



## Introduction

This piece\* is going to be on a particular difficulty with translating ordinary language (English, in this case) sentences into logical idiom. Difficulties in this area are quite abundant, as is known to everyone who has ever taught logic, but there is one specific family of problems that appears to be of crucial importance. The chief member of this family is this problem: How is the “is” of ordinary English to be translated into logical idiom?

Traditionally, we distinguish between the “is” of predication — the copula —, the “is” of existence and the “is” of identity. This is not an exclusive classification, however, because the “is” of identity is, syntactically speaking, a special case of the “is” of predication: in sentences of form “A is identical with B” the predicate “. . . is identical with B” can be discerned, alongside two others. As regards the “is” of existence, a lot of ink has been spilled on “proving” that existence is or is not a “genuine predicate” — which is itself a piece of evidence that things are not at all clear here. Indeed, apart from quite singular sentences such as “God is” or “He’s the power that was” (said of a politician) we usually make our existence statements in sentences that do not look much different from “ordinary predications”, such as, for instance, “Soldiers are there”, “This technology is available” and the like. If there is any difference from “ordinary predications” here, it is that of the “is” of localisation (being there, being at some definite place or within some definite domain) and all the other kinds of predication — a difference on which Professor Perzanowski has taught us a lot in a number of articles.

I shall be concerned here with just this: How to distinguish between the “is” of identity and the “is” of other kinds of predication. More precisely, I shall be concerned with the question of which kind of logic allows us to make this distinction with more accuracy. From among all possible kinds of logic as competitors, I shall concentrate on just these two: first-order predicate calculus, as, in the words of Hodges ([8], p. 2), “the simplest, the most powerful and the most applicable branch of modern logic” and Leśniewski’s Ontology, as a modern version of the calculus of names.

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## I

When does a sentence of the form “A is B”, i.e. a subject-predicate sentence with a name-like part of the predicate following the “is”, express a statement of identity, and when does it express a “mere” predication?

Logicians will protest that this question makes no sense at all, because all statements of identity are predications and there is no way of non-circular saying which predications are to be counted as “mere”. Moreover — the logician will say — the “is” of identity and the “is” of predication are of the same syntactic category, i.e.  $\frac{S}{n\alpha}$  where “ $\alpha$ ” is a placeholder for all the various categories to which nouns, adjectives, phrases like “on the mat”, and so forth, belong (see [14]).

Yet we feel that there *is* a difference between such sentences as “Marcus Tullius is a Stoic” and “Marcus Tullius is Cicero”, or between “The Morning Star is a planet” and “The Morning Star is the Evening Star”.

Many people from various provinces of thought seem to attach great importance to what they think is the difference between “mere” predication and identity stating. A contemporary metaphysician, Jorge J. E. Gracia, writes: “A common understanding of individuality is that it consists in impredicability; that is, the individual is what cannot be predicated. This definition of the individual is generally contrasted with that of the universal, which is interpreted, in turn, as what is predicable. ‘Socrates’, for example, is not predicable, for if it should be found in third place in a sentence of the form ‘X is Y’ (X is Socrates), the copula in that case would not be the ‘is’ of predication but rather the ‘is’ of identity” ([7], p. 41)<sup>1</sup>. Or take Sklar in his [17]: he thinks science abounds with what he calls “discovered identities”, i.e. situations in which what appeared to be a relationship — expressed in a “merely” predicative sentence — has turned out to be identity of the “relata”: “We discover that salt crystals are — i.e., are identical to — arrays of sodium and chlorine ions. We also discover that light waves are — i.e., are nothing but — a kind of electromagnetic wave. Isn’t it also fair to say that we have discovered that the “down” direction in space at any location just is — just is identical to — that direction of space in which the gravitational force at that place is directed?” (p. 153). Clearly, Sklar thinks that being identical to (or with) is (is identical with?) being nothing but.

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<sup>1</sup> Later on (p. 42) Gracia admits that the difference between the “is” of predication and the “is” of identity was not widely used by ancients and medievals, with deplorable consequences for their theories of individuation.

This betrays the deeper-sitting interest in having “mere” predications turn out to be identity statements: reductionism, of one kind or another. Here is a list of sentences that are likely to command nearly-universal agreement if taken as “mere” predications but are very controversial as main dogmas of various sorts of reductionism if taken as identity statements: “Mind is brain”, “Freedom is underdetermination/ordered chaos”, “Societies/nations are collections of individuals”, “Language is linguistic dispositions of its speakers”, “The number five is the class of all five-element sets”, “Religion is ideology”, “Money is something accepted as legal tender”, “This arrow is a vector” (when pointing to an arrow on a page of a book on mechanics) “Parental love is instinct”, “This is Germany” (when referring to some horrible event that happened in Germany) . . . .

Or imagine a typical situation where at the end of a conversation you tell the other gentleman: “Talking to you was a pleasure” (and even *mean it*). It would be cynical to suggest this should be taken as an identity statement (where the conversation would be stated to be identical with one of your pleasures): you would never as much as consider mentioning the conversation in your weekly register of pleasures.

Contrary to what such “textbook” examples as “Marcus Tullius is a Stoic” and “Marcus Tullius is Cicero”, “The Morning Star is a planet” and “The Morning Star is the Evening Star” might suggest, however, it is not true that a (the?) difference that we “feel” there is between the above pairs of sentences can be “read off” their linguistic form. “Pierce Brosnan is James Bond”, for instance, looks like the first one in both pairs, yet it is not an identity statement.<sup>2</sup> On the other hand, it could be claimed that such sentences as “The Morning Star is a planet” can be *taken* as identity statements, whereas a sentence such as “The Morning Star is an object of interest” could not. For it is possible to state unequivocally *which* planet the Morning Star is supposed to be, yet it is *not* possible to state unequivocally which object of interest it is. The object of scientific interest of an astronomer is different from the object of purely aesthetic interest of a layman, and there is no *a priori* reason why, if we only know that the Morning Star is an object of interest, the star should be taken to be identical with one of these objects of

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<sup>2</sup> Interestingly, we say “Pierce Brosnan *is* James Bond” and “Roger Moore *was* James Bond”, but we don’t say “Marcus Tullius *was* Cicero”. We should, moreover, have been saying “Roger Moore *was* James Bond” even if there had been no Pierce Brosnan to be cast as James Bond after Roger Moore, and no continuation of James Bond films at all. But this grammatical criterion doesn’t work for all languages. Besides, we say “He rightly believed that Marcus Tullius *was* Cicero”.

interest rather than with the other. And, unless we countenance compromising the transitivity of identity, we cannot say that it is identical with both.

Similarly, although “Elizabeth II is a woman” and “Elizabeth II is a head of state” look similar, i.e. they look like the “mere predications” of the type quoted above, it could be claimed that the first sentence might be taken to express an identity statement, whereas the second could not: Elizabeth II is a single one, definite woman, yet there are many heads of state that Elizabeth II is: the head of state of the UK, the one of Canada, and the one of the Bahamas, to mention just three among many others. But maybe all “three” of these heads of state are just one, because they are the same person, Elizabeth II? Even if this is so, it is still possible to say that Elizabeth II is not identical with the only head of state that it is, because she could cease being it, without going out of existence. Or take this example: “Hamburg is a city”. Suppose that by “Hamburg” we mean the place in Germany, not Hamburg, New York, USA (the place where hamburgers were invented, some say), or any other. It is possible to say that this sentence expresses an identity statement, namely one in which the identity of Hamburg with a certain city, to wit, *the* city that it is, is asserted. In contradistinction to the foregoing example, there are no two cities for Hamburg to be identical with. However, there are two Hamburgs, intimately connected with each other: enough for the sentence *not* to be taken as a statement of identity: Hamburg the city, and Hamburg the state (*Bundesland*), a part of the Federal Republic of Germany. If “Hamburg is a city” can be taken as expressing an identity statement, we feel that it does so with more right for Hamburg the city than for Hamburg the state.

A partisan of the view that the “is” of identity is a special case of the “is” of predication can reply that in all of these examples even the sentence which I said did not express an identity statement, or the reading of a sentence that did not allow taking it as an identity statement, *could*, after all, be so taken. Namely: “Marcus Tullius is a Stoic” is equivalent, on one of its readings, to “Marcus Tullius is identical with a being which is a Stoic”. “The Morning Star is a planet” is equivalent, on one of its readings, to “The Morning Star is identical with a being that is a planet”. “Hamburg is a city” is, on one of its readings, equivalent to “Hamburg is identical with something that is a city”; and so on . . . This goes even for Peirce Brosnan: “Peirce Brosnan is James Bond” is equivalent, on one of its readings, to “Peirce Brosnan is identical with a being that is James Bond”. This appears to be the line taken by Montague in his [13]. He adds that the “is” in sentences in which it is followed by an adjective, e.g. “John is big”, while

not identifiable with the “is” of identity, can be reduced to it, for instance through paraphrases such as “John is a big entity” (p. 213)<sup>3</sup>. The doctrine — let me call it “Predication-to-Identity Reductionism” or PTIR — is a pet villain of Geach’s, who denounces it as the two-name theory of predication or part thereof: “For the two-name theory, the copula has to be a copula of identity” [4], p. 53). The reduction of every kind of predication to identity is warranted by the following axiom schema for identity, which Geach himself employs for his doctrine of relative identity (in his [5]):

$$(1) \quad F(a) \equiv \exists x(x = a \cdot F(a)).$$

## II

What fault should we wish to find with the answer given by PTIR to our twofold problem: the problem of the special character of identity stating as contrasted with other kinds of predication, and how logic can help us make up our mind as to whether a sentence should be taken as an identity statement or as something else? One thing that springs to mind immediately is that the answer given by PTIR trivialises the whole issue. But it is not always clear that there is an issue to be trivialised, in the first place. What *is* the issue in the case of “Elizabeth II is a head of state” taken as a “mere” predication or as an identity statement? As an identity statement, the sentence seems to proclaim Elizabeth II’s identity with a head of state, but it is not clear that there is an entity that is a head of state above and beyond Elizabeth II. It is not clear if heads of state are entities “in their own right”, and if they are, what their principles of individuation are. Is the British head of state, for instance, different from the Canadian head of state? One possible answer is Yes, because these heads of state are individualised by different states. Another possible answer is No, because “both” heads of state are one and the same person.

Yet, considerations like these show that there *is* an issue to be trivialised here, except that it is buried under the surface of things.

The issue, roughly speaking, is that of the ontology of heads of state. If head-of-statehood (I beg the reader’s pardon for this awkward neologism)

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<sup>3</sup> I must confess that while I know what a big man, or a big building, is, I have no idea how big an entity has got to be in order to be called “big entity”. My guess would be that the sentence “A big entity is at least twice the size of the Sun” is just as correct as the sentence “London has at least five inhabitants”. This is really strange, because Montague is lucidly aware of the problems that loom large here; see, e.g., his remarks on “big fleas” on p. 211 in [13].

is something that is merely a property of persons, then the sentence “A is a head of state” cannot be taken as expressing a statement of identity except as asserting, in a roundabout way, the exciting truth that A is identical with itself. No-one who believes that head-of-statehood is just a property of persons will, for this reason, ever wish to know if A is identical with a head of state, though many will wish to know if the predicate “[...] is a head of state” applies in truth to A. If, however, head-of-statehood is something other than a property of persons, if it is, for instance, a piece of “social clothing” that can be worn by different persons — as when we say that someone has been “invested with” a certain office — then the question: “Is the sentence ‘A is a head of state’ to be understood, in the given context, as a statement of identity, or, rather, as a ‘mere’ predication?” is not at all so silly. For it then is to be interpreted as: “Is A someone who just plays the role of the head of state, or is it the head of state, the office of head of state, itself?”

This question *can* still sound silly, for instance because even people who believe in head-of-statehoods as objects in their own right might not be in the habit of giving them names of persons of flesh and blood, so that the question “Is Elizabeth II identical with the office of the British head of state?” would bear its answer on its face, but ... exceptions might take us by surprise. “*Der Deutsche Kaiser*” (“the German Emperor”) is a pub in Zurich; besides, it is difficult to say what habits people who believe in state-offices as objects in their own right might have. Serious scholarship would have to bear this out but there seems to be some evidence to the effect that certain peoples, say the French before the revolution, believed in a mystical continuity of their monarchs (from Clovis onward, in the case of the French) so that a sentence like “Citizen Capet is the King of France” *could* be taken as a statement of identity in a non-trivial sense, in which what is asserted is not the identity with himself of the flesh-and-blood person executed in 1792 but the identity of that person with the mystical *Roi de France*. This assertion would probably be false (although Mr. Capet, *quā* Louis XIV, *was* the King of France) as much as is “Christ as man is God” in Catholic theology, which is another domain from which interesting examples of this sort can be drawn. Yet another is Shiite theology, where structurally similar beliefs concerning the Twelfth Imam “concealing himself” in various flesh-and-blood guises are central. And there are certain variants of Chassidism where something remotely similar (concerning *tsaddikim*) is known.<sup>4</sup>

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<sup>4</sup> In [18], pp. 28ff., you find quite a few other interesting examples of this sort, partly

All of this is very exotic to a secularly-minded reader, but less far-fetched examples can easily be found. Consider Hamburg (in Germany) once again, and the sentence “Hamburg is a city”. For PTIR there is no problem here: should someone like to take the sentence as expressing an identity statement, nothing easier: “Hamburg is identical with something that is a city”. Yet the trivialisation of the problem is just one piece of information away in this case: the piece of information that Hamburg is *also* a *Bundesland*. While it is trivial that Hamburg as a city is identical with something that is a city (namely the city that it is), it is not at all trivial (though probably not as manifestly false as structurally the same thing is false in the case of Christ as man or of *citoyen* Capet) that Hamburg as a *Bundesland* is identical with something that is a city. (Maybe there are some old laws that bind Hamburg’s status as a *Bundesland* and as a city to each other?)

Despite all this, it cannot be seriously claimed that (1) is wrong. It is not; but it covers up the problem. It makes “mere” predication and identity-stating flow together smoothly, but also lazily, and allows them to capitalise on each other’s shortcomings.

To see how and why, let us consider once again the sentence “Peirce Brosnan is James Bond”. There is no such being as James Bond, so if there should be any counterexample to PTIR, this is one. Yet the sentence does state identity, according to PTIR, in the fashion already indicated above: Peirce Brosnan is identical with someone, namely with himself, who is James Bond. Marcus Tullius is Cicero, and there is Marcus Tullius just as there is Cicero, there is a man known as Marcus Tullius and a man known as Cicero, and they turn out to be one and the same man. It is for this reason that “Marcus Tullius is Cicero” is a paradigm identity statement. But there is no James Bond, so even taken as “mere” predication, the sentence “Peirce Brosnan is James Bond” must be different from the sentence “Marcus Tullius is Cicero”. What is this difference?

A perceptive metaphysician would say that the difference is this: “Marcus Tullius is Cicero” is short for “Marcus Tullius is the same man as Cicero”, whereas “Peirce Brosnan is James Bond” is short for “Peirce Brosnan is cast as James Bond”. Once an important part of the predicate has got crushed out, everything flows smoothly together.

It would be nice if we didn’t need a perceptive metaphysician each time we have a problem if there is any point insisting that a “A is B” sentence

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inspired by Wiggins’ criticism of the doctrine of relative identity from *Reference and Generality* by Geach.



should be taken as a statement of identity rather than as a “mere” predication, though.<sup>5</sup> It seems to be part of the mission of what Professor Perzowski calls “Logical Philosophy” to help philosophers with problems like that: putting logic to philosophical use. My problem in this essay is to find a logical system to be put to a philosophical use, in the first place. This cannot be done without putting a few logical systems to a little philosophical use, however, so I won’t let the matter rest at merely programmatic declarations.

### III

Aristotle said: Τὸ ... ὃν λέγεται ... πολλαχῶς (*Metaphysics*, 1003a, 33), loosely speaking: there are various ways and senses in which a thing can be said to “be” something or other. If this is so, one can ask, why can’t we make all the various ways in which things are said to be something or other apparent by means of suitable adverbs, adjectives, participles or what have you? The answer is: In principle we can, perhaps; but most of the time we don’t, for the sake of economy of expression. “Peirce Brosnan is James Bond” is more concise than “Peirce Brosnan is cast as James Bond”, and we get by with the former. The only trouble is that we sometimes forget what we cut out — what parts of the predicate got crushed out —, while in other cases we never had them at all, and in such cases conceptual or, in the worst cases even philosophical, problems are likely to crop up.

Let us consider this sentence “Warren is my biggest worry”. On PTIR this predicative sentence is, as are all predicative sentences, an identity statement: Warren is identical with something (namely with himself) that is my biggest worry. This is very boring, and we know that the sentence is *not* to be taken as an identity statement: Warren is not identical with a mental disposition of mine, or a series of recurring mental states that I could refer to by means of the description “my biggest worry”, because Warren is a human being, not a psychological entity; instead, Warren is the cause of these

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<sup>5</sup> One of the perceptive metaphysicians whom — awkward though this is to say — we should like not to need, although his presence makes a great deal of difference to the quality of contemporary philosophy, is Paul Benacerraf, who in his [2] showed that natural numbers are not — could not be — identical with any set-theoretical constructions, although it makes all kinds of sense to say that the number one, for instance, is the set whose only element is the empty set. Thereby, Benacerraf has dealt a fatal blow to the centuries-long debate concerning the status of universals *in se* or *ante res*: When we say: “*u* is *x*”, where “*u*” is a name of a universal and “*x*” is a name of an individual, (possibly an abstract one, such as a set) what we mean is that *u* is instantiated in *x*, and nothing more.

psychological entities. The expanded version of the sentence at issue would have to be: “Warren is the cause of my biggest worry”. It is “the cause of” that has got crushed out. But in the case of Hamburg (as the city) it is not so easy to tell what, exactly, has got crushed out from the predicate in “Hamburg is a *Bundesland*”. In default of any special laws that would guarantee that the city Hamburg is a *Bundesland*, we have to say that the former “performs the role” of a *Bundesland* or . . . ask a lawyer.

City or *Bundesland*, there is too much structure here, anyway, for your average analytical ontologist to deal with. He relishes unstructured entities, and his favourite stock-in-trade are lumps of something or other. In a protracted debate, ontologists have discussed such questions as: Is a golden ring identical or not with the lump of gold it is made of? In one of the most recent works on this theme the ring is a bronze statue and the lump of gold is the piece of bronze the statue is made of.<sup>6</sup> Lest there should be any temptation to separate the statue and the piece bronze by appeal to different predicates and the Quinean principle of indistinguishability of identicals, the author construes the piece of bronze topologically, as something that is “of a piece” and has us imagine that the piece and the sculpture came into, and went out of, existence at the same moment of time ([1], p. 601.). In short, all precautionary measures are taken. Then the author mounts extremely sophisticated arguments *for* the thesis that the sculpture is *not* identical with the piece of bronze. He relies mainly on his subsidiary arguments in favour of the idea that modal predicates are just as good as any others for distinguishing objects. What he fails to notice or to make use of is the far more elementary fact that while the statue is made of the piece of bronze, the piece of bronze is certainly not made of the piece of bronze . . . . Something has happened to the piece of bronze (though not necessarily in temporal succession of the piece’s coming into being) and lo! it is a a bronze statue. It is this non-modal element of something that *has happened* (not: might, must, could, should, have happened) that accounts for the distinction between structured object and unstructured stuff. Quite generally, nothing is identical with the stuff it is made of, because no portion of stuff is made of itself. If indeed it is an entity “in its own right”. It smacks of the notorious “synthetic a priori” to say that nothing is made of itself, but we had better avoid talking in this general fashion, because it is too “philosophical” in the bad sense.

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<sup>6</sup> I mean [1]; one of the starting points seems to be [6]. A valuable contribution is, in my opinion, also [3].

But we do delete “made of” from sentences such as “This golden ring is made of a piece of gold”. We end up with “This golden ring is a piece of gold”, and then with “This golden ring is the piece of gold”. The transition from “a piece of gold” to “the piece of gold” cannot be achieved if we cannot tell which piece of gold is meant — such is the grammar of the English word “the” — and the only possible answer to the question concerning which piece of gold is meant, is: The one the ring is made of. But given the way language and mind usually function, we are seldom aware of this, and lapse into the sloppy, oblivious mode of speaking in which the ring just “is” the lump of gold.

The cases discussed above fall neatly into three different categories:

1. The “B” of “A is B” does not name any object at all (“Peirce Brosnan is James Bond”).
2. The “B” does name an object which is, however, very clearly not in the market for being identical with “A” (“Warren is my biggest worry”).
3. The “B” names an object that is can be established (not) to be identical with the object named by “A” (“The golden ring is a lump of gold”).

It is not for cases such as 1 or even 2 that the difference between “mere predication” and identity statement is worth making. It is for cases like 3. “Elizabeth II is a head of state” belongs in here too, as does “Hamburg is a *Bundesland*, but, in the first place, all the really interesting cases mentioned in section . Yet, the ease with which PTIR copes with cases such as 1 or 2 *is* perilous, because it lets us forget the existence of cases such as 3.

#### IV

The general distinction between the interesting cases of type 3 and the uninteresting of type 2 seems to be this: “A is B” is short for “A is-x B” where “x” is something that language allows us to drop. The suppressed “x” is exactly the “flagging” for one of the various ways and manners in which A is said to be B — to talk with Aristotle. But the “x” is suppressed. As a result, we have “A is B”, which, according to (1) gives us the right to assert that A is identical with B, namely with itself, because it *is* B after all. But there is some *other* B that A also is: not in some indefinite sense of “mere” predication, which PTIR so easily reduces to identity, and still less in the sense of identity, but in the sense indicated by the suppressed “x”, e.g. being made of ... (for rings and lumps of gold) or being a filler of the role of ... (for persons and heads of state), or, for Hamburg the city and

the *Bundesland* — well, you name it. For this reason, A is, and at the same time is not, identical with B — depending on which B you take. Now, what makes the question “Is ‘A is B’, taken as an identity statement, true?” so interesting, is that the “other” B, the B that A is-x, might, in certain cases, be suspected to be, despite appearances, identical with A. In some cases, this B is *obviously* not identical with A — this is the case 2 above — in others, its existence or non-existence is itself a matter of debate — this is the case of, say, “heads of state” as entities *sui generis* or of lumps of anything as long as they exist in structured wholes, such as rings — few Aristotelians would agree such lumps exist *actually* (in the original, Aristotelian sense of this worn-out word). For most “reductionist” examples from section , however, the B is believed to have more, not less, ontological solidity than A — hence the persuasive and seductive power of reductionism.

Given this much, it is easy to see why it is that Leibniz’ Law is of so little use here, i.e. in the context of (1). If someone says “A is B” but doesn’t make clear if he means it as “mere” predication or as identity statement, we cannot help him by asking: do you mean that everything that is true of A is true of B and vice-versa? Because either way, the answer can be Yes, and if A actually is B in any sense of “is”, the answer to the question: Is everything that is true of A true of B and vice-versa? *can* be Yes, too. But suppose that there is a B that A is a priori identical with (due to (1)), and a B that A need not be identical with, because, although A is this B, it only is-x it (the “x” having got suppressed). To which of these two (or seemingly two) B’s shall we apply Leibniz’ Law? In the case of Warren-my-biggest-worry we apply Leibniz’ Law spontaneously and without second thoughts of this sort, because, for some reasons, it is clear which one of the two things both called “my biggest worry” is the right one to pick up for further consideration. But whatever the source of this beam of light, it doesn’t shine on rings and lumps of gold.<sup>7</sup> let alone on minds and brains, societies and collections of individuals, and the other protagonist of the interesting examples from section . In order to apply Leibniz’ Law, we would have to make up our mind which of the B’s we wish to consider, but this we fail to do.

It is exactly this failure that Leśniewski’s Ontology (LO)<sup>8</sup> is good against. This is the first reason why I believe that LO guides our thoughts, when

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<sup>7</sup> For which the situation is essentially the same: the predicate “[...] is made of a lump of gold” holds as little of the lump of gold as “[...] is a psychological entity” holds of Warren.

<sup>8</sup> For comprehensive information on LO and other Leśniewskian systems see [12].

confused between “mere” predication and identity statement, better than does first-order predicate logic and its PTIR.

LO is a calculus of names, with only one primitive term, “ $\epsilon$ ”, which is sometimes claimed to correspond closely to the Polish copula “jest” taken in its “fundamental sense” (e. g. by Kotarbiński, see [16]). The Polish word works very much like its English counterpart “is”, except that in Polish there are no articles, so that whenever a Pole says “ $a$  jest  $b$ ” and LO represents this as “ $a \epsilon b$ ” we should have to read it as “ $a$  is a  $b$ ” or “ $a$  is one of  $b$ ’s”.<sup>9</sup> LO has two quantifiers,  $\Pi$  and  $\Sigma$ , which, unlike their classical counterparts,  $\forall$  and  $\exists$ , do not carry any existential import.<sup>10</sup> The variables range over names, and LO doesn’t make any difference between proper names (let alone between logical proper names and proper names purely and simply) and common nouns — everything important about this distinction is (assumed to be) expressed explicitly. Nor does LO assume its names to be referential — for instance, “Pegasus” is for LO as good a names as “Socrates”.<sup>11</sup> The only axiom of LO, in its expanded version, is the universal closure of this formula:

$$(2) \quad A \epsilon B \equiv (\Sigma C C \epsilon A) \cdot (\Pi D \Pi E (D \epsilon A \cdot E \epsilon A \supset D \epsilon E)) \cdot (\Pi C (C \epsilon A \supset C \epsilon B)).$$

Now, a very attractive fact about LO is that it, in contradistinction to classical predicate logic, doesn’t treat identity as a primitive notion, but attempts to define it. It also defines existence, objecthood, and a number of other formal concepts that will all be sloppily expressed as “being” (something or other). If LO could be expanded in such a way as to cover all those being- $x$ ’s that I talked about earlier on, it would once and for all invalidate the Aristotelian adage quoted at the beginning of section , or reduce it to a logically uninteresting observation about how sloppily (or concisely) people actually talk, although in principle they could talk better. Then, LO could be said to answer the question in the title of this piece in the affirmative: Yes, being is predicated in one sense only, or at the very least there is a privileged sense in which it is predicated, and to which all the other senses can be reduced, and this sense is that of “ $A \epsilon B$ ”. The “fundamental sense” sense of the Polish copula “jest” — if there is any —, or, *mutatis mutandis*, of the English “is”, German “ist”, Turkish “-dir”, and so on — which is sometimes claimed to be the one in which “ $A \epsilon B$ ” is to be taken would, in addition,

<sup>9</sup> On this topic see [10], p. 19.

<sup>10</sup> See [9] and [15] on quantifiers in Leśniewski.

<sup>11</sup> On names in LO see [11], interesting information can also be found in [16].

turn out to coincide with the primordial sense of “being”. Wouldn’t it be lovely?

The definition of identity in LO looks as follows:

$$(3) \quad A = B \equiv A \in B \cdot B \in A.$$

It is already at this stage that we can say that Ontology is better than first-order predicate logic for telling identity statements from “mere” predications. Should someone say: “A is B, and please take it as an identity statement”, what (1) does is make us ask: “Do you mean to say, someone might doubt that if A is B, A is identical with itself (which is B)?” which isn’t a question to be asked. By contrast, (3) makes us ask: “Do you mean to say, B is A, in addition?” which stands possibly a better chance of being a question to be asked . . . .

The reason why I said that LO kept us from wondering if A was identical with B *before* we had made up our mind as to just which of the two or more B’s we wish to consider, is the second conjunct on the right-hand side of the equivalence in (3) and the second conjunct on the right-hand side of the equivalence in (2) and, once again, (3) as a whole. As it is fairly easy to establish, all three yield jointly the result that if some B is supposed to epsilon A, then there must not be two (nonidentical, of course) B’s.

To see how this works, imagine a die-hard Thatcherite say: “The British nation is nothing but, that is, it is identical with, the collection of individual Britons”. Our A and B are: the British nation, and the collection of individual Britons, correspondingly. No-one, I assume, is ready to deny that A is B, in this case. But is B A? If this is supposed to mean that B epsilon A, then there can only be one B. But if you believe in nations as *sui generis* entities, then there are, for you, at least two B’s, that is, collections of individual Britons: the first one is the “mere” collection (which is probably what the Thatcherite means) and the other is the British nation *quā* such, which is, among other things, a collection of individual Britons. The “is” here is short for “is composed of”, “is based on”, “rests on” or the like. However, you don’t have to know what the “is” is here short for, nor need you be at all aware of something having been crushed out of the predicate. This is what LO buys you: you don’t have to engage upon any subtle considerations concerning the “proper” or “full” sense of the copula in any sentence; in the case at hand, as a believer in nations you can confound the Thatcherite by the remark that you never dreamt of denying that the British nation *was* identical with *one* of the *two* (or more) things to which the phrase “the collection of individual Britons” referred, namely, with the British nation

as something more and above the “mere” collection of individuals. Then, lest the Thatcherite should object that your argument was circular, you can point out that even if the British nation is (epsilons) the collection of individual Britons, the collection of individual Britons certainly is not (does not epsilon) the British nation, because there is something (here you would be invoking the *third* conjunct in (2)) that is (epsilons) the collection, but not the nation, namely: an entity (of a kind to be determined) whose identity is dependent on its composition of individual Britons. Whatever such an entity is, it certainly isn’t, in any sense, the British nation.

And similarly for golden rings and the lumps of gold they are made of — if you believe that rings are something “above and beyond” their lumps of gold. The technique I am delineating here in a sense replaces the insights of the “perceptive metaphysician” disparaged by me at the end of section : we don’t have to know what the “is” in “A is B” is short for, what “x” got crushed out of it, or that anything at all did. We only look for something that epsilons A but doesn’t epsilon B or vice-versa. “Somethings” — names — like that are not difficult to find, as language doesn’t allow us to crush out parts of predicates indefinitely: at some stage we end up with sentences that are not asserted, not even in the sloppiest ways of speaking. The linguistic licenses end somewhere, the *Gemütlichkeit* of an abbreviated way of talking stops at some stage. Starting from a seemingly uncontroversial sentence of form “A is B”, where some “x” has got crushed out of the predicate, and looking for various C’s that are A, we eventually find a few of which it cannot be said that they are B — unless, that is, the “x” or something related to it, has been restored, but this need not interest us any longer. The only — serious, though — limitation of this technique is that we have to find reasons to believe that the C not only is A (some “y” could have got crushed out of “C is A” itself) but also epsilons A, in the primordial sense given by (2). We say, for instance, that the wedding ring is (in full version: is made of) a lump of gold. And we may be tempted to say that the lump of gold is the ring, but whilst the first “is” could, perhaps (let’s be charitable), be correctly rendered by means of the Leśniewskian “ $\epsilon$ ”, the second cannot, because a certain invariant of homeomorphic transformations epsilons the lump of gold but it doesn’t epsilon the ring. Now the question is: does the invariant really epsilon the lump of gold, or do we just sloppily say that it is the lump of gold? This question would launch a new study, and you now understand why I called this limitation serious.

The case of Hamburg is another grateful object of investigation here, one which sheds, however, much more sharper light on the dogged question of

the tacitly assumed interchangeability of “is” and “ $A \in B$ ” — and thereby on that of the “fundamental sense” of the former, and, consequently, on the title question of this article.

Suppose that someone should claim that Hamburg is a *Bundesland* and that that claim should be taken in the sense of an identity statement. If this claim is to be confirmed in the sense of (3), we ought to make sure that Hamburg epsilon a *Bundesland* and a *Bundesland* epsilon Hamburg.<sup>12</sup> Already the first epsiloning might turn out to be unexpectedly difficult, if you have a bit more than next to none information about Hamburg. To be more exact, if by hypothesis you are confronted with the claim that Hamburg is a *Bundesland* and asked to interpret it as an identity statement, then, going along Leśniewskian lines, and in conformity with the second conjunct in (2): “IIDIE ( $D \in A \cdot E \in A \supset D \in E$ )”, you should reason thus: “A certain city epsilon Hamburg, and a certain *Bundesland* epsilon Hamburg, yet I don’t know if the one epsilon the other. And before I have decided this question, one way or another, I cannot really say that Hamburg epsilon anything, in particular, a *Bundesland*. And still less do I know if ‘that’ *Bundesland* — I don’t know which, mind you — epsilon Hamburg. But that’s exactly what I need to know in order to know if the sentence ‘Hamburg is a *Bundesland*’ can be taken as an identity statement, a true one.” Now, why don’t you know if a certain city (the one called “Hamburg”) epsilon a certain *Bundesland* (the one called “Hamburg”)? Because, first, you remember the *third* conjunct in (2): “IIC ( $C \in A \supset C \in B$ )”. And, second — here comes in the information that you have about Hamburg(s) — you don’t know if a certain organisation presided over by the Mayor, which is (epsilon) uncontroversially Hamburg the city, equally uncontroversially is (epsilon) Hamburg the *Bundesland*.

What this shows is that it is not only a (certain) *Bundesland*’s epsiloning Hamburg that is questionable here — it’s already Hamburg’s epsiloning a *Bundesland*. Yet still, no-one doubts that Hamburg *is* a *Bundesland*. Does this devalue our technique, derived from LO? No, in the contrary, but it

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<sup>12</sup> The indefinite article “a” in front of “*Bundesland*” in the sentence just written is not a sign of anything like a “plurality” or “indefiniteness” of the *Bundesland*. It *must not* be, given the second conjunct on the right-hand side of the equivalence (2). It is, rather, an indefinite article of laziness — if I may borrow a well-known phrase from Geach, who speaks of “pronouns of laziness”, in a not even remotely related sense —, to be read as “a certain definite, but I choose not to tell you now which.” Had we been less lazy, we could have said: “BL, which is a *Bundesland*, epsilon Hamburg” — where “BL” would be a “dummy name” or an “instantial variable” of the sort that we employ for the Rule of Existential Instantiation in the classical predicate calculus. My thanks go to Prof. Woleński for drawing my attention to this detail.



shows that we have to be very careful with assuming that any “is” we come across in plain talk is employed in the fundamental sense (if there is any), to be safely rendered by means of the Leśniewskian “ $\epsilon$ ”. This fundamental sense may be hidden *far* deeper than we think.

If teaching us that lesson had been the only merit of LO, studying it would still have been worth the trouble. But it isn’t . . . .

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