it rejects properties whose identity conditions would be independent of whether the same things exemplify them in the same degree or not; and also because, in accordance with it, properties nowise make up a special category different from the one made up by such things as exemplify properties: everything is a property. So the two peculiar features of anti-extensionalism are rejected in my approach.

Sect.8.- EXISTENCE, UNIVERSAL SETS, AND THE THE PRINCIPLE OF SEPARATION

Existence is of course a universal set, but not the only universal set. Every element belongs to existence insomuch as it exists (i.e. in the same degree as it (exists)). Now, there are other universal sets to which everything belongs in a greater degree; such is, e.g., the property of being more or less real -i.e. of being-at-least-to-some-extent-real. This set is the most universal set, not because more things belong to it than to existence, but because many things belong to it more than they do to existence or to other universal sets.

Since we countenance universal sets, we face a serious difficulty con-

cerning the coherence or nondeliquescence of the system of set-theory (or of λ -calculus) we want to implement in order formally to articulate our ontological intuitions. The most handy proposal is to adapt Quine's ideas -as set forth in ML-, by accepting nonelements. However, the following doubt arises then: are the so-called universal sets universal?

By resorting again to degrees of truth, and by countenancing a minimal degree of truth, a solution can be found. Let us say that nonelements are such entities as don't belong to any set but, at most, infinitesimally only, that is to say in the smallest or least degree. But, anyhow, if we recognize undenumerably many degrees of truth, we need to recognize one least degree of truth, or we shall face unwieldy difficulties in the semantical treatment of quantifiers: were it truly assertable of anything whatever that it's such that p, it might nonetheless be *utterly* false that everything is such that p; which would be a case of what can be called ' ω -incoherence'.

It exceeds the scope of this paper to put forward a satisfactory system of set-theory meeting those requirements, and thus articulating the ontological views I've been espousing. I think I've performed that task elsewhere, in technical papers.

Suffice it to say that, once fully set forth, our set-theory would compel us somehow to qualify certain statements put forward in this paper -e.g. concerning applications of the separation principle, which, needless to say, should be duly qualified. The grounds would not be technical only, but I deem it wiser to refrain from further details here, in order to keep the paper as terse as possible.

Sect. 9.- FINAL REMARKS

- 1.- I've offered no reason for regarding any entity as identical with its existence. I think there are lots of good reasons for that identification; e.g., that "two" things are the same if they have, in the same degree, the same causes; and if they bring about, in the same degree, the same effects; and if they share, in the same degree, all their spatio-temporal locations; and so on.
- 2.- I've submitted no reason either for regarding the set of entities owned by someone as identical with the fact that he ~~is~~ she owns, and so on. A good reason would of course be that such an identification is a convenient ontological reduction -convenient, that is, inasmuch as it flies in the face of no intuitive consideration. Moreover, there is another reason liable to shore this identification up: transitive facts are *transeunt* -they pass into such things as can be denoted by direct-objects appendable, *salva ueritate*, to the sentence meaning the fact is question, things which can be called the 'direct objects' of the fact, in a clearly derived sense of the phrase. Thus, a transitive fact lies in its direct objects, or where they are, and comprises each of them inasmuch as it is a direct object of the fact under consideration.

- 3.- There remain many open questions, such as: how to account for double direct-object constructions (such as 'to give someone something'), and their passive transforms; how to cope with what French grammarians call 'verbes transitifs indirects', the ones that take a complement through a definite preposition, e.g. 'to sin against', 'to complain of', 'to listen to', 'to look at', 'to wait for', whose intransitiveness is obviously a matter of surface-structure. I'm confident, though, that all those problems, as well as others of similar kinds, can be successfully tackled within the framework I've put forward in this paper.
- 4.- I've forborne bringing up the question of what is deep structure, and of whether deep structure conspicuously reflects a correct ontological framework. I think the answer to the latter question is affirmative; and I find nothing mysterious about the notion of deep structure, which is after all a very useful theoretical posit.
- 5.- I've contended that sets or properties are where their members are. But what about the empty class -or, if we admit degrees of membership, about the emptiest class? My answer would be that no class is altogether empty, and that every class comprises some member or other at least infinitesimally. This of course bears upon articulation of the principle of separation (the unqualified principle of separation is the claim that every entity, x , is such that p/\overline{x} in the same degree as x belongs to the set of such things, x , as p/\overline{x} ; and that for any "p" whatever).
- 6.- I have not gone closely here into categorialist arguments. Neither have I assessed arguments against univocity of 'being'. I reckon all those arguments faulty on several scores. Contemporary arguments make much of set-theoretical paradoxes stemming from postulating a universal set. I'm confident there are better ways of avoiding aporetic paradoxes -paradoxes, that is, which would render the system deliquescent or flimsy- while acknowledging universal sets.
- 7.- Most importantly, a full development of the line of thought pursued throughout this paper would bring to the fore that natural languages handle phrases denoting things in the same way they handle phrases denoting properties or facts: the ones can replace the others in any context without the result becoming senseless, and even, very often, *salva veritate*. I know people who hate both stinginess and stingy men, as well as those men's stinginess -i.e. the fact that they are stingy. I don't think they do so in three different senses of 'hate'.