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***published in***

The Lvov-Warsaw School: The New Generation  
2006

***document version***

Publisher's PDF, also known as Version of record

[Link to publication in VU Research Portal](#)

***citation for published version (APA)***

Betti, A. (2006). Sempiternal Truth. The Bolzano-Twardowski-Leśniewski Axis. In J. J. Jadacki, & J. Pańniczek (Eds.), *The Lvov-Warsaw School: The New Generation* (pp. 371-399). (Poznań Studies in the Philosophy of the Sciences and the Humanities; No. 89). Rodopi.

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Arianna Betti

**SEMPITERNAL TRUTH.  
THE BOLZANO-TWARDOWSKI-LEŚNIEWSKI AXIS\***

**1. Introduction**

In 1913 Stanisław Leśniewski published his article on the sempiternity of truth, “Is Truth Only Eternal or Is It both Eternal and Sempiternal?” (Leśniewski 1913a).<sup>1</sup> The paper, directed against Kotarbiński’s “The Problem of the Existence of the Future” (Kotarbiński 1913), made an important contribution to the debate on the excluded middle current in the Lvov circle in those years.<sup>2</sup> The discussion involved at the same time absoluteness, eternity and sempiternity of truth, i.e. truth *for* ever and truth *since* ever, and had as ideal reference point Twardowski’s “On the So-Called Relative Truths” (1900),<sup>3</sup> where the founder of the Lvov-Warsaw School had attacked the relativity of truth. Contrasting Kotarbiński’s positions, Leśniewski defended “absolutism,” consequently

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\* This paper was submitted in 1996. Until now versions of it have circulated in various forms. A Polish translation of it appeared in *Filozofia Nauki*, VI, Nr. 2 (22), 1998, pp. 51-75. Having done much more work on the subject in the meantime, I have added in proof the changes which allow this paper to appear in print. The present version is to be considered the final and official one.

<sup>1</sup> Warning: the English translation contains mistakes which alter the text, especially at p. 109.

<sup>2</sup> To the discussion belonged also Leśniewski (1913b).

<sup>3</sup> See Twardowski (1900), labeled henceforth in the text *Relative Truths*. I should warn the reader that the German translation of the latter omits some parts of the text. See *infra*, nn. 39, 45. This paper and Twardowski (1911) have finally a good translation by Arthur Szylewicz in *Kazimierz Twardowski – On Actions, Products and other Topics in Philosophy*, J. Brandl and J. Woleński (eds.), Rodopi, Atlanta/Amsterdam, 1999, resp. pp. 147-168 and 103-132.

taking sides with Twardowski.<sup>4</sup> Twardowski had revived Bernard Bolzano's ideas on the subject, and, mainly thanks to him, these became known in the Lvov-Warsaw School (see, for instance, Jadacki 1993, p. 191). There is no doubt that Leśniewski knew Twardowski's ideas and it seems evident that the latter influenced him: Leśniewski's results are mostly compatible with the "absolutistic" content of Twardowski's 1900 article. And, similarly, no doubts can be raised about the Bolzanian origin of the aspects of eternity and sempiternity of truth defended by Twardowski in *Relative Truths* (see, for instance, Woleński and Simons 1988, p. 430, n. 24; and Simons 1992, Ch. 2, p. 15, n. 11; see also Smith 1988, p. 325): though his name is not quoted, traces of Bolzano's legacy can be found even in the examples given by Twardowski, some of which are the same as used by Bolzano in his *Wissenschaftslehre*.<sup>5</sup> Yet, since Bolzano, Twardowski and Leśniewski supported different theories of meaning with different ontological presuppositions, "sempiternity of truth" actually stands for three different conceptions. This paper is a survey of these three conceptions. I suggested elsewhere a comparison between Bolzano and the early Leśniewski as to their theories of meaning and truth, claiming the possibility of a (direct or indirect) influence of Bolzano upon Leśniewski. The analysis presented here is also meant as a contribution to the picture sketched there.<sup>6</sup>

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<sup>4</sup> Twardowski himself seems to have attacked Kotarbiński, see Woleński (1990a), p. 194. The latter contains also a discussion of the Leśniewski-Kotarbiński controversy.

<sup>5</sup> One of them is "The fragrance of this flower is pleasant," see Twardowski (1900, p. 316 [Germ. transl., p. 416]), see also Bolzano WL §147. The parallel is quoted also by Peter Simons. The German translation, however – both at pp. 416 and 438 – has not "diese Blume riecht angenehm" as reported in Simons (1992, p. 15 n. 11), but "der Duft dieser Blume ist angenehm." See also the discussion of the demonstrative 'ten' (this), Twardowski (1900, p. 323 [Germ. transl., p. 428]). See also Bolzano (1972), pp. 75-76 and 193-197 [WL §59 and §147].

<sup>6</sup> See Betti (1998b). I should remark that the Austro-Polish tradition of absolutistic theories of truth – eternity and sempiternity aside – has its roots also in the school of Franz Brentano, Twardowski's teacher. See most of all Woleński and Simons (1989). See also the volume Albertazzi, Libardi and Poli (1996).

## 2. Bernard Bolzano in the *Wissenschaftslehre* (1837)

In Bolzano's *Wissenschaftslehre* truth-bearers are *propositions-in-themselves*, or simply propositions. They are objects with the following features<sup>7</sup>:

- they are *non-existing objects*, that is they do not enter into the causal chain, nor do they exist in any time or place, but subsist in the universe as a certain something (for such objects I will employ henceforth the label "lektological") (see Bolzano 1972, p. 21 [WL §19]);
- they are the *matter* or *content* of mental acts as well as the *sense* or the *meaning in a restricted sense* of linguistic expressions<sup>8</sup> and they subsist independently of their being thought or expressed linguistically; mental acts and linguistic expressions, which are real, do exist;
- they are complex objects, composed of parts called *ideas-in-themselves*; ideas may refer to objects; as a result of the fact that an idea may refer to one, or more than one object or not refer at all, it is *singular objectual*, *common objectual* or *non-objectual (empty)*. Objects may be subdivided into *qualities* (of which *relations* are a special kind), i.e. any object that belongs to at least one other object, and *pure objects*, objects which are not qualities. Every quality is an object, while not every object is a quality;
- they have always the form '*a* has (*b*)-ity' where '*a*' is an idea, '*(b)*-ity' is an idea (of quality), and moreover, also 'has' is an idea.<sup>9</sup>

Now, given the ideas '*a*', 'has', '*(b)*-ity', the proposition '*a* has (*b*)-ity' is true if and only if

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<sup>7</sup> I shall consider briefly only those elements which are essential to the discussion. See Casari's papers in the references for a more exhaustive picture of Bolzano's views, and the indispensable Berg (1962).

<sup>8</sup> Note that the relation between linguistic expressions and propositions-in-themselves is here oversimplified, as no sentence expresses a proposition *directly*, but via an idea of that proposition.

<sup>9</sup> The issue is connected with the so-called "Bolzano's Conjecture," see Casari (1992), p. 75. As it is by now common in Bolzano scholarship, I will employ expressions surrounded by square brackets to designate lektological objects.

- B1** ‘*a*’ is non-empty;  
**B2** ‘(*b*)-ity’ is an idea of quality (and is non-empty);  
**B3** At least one of the qualities which ‘(*b*)-ity’ refers to belongs to any object which ‘*a*’ refers to.<sup>10</sup>

While in Bolzano truth-bearers are propositions, truth-makers are the relationships (*Verhältnisse*) that a proposition enunciates, where a relationship is the belonging of a quality (which ‘(*b*)-ity’ refers to) to an object (which ‘*a*’ refers to).<sup>11</sup> A true proposition-in-itself is called a *truth-in-itself* (see Bolzano 1972, p. 32 [WL §25]).<sup>12</sup> Truths are objective:

The number of blossoms that were on a certain tree last spring is a statable, if unknown, figure. Thus, the proposition which states this figure I call an objective truth, even if nobody knows it. (Bolzano 1972, p. 32 [WL §25])

Any proposition is either true or false, always and everywhere (see Bolzano 1972, p. 172 [WL §125]). Bolzano’s position may be summed up in the following statement (which holds also for falsity):

- (B)** For any *proposition-in-itself* *p*, if *p* is true at a time *t*, then it is true also at an arbitrary time *t*<sub>1</sub> past or future with respect to *t*.<sup>13</sup>

Consequently, when it is said that a proposition is neither true nor false, it is not a proposition-in-itself which is meant, but a *linguistic expression*:

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<sup>10</sup> See Casari (1992), pp. 73-75. See also Bolzano WL §28, §131, §196. For B2, which, however, may be derived as a theorem, see, for instance, Bolzano (1972), p. 121 [WL §80, 2].

<sup>11</sup> See most of all the dense Casari’s (1992) Appendix on the “still open” semantic value of propositions. I propose a different interpretation in my “Bolzano’s Universe: Metaphysics, Logic and Truth,” which is to appear in L. Haaparanta & H.J. Koskinen (eds.), *Categories of Being* (Oxford University Press).

<sup>12</sup> English translations from the *Wissenschaftslehre* are from Bolzano (1972), unless otherwise indicated.

<sup>13</sup> The apparent oddity of saying that an *atemporal* truth-bearer ‘is true in *t*’ requires additional explanation, which I cannot satisfactorily give here. The issue involves a discussion of the thesis: (AT) atemporal truth does not follow from atemporal truth-bearers. Since truth is a relational quality (**B1-B3**) of a proposition, it does not follow *only* from the atemporal *status* of the latter that truth is atemporal. This means also that to be a ‘sempiternalist’ you do not need such truth-bearers, as clear from Twardowski’s and Leśniewski’s position. See also Simons (1991; 1994). There could be several ways to better reformulate (**B**) by taking (AT) into account.

What is meant is that this linguistic expression admits one interpretation on which it has a true sense and another on which it has a false sense, or that it is so indefinite that we do not find ourselves justified in either the one or the other of these interpretations. (Bolzano 1973, p. 169 [§125])

Discussing some fundamental logical laws, like  $a \rightarrow a$ , Bolzano claims that while affirming “if an object has a certain property, then it has such a property” it is not necessary to add “at the same time.” Some propositions state instead a merely *transient* relationship, linguistically expressed by sentences like, for instance, “it is raining.” In order to completely express a truth, such sentences require the addition of a time determination and of a location, such as “on August 18, 1996, in Leiden, The Netherlands, it is raining.”<sup>14</sup> This follows from the fact that for Bolzano any real thing – with the possible exception of God – is located in time (see Bolzano 1972, p. 110 [WL §79, 5]). If we want to say, then, that a quality truly belongs to some real object, we must always specify the time in which the quality belongs to the object, and

this is of such universal validity that we may even say of the attributes of God that they belong to Him at a certain time, namely at *all* times. (see Bolzano 1972, p. 32 [WL §25])<sup>15</sup>

Hence no sentence of the form “The real object *A* has (the attribute) *b*” expresses a complete truth, unless we include in the idea-subject a temporal specification. For according to Bolzano,

the time in which we may truly attribute a certain property to an object belongs to the idea of the object, and not to the idea of the copula of the proposition. (Bolzano 1972, pp. 57-58 [WL §45])

Any time-indication pertains thus to the subject-idea of the proposition. The sentence “Caius is now learned” is not to be looked at as if it expressed a proposition in which the part corresponding to (a de-indexicalized) “now” belonged to the copula, because the temporal determination belongs to the subject. A more correct expression would then be

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<sup>14</sup> “And so I hope no one will take it seriously that the truth or falsity of propositions is a property of them that varies with time and place” (Bolzano 1973, p. 169 [WL §125]).

<sup>15</sup> For Bolzano God is one of the real objects, which in the causal chain all undergo the effects of external causes. Yet, being placed at the beginning of the causal chain, God is not subject to any effect, *causa prima*. See, for instance, Bolzano (1972), p. 248 [WL §168].

- (1) “Caius in his present state is learned” (or: “the present Caius is learned”).

Sentence (1) and the sentence

- (2) “Caius was ignorant ten years ago,”

therefore, express propositions which have different subjects. The propositions respectively expressed by (1) and (2) are the following:

- (1\*) [Caius<sub>2006</sub> has learnedness]  
 (2\*) [Caius<sub>1996</sub> has ignorance] (see Bolzano 1972, pp. 57-58 [WL §45]).

The sentence

- (3) “I have a sensation of pain”

does not completely express a true proposition unless we transform it (with the proviso that it is uttered by Kurt Weill on April 3, 1950 at 00.01) into

- (4) “Kurt Weill, on April 3, 1950 at 00.01, has a sensation of pain.”

Thus if times – conceived of as particular determinations of real objects – are different, many contradictory attributes may be attributed to the same thing. Propositions with predicate-ideas contradicting each other may be true if and only if their subject-ideas are different, so if two contradictory qualities (as for instance ignorance and learnedness) are correctly asserted of the same *substance* (i.e. for Bolzano an existing or real object), it follows that two different time specifications are present in that substance. Bolzano has a reason for not attaching the time determination to predicates: any *quality* is a *determination*, but the converse does not hold (see Bolzano 1972, pp. 121-122 [WL §80]). Time (and space) determinations are among those which are not qualities:

Not all determinations of objects require a predicate idea in a proposition where this object is the subject. Rather, there are ideas that serve as *determinations* of objects without being *attributes* of them. These ideas have the peculiarity that they can never occur in the place of the predicate idea (*b*) but only as parts of the subject idea (*A*) itself. Of this sort are especially the determinations of *time* and *space* of existing things, because the time in which the existing thing is located and during which certain attributes can in truth be attributed to it is not an attribute of this thing. For this reason the idea of this time does not occur in the predicate, but in the subject idea of the proposition. This holds analogously also of the spatial determinations of things. (Bolzano 1972, pp. 121-122 [WL §80])

When speaking of the “Parts which the Author Takes all Propositions to Have” (§127), Bolzano says that *language* allows us to express through the copula of the canonical form of propositions [*A* has *b*] not only person and number of the subject, but also time determinations. But since language connection is not an *essential* connection, from this we cannot conclude, as Bolzano has already said in §45 and §79, that the copula ‘has’ is formed also by the determination of a time at which something is had (see Bolzano 1972, p. 177 [WL §127, 5]).<sup>16</sup> There are cases in which this is particularly evident: Bolzano says that it seems that the proposition ‘Every truth has an object with which it deals’ says that the belonging of such-and-such a quality to truths takes place at the present time, even if truths are objects which are not in time at all. But if the parts of the proposition expressed by “the object *A* – has at time *t* – the attribute *b*” are to be clearly indicated, they must be expressed in the following way: “the object *A* at time *t* – has – (the attribute) *b*.”

For it does not happen at time *t* that the attribute *b* is claimed for the object *A*; but the object *A*, inasmuch as it is thought to exist at time *t* (hence to have this determination) is claimed to have the attribute *b*. (Bolzano 1972, p. 177 [WL §127, 5])

As to Bolzano, one of the reasons why it seems that the same proposition is sometimes true and sometimes false in accordance with different times, places and objects, follows from the fact that we may look at some parts of it as *variable*. If we vary those parts, however, we do not have the ‘same proposition’ changed, because variation on a proposition yields not the *same*, but *another* proposition than the original one. For instance it is not the case that the proposition

(5) ‘This flower has a pleasant fragrance’

is sometimes true and sometimes false: we are faced with *many* propositions which are obtained by the same proposition if we consider certain parts of it as variable and we replace in it first one idea and then another (see Bolzano 1972, p. 194 [WL §147]).<sup>17</sup> Bolzano gives some examples to explain the concept better. Consider the propositions

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<sup>16</sup> I write (*b*)-ity to stress that with *b* Bolzano means an idea of quality: he writes “*A* has *b*.” As regards the form “*A* has *b*-ity” as the primary form of truth-bearers in Bolzano, see Betti (1998b).

<sup>17</sup> The theory of *variation* (*Veränderung*) of ideas in a proposition is one of Bolzano’s most celebrate. See also §69 and §108 for the concept of variation of parts in ideas, which



- (i) 'The man Caius has mortality'
- (ii) 'The man Caius has omniscience'
- (iii) 'The being Caius has mortality'.

If in (i) we consider the idea (part of (i)) 'Caius' as variable, the new propositions thus obtained are – for admissible substitutions – all true.<sup>18</sup> If we do the same in (ii), we obtain all false propositions, whatever we substitute for 'Caius'. By repeating the procedure in (iii), we obtain propositions some of which are true and some of which are false. By these means, Bolzano introduces then the concept of the *validity* (*Gültigkeit*) of a proposition-in-itself,<sup>19</sup> which is defined as "the concept of the relation of all true propositions to the total of all propositions which can be generated by treating certain ideas in a proposition as variables and replacing them with others according to a certain rule" (Bolzano 1972, p. 196 [WL §147]).

### 3. Kazimierz Twardowski: *On the So-Called Relative Truths* (1900) and *Actions and Products* (1911)

Many of the considerations already found in Bolzano on truth and time we find again in Twardowski's *Relative Truths*. According to Twardowski when philosophers say that truth is relative relying on various examples of elliptical sentences, sentences with indexicals, sentences of general form, and sentences about ethical principles, they make a mistake. They confuse *judgements* as *actions* (*czynności*) (Twardowski 1900, p. 335 [Germ. transl., p. 446]) or mental *products* (*wytwory*) (Twardowski 1900, p. 317 [Germ. transl., p. 418]), with the *sentences* (*powiedzenia*) which express them. Therefore relativists replace erroneously the proper truth-bearer, the judgement, by the (type)

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is fundamental to extend the definitions of some relations among non-empty ideas to all ideas. See also Berg (1962), pp. 92 *ff.*

<sup>18</sup> In this case Bolzano restricts the substitution procedure to ideas referring (distributively) to men: 'Gino', 'Wojciech', 'Franz', etc. A proposition like 'The man flower has mortality' would be empty (i.e. has an empty subject, in Bolzano), and therefore false. See Bolzano 1972, p. 195 [WL §147].

<sup>19</sup> See p. 393, below. Rolf George translates '*Gültigkeit*' as 'satisfiability' (see Bolzano 1972, p. 193), Burnham Terrell correctly as 'validity' (see Bolzano 1973 p. 187).

sentence.<sup>20</sup> Yet sentences are only the external expression of judgements, and often they do not express all which the one who judges has in mind. Therefore:

We can always convince ourselves very easily of the fact that the conditions placed by relativists are not satisfied, by integrating the sentences given by relativists in order that they become exhaustive expressions of judgements, and by freeing them from any ambiguity by means of an exact definition of the expressions contained in them. (Twardowski 1900, p. 323 [Germ. transl., p. 428])

For instance, if standing in Lvov on the castle mountain I claim that it is raining, “I have not in mind anyever rain falling in anyever place and at anyever time, but I utter a judgement on the rain falling here and now” (Twardowski 1900, p. 319 [Germ. transl., p. 421]). Relativists claim that a true sentence ‘it is raining’, may become false. But for Twardowski this is not the case. The sentence

(6) ‘it is raining here and now’,

when uttered on the 1st of March according to the Gregorian calendar at 12.30 p.m. according to Central Europe time on the castle mountain in Lvov, contains the same judgement as

(6\*) ‘on the 1st of March according to the Gregorian calendar at 12.30 p.m. according to Central Europe time on the castle mountain in Lvov it is raining’.

The sentence

(7) ‘it is raining here and now’,

when uttered on the 1st of March according to the Gregorian calendar at 4.00 p. m. according to Central Europe time on the castle mountain in Krakow, contains the same judgement as

(7\*) ‘on the 1st of March according to the Gregorian calendar at 4.00 p.m. according to Central Europe time in Krakow on the castle mountain it is raining’.

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<sup>20</sup> Twardowski actually means type sentences, although not stating a distinction comparable to our type/token one. Twardowski’s target is here mainly Franz Brentano.

According to Twardowski, (6) and (7) are the same sentence containing two different judgements, (6\*) and (7\*). Therefore it is not tenable that the same judgement goes from being true to being false:

It is evident that [the judgement expressed by (6) and (6\*)] which asserts in accordance with a real state of affairs (*stan rzeczy*) that it is raining, is not only true in a certain place and time, but always.<sup>21</sup> (Twardowski 1900, p. 321 [Germ. transl., p. 424])

Thus the salient claim in *Relative Truths*, where by ‘truth’ Twardowski understands ‘true judgement’ (as Bolzano with *Wahrheit an sich* understands a true proposition-in-itself) (see Twardowski 1900, p. 315, the first five lines of p. 315 are omitted in the German translation) can be rewritten as follows:

(TW) For any *judgement* *g*, if *g* is true at a time *t*, then it is true also at an arbitrary time *t'* past or future with respect to *t*.<sup>22</sup>

This can be easily applied also to falsity. Twardowski recognizes that between judgements and sentences there is a very precise link, but he denies that it is an identity relationship, just as a concept or a presentation is not identical with its external sign, the substantive (see Twardowski 1900, p. 317 [Germ. transl., p. 418]). Twardowski gives also a definition of truth for sentences:

Now truth and erroneousness, considered as properties of a sentence, can themselves possess further properties, which they do not possess if they are considered to be in the proper and first sense properties of judgements. This further property [. . .] is exactly their relativity. Of sentences one can perfectly say that they are only relatively true. Yet the truth of a sentence depends on the fact that the judgement expressed by means of that sentence is true; nevertheless, since usually a given sentence can express some judgements which are partly true and partly false, it is relatively true because it expresses a true judgement only under a certain condition, i.e. if we consider it as an expression of a true judgement. (Twardowski 1900, p. 335 [Germ. transl., p. 446])

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<sup>21</sup> The Polish word for ‘state of affairs’ translates the German ‘*Sachverhalt*’, even if the Polish-into-German translator of *Relative Truths*, Wartenberg, chose to write “[. . .] *Urteil, welches in Ueberinstimmung mit der Wirklichkeit feststellt* [. . .].”

<sup>22</sup> I modified in this way Woleński’s (1990a) formulation (p. 191) where we find ‘proposition’ in place of the Twardowskian ‘judgement’ (*sąd*).

For Twardowski the relativity of the truth of a sentence is therefore a second-level property (property of property) which cannot be ascribed to truth as a property of judgements. An example of a relatively true sentence is “The father lives,” because – just as in Bolzano (see p. 375, above) – such a sentence is ambiguous and it may express either true or false judgements. This will depend on the person who utters or hears it (see Twardowski 1900, p. 335 [Germ. transl., p. 447]). According to Twardowski we have the same judgement when we have, “to say it in the language of traditional logic” (Twardowski 1900, p. 317),<sup>23</sup> the same subject, predicate, quantity and quality, etc. of the judgement (Twardowski 1900, p. 317 [Germ. transl., p. 418]). Note that Twardowski thinks of judgements as objects of a propositional structure.<sup>24</sup>

Twelve years divide *Relative Truths* from *Actions and Products*. The detailed examination that some considerable problems of interpretation in *Actions and Products* would deserve, chiefly on the concept of meaning (see Woleński 1989, p. 41), will not be possible here. It is however possible to claim with a reasonably safe margin that in this work Twardowski revises the more psychologistic views of his *On the Content and Object of Presentations* (1894). In marking the line of demarcation between logic and psychology on the basis of the distinction act/product which underlies the theory of meaning, he proposes, Twardowski writes:

And so the exact separation of products from acts has already decisively contributed to free logic from the influence of psychology. (Twardowski 1911, p. 31 [§45])<sup>25</sup>

Twardowski’s mature theory of meaning is connected with the rigorous definition of the distinction between actions and products of the acts, which in 1900 were still interchangeable terms to denote judgements as mental objects (see p. 378, above). On the basis of a grammatical approach, Twardowski says that there is a basic distinction between physical, psychical (i.e. mental), and psychophysical acts and their products. The relationship between an act and what results from it is exemplified in the relationship between a verb and the corresponding

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<sup>23</sup> The sentence is omitted in the German translation.

<sup>24</sup> “[. . .] the term ‘subject’ may denote a term in the sentence, but also a concept in the judgement, and things are no different with the terms ‘predicate’ and ‘copula’,” (Twardowski 1900, p. 335 [Germ. transl., p. 446]).

<sup>25</sup> Not translated in Pelc (1979).

substantive as internal complement (see Twardowski 1911, p. 6 [§8] [Engl transl., p. 15]):

	<b>Act</b>	<b>Product</b>
<b>Physical</b>	running	run
<b>Mental</b>	judging	judgement
<b>Psychophysical</b>	speaking	speech

Note that Bernard Bolzano is listed as one of the philosophers who have clearly separated actions and products (see Twardowski 1911, §10, p. 6, n. 2).<sup>26</sup> A psychophysical product differs from a mental product by being perceptible to senses, from a physical product because in the corresponding action consciousness is involved. In some cases a psychophysical product becomes expression of a mental product, for instance a sentence is a psychophysical product which expresses a mental product, the judgement. The sentence in this case is the *sign* of the judgement, while the latter is the *meaning* of the sentence. According to Twardowski the term ‘judgement’ may have only four meanings: the act of uttering a judgement, the product of such an uttering, the disposition of uttering judgements and the *enuntiatio* or *propositio* or *Aussage*, of which he writes, referring to *Relative Truths*, “that in Polish I proposed to call sentence (*powiedzenie*)” (Twardowski 1911, §15, p. 10, n. 1 and n. 2 [Engl. transl., p. 25, n. 2 and n. 3]).<sup>27</sup> The judgement exists in the period of time in which someone performs the corresponding act of judging, and, for this reason, is called a *non-durable* product (cf. Twardowski 1911, §23, p. 14 [Engl. transl., p. 17]). Products which last longer than the act which produces them are called *durable products*. In any case, a non-durable mental product like a judgement may be *fixed* in a durable psychophysical product. In this case such a fixing is not direct, but is the result of the fixing of an obligatory go-between, the verbal sentence (cf. Twardowski 1911, §37, p. 25 [Engl. transl., p. 22]), which is the non-durable psychophysical product fixed by the written sentence, that is, on the contrary, a durable psychophysical product. In this way the judgement, which is the meaning of the written sentence, “survives” in it (cf. Twardowski 1911, §33, p. 22 [Engl. transl., p. 20]), and has in it an

<sup>26</sup> In the Polish original it is much more evident than in the English translation (p. 25, n. 1) that Twardowski ascribes to Bolzano a clear and correct position on the subject. Other philosophers quoted here by Twardowski are Bergmann, Meinong and Stumpf.

<sup>27</sup> The use of ‘judgement’ in this fourth sense is ascribed to Łukasiewicz, see *id.*, §44, p. 28, n. 1.

existence called *potential*. The fixed sign may at any moment cause the formation of an identical or similar judgement, and hence it lasts as long as a (partial) potential cause of it exists (cf. Twardowski 1911, §34, p. 23 [Engl. transl., pp. 20-21]).<sup>28</sup>

Non-durable products do not exist in the actual sense separately from the corresponding act, but only in connection with them; separately from the corresponding acts we may only *examine* them. (Twardowski 1911, §27, p. 18, n. 1 [not translated in Pelc (1979), my emphasis])

But, once they are fixed, judgements assume not only the *appearance* of durable products, but also of products which possess a certain degree of *independence* from the acts which produce them. Twardowski explains that this is due to the fact that we tend to attribute to the sign only *one* meaning, although it causes *many* judgements in many people. The unique meaning so conceived is no longer a mental product, but the set of the characteristics common both to all the individual judgements caused by the sign and to the judgement which belonged to whoever has fixed it in the sign. Twardowski makes it clear, in a fairly explicit manner, that he considered such sets to be (at least akin to) Husserl's ideal meanings.<sup>29</sup> And the reference to Husserl and to his *Logische Untersuchungen* is obviously of great importance to us. Given the 10-year distance which divides *Actions and Products* from Husserl's work one should not ascribe Twardowski's anti-psychologistic turn exclusively to Husserl.<sup>30</sup> However, in the rather chequered story of Twardowski's anti-psychologism, Husserl surely played an influential role.<sup>31</sup> Whatever relationship

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<sup>28</sup> Compare Bolzano: "An object [...] through whose idea we want to stimulate in a thinking being some other, associated, idea, is called a *sign*" (Bolzano 1973, §285, p. 308); cf. also Bolzano WL §285: "So the sight of those signs [of which the word 'God' is composed] will awaken at first only the idea of the word: God; but then also the idea of the object which this word denotes."

<sup>29</sup> Cf. Twardowski (1911), §39, p. 26 n. 3 [Engl. transl., p. 26 n. 12]. The reference is to *Logische Untersuchungen*, II, p. 97.

<sup>30</sup> Twardowski is quoted in Husserl (1900-01), *Third investigation*, p. 287, but mainly *Fourth Investigation* p. 305 and *Fifth Investigation* pp. 527-528. In general, for the influence of Husserl upon Twardowski, see, for instance, Ingarden (1938). See also Woleński (1989), p. 41 and my (2006).

<sup>31</sup> See for instance the long paper by Barry Smith, cf. Smith (1988), chiefly pp. 338-339. A certain influence may have been played by Łukasiewicz' anti-psychologism (cf. Jadacki 1993, p. 191), who may be influenced by Husserl, cf. Simons (1996), p. 319. Cf. also Woleński (1989), p. 41. See Schumann (1993) for further remarks on the Husserl-Twardowski relationships.

Twardowski's *in specie* meanings may have to Husserl's ideal meanings, the introduction of this theme leads Twardowski to make a further distinction between substitutive (*artefacta*) and non-substitutive judgements. Substitutive judgements are those which are not real judgements, but fictitious ones. Twardowski applies the concept to logic: the sentences uttered or written by the logician are not sentences which express or have as meanings judgements which are really uttered by him, but only *presented judgements*, produced by different acts from actual judging acts. Such is the case of the logician who, to give examples of correct inferences, constructs a correct syllogism made up of false sentences (cf. Twardowski 1911, §44, p. 29 [Engl. transl., p. 24]). In this case the logician does not actually *judge*: "All triangles are square," "All squares are round," "All triangles are round," but only *presents* the corresponding judgements. The meanings of those sentences, judgments in the "objective" sense just described, as Twardowski says, which have the character of *artefacta* because they are only presented judgements, are the real subject-matter of logic (see Twardowski 1911, §44, p. 29).<sup>32</sup> Twardowski quotes Bolzano once more:

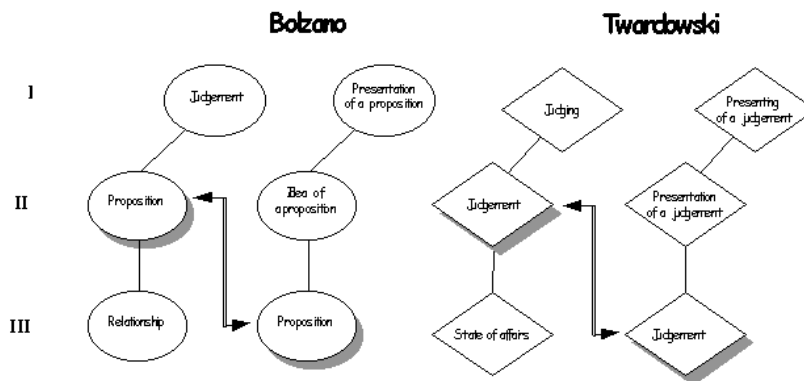
The first person to argue this view of the object of logic in detail was Bernard Bolzano. He called the judgements that are rendered independent from the act of judgement in the way defined above 'Sätze an sich'. Beside the 'Sätze an sich' Bolzano also knows the 'Vorstellungen an sich', that is presentations thus rendered independent from the act of presentation [Bolzano, *Wissenschaftslehre*, §§19-23 and §§48-53]. (Twardowski 1911, §44, p. 30, n. 1 (partial Engl. transl., p. 27, n. 16))

Note that the ontological *status* of Bolzanian propositions-in-themselves is truly different from Twardowski's judgements. For Bolzano a judgement is the acceptance (*Fürwahrhalten*) of a proposition-in-itself, while Twardowski's act of judging is the production of judgements. Unlike Twardowski's product-judgements, propositions-in-themselves are lektological objects, subsisting *in the universe as a certain something*, and they are not *made* independent, nor do they *assume the appearance* of independent objects. They *are* independent, not *produced*

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<sup>32</sup> The English translation of the paragraph 44, p. 23, lines 32-22 is incomprehensible: "A *proposition* (actually: *judgement*) as a product of the action of judging, i.e., of making judgements, is expressed in *propositions* (actually: *sentences*) [. . .]. Such sentences thus express *propositions* (actually: *judgements*), so that *propositions* (actually: *judgements*) are meanings of such *propositions* (actually: *sentences*)," and, unfortunately, it goes on like this (my emphases).

by acts, but rather *contained* in them as matter or content. They are not judgements abstracted from their psychological context, as seems to be the case in Twardowski. Yet one may think that Twardowski here is overcoming the ontological differences with Bolzano because he is much more interested in pointing out, first, that also Bolzano keeps the two spheres apart (acts/products in Twardowski), secondly that he postulates a difference between judging and the mere presenting of a judgement (or a proposition in Bolzano), as well (see Bolzano 1972, p. 43 [WL §34]; see also Casari 1985, p. 358). As regards Bolzano, such a difference is radical, because a *judgement* has as matter or content a *proposition-in-itself*, which is a lektological object, always complex, enunciating (a) *relationship(s)* between objects, of which at least one is a quality. A *presentation/subjective idea of a proposition*, on the contrary, has as matter or content an *idea-in-itself of such a proposition*, which refers to that *proposition*. As regards Twardowski, things are more or less the same, if we adopt a Twardowskian terminology, changing *relationship* into *state of affairs* and so on, as in the following scheme (where **I** is the act level, **II** – the content/product level, **III** – the object level):



Twardowski says very clearly that the act of presenting a judgement is a different act from the act of judging, and that their products are different (see Twardowski 1911, §44, p. 30, n. 1 [not translated in Pelc 1979]).



#### 4. Stanisław Leśniewski: *Is Truth only Eternal or is it both Eternal and Sempiternal?* (1913)

Leśniewski's fundamental thesis in (1913a) is that a true sentence – i.e. a truth as in Bolzano and in Twardowski – is true both eternally and sempiternally. Three elements are important in Leśniewski's paper: a clear formulation of the absoluteness of truth of Twardowskian and Bolzanian origin, transposed here in a nominalist key; the “discharge” of temporality from the verb to the predicate of sentences in a time different from the present, which is considered atemporal (as already seen in Bolzano); and the very remarkable distinction which today we claim is between tokens and types.<sup>33</sup>

Leśniewski's conclusions are: everything which is past does not exist at present; it is not the case that objects accepted by an affirmative sentence *s* exists only when *s* is true, and, conversely, it is not the case that *s* is true only when the object accepted by it exists; every truth is eternal and sempiternal; from the circumstance that we cannot create truth does not follow that we cannot create anything, as the sempiternity of truth does not make free creativity superfluous. To prove the eternity and sempiternity of truth Leśniewski assumes strong ontological and semantical premises, which reduce the proofs to rather trivial exercises.<sup>34</sup> Leśniewski assumes the logical principle of contradiction and the principle of bivalence – which turns out here to be a special case of the ontological *tertium non datur* – consequently denying the existence of sentences which are neither true nor false (see Leśniewski 1913b, §8, *Remark I*, pp. 350-351 [Engl. transl., pp. 83-85]). Moreover, Leśniewski assumes that it is always possible to de-indexicalize indexical sentences (of which temporal indexes are a special case) (see p. 388, below). Leśniewski's (1913a) allows to add further elements to the theory of truth already drawn up in his previous papers (see Leśniewski 1912, §§5-16, *Remark II*, pp. 212-217 [Engl. transl., pp. 31-37] and Leśniewski 1913c).<sup>35</sup> For Leśniewski a sentence *s* is a concrete linguistic object (with meaning!), and as such it has an existence with definite spatio-temporal boundaries. Since an object *a* may possess a property *b* if and only if it is present, then that special object which is a sentence may be true only when it is present, that is only in such a case may it symbolize a relation

<sup>33</sup> The issue is present in Leśniewski (1913b), too.

<sup>34</sup> However, there is nothing fallacious in them, *contra* Woleński (1993), p. 193.

<sup>35</sup> For Leśniewski's early semantics, see my papers quoted in the bibliography.

of inherence. Therefore in Leśniewski's universe truth-bearers are present objects made of concrete signs or sounds. To the question of how to give a meaning to the expression 'eternal truth' in such a perspective, Leśniewski answers saying that the eternity at issue is *metaphorical*, just as two sentences uttered respectively today and tomorrow are the 'same sentences' only *in a metaphorical sense*. Hence

- (8) For any time  $t$ , the sentence 'Caesar crossed the Rubicon' could be true at  $t$  if someone uttered it, wrote it, etc. in  $t$ . (Cf. Leśniewski 1913a, p. 506 [Engl. transl., p. 97].)

The claim that 'Caesar crossed the Rubicon' is eternally true should be understood according to (8). Leśniewski's remarks on the meaning to be attributed to the expression 'to be the same sentence as  $s$ ' are linked to the token/type distinction already mentioned. Leśniewski was to use in his formal systems the expression 'expression *equiform* to  $s$ ' to denote what is now generally called "a token of  $s$ ." I use here the token/type distinction for sake of simplicity, but Leśniewski's choice avoids the ontological problems which arise with the token/type terminology. For Leśniewski, a type would be a very undesirable general object. Here below are summed up the conditions which a sentence of the form " $a$  is  $b$ " must satisfy to be true according to Leśniewski:

- L1**  $a$  is denotative;  
**L2**  $b$  is connotative;  
**L3** The object (objects) denoted by  $a$  possesses (possess) the properties connoted by  $b$ .

To **L1-L2** one should add (or, better, put before), in the light of what has been said above, a condition of availability of truth-bearers, so one has

- (**L**) For any sentence " $a$  is  $b$ " and any time  $t$ , if " $a$  is  $b$ " is uttered, written, etc. at  $t$ , " $a$  is  $b$ " is true at  $t$  if and only if the conditions **L1**, **L2**, **L3** are satisfied.

And therefore the eternity and sempiternity of truth may be re-formulated as follows:

- (**L\***) For any sentence  $s$ , if  $s$  is true at a time  $t$ , then is also true any sentence equiform to  $s$  uttered, written, etc., at an arbitrary time  $t'$  past or future with respect to  $t$ .

In one word, in Leśniewski truth is *omnitemporal*: if  $s$  is true, any time a sentence  $s'$  equiform to  $s$  is expressed,  $s'$  is true. The relation of inherence that a sentence symbolizes exists independently from the

moment in which the sentence is uttered. As was the case in Bolzano, the structure “*a* is *b*” is *canonically* a *tenseless* structure. For Leśniewski the present tense in which the copula is expressed does not denote a present subsisting of the relation symbolized by the sentence “*a* is *b*,” but it is used as a substitute for a tenseless form which grammars do not contemplate. Consider now the transformation of an expression in subject-predicate form uttered (written, etc.) at *t*:

- (9) (*a* was/will be *b*) uttered at *t*  $\Leftrightarrow$  (*a* is *b* in a past/future time with respect to *t*)

(with *b* not already expressing or involving a temporal property). The future/past time indicated by ‘will be’/‘was’ is attached *salva significatione* to *b* in the sentence in canonical form on the right, where *t* is the moment in which the sentence on the left is uttered. The need to regard ‘is’ as a tenseless sign follows from the fact that not every sentence expresses a temporal property: temporal properties are on the whole similar to any other property, and they may be predicated or not.<sup>36</sup> Otherwise we would have the paradoxical consequence of getting from the sentence “In June nights are short” uttered in January the nonsensical “In June nights are short in January” (see Leśniewski 1913a, §4, pp. 512-513 [Engl. transl., pp. 101-102]). For Leśniewski any sentence with indexicals like ‘I’, ‘my’, ‘he’ and so on, of which temporal determinations are special cases, are to be de-indexicalized in a similar fashion as (9) (see Leśniewski 1913a, §4, p. 509 [Engl. transl., p. 99]). Consider now the examples:

- (i) “Caesar crossed the Rubicon in 49 B.C.” uttered in 1996
- (ii) “Caesar will cross the Rubicon in 49 B.C.” uttered in 55 B.C.
- (iii) “Caesar will cross the Rubicon” uttered in 1913
- (iv) “Caesar will cross the Rubicon” uttered in 55 B.C.

Their transformations are:

- (i\*) (Caesar is crossing the Rubicon in 49 B.C.), uttered in 1996

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<sup>36</sup> Unlike Woleński (1990a), p. 193, I have chosen to put the temporal index on *b* instead of putting it on the subject: Leśniewski, unlike Bolzano, does not consider time to be a determination which is not a property; rather he takes the time to be a property just like any other property. I would keep the temporal index on the subject for Leśniewski’s mature four-dimensional ontology in which (presumably) *time-slices* appear. See my *Logic and Existence in Stanisław Leśniewski* (in Italian) MA thesis, University of Florence, 1994/5, chap. iv. On this point see also Smith (1990), §9, pp. 160 *ff.*

- (ii\*) (Caesar is crossing the Rubicon in 49 B.C.), uttered in 55 B.C.
- (iii\*) (Caesar is crossing the Rubicon in a future time with respect to 1913), uttered in 1913
- (iv\*) (Caesar is crossing the Rubicon in a future time with respect to 55 B.C.), uttered in 55 B.C.

The sentences (i\*)-(iv\*) are different expressions uttered in different times: (i\*)-(ii\*) are equiform (i.e. they are the “same” sentence in a metaphorical sense), whereas (iii\*)-(iv\*) are non-equiform (they are not the “same” sentence, not even in a metaphorical sense). In the sentences (i)-(ii) it is not important when they are uttered, while in (iii)-(iv) the moment of utterance is a piece of information which must be supplemented in the transformed sentences (iii\*)-(iv\*), which are respectively false and true. Consequently, Leśniewski denies that the “same” sentence from true (iv\*) becomes false (iii\*). The two sentences (iii)-(iv) are apparently equiform but semantically different sentences, one being true and the other false, and symbolizing different relations of inherence, i.e.  $R(ab)_{>55 \text{ B.C.}}$  and  $R(ab)_{>1913}$ , where  $a$  stands for ‘Caesar’ and  $b$  for ‘crossing the Rubicon’.<sup>37</sup> Now take the sentence (i\*): it symbolizes the relation  $R(ab)_{49 \text{ B.C.}}$ . The situation may be presented schematically as follows:

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<sup>37</sup> I write ‘ $R(ab)_{>t}$ ’ for ‘ $R(ab)$ -which-is-a-future-object-with-respect to- $t$ ’, etc. The index here should not be seen as a part of the relationship asserted by ‘ $a$  is  $b$ ’. We can look at it as a linguistic means to express a semantic-procedural indication as for ‘where in time’ we have to look for  $R(ab)$ , like in *Scheme 1*.



## 5. Historical Remarks

According to Barry Smith, Twardowski's view of scientific disciplines in *Actions and Products* in terms of the durable products of judging acts "finds echoes in Leśniewski's view of his own logical systems as collections of concretely existing marks" (Smith 1988, p. 345). Yet Twardowski's view, simply because the theory of meaning which nourishes it, does not seem to be so near to the nominalism of Leśniewski's systems, the origins of which can be more easily discerned in Leśniewski's own earlier works (see Betti 1998a). On the contrary Twardowski's conception might appear as *multiplicatio entium sine necessitate* for a nominalist, for apparently it adds to the act, the product and the object, also the meaning *in specie* as abstract product (see Brandl 1998, p. 30). One may rather wonder whether Twardowski's concept of the judgement as non-durable product, which lasts as long as the action of judging lasts, might have had an influence on Leśniewski's position regarding truth-bearers as non-durable concrete objects. Such a hypothesis may seem convincing in the light of passages like the following in Twardowski:

Also of some convictions we actually say that they remain for several centuries, and of the thoughts of the wise that they may outlive him. However, what is at issue here is not the actual durable existence of products, but rather the fact that similar actions and products are repeated for many generations [. . .]. Likewise, we say that there are in us concepts, convictions, desires, even if at a given moment the corresponding acts do not occur in us. This means only – as is well known – that there are in us dispositions due to which in the future may occur in us products which are just like the previous ones. So if we speak of the durable existence of products of this kind, what is in question is the repetition of identical actions and products or their potential existence. (Twardowski 1911, §23, pp. 14-15 [the English translation in Pelc omits the footnote])

The same holds for the footnote that follows the words quoted above:

This potentiality can be grasped [. . .] if for instance it the "existence" of truths which no one knows yet is spoken about, that is of the "existence" of true judgements which no-one has uttered. Of course what is at issue here is the possibility of uttering such judgements, and what exists are not the judgements, but the possibility of uttering them. (Twardowski 1911, p. 15, n. 1 [the English translation in Pelc omits the footnote])

Nevertheless, at least two remarks should be made.

1) Twardowski's position is not clear. If one considers the case of logic, it seems we can reasonably exclude that in Twardowski truth-bearers are token judgements. Even in *Relative Truths*, although Twardowski says that only judgements, mental expressed acts/products, may be true, his definition of 'being the same judgement' could make us doubt that he is thinking of token judgements. In spite of the fact that Twardowski in *Actions and Products* discusses the expression 'to be the same', saying for example that, if we say that the 'same thing' happened to two persons, what is interesting in this case is the characteristics common to the two events, "because "the same" cannot take place twice" (Twardowski 1911, §39, p. 26, n. 1 [not translated in Pelc 1979]), the object of logic are, however, the judgements which are rendered independent from the acts which produce them. Whether or not that are meanings similar to ideal objects in Husserl's sense,<sup>38</sup> according to Leśniewski they would be general objects, objects that have all the characteristics common to the individual objects with respect to which they are general. One need not remark how much Leśniewski disagreed with these positions, which he explicitly polemicized against more than once (see Leśniewski 1913c, §3, *Remark V*, pp. 140-142; Leśniewski 1913b, §1, *Remark II*, pp. 318-320 [Engl. transl., pp. 50-53]).

2) Another point to be noticed which weakens the hypothesis of Twardowski's influence on the development of Leśniewski's nominalism regards the possibility of fixing a judgement as a non-durable mental product in a durable psychophysical product (sentence). For Leśniewski, Twardowski's fixing of truth-bearers would not guarantee at all – either temporarily, or "apparently" – a change in ontological *status*: in Twardowski's terminology, we would not be fixing anything, because signs, too, are non-durable products; concerning the judgement<sup>39</sup> uttered yesterday which today is not present and which therefore cannot be true, Leśniewski writes:

I say in my text "I utter a judgement;" if, however, someone would prefer that the "judgements" were "written," or even "proved," "felt" or "lived"

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<sup>38</sup> A negative answer is favoured by Brandl (1998) and Smith (1989). But it seems only Buczyńska-Garewicz (1980) discusses to any extent the matter. She argues for a rather radical dissimilarity. Though leaving the issue aside here, I incline rather towards the opposite view.

<sup>39</sup> I warn the reader that in Leśniewski (1913a) Leśniewski uses 'judgement' only to adhere to Kotarbiński's terminology. We should understand 'sentence' any time Leśniewski writes 'judgement'.

– this would not have any influence on the result of my argumentations. (Leśniewski 1913a, 3, p. 503, n. 1 [Engl. transl., p. 95])<sup>40</sup>

The influence that *Actions and Products* may have played on Leśniewski did not regard, I believe, his nominalism, be it the nominalism of his post-1920 logical systems or his nominalistic take on the ontological status of truth-bearers in this period. Twardowski's work could have instead influenced the transition from Leśniewski's 1911 Marty-style theory of truth to his 1912-1913 theory (cf. Betti 1998a) in a negative sense, that is, he might have caused Leśniewski's reactions against Twardowski's notion of meaning, and driven him to abandon judgment-contents as truth-makers in 1911. At the same time it may have driven Leśniewski to compare his ideas on truth and theory of meaning with Bolzano's or with Bolzano-oriented views. Moreover, in *Actions and Products* Twardowski speaks highly of Bolzano:

With the enucleation and the employment of the concepts of 'Sätze an sich' and 'Vorstellungen an sich' Bolzano surpassed significantly the logicians contemporary to him, as he did with the introduction of the concept of the logical variable and (using the name of *Gültigkeit*) of the concept of logical value [*sic*] that play such a great role in modern symbolic logic. Among other matters Bolzano uses these concepts to set up logical relationships and to define the concept of probability. (Twardowski 1911, p. 30, n. 1 [this part of the footnote is not translated in Pelc 1979])<sup>41</sup>

This quotation immediately reminds one of the concept of variation of ideas in Bolzano's propositions-in-themselves mentioned above. Twardowski calls the concept of *Gültigkeit* "the concept of logical value," which Jan Łukasiewicz, Twardowski's pupil and Leśniewski's colleague, was to call in *Die logischen Grundlagen der Wahrscheinlichkeitsrechnung* (1913) more properly "the logical concept of *validity* of a proposition." In §24 "Bolzano's concept of validity," Łukasiewicz says that Bolzano was

an [. . .] author whose works have at present acquired great importance, as they well deserve, and who developed opinions that come quite close to mine. (Łukasiewicz 1913, §24, p. 52)

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<sup>40</sup> Therefore, in opposition to what Smith seems to suggest, written sentences are not durable at all for Leśniewski, nor are matters different in his formal systems.

<sup>41</sup> Twardowski writes *wartość* (value) where Łukasiewicz, speaking of the same concept, writes *ważność* (validity). Cf. Łukasiewicz (1913), §24, p. 52, n. 20.



In the note that follows, Łukasiewicz writes:

For the reference to Bolzano I am indebted to Professor Twardowski; although Bolzano's principal work [i.e. *Wissenschaftslehre*, ab] was long known to me, I had previously paid no attention to his remarks on the concept of the 'validity' of a sentence. (Łukasiewicz 1913, §24, p. 52, n. 20)

Then Łukasiewicz goes on to comment Bolzano's examples, dedicating many pages to the difference between his own concept of logical value and Bolzano's concept of validity.

### 6. Three Sempiternities of Truth

The similarity of Bolzano, Twardowski and Leśniewski's positions is undoubtedly a very close one. If we consider, however, the difference in the objects which play the role of truth-bearers, Leśniewski's nominalist position on sempiternity ( $L^*$ ), called here *omnitemporal*, turns out to be certainly different from those of Bolzano's and Twardowski's (**B**), (**TW**), which I would call *atemporal*. By combining Twardowski's positions in *Relative Truths* and in *Actions and Products*, we obtain a sufficiently systematic picture that may be used to compare his views with those of the others. However we may interpret Twardowski's abstract meanings, they have ontological features which do not sit well with Bolzano's platonistic absolutism. Twardowski's absolutism, I would say, may be labelled "Aristotelian," the term being suggested by the characteristics of meanings which are the object of logic, *artefacta*-judgements/*in specie* meanings. Hence we have propositions-in-themselves (lektological beings) in Bolzano, judgements (*species* inferred by abstraction) in Twardowski and concrete occurrences of sounds uttered (or of signs written) at different times in Leśniewski. For Leśniewski, as already seen, neither type sentences nor the "judgements" that a sentence expresses (be they tokens or types), but only token expressions may fulfil such a function. It is not enough for two sentences to have the same truth-maker to be "the same sentence," they would be so only in a metaphorical sense. For Leśniewski there is no "judgement" as the meaning of a sentence *s*. The solution he gives to the problem of the ontological status of his truth-bearers allows him to keep a wholly consistent position regarding the sempiternity of truth. His position is different from Bolzano's and Twardowski's, since it is an original interpretation of sempiternalism in a nominalistic vein.

### 7. Created Truth?

As said above, Leśniewski's *Is Truth . . .* was a reply to Kotarbiński's *The Problem of the Existence of the Future*. In it Kotarbiński claims that all truths are eternal, while only some of them are sempiternal (see Kotarbiński 1913). This means that:

- (a) judgements (in Kotarbiński's terminology) which are true at a time  $t$  are also true at every time  $t'$  such that  $t < t'$  (eternity).

But this does not mean that:

- (b) *all* of them are likewise true at every time  $t''$  such that  $t'' > t$  (sempiternity).

(a) and (b) apply to judgements *false* at a time  $t$ , too. Kotarbiński's definition of a true judgement is the following:

- (K) A judgement  $g$  which accepts an object  $P$  is true at  $t$  if and only if  $P$  exists at  $t$ .

For Kotarbiński, non-sempiternal truths are those regarding events in which free human creativity plays a fundamental role. Suppose that  $P$  is an object created by a human action;  $P$  does not exist until  $t'$ , the time at which it is created; if  $g$  is the judgement which accepts  $P$ ,  $g$  is not true until  $t'$ . But if  $g$  is false, that  $g$  is false is eternally true (a), and it would not be possible to create  $P$ . But since we supposed that it was possible to create  $P$  in  $t'$ , in a time  $t$  such that  $t < t'$ ,  $g$  must be neither true nor false.

Kotarbiński's real premise appears to be the principle that the *creation of the object*  $R(ab)$  involves the *creation of the truth* of " $a$  is  $b$ " (and vice versa). Such an assumption is similar to the so-called "bridge-principle" which Morscher points out when writing on Marty's theory of truth. Marty infers temporality of judgements starting from the temporality of the objects which the judgements refer to.<sup>42</sup> Now a question arises. Since for Leśniewski the *availability* of a token of " $a$  is  $b$ " is a necessary condition for this token to be true, should we say that he introduces a 'creative' element in his theory of truth, given that the truth-

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<sup>42</sup> I am not able to justify the possible hypothesis of Marty's influence on Kotarbiński in that period, and most of all of the possible role of Marty's doctrine of *irrealia* which go in and out of time: Kotarbiński had suggested the reading of Marty's *Untersuchungen*, but this happened in 1920 (from Jan Woleński's letter of 26.1.1996). For Marty's theory of truth, see Morscher (1990).

bearer must be present and therefore *created*? Actually the token may possess any property, truth included, only starting from the moment it is created. Therefore it seems we need to understand ‘creating a truth’ in another, modified, sense, which Leśniewski does not discuss thoroughly.

As to Leśniewski, one can say that *s* is true continuously only in a metaphorical sense, as previously observed, because a true sentence is an object with a determined spatio-temporal dimension: there is not *one* sentence *s* uttered many times, but *many* true sentences equiform to *s* as uttered. But then, one may say, if truth-bearers *must* be created, they must be created *together with their truth*. As a matter of fact, (see scheme 1) truth as a property of the token<sub>2</sub> (truth<sub>2</sub>) is by no means truth as a property of the token<sub>3</sub> (truth<sub>3</sub>): truth, for Leśniewski, is a relationship between a sentence and an object, called *symbolic relation*, and “to be true” for a sentence, is to have (in Leśniewski’s terminology) *symbolic function*, the property of symbolizing something. Truth<sub>2</sub> is a relation between the token<sub>2</sub> and the object  $R(ab)$ , whereas truth<sub>3</sub> is a different relation between the token<sub>3</sub> and the same object  $R(ab)$ . Therefore, truth is only *metaphorically* uncreated, just as truth is metaphorically eternal and sempiternal. But one can also invoke a definition of ‘created truth’ according to which creating a truth would mean in Leśniewskian terms to deny the claim ( $L^*$ ). Hence it would mean to have the token  $p_t$  come out false, but the token  $p_t$  true (see Leśniewski 1913a, 4, p. 506 [Engl. transl., p. 97]). When we create  $p_t$ , we cannot make it possess the property of truth if  $p_t$  was or will be false. Thus it follows that what we really cannot create in such a situation is a token  $p_t$  with symbolic function. The truth (symbolic function) of the truth-bearer “*a* is *b*” is to be brought back to the existence of the relation of inherence between the object *a* and the property *b* with a definite spatio-temporal dimension. Coming back to the example of Caesar and the Rubicon of the scheme 1, what one cannot do is create a token<sub>5</sub> which does *not* symbolize  $R(ab)$ <sub>49 B.C.</sub>. The creation of the object  $R(ab)$  is therefore an act which is completely independent of the creation of a token of “*a* is *b*.” The object  $R(ab)$  remains also the *sole* object independent of the creation of a token of “*a* is *b*” and its truth: neither the symbolic function (property of tokens) nor the symbolic relation (between tokens and truth-makers) are, properly speaking, independent of the time of utterance (*contra* Woleński 1990a, p. 196).

Thus in Leśniewski the truth of a sentence and the objectivity and omnitemporality of that truth depend in a very strong sense uniquely on the existence of the truth-maker of the sentence. On the contrary, one could say that in Bolzano the existence of the truth-maker guarantees the

truth of a proposition, but objectivity and atemporality seem guaranteed rather by the ontological *status* (objective and atemporal) of the truth-bearer as can be deduced from the argument that when it is said that a proposition is relatively true, what is actually meant by ‘proposition’ is the (elliptical) linguistic sentence which expresses the proposition-in-itself. The same seems to apply also to Twardowski.

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