

BARRY SMITH

KASIMIR TWARDOWSKI: AN ESSAY ON THE BORDERLINES OF
ONTOLOGY, PSYCHOLOGY AND LOGIC¹

1. Introduction

The influence of Kasimir Twardowski on modern Polish philosophy is all-pervasive. As is well known, almost all important 20th century Polish philosophers went through the hard training of his courses in Lvov. Twardowski instilled in his students an enduring concern for clarity and rigour. He taught them to regard philosophy as a collaborative effort, a matter of disciplined discussion and argument. And he encouraged them to work together with scientists from other disciplines - above all with psychologists, and also with mathematicians - so that the Lvov school of philosophy would gradually evolve into the Warsaw school of logic².

Kasimir Skrzypna-Twardowski, Ritter von Ogonczyk, was born in Vienna in 1866, the son of a high official in the Austro-Hungarian Ministry of Finance. He was educated at the Theresianum, where, as in all Austrian grammar schools, a course in philosophy (which is to say, psychology plus logic) was compulsory in the final year³. The officially prescribed textbook for this course for much of the second half of the 19th century (and in many cases also later) was the *Philosophische Propädeutik* of Robert Zimmermann, first published in Vienna in 1853 and translated into Hungarian and Italian shortly thereafter. Zimmermann's work, the logical sections of which are little more than lightly disguised summaries of Bolzano's *Wissenschaftslehre* prepared at Bolzano's own request, can now be seen to have done much to bring about a renaissance of Bolzanianism in Austria in a period when Bolzano's own writings were officially suppressed. Bolzanian ideas affected not only Twardowski and Höfler, but also Meinong, Benno Kerry, J.K. Kreibitz, Hugo Bergmann, Heinrich Gomperz, and perhaps even Georg Lukács, and the disciples of Brentano were affected by Bolzanianism to such an extent that Brentano is re-

ported to have been dismayed at the extent to which, one after another, they had taken up with a 'logical objectivism' that was for him anathema⁴.

From 1885 to 1889 Twardowski studied philosophy at the University of Vienna, receiving his doctoral degree in 1891 for a dissertation entitled *Idea and Perception. An Epistemological Study of Descartes*⁵. While Twardowski studied especially under Franz Brentano, his official supervisor was in fact Zimmermann, Brentano having been obliged to resign his chair in 1880 in connection with his marriage as an ex-priest. During this time Twardowski made the acquaintance of another student of Brentano, Alexius Meinong, Privatdozent in the University since 1878, and, as we shall see, Twardowski played a not unimportant role in the development of Meinong's thinking in the direction of a general 'theory of objects'⁶. At around this time, Twardowski also helped to found the Vienna Philosophical Society (he would later go on to found the first Polish Philosophical Society in Lvov in 1904). On completing his studies, Twardowski was awarded a one year travel scholarship, which he used principally as a means of becoming acquainted with new work in psychology. In 1892, he visited Munich attending courses by Stumpf⁷, and also by Hartling and Schmidkunz, and Leipzig, where Wundt had instituted the world's first laboratory of experimental psychology in 1879. (Twardowski would himself go on to establish the first laboratory of experimental psychology in Poland in 1907).

In 1894 Twardowski received the *venia legendi* in Vienna for a monograph, much inspired by Brentanian ideas, *On the Doctrine of the Content and Object of Presentations*, and it is this work, translated into English only in 1977, which establishes his credentials as one of the six great promoters and extrapolators of Brentano's work (the others being Stumpf, Marty, Meinong, Husserl and Ehrenfels, all of whom will have a role to play in the present essay).

The principal message of Twardowski's work may be summarised as follows. Where Brentano had spoken indiscriminately of the 'contents' and 'objects' of mental acts, as though content and object were identical⁸, Twardowski argued in favour of a distinction between the two—a distinction parallel, in many ways, to Frege's distinction between sense and referent, though translated into the psychological mode. Where Brentano had seen content and object as effectively one and the same, Twardowski regarded the content as a mental 'picture' or 'image' of the object of the act. Every act, according to Twardowski, has both a

content and an object, though the object of an act need not in every case exist. Even non-existent objects are, however, seen by Twardowski as enjoying properties of their own, a doctrine later transmuted by Meinong into the 'principle of the independence of being from being-so' and in this form taken as the basis of Meinong's theory of non-existent objects⁹.

In the period 1894/95, Twardowski lectured in Vienna as Privatdozent. He was then, at the age of 29, appointed professor of philosophy in Lvov, still at this time an Austrian town¹⁰. Twardowski retired in 1930, though he continued to hold lectures in Lvov until his death in 1938. After 1894, he published no further major work. He dedicated himself, rather, to teaching, and to the job of establishing a modern and outward-looking tradition of philosophy in Poland. His success in this can be seen in the fact that by the inter-war period his students held professorships in philosophy departments in all Polish universities with the single exception of the Catholic University in Lublin. Moreover, Twardowski's influence extended not merely to philosophers, above all to phenomenologists such as Roman Ingarden and Leopold Blaustein, and to the members of what might be called the 'analytic school' of Polish philosophy; it can be seen also in the teaching and writing of a series of eminent non-philosophers who had attended his courses in Lvov¹¹.

It is commonly suggested that Twardowski's teaching was in some sense philosophically neutral, that the unity of his school was rooted in a common training in methods and habits of work, rather than in the handing down of any shared doctrines or ideas. Jordan, for example, asserts that the members of Twardowski's school were not linked by any 'common body of philosophical assumptions and beliefs'. Twardowski led his students, rather, 'to undertake painstaking analysis of specific problems which were rich in conceptual and terminological distinctions, and directed rather to the clarification than to the solution of the problems involved.' (1963, pp.7f.)

Certainly, Twardowski held no truck with the system-building 'philosophical' philosophies of the past. His work was inspired, rather, by a 'scientific' attitude of precise and careful description - so that, as Jordan puts it, the philosophy he taught was in some ways 'a pedestrian affair, an elaborate and highly specialised technique of thinking, which, being closer than ever before to the hard ground of everyday experience and common sense, could not be followed [by] philosophically untrained amateurs.' (1963, p.8).

It would be wrong, however, to ignore the fact that Twardowski remained throughout his life firmly attached to a quite specific *metaphysical* conception of philosophy, and his attitude in this respect reveals itself in a general metaphysical orientation of the philosophers who came under his influence. This applies even to those - like Ajdukiewicz - who were at certain times attracted by the positivism or reductionism of the Vienna Circle¹². It applies to Kotarbiński¹³; and it applies also to Łukasiewicz, and to philosophers such as Drewnowski and Zawirski who developed a conception of metaphysics as a hypothetical-deductive science to which the axiomatic method should be applied¹⁴.

What, then, was the metaphysics to which Twardowski himself subscribed? The answer to this question is clear from a perusal of his works: it is the metaphysics of Brentano. As Łuszczewska-Romahnowa puts it, 'Twardowski saw as his exclusive task the realisation of the ideas of Brentano on Polish soil, ideas with which he himself in a way grew up and which he held to be indubitably correct'¹⁵. I should like, in this light, to argue that Twardowski's influence upon the content of modern Polish philosophy can best be understood in terms of certain Brentanian ideas or attitudes which Twardowski conveyed to his Polish disciples. This influence reveals itself, more precisely, in the fact that modern Polish philosophy is marked on the one hand by an attitude of metaphysical realism and on the other hand by a concern with the notion of truth as correspondence, both of which Twardowski had inherited - with some Bolzanian admixtures - from the early Brentano.

In some cases a direct interest in Brentano and his school was inherited from Twardowski by his students. This is especially true of Ingarden¹⁶, but it holds also of Leśniewski, who, as a young man, conceived the project of translation into Polish the *Investigations on General Grammar and Philosophy of Language* of Anton Marty. The influence of Brentano's existential theory of judgment may be detected also in Leśniewski's doctoral dissertation under Twardowski, which is a study of existential propositions dealing in passing with Mill and Spencer as interpreted by Husserl in his second Logical Investigation¹⁷. Łukasiewicz, too, was subject to the influence of Brentano's ideas. He studied not only with Twardowski but also with Stumpf in Berlin and with Meinong in Graz, and among his earliest papers are a number of short reviews on works by Husserl, Höfler, Stumpf and Meinong.

It would of course be wrong to suggest that specifically Brentanian doctrines were taken over whole by Twardowski's stu-

dents. Yet the implicit or explicit concern with metaphysics, and especially with realistic metaphysics and with truth as correspondence, is a constantly recurring feature of their work. Investigations in the ontology of truth, or of those relations between sentences and objects which are constitutive of truth, have been quite peculiarly prominent features of Polish philosophical writings from Kotarbiński to the present day, and have coloured especially the Polish reception of the philosophy of Wittgenstein¹⁸. Moreover, as I shall seek to argue in what follows, the influence of the classical conception of truth can be detected also in the seminal work in Poland on the truth-functional calculus. Thus it serves, *inter alia*, as a part of the background to Łukasiewicz's work on many-valued logic and on probability¹⁹, and the early work of Tarski, too, can illuminatingly be viewed in this light, even though Tarski did not himself study with Twardowski²⁰.

At all events, though, it cannot be denied that an interest in the philosophy of truth has been a highly conspicuous moment of modern Polish philosophy²¹. The idea of realism, on the other hand, may initially be thought to have played a less prominent role. On closer inspection, however, we see that the realist attitude which Twardowski promulgated has in fact been *taken for granted* by Polish philosophers as something almost universally shared. Realism, even Aristotelian realism, is an unquestioned presupposition of Leśniewski's work²², and of that of his principal successors. It governs the work of Ingarden, dictating even the latter's interest in the phenomena of aesthetics²³. It has been of repeated concern to Ajdukiewicz, and it has coloured also the work on epistemology of Kotarbiński and his pupils²⁴. And in each case, Twardowski has played at least some role in determining both the terminology and the thinking of the philosophers in question.

2. From Psychology to Ontology

The influence of the early Brentano on Twardowski, as on his other principal disciples, is somewhat paradoxical. On the one hand, Brentano embraced a Cartesian epistemology: he regarded the existence of an external world as at most probable, and he denied outright the existence of a world similar to the world that is given in experience²⁵. On the other hand, he propagated an idea of what he called 'descriptive psychology', a new sort of discipline which would on the one hand yield exact and certain knowledge of the structure of mental life, and on the other hand

provide an epistemologically sure foundation for other branches of philosophy. Leaving aside the Cartesian aspects of Brentano's thinking, we may say that descriptive psychology is a discipline that is obtained by grafting certain results and methods of empiricist psychology onto the classical tradition of metaphysics inaugurated by Aristotle. Brentanian descriptive psychology is, in effect, an *ontology of mind*, and it is above all in relation to the structures of our mental acts that Brentano's fundamental realism makes itself most strongly felt²⁶.

The training in the discipline which Brentano's students received can be seen to have instilled in them an attitude of descriptive or taxonomical realism. This involves, roughly speaking, the acceptance of four theses:

(i) that description is prior to explanation, in the sense that an explanation of given phenomena is of value only to the extent that we know what we are talking about, that we 'understand ourselves' when we refer to the phenomena in question;

(ii) that the tasks of the philosopher and of the empirical scientists cannot and should not be pursued in separation; metaphysics or ontology is to be pursued not in abstraction from other disciplines, but as part and parcel of our attempt to come to grips scientifically with the world;

(iii) that given segments of reality can be described by appropriate 'empirical' methods in a way that is - at some level of generality - adequate to the matters in hand; description proceeds not by the building of models of the phenomena, but by concerning itself directly with the things themselves; for success in building a model may go hand in hand with a total lack of comprehension of the phenomena at issue;

(iv) that the appropriate form of description involves something like a taxonomy of the different kinds of basic constituent in the given domain and of the different forms of relation between them; hence the ontological theories of relations and of part and whole come to enjoy a uniquely privileged status within the edifice of science²⁷.

The early Brentano himself applied these ideas within the area of psychology. His students, however, took the attitude of descriptive realism with them into other domains of inquiry. We can in fact distinguish in their work three branches of what might be called descriptive ontology; the ontology of *things* (or objects in the narrow sense), the ontology of *states of affairs*, and the ontology of *values*. To understand this tripartite divi-

sion we must recognise that, even though the privileged examples of objects for Brentano are always immanent 'physical phenomena' or data of sense²⁸, the path from mind to objects in general had nevertheless been cleared by Brentano with his notion of intentionality.

Brentano, familiarly, had distinguished three sorts of ways in which a subject may be conscious of an object in his mental acts:

I. *Presentations*²⁹. Here the subject is conscious of the object, has it before his mind, without taking up any position with regard to it. The object is neither accepted as existing nor rejected as non-existing, neither loved as having value nor hated as having disvalue. Presentations may be intuitive or conceptual: we can have an object before our mind either in sensory experience (and in the variant forms thereof in memory and imagination); or through concepts - for example when we think of a colour or pain in general³⁰. Intuitive presentations, for Brentano, are confined to what is real: we can have no intuitive presentations of what is ideal or abstract or merely possible. Presentations in general may be either (relatively) simple or (relatively) complex - a distinction recalling the British empiricists' doctrine of 'simple and complex ideas'. A simple presentation is for example that of red sensum; a complex presentation that of landscape, or of an array of differently coloured squares³¹.

Presentations almost never occur alone, and according to Brentano³² they are in fact necessarily accompanied by or exist only in the context of modes of mental directedness of other sorts, namely:

II. *Judgements*. A judgment arises when, to the simple manner of being related to an object in presentation, there is added one of two diametrically opposed modes of relating to this object, which we might call *acceptance* and *rejection* or 'belief' and 'disbelief'. More precisely, judgment is either the affirmation or the denial of existence of an object given in presentation. Brentano at this stage therefore embraces an existential theory of judgment according to which all judgments are reducible to judgments of existential form³³. Thus a positive judgement in relation to a presentation of rain might be rendered as: *rain exists* or *it's raining*; a negative judgment in relation to the presentation *unicorn* as: *unicorns do not exist* or *there are no unicorns*. A predicative judgment such as *swans are white* turns out to be a negative judgment resting on the complex and itself

in part negative presentation of non-white swans; thus it may be rendered as: *non-white swans do not exist*. A positive (simple or complex) judgment is true if the object of the underlying presentation exists; a negative judgment is true if this object fails to exist.

III. *Phenomena of Interest*. Phenomena of interest arise when to the presentation of an object - particularly one that belongs to a positive existential judgment - there is added one of two diametrically opposed modes of relating to this object, which we might call *positive and negative interest* or also 'love' and 'hate'. The dichotomy in question is involved, according to Brentano, in all our mental acts and attitudes across the entire gamut of feeling, emotion and will. As a judgment, so also in feeling and desire, the object is 'present in consciousness in a two-fold way', both as object of presentation and as object of some determinate *pro* or *contra* attitude³⁴.

The ontology of things or objects arises, now, when one turns from the psychology of presentation to an investigation of the non-psychological correlates of presenting acts. 'Object', in the present context, is accordingly to be understood as: 'possible correlate of presentation', a notion embracing in particular simple and complex data of sense. Contributions to object-ontology in this sense were made by Stumpf, with his doctrine of the partial contents (objects) of presentation (1873), by Ehrenfels, with his doctrine of Gestalt-qualities or higher order objects of presentation, by Husserl, with his analysis of the different kinds of unity and multiplicity among the objects given in experience (1891), by Marty, with his analysis of the opposition between real and non-real objects (1908), and by the later Brentano, with his investigations of the categories of substance and accident and with his work on spatial and temporal continua (1933, 1976).

The ontology of states of affairs arises, similarly, when one moves from the psychology of judgment to the investigation of the ontological correlates of judging acts. These, given Brentano's existential theory of judgment, will turn out to be primarily of the forms: *the existence of A* and *the non-existence of A*, though other types of judgment-correlates were also recognized by Brentano's pupils - *the subsistence of A*, *the possibility of A*, *the necessity of A*, *the probability of A*, *the being B of A*, and so on. Contributions to the ontology of states of affairs were made, again, by Stumpf (to whom we owe our use of

'*Sachverhalt*' as a *terminus technicus* of theory of judgment), by Marty, and by Husserl and his disciples in Munich³⁵.

The ontology of values arises, finally, when one moves from the psychology of interest and preference to an investigation of the ontological correlates of the corresponding acts. Modern value theory is indeed to no small part a creation of the Brentanists, who were inspired to attempt the construction of a general theory of values by Brentano's wide demarcation of the psychological category of 'phenomena of interest' - previous philosophers having tended to deal in terms of the two separate categories of 'feeling' and 'will'³⁶. Contributions to the ontology of values were made, in particular, by Ehrenfels, as also by Meinong and his school in Graz, by Husserl, by Kreibitz, by O. Kraus, and by a number of other thinkers within the Brentano tradition³⁷.

Meinong's theory of objects comprehends all the types or branches of ontology here distinguished³⁸. It was however Twardowski, of all the Brentanians, who was the first to develop a generalised ontology in this sense, an ontology which can be seen to differ from previous work in the field in having been produced on the basis of descriptive psychological analyses of the different kinds of mental acts. As Ingarden puts it, Twardowski's *Content and Object* is, 'so far as I know, the first consistently constructed theory of objects manifesting a certain theoretical unity since the times of scholasticism and of the "ontology" of Christian Wolff'³⁹. Moreover, Brentano, too, can be seen retrospectively to have contributed something of his own to these more general ontological investigations, especially in his treatment of the Aristotelian distinction between 'being in the sense of the categories' and 'being in the sense of being true' in his dissertation of 1862.

When not interpreting the views of other philosophers, however, the early Brentano seems to have been reluctant to formulate ontological theses of his own. Thus while he began by accepting a version of the correspondence theory of truth along Aristotelian lines, he has very little to say about the ontology of truth as such. To the question whether there are special entities - 'judgment-contents' or states of affairs - to which our judgments would correspond, Brentano responds by pointing out that talk of such entities would be of little use. For to elucidate the notion of *the truth of the judgment* through the notion of *the existence of the object* is to explain what is understood

by appeal to something that is no better understood, and 'nothing would be accomplished thereby'⁴⁰.

It seems, rather, to have been up to Brentano's students to take the additional step of using his analyses of judgment as basis for an ontology of truth. The extent to which Brentano provoked this additional step through his lectures and discussions is not, as yet, capable of being ascertained with conviction. The fact that so many of his most important students made a move of the given sort, just as they all used psychology as the basis of a more or less general ontology, seems, however, to call for the assumption that the move in question was in some way anticipated by Brentano. Certainly it was fostered and encouraged by his discovery of the categorial difference between judgments and presentations, just as the Brentanists' work on the general theory of value had been fostered and encouraged by Brentano's wide demarcation of the sphere of phenomena of interest. It may, however, be that the crucial impetus to their work in this respect was provided by the direct or indirect influence of Bolzano⁴¹.

In summary, we can say that where, for the early Brentano, intentionality is understood as a relation between an act and an immanent content or 'object of thought' (above all as a relation between acts of sensation and immanent data of sense), in the hands of his students the notion of intentionality is allowed to blossom in such a way that the range of transcendent objects admitted as targets of the intentional relation comes to be conceived ever more widely - so that the discipline of ontology, too, is by degrees magnified in both scope and significance.

3. Brentano, Twardowski and the Theory of Judgment

To judge positively, in Brentano's view, is to affirm the existence of some object of presentation. Hence, as Brentano puts it in his essay "On the Concept of Truth" of 1889, 'The area to which the affirmative mode of judgment is appropriate is the area of the *existent*, a concept sharply to be distinguished from that of the *thinglike, substantial, real* [*des Dinglichen, Wesenhaften, Realen*]'⁴².

What is Brentano getting at here? He is pointing, firstly, to the fact that the oppositions of existence and non-existence (*Sein* and *Nichtsein*) and of reality and non-reality (*Realität* and *Nichtrealität*, or also *Wirklichkeit* and *Nichtwirklichkeit*) are independent of each other. What exists (for example values or

universals) need not be real, and what is real (for example centaurs or chunks of wooden metal, and even the objects of simple acts of sensation) need not exist. It was above all Anton Marty who pursued the implications of this opposition between reality and existence. Real objects, Marty held, are distinguished from non-real objects through their capacity to enter into causal relations⁴³.

Secondly, he is pointing to the limitless range of judgment: we can judge about (accept or reject the existence of) objects of all conceivable sorts - angels, places, boundaries, algebraic numbers - and such judgments can be true and their objects exist, irrespective of whether or not these objects are real.

Thirdly, there are echoes in the passage of the Aristotelian distinction between *being in the sense of being true*, and *being in the sense of the categories* (of substance, quality, action, passion, and the like). The former corresponds, in its formal generality, to the concept of existence; the latter, in its restriction to concrete individual natures, to the concept of reality.

Fourthly, and most importantly, he is suggesting - and it is clear that in this passage he is doing no more than suggesting - that there are entities of a special sort which serve as the objectual correlates of judgments as 'realities' serve as correlates of presentations. Such entities would belong to a special 'realm of existence', as contrasted with the objects of presentation which would make up the 'realm of reality'⁴⁴. Brentano himself eventually adopted a position which involved the explicit rejection of any 'two-realm' theory or 'multi-categorical ontology' along these lines. Such a theory was however adopted by a number of Brentano's successors, above all by Husserl and his disciple Reinach, and a theory along these lines was of course developed also by Wittgenstein in the *Tractatus*⁴⁵.

Twardowski shared with Brentano the thesis of the independence of the two dimensions of reality and existence:

An object is said to be something real or not real, regardless of whether or not it exists, just as one can talk about the simplicity or complexity of an object, without asking whether or not it exists. That in which the reality of an object consists cannot be expressed in words; but most philosophers seem to agree nowadays that objects like piercing tone, tree, grief; motion, are something real, while objects like lack, absence, possibility, etc. are to count as *not real*⁴⁶. Now, just as a real object may at one time exist and

at another time not exist, so, too, can something non-real now exist, now not exist⁴⁷.

Moreover, he accepted the Brentanian existential theory of judgment according to which the truth of a (positive) judgment is to be identified, simply, with the existence of the relevant object⁴⁸. When, however, we move on to consider the relation of judgment and truth not to *existence* but to *reality*, then we find that the views of Brentano and Twardowski sharply diverge. It is important to note, first of all, that Brentano's version of the correspondence theory is by no means of the simplistic sort which would assign to each and every (true) judgment a specific objectual correlate of its own, tailor-made, as it were, to make it true. In fact Brentano divides judgments into three classes:⁴⁹

(i) those made true directly by what is real: for example 'it is raining', 'John exists', 'cheetahs exist', 'I am seeing red';

(ii) those made true indirectly by what is real: for example judgments concerning lacks or possibilities, where Brentano's treatment anticipates certain aspects of the later analytic doctrine of 'Cambridge changes'⁵⁰;

(iii) those which, 'so far as truth is concerned, are not at all dependent upon any reality', that is 'all of those judgments whose objects are in themselves simply necessary or impossible', judgments which are true *ex terminis* - the so-called 'truths of reason'.

The divergence between Brentano and Twardowski turns on the fact that what is real may change, and this implies, on Brentano's account of categories (i) and (ii) above, that there may occur changes in the truth-values of the corresponding judgments⁵¹. As Brentano puts it, the truth of a judgment about what is real 'is conditioned by the existence, the coming into being, or the passing away, of the reality to which the judgment pertains'. Hence: 'Without itself undergoing any change, the judgment will gain or lose its truth if the reality in question is created or destroyed.' (1889, §55). Truth, accordingly, is not a timeless property of judgments - a conclusion which is taken by Brentano to imply that God, too, if he is omniscient, must exist in time, since the knowledge of which judgments are true and which false must change from moment to moment⁵².

Twardowski, in contrast, rejects any thesis of this sort. In his paper "On Relative Truth" of 1902 he argues forcefully in favour of a conception of truth as something absolute, a concep-

tion which would rule out the possibility that the truth of a judgment might change from occasion to occasion or from subject to subject. Brentano's acceptance of the thesis that truth can change and judgment remain the same follows, Twardowski argues, from a confusion of *judgments* on the one hand with their *statements* or *expressions* on the other. For a judgment is not always expressed fully by any given verbal statement. A full expression of the judgment made on some given occasion by means of the words 'it's raining' might be something like: 'at 8 o'clock p.m. Eastern Central European Time on 25 August 1675 according to the Gregorian calendar it's raining on the High Castle Hill in Lemberg'. Twardowski's argument here - which again reveals the influence of Bolzano⁵³ - is to be found in different forms also in the work of Frege⁵⁴ and Russell⁵⁵, as also in the *Tractatus*, for example in Wittgenstein's remark to the effect that language 'disguises thought. So much so, that from the outward form of the clothing it is impossible to infer the form of the thought beneath it' (4.002).

Nowadays, of course, the opposition between the surface grammatical structure of a sentence and the deep logical structure of the corresponding proposition has become a commonplace of analytic philosophy. Twardowski's own formulation of this opposition is expressed, certainly, in terms of the psychological notion of judgment, rather than in terms of the properly logical notion of proposition. Moreover, his attentions are directed, here as elsewhere, to the understanding of the mental acts involved in judging and of the ontological correlates of such acts. He is not, like Frege, Russell or Wittgenstein, concerned with the building up of an ideal or artificial language in which thought and expression would somehow coincide. True to the Brentanist heritage, his efforts are directed to the things and processes themselves that are involved in actual judgments - not to the construction of abstract models or surrogates thereof. For all this, however, Twardowski's emphasis on the notion of absolute truth can be seen to have pointed his students in the direction of a truth-functional conception of logic in the modern sense⁵⁶, though further steps would have to be taken before there could come into being in Poland a full-fledged logic of propositions of the sort we now take for granted.

From the Brentanian perspective, on the other hand, Twardowski can be seen to have replaced Brentano's own version of the correspondence theory - which conceives truth, for empirical judgments, as a transient relation between an episode of judging and some object of presentation - with a new theory, one which

sees truth as a *timeless relation* between (1) a judgment conceived in abstraction from the factual conditions of its utterance or expression and (2) a special objectual judgment-correlate. Interestingly, this very opposition can be seen to have played a role in Łukasiewicz's development of the idea of a many-valued logic. For Łukasiewicz took the view that truth, for empirical judgments, is absolute only in so far as such judgments are directed to the present and the past; in so far as judgments are directed to the future, their truth is relative⁵⁷. This idea led some to accuse him of having run together the two separate notions of timeless and time-dependent truth⁵⁸.

4. Twardowski's Theory of the General Object

Before proceeding further with our analysis of Twardowski's theory of judgment, and in particular of his account of the objectual correlates of judging acts, it will be useful to look at what he has to say about the objects of presentation. All such objects, Twardowski insists, are integrated wholes. Unity or integrity is, as Twardowski puts it, a formal moment of every object given in presentation: 'in being one, a unified whole, every object sets itself off against all others, as different from all others, and hence as the one it is, as self-identical.' (1894, p.88, Eng., p.86). Here Twardowski recalls a central theme of scholastic philosophy: *unum est indivisum in se et divisum ab omnibus aliis*. But there is an air of Kantianism, too (or more precisely of the Kantian doctrine of the way in which objects are 'unified' through the imposition of categories on the manifold of sense)⁵⁹, as also an anticipation of what Husserl and the Berlin Gestalt psychologists later dealt with under the heading of the 'figure-ground' structure of perception⁶⁰.

As Twardowski conceives it, now, the unity of objects of presentation extends even to general presentations like *lion*, *lexeme*, *hepatitis*, etc., such as are involved, for example, when we judge that the lion is carnivorous, that lexemes are listed in dictionaries, that hepatitis is an inflammation of the liver, and so on. Presentations of general objects are not, Twardowski argues, presentations of a set or list of individual objects falling under the relevant concept (as if a general presentation were some sort of summation of a number of individual presentations). This is seen above all in the fact that, with the aid of a general presentation, we can make judgments which 'accomplish more than what the individual judgments about the successively presented objects can achieve in their totality.' Thus the judg-

ment *the lion is carnivorous* has a different 'logical value' from the judgments *Leo is carnivorous*, *Simba is carnivorous*, etc., taken together⁶¹. To what, then, does the general presentation refer? Twardowski's answer is that it refers precisely to a *general object*, i.e. to what results when those marks or features *common* to all the objects of the relevant individual presentations are ordered and combined in presentation in such a way that they are, like the objects of individual presentations, unified as a whole. The general lion, as Twardowski conceives it, shares with any particular lion the features common to all lions, including the feature *is a lion*⁶², an idea further developed by Meinong with his doctrine of the incomplete object⁶³.

As Twardowski suggests, a discipline like geometry is concerned precisely with general objects of the given sort, and the same thesis may be extended also to the other sciences. Thus the biologist is interested not in this or that particular gene or chromosome, but rather in the *gene in general* and its relation to the chromosome. The linguist is interested not in any particular consignment of speech, but in the phoneme in general, the morpheme in general, the lexeme in general, as well as in, say, the distinctive features *labial*, *dental*, *velar*, etc., and in the combinations of, and interrelations between, these various general objects on different levels. Not the least virtue of Twardowski's theory is, therefore, that it is able to do justice to the predominance of general names in the language of science⁶⁴.

Certainly it is true that one may, in conceiving of an individual object, conceive also those constituent features which it shares with others. In an individual presentation, however, one normally pays no attention to these shared constituents as such. Could we not, then, regard the general presentation as an individual presentation whose object has been picked out as a 'representative' from the range of available instances and is now presented in such a way that one pays attention precisely to the constituent marks it shares with other members of this range? The general presentation of the lion, on this view, would differ *in its object* not at all from some individual presentation of a lion: it would differ only in the mode of givenness of this object. A view of this sort was, of course, propounded by Berkeley⁶⁵. Twardowski, however, rejects it out of hand. Taken literally, as he points out, the thesis that the object of a given general presentation were in fact some representative individual object would imply that the same judgments must hold of the relevant general object as hold of this individual - so that

the general triangle, for example, might turn out to be two inches high.

There are, however, psychological considerations which serve to explain the attractiveness of the representative individual view. Certainly, 'nobody can conceive intuitively of a "general" triangle, a triangle which is neither right-angled, nor acute-angled, nor obtuse-angled, and which has no colour and no determinate size'. Hence nor, either, may the conception of a general triangle be entirely free of intuitive components: 'There is', Twardowski argues, 'a psychological law - already advanced by Aristotle - that one can never have a non-intuitive presentation unless it is accompanied by one (or several) intuitive ones'⁶⁶. General presentations are, as Twardowski points out, non-intuitive to such a degree that many hold them to be simply 'non-executable'. Hence they deny their existence, just as they have denied the existence of presentations - such as that of a round square or of a white horse that is black - whose objects have contradictory characteristics. We can, however, form a non-intuitive presentation of such a general triangle (we can conceive it, make judgments about it), just as we can form a non-intuitive presentation of a square that is round or of a rational square root of 2. This is achieved via what Twardowski calls an 'indirect presentation'⁶⁷.

To say that an object is presented indirectly is to say that its presentation comes about through the intermediary of a certain 'auxiliary presentation' of some known object standing in specific relations to the object meant. Consider, for example, my presentation of the height of the Zugspitze. I do not know what this height is; yet I can, for all that, make judgments about it. In order to present to myself this object I must, on Twardowski's view, form an auxiliary presentation of the Zugspitze itself, and of a certain relation. This presentation is 'auxiliary' in the sense that I do not *mean* the Zugspitze, but rather a second and as it were unknown term, determined simply as the terminus of the given relation. Something similar holds when I present to myself, say, the number 1000. Here there is no possibility of a direct intuitive presentation. Hence I must form an auxiliary presentation of another object which stands to this number in a certain relation. Typically, I form the intuitive presentation of the relevant *numeral* '1000'⁶⁸, and the indirect presentation of the number itself is then determined uniquely via the relation of sign to thing signified. It is on this relation, as Twardowski points out, that there rests that kind of thinking which Leibniz called 'symbolic'⁶⁹.

But consider, now, my presentation of a country without mountains. Here the term *mountains* is linked to the indirectly presented term *country* by the relation of privation. And as this case makes clear, we sometimes find it necessary, in order to form a presentation of a given object, to present to ourselves in auxiliary fashion other objects quite explicitly denied as pertaining to the object in question. A still more glaring case of this sort is provided by our presentation of objects with contradictory characteristics. Thus my presentation of a white horse that is black may, once again, be a merely symbolic thinking. It may, however, utilise the intuitive presentation of, say, a white horse, but in such a way that the object of this presentation is transformed. This occurs, Twardowski suggests, by means of the simultaneous presentation of certain judgments (for example to the effect that the white horse is black), judgments which are false and presented as such. It is obvious how a view along these lines can be adopted in such a way as to provide an account of what takes place psychologically when we read a work of fiction. Here there is a succession of merely presented judgments accompanying the objectual presentations formed in the course of a given reading, a succession whose course is determined precisely by the succession of sentences laid down by the author of the text⁷⁰.

There are, on Twardowski's view, a number of important similarities between general objects and objects with contradictory characteristics. The former may, indeed, be counted as special cases of the latter (if it is true that there is something contradictory about a triangular figure that is neither equilateral nor isosceles nor scalene). Both general objects and contradictory objects are capable of being presented only non-intuitively and indirectly. And both, according to Twardowski, are such that, in and of themselves, they do not exist. The general object is however in one sense better off than the contradictory object: one can allow that 'it exists in the sense that it can be detected in the objects of the corresponding individual presentations, albeit in a form which is somehow modified by the individual characteristics of these individual presentations.' (1894, p.106, Eng., p.101). The general object is as it were held in readiness in concretised form within each individual instance - an idea developed more fully by Meinong with his doctrine of 'implicative existence'⁷¹.

What, now, are the consequences of all of this for our understanding of what is involved in the presentation of a general object? Here, again, we have two alternatives: either a

merely 'symbolic' thinking of the general object - which consists in the employment as auxiliary of an intuitive presentation of the relevant general name; or the use of an intuitive auxiliary presentation of some individual object standing in for the relevant general object as representative or proxy. Thus for example we might conceive *man in general* via the presentation of some individual man or of a series of individual men. As in the case of our presentation of the white horse that is black, so also here, Twardowski argues, we transform the intuitive presentation by means of accompanying judgments. Here, however, the effect of such judgments is to suspend the individuality of our chosen object: 'These presented judgments concern the particular size, colour of skin, in short, everything that when taken together constitutes the *individuality* of the individual man. This individuality is not really denied - the judgments are only *presented* judgments in the modifying sense of the word - it is merely presented as denied.' (1894, p.108, Eng., p.104).

Twardowski's notion of general object is by no means new. General or arbitrary or variable objects have been long accepted in practice by the majority of mathematicians, though admittedly their occasional theoretical reflections on the nature of such objects have rarely seemed clear. Among philosophers, too, the notion of the general object has a long history, and is at least as old as Plato. Different forms of the general object theory were accepted as a matter of course by the majority of non-nominalists philosophers up to and including Locke. Since then, however, the notion of the general object has fallen from favour, and in both contemporary philosophy and contemporary work in the foundations of mathematics it is almost always overlooked. The revival of the view in Austria at the turn of the century has had little effect in either of these two fields, except perhaps in the negative sense that it provoked philosophers such as Kotarbiński to develop explicitly 'reistic' or 'concretist' ontologies in which the supposed evils of the general object theory would be avoided⁷². The Twardowski-Meinong theory has, however, made its mark in the field of probability theory, where it has particular advantages. Here we must mention in particular Łukasiewicz, whose classical statement of the logical theory of probability was worked out in Graz in 1909. As Łukasiewicz points out, definite events 'cannot be probable at all, since they are either *necessary* or *impossible*, either *real* or *unreal*'. Hence: 'Propositions which in the probability calculus are considered probable must be formulated not for any *definite* case, but for any arbitrary case *x*'. This theory of probabilities is, as he himself tells us, 'ob-

jective': it sees probability as a certain property of propositions determined by the relationships which these propositions bear to the objective world. This does not, however, mean that 'arbitrary events' or 'arbitrary cases' would themselves exist objectively: 'probability is a concept invented by the *human mind* for the purpose of scientific treatment of those facts which cannot be interpreted by general judgments'. Thus the arbitrary or indefinite objects are introduced by the probability theorist purely as instrumental aids in the formulation of certain special sorts of facts⁷³, an idea which recalls Meinong's conception of incomplete objects as auxiliary '*Hilfsgegenstände*', mediating between the relevant complete objects and the knowing subject⁷⁴. Meinong's ideas are, incidentally, defended also in an influential book on *The Philosophical Foundations of the Probability Calculus* by the mathematician E. Czuber - the same Czuber who was so scornfully castigated by Frege for his treatment of 'indeterminate numbers' in his work on the calculus of 1898⁷⁵. Ideas similar to those of Meinong and of Łukasiewicz are defended also by W.E. Johnson. Thus consider, for example, the following analysis by Johnson of what is it that changes:

On the one hand, it cannot be the contituant itself, nor any of its properties, since these are asserted to be constant throughout the period of time to which the process of change is referred. Neither can it be the manifestations, dated at time-points, which can be said to change, since these merely replace one another from instant to instant. The clue to the problem is to be found in the theory of the determinable. The character of each dated manifestation is determinate, and a change implies always that the determinate character of the one manifestation at one instant is replaced at a subsequent instant by a manifestation having a different determinate character under the same determinable. Thus we speak of temperature or colour or size or shape, etc., as changing or remaining constant during a certain period of time; it is therefore the manifestation - not of a *determinate* - but of a *determinable* that may be said to change. (Johnson 1924, vol. III, p.85)

Why, then, has the theory of general objects been so extensively neglected in recent philosophy? This is first of all for reasons having to do with the hegemony of empiricism and positivism and of the widespread assumption that science proper has nothing to do with general objects - in spite of what one finds when one examines the language used in almost all forms of scientific text. The general object theory has suffered further from

a lack of clarity on the part of its original proponents, and from the undeniable successes of the Fregean treatment of generality through the device of quantification, a device which dispenses entirely with the need for general objects and general names. One consequence of the success of the quantifier-variable notation as a means of expressing generality is that it has led to the acceptance as canonical of a logical language within which generality is confined entirely to the level of predicates⁷⁶. Hence proponents of contemporary theories of science, with their almost exclusive reliance on standard predicate logic as tool of analysis, find themselves called upon to translate actual scientific usage by *force majeure* into a language in which all generality is carried by predicate expressions. The language of Leśniewski's Ontology, on the other hand, again allows some generality to be expressed at the level of names, in virtue of the fact that names, for Leśniewski, may be multiply designating.

Twardowski himself points to certain linguistic reasons for the neglect of general objects. For language 'often uses the same name as the designation for the general object as well as for the corresponding individual objects', so that philosophers have too readily assumed that 'a general name is, as it were, the summary designation of all objects which are designated separately by means of the corresponding individual names'. (1894, p.107, Eng., p.102). There are also psychological reasons for this neglect. As has already been pointed out, every general presentation involves a certain auxiliary intuitive presentation of something individual, and not just one, but many individual presentations may serve in bringing about the non-intuitive presentation of a given general object. Moreover, these intuitive presentations will enjoy a greater vivacity than the non-intuitive general presentation to which they give rise. Hence it is no surprise that it may appear to some 'as if it is the individual objects of the psychologically dependent auxiliary presentations which are in reality what is presented through the general presentation ... and this is the psychological cause of the error which consists in ascribing several, even infinitely many, objects to a general presentation'. (1894, p.109, Eng., p.103).

Moreover, the theory of general objects is not without its ontological problems, too. Thus, as we have seen, general objects as conceived by Twardowski - as also by Meinong and Łukasiewicz - suffer in comparison with at least some individual objects in that they lack the property of existence, though this need not, of course, imply that they would lack all other properties, too. Further, as Husserl points out, Twardowski's general objects are

subject to all the defects of Locke's general triangle⁷⁷, a criticism which was used also by Leśniewski as the basis for an attack on Twardowski's doctrine, turning the argument also however against Husserl himself⁷⁸. Leśniewski can accuse Twardowski of inconsistency, however, only because he himself subscribes to a principle - which he calls the *metaphysical* or *ontological* principle of excluded middle - to the effect that *for each property it holds that every object either possesses it or does not possess it*⁷⁹. To adopt this principle is, however, to impose a requirement on objects to the effect that every object is fully determinate. Yet general objects are precisely indeterminate in regard to those properties which are possessed by some but not all of their individual instances or values.

Nowadays we may be justified in looking again at Twardowski's ideas, since the theory of general objects has been resuscitated in recent years by Kit Fine in his theory of what he calls 'arbitrary objects'. It is the great merit of Fine's work that he has shown how the doctrine of general objects can be formalised in such a way as to be made safe against the attacks of the reductive nominalist⁸⁰. Interestingly Fine, too, employs a distinction between two versions of the law of excluded middle, and, like Twardowski, Meinong and Łukasiewicz, he is concerned to stress that general objects do not exist in any 'ontologically significant sense'. His work throws light also on those superficially ill-conceived views of the mathematicians on general or variable objects mentioned already above, and it offers an intuitively convincing semantic theory of the 'let'-clauses by means of which (as Fine sees it) mathematicians cause arbitrary objects to be called into being in their works⁸¹. The theory rests essentially on the insight that there may be certain relations of dependence between the arbitrary objects which such clauses cause to be introduced. Thus for example when the mathematician says, 'Let a be a real number and b an integer greater than a ', then both a and b are arbitrary numbers. There is however a dependence relation between them, in the sense that the variability of the latter is constrained by that of the former. While Twardowski and Meinong had philosophically clear and sophisticated theory of general objects, we find nowhere in their writings the suggestion that there are dependence relations among such objects. It turns out, however, that it is precisely this suggestion which is most crucial in the understanding of how the realm of general objects is structured and of how such objects may be manipulated, both inside and outside mathematics.

5. *Sachverhalt* vs. Judgment-Content: Twardowski, Immanence and Idealism

The theory of unification put forward by Twardowski in his *Content and Object* of 1894 is applied only to the objects of presentation, whether general or individual. Twardowski does not consider how the theory might be extended to apply also in the realm of judgment. On the contrary, he is concerned to insist that a judgment does not have a special objectual correlate of its own, even though it has a special content. What is judged in the strict sense is in every case the object itself, i.e. the object of presentation. Both judging and presenting

relate to an 'object which is presumed to be independent of thinking'. When the object is presented and when it is judged, in both cases there occurs a third item, besides the mental act and its object, which is, as it were, a sign of the object; its mental 'picture' ['image', '*Bild*'] when it is presented, and its existence when it is judged. One says of the mental 'picture' of an object and of its existence that the former is presented, the latter is judged. The proper object of the presenting and judging, however, is neither the mental picture of the object nor its existence, but the object itself. (1894, p.9, Eng., p.7)

In drawing the distinction between content and object for acts of presentation, Twardowski had broken not only with his teacher Brentano - whose immanence theory he criticises - but also with those philosophical idealists, still dominant in Germany, who had - with greater or lesser degrees of clarity - identified the objects of cognitive experiences with the corresponding immanent contents of consciousness. Objects, for the idealist, in so far as they are experienced and known, are quite literally located 'in the mind' of the knowing subject. Being or existence, too, is seen as belonging entirely to the sphere of consciousness. Windelband indeed defines idealism as 'the dissolution of being into processes of consciousness' (1900, p. 436n.). And for example Schuppe, in his *Epistemological Logic*, defines existence variously, as *perceivability*, as *presence to mind as content of consciousness*, as *real factual impression*, and so on⁸². The just-quoted passage from Twardowski suggests, however, that he, too, is still affected by this idealist theory, in so far as judgment is concerned. For the passage seems to tell us that for Twardowski, too, 'existence' - or '*the existence of the object*' - would refer, somehow, to something immanent in consciousness. It is as if the object would be taken up into con-

consciousness in this form when judged, just as it is taken up into consciousness in the form of an image when presented.

Older than German idealism, though intimately associated therewith, is the traditional 'combination of ideas' theory of judgment against which Brentano's original existential theory had been directed. The process of judging, according to the traditional theory, is exhausted entirely by what takes place in consciousness. The positive judgment is a conscious combining or connecting of certain concepts or presentations; or it is a consciousness of their connectedness or connectability within a single consciousness. The negative judgment, similarly, is a conscious separating or dividing of concepts or presentations, or a consciousness of their separation or separability. Here, too, then, there is talk of a kind of 'unification'. Positive judging is a unifying or synthesising of a plurality of separate concepts - above all of subject-concepts and predicate-concepts - in a way which generates a 'unitary positing' [*Ineinssetzung*] of a certain kind. This implies, however, that a positive judging is not essentially distinguished from the entertaining of a complex of concepts or the having of a complex presentation. This view, which had once been accepted as a matter of course by almost all philosophers⁶³, began gradually, and especially towards the end of the 19th century, to be recognised as problematic. How, for example, is it to account for existential and impersonal judgments like 'cheetahs exist', 'it's raining', and so on, for which, because the judgments in question seem to have only one single member, synthesis or unification would seem to be excluded⁶⁴? How does it cope with hypothetical and other judgment-forms, in which complex concepts or presentations seem to be present as proper parts, without however being judged? How, most importantly, can a conception of judgment as a purely immanent process be made compatible with the needs of the correspondence theory? This last problem had begun to seem urgent only with the gradual rediscovery and rehabilitation of realism in the last decades of the 19th century - for of course the idealist philosophers had been able to conceive correspondence as a relation between different parts of mind⁶⁵.

In the light of these and related problems even proponents of the traditional theory such as Sigwart and Lotze began seriously to doubt that the essence of the judgment could be exhausted by the idea of a unification or 'unitary positing' of different concepts or presentations. As Sigwart puts it, 'there is contained at the same time in every completed judgment as such also the consciousness of the objective validity of this unitary posi-

ting'⁸⁶. It is not enough, that is to say, that one brings specific concepts together and entertains them as unity; one must also, if one is to make a judgment, affirm or believe that there is something on the side of the object corresponding to the conceptual unity that has been produced thereby. The theory of conceptual unities must be supplemented, at the very least, by what in Fregean terms would be called a theory of assertive force. But must there not also, if the demands of the correspondence theory are to be met, be some attempt to come to terms with the objectual correlates of judgment themselves? Should the attempt not be made to establish what, exactly, this objectual something is, which gets 'posited as a unity' in the act of judging and to which 'objective validity' is ascribed?

Sigwart, while recognising clearly the role of this consciousness of objective validity in distinguishing acts of judgment from mere combinings and separatings of presentations, presents no coherent account of how we could move from this recognition to an understanding of what it is for a judgment to be true. Brentano, on the other hand, while conscious of the necessity of regarding the positing of existence as part of the essence of judgment - and in a position to state how this would lead to a coherent account of truth - still operated within a framework which did not clearly differentiate between content and object; he was therefore unable to grasp explicitly the need for a unitary correlate of the given kind on the side of the object⁸⁷. Twardowski, however, does take the decisive step of recognising a special object of the judging act, in addition to the judgment-content. In a letter to Meinong of 1897, he sketches a view according to which, not only in the case of presentations but also in the case of judgments, there would be something unitary both on the side of the act itself and on the side of the object. More precisely, Twardowski announces his plan of working out a 'theory of judgment' - a theory which would bring about a 'unification of the Brentano-Meinong-Höfler theory with that of Sigwart' - on the basis of the idea that it is possible to distinguish in relation to every judgment:

1. the *act* (affirmation or denial)
2. the *content* (the existing, being present, subsisting)
3. the *object* (the judged state of affairs, either an absolute datum, or a relation, or both together). (Meinong 1965, pp.143f.)

As example he gives the judgment 'two times two are four'. Here we distinguish: the act of judging - a certain affirmation; the

judgment-content - the existence (subsistence) of a certain equality; and the object of the judgment. Thus it is the object of an act of judgment, now, that is referred to as a *Sachverhalt*; the content of this act is rather the *existence* or *non-existence* of the *Sachverhalt*⁸⁸. We are still, however, in the dark as to what, precisely, this 'existence of' is supposed to portend, and as to how 'the existence of a *Sachverhalt*' could serve as immanent content of a judging act.

A quite different approach to the problem of content is put forward by Husserl in the second volume of his *Logical Investigations*. Here, too, Husserl distinguishes clearly between the immanent content of a judging act and the *Sachverhalt* as objectual correlate⁸⁹. On the side of the act, however, he goes further than Twardowski by distinguishing not only the immanent content but also, drawing on an older tradition, what he calls the *quality* of the act (as act of *judgment, question, doubt, assumption*, etc.), a moment of the act which may vary even though its content remains fixed⁹⁰. This immanent content, now, is understood neither in terms of images or pictures nor in terms of the peculiar functors of 'existence' and 'non-existence' but rather as that in the act which lends it directedness to an object, whether this be an object in the narrower sense or, as when we are dealing with acts of judgment, a state of affairs. The content is, in other words,

that element in an act which first gives it a relation to something objectual, and this relation in such complete determinateness that it does not merely precisely define the object meant, but also the precise way in which it is meant. The [content of this act] ... not only determines that it grasps the relevant object but also *as what* it grasp it, the features, relations, categorial forms, that it itself attributes to it. (LU V §20, p.B415, Eng. p 589).

Husserl distinguishes still further, however, between this immanent content and what he calls the ideal content, which is just the immanent content taken *in specie*. Where an immanent content can be brought to expression linguistically, then the corresponding ideal content is called by Husserl the *meaning* of the given expression⁹¹. Husserl's theory of linguistic meaning and of the structures of meanings is thus part and parcel of his theory of acts. The theory has built into its very foundations the idea of a parallelism of structure between (1) immanent contents on the level of our empirically executed acts and (2) ideal contents on the level of logic. Husserl is thereby able to account in a

very natural way for the fact that the laws of logic apply to actual thinkings, speakings and inferrings, and his theory may indeed be said to represent a synthesis of logical objectivism on the one hand and act-psychology on the other⁹².

Husserl goes beyond Twardowski, however, also on the side of the objects. For when Twardowski introduces the *Sachverhalt* 'as a relation, an absolute datum, or both together', he seems to take it for granted that this notion can be understood without further ado in terms of ontological categories which are already to hand. Husserl, in contrast, argues that the *Sachverhalt* constitutes a *sui generis* category of its own, enjoying a universality of scope no less absolute than that of *object*. The former is instantiated wherever true judgments can be made, the latter wherever there is the possibility of any sort of unity of reference in an act of presentation (so that the ontological universality of *object* and *Sachverhalt* would parallel the linguistic universality of name and sentence). Husserl hereby initiates also a new understanding of the discipline of ontology itself, within which the formal concept of *Sachverhalt* would be ranked alongside the formal concept of *object*, each subjected to a theoretical investigation in its own right. This Husserlian discipline of formal ontology was developed further by his disciples in Munich, and their work led in turn to a taxonomy of the different types of *Sachverhalte* corresponding, not only to the different types of empirical judgment but also to those other types of mental act - questionings, commandings, desirings, etc. - which are related to the act of judging⁹³.

6. Process and Product

Twardowski's own ideas on *Sachverhalte* were never published, and it was in fact only his earlier *Content and Object* which exerted any considerable influence outside the sphere of his most immediate disciples. It was this work, especially, which impressed Meinong, and it caught the attention of Husserl, who prepared a draft review of Twardowski's book in 1896⁹⁴. Husserl, like Meinong, seems to have been impressed above all by Twardowski's account of modifying adjectives, by his treatment - based on the work of Brentano and Stumpf - of the dependence relations among the marks of a concept⁹⁵, and by Twardowski's working out of the opposition between the formal and material moments of objects given in presentation⁹⁶. On the other hand, however, Husserl is critical of the psychologism running through Twardowski's work,

and Husserl's arguments against psychologism in fact receive a first run-through in his review of Twardowski.

Twardowski himself was sparked by Husserl's critique of psychologism in the *Logical Investigations* to revise his own earlier position. Thus in the paper "On Conceptual Presentations" of 1903, he calls into question his own earlier view of concepts, judgments and theories as purely psychological in nature. From talking of 'contents' of judgments, Twardowski moves to talking instead of 'propositions', advancing a view of propositions as entities relatively isolated from the domain of transient psychological phenomena.

Twardowski's reconsideration of his earlier views in the light of Husserl's criticism took a further turn, however, in his paper on "Actions and Products" of 1912. Here Twardowski draws back from the tentative Platonism of his 1903 paper to adopt an original form of naturalism, a view according to which not Platonic abstracta would serve as guarantors of the objectivity of meaning, but rather enduring concrete signs. Here, too, his work can be seen to have had fateful echoes in subsequent Polish philosophy.

Twardowski's aim in this paper is to demonstrate how not merely judgment but all classes of mental phenomena may, in given circumstances, give rise to specific kinds of products of their own, products which enjoy a certain durability and transcendence from the domain of transient acts⁹⁷. Twardowski distinguishes two kinds of process and associated product: the *mental* on the one hand, and the *physical* on the other. Thus 'thinking', 'deciding', 'wishing' designate mental processes; 'thought', 'decision', 'wish' the corresponding products; 'moving', 'falling', 'jumping' designate physical processes, 'movement', 'fall', 'jump' the corresponding products.

Among physical processes, now, we can distinguish as special cases what Twardowski calls *psychophysical* processes: these are physical processes, but in contrast, say, to fallings or rotatings, they are shaped and affected by a concurrent mental process in such a way that the latter have a determining effect also on the ultimate products. 'Screaming', 'lying' and 'promising' designate psychophysical processes in this sense, 'scream', 'lie' and 'promise' the psychophysical products to which they give rise⁹⁸.

Twardowski distinguishes further, now, among psychophysical products between what might be called *original* products on the

one hand and *substitutive* or *artificial* products on the other. It is as if we can distinguish, for each type of psychophysical product, a type of mental process that is appropriate to govern, shape and motivate the process as a whole. Original products are those whose production has indeed been governed by a mental process of the appropriate type. Substitutive products, on the other hand, are those whose mental process is inappropriate, falls short of completeness or is in some other way defective, or indeed entirely absent. Examples of such substitutive products are familiar from the theory of speech acts - they occur wherever sincerity conditions fail to be met, for example where I verbally promise to do X in the absence of any relevant underlying intentions. Twardowski himself refers to the example of the posture and gestures of an actor, which seem to express emotions he enjoys merely in imagination: 'an imagined emotion is a product which is a substitute for a genuine emotion, and the posture [of the artist in the drama] is likewise an artificial product, since it is not a real expression of emotion, but merely its assumed, pretended image.' (1912, p.23)⁹⁹.

We can distinguish further among physical products between the durable and the non-durable. Examples of the latter - jumps, gestures, screams, etc. - have been mentioned already. Examples of the former would be, say, hoofprints and stalagmites, but also drawings, writings, buildings, sculptures, and so on. Thoughts as such are not durable in this sense (so that when we say, for example, that the thoughts of the sage lived on, then what we mean is more properly that his actions caused dispositions to be inculcated in others which led them to produce thoughts in some way similar to those which he produced). Such durable physical products are, in Twardowski's terms, 'expressions' of the mental processes which produced them, and also of the corresponding mental products. Thus the sentence expresses the thought, the drawing expresses the image, the building expresses the plan, and so on.

It is at this point that Twardowski introduces his new, non-Platonistic conception of meaning:

Psychophysical products which express certain mental products are also termed 'signs' of those mental products, and the mental products themselves are termed their respective 'meanings'¹⁰⁰. Thus any mental product which bears to a psychological product the relation of being expressed by the latter is a meaning. We accordingly speak of the meaning of a cry, the meaning of a drawing, the meaning of a gesture, the meaning of a blush, etc. (1912, p.19f.)

A non-durable product may accordingly 'survive' by finding expression in a durable product to whose emergence it has in appropriate ways contributed. This occurs, most obviously, and most systematically, when a mental product is the meaning of that sort of durable psychophysical product which is a linguistic sign. The sign then survives as a 'durable partial cause' of the emergence of similar non-durable mental products in the future.

The thought or meaning, on this account, is not a durable item of worldly (or extra-worldly) furniture. It exists, rather, only so long as there exists some mental process which produces it. Even when no relevant mental process is taking place, however, then the meaning may still be said to exist potentially, or as we might also say, dispositionally, in the corresponding sign. This is because - providing certain background conditions are met - the sign as cause enjoys an enduring capacity to bring about the relevant transient meaning as effect. This, as Twardowski points out, explains our tendency to assert that the meaning is somehow 'included' or 'embodied' in the sign, and to speak of a 'fixing' in the sign of a non-durable mental product in a way that is in some respects analogous to the fixing of a sound by means of a phonograph record¹⁰¹. It explains also our commonsense assumption that our thoughts grow in complexity in tandem with our acquisition of successively more sophisticated rules of language. Systematic complexity in the world of signs may contribute to - is indeed quite literally a cause of - a parallel systematic complexity in the 'subjective' realm of meanings¹⁰².

The sign is not, then, inert, but has the mental product as it were held in readiness within it. Yet the successive meanings evoked by a given sign in different subjects and at different times are not, of course, identical. We can, however, since we all enjoy a roughly similar bodily constitution and apparatus of perception, roughly similar education, needs, wants, etc., assume that the causal histories which lead to the production of such successive meanings will be to a large degree similar. This will thereby hold also of these meanings themselves, given that similarity of process leads, *ceteris paribus*, to similarity of product. All of the various products evoked by a given sign will, in Twardowski's words, 'reveal a number of common characteristics... That is why we also say that a given statement evokes in various persons *the same* thought, whereas in fact it evokes as many thoughts as there are persons involved'. (1912, pp.22f.)

Communication and mutual understanding is possible, on this account, not because our words and sentences relate to Platonic

meaning-entities capable of being entertained simultaneously by different subjects, but because our words are able to evoke in others mental processes which are in relevant respects similar to those mental processes which they were used to express - and our understanding of what is written involves merely a deferred evocation of this sort¹⁰³.

Twardowski, like Brentano, is a psychological realist: he holds that there are mental acts, and that these mental acts have determinate forms and natures which are given in experience and are able to be grasped theoretically by the descriptive psychologist. There are, as it were, *natural kinds*, in the realm of mental acts, and the natural kinds in the world of signs - which are more public, and in some ways better understood - can be exploited in coming to grips scientifically with associated natural kinds in the world of mental acts and of their associated products¹⁰⁴. Naturally, of course, we shall have to distinguish carefully here between those uses of language which are, in our earlier terminology, *original* and those which are merely *substitutive* or *artificial*¹⁰⁵. Thus there will be cases where a linguistic expression is merely a sham expression of the corresponding act, cases of dissimulation, cases where language 'goes on holiday' in different ways and leaves behind the world of acts.

It follows, now, that we are quite right to suppose that we may learn what a person thinks by listening, with due care - for example in taking account of the other's tone of voice, facial expression, etc., in order to rule out substitutive cases - to what he has to say. And we are justified, too, in supposing that we may conceive of different persons' thoughts as causally associated with particular signs in a way that allows us to 'disregard the differences among them'. 'Meaning', accordingly, is ambiguous on Twardowski's view. On the one hand it means a specific mental product, tied to a given empirically occurring psychic process in some given subject. On the other hand it means the 'meaning of a sign', and 'meaning conceived in this sense is no longer a specific mental product, but something we attain by the operation of abstraction performed on given products'¹⁰⁶. The 'meaning of a sign', accordingly, is an abstraction from certain sorts of naturally occurring mental products (as, for Husserl, it is an abstraction from the immanent contents of our language-using acts)¹⁰⁷.

Even when allowance has been made for the presence of substitutive uses of language, however, there remain a number of

difficult problems standing in the way of such abstraction, both on Husserl's account and on that of Twardowski:

I. A sign may be, firstly and most trivially, ambiguous, so that it is associated with two or more parallel classes of similar mental products (with two disjoint natural kinds) on the part of those who use it.

II. Signs occurring naturally must occur in every case in some context or other. The same sign will yield different mental products in grammatically different sorts of contexts, and it will interact differently with different accompanying signs¹⁰⁸. Twardowski, we may say, in laying too much stress on what might be called the vertical relations between individual signs and associated mental processes, has ignored the horizontal relations among these signs themselves - relations in virtue of which the associated processes will condition each other mutually. Some-times one sign will, when used in combination with another, succeed in abolishing entirely the normally expected meaning of the latter, as in phrases like 'cancelled performance', 'forged bank-note', 'missing link', and so on¹⁰⁹.

III. Mutual understanding is of course possible even in the absence of agreement in judgments. Thus B may understand what A asserts even when B is not himself disposed to assert it, so that there is no judgment in B at all, and therefore also no straightforward similarity of A's and B's respective acts. Husserl solves this problem by recognising that the *contents* of two acts may be in relevant respects similar though their *qualities* conflict. The relation between the two respective processes may perhaps be understood from a Twardowskian point of view as follows: B engages not a process of judgment, but a process of presentation of A's judgment; at the same time, however, in order to *understand* A, B must grasp what it is like to judge in the way that A is judging; he must, as it were, imagine himself *in A's place* and as judging as A is judging. Understanding another's judgment is therefore in these circumstances an empathetic process - a conclusion which might have been inferred from the importance of such processes in our understanding, for example, of works of narrative art.

IV. Problems are raised for Twardowski's theory, as for that of Husserl, by indexical uses of language. Thus suppose A says to B, 'I am hungry'. It would clearly be wrong to hold that the meaning evoked in B by A's use of 'I' is similar to that which B invokes in himself by his own uses of what is, ostensibly, the same sign. It is not, however, as if there obtained no

relation at all in such circumstances between the respective acts (and products) of A and B. Perhaps, again, the notion of empathy can be appealed to here. Thus, it seems that whenever B understands A's 'I', then it is a part of B's experience that he presents himself as *in A's place*, and presents to himself an act as if in A which would be similar to his own straightforward act of meaning 'I'¹¹⁰.

For all its problems, however, the act-based theory of meaning hinted at by Twardowski has a number of advantages as compared with both Platonism and those different sorts of reductionistic theories which would seek to understand language either in terms of specific sorts of overt human behaviour or in terms of publicly observable phenomena such as 'air-vibrations' or 'marks on paper'. Above all Twardowski's doctrine cuts finer, and more delicately, through the spatio-temporal world than do other, less careful treatments of 'thought' and 'content'. It is preferable to Platonism in that it appeals exclusively in its account of language use and of communication and understanding to perfectly ordinary spatio-temporal entities - speakers, readers, their acts and actions and various different sorts of products of these acts and actions. It is preferable to behaviourism or materialism, on the other hand, in that it is able to cope with the fact that we use language not only in writing or speaking but also in silent thinking, and that language so used has a meaning not essentially different from the meaning it has when used overtly.

7. Science and Logic

Twardowski's theory of process and product has implications beyond the philosophy of language, however. Thus it may be used to generate a new understanding of logic as the science which would investigate precisely the different kinds of products of those mental processes we call judgments, inferences, deductions, etc., where psychology would be confined to the investigation of the given mental processes themselves. The theory can be applied also to actions and products outside the narrowly cognitive sphere. Thus it applies to the sciences of law and of social action in general, and Twardowski's work here is in some respects parallel to the work on the theory of speech acts and other social acts by Austin, Searle, etc., as also by Husserl's disciples in Munich¹¹¹. There, too, the important step came with the recognition that there are enduring entities of special sorts - for example contracts, claims, obligations - which are produced by

certain psychophysical processes of speaking and writing and which are subject to special laws of their own.

Clearly, too, the doctrine of durable psychophysical products and of the systematic ways in which such products may invoke mental processes in others may have implications for our understanding of the nature of works of art and of aesthetic experience. The influence of Twardowski's theory of actions and products may indeed be detected in the work of his - somewhat estranged - pupil Ingarden¹¹².

The distinction of process and product can be applied also to the understanding of science, in a way which will recall ideas subsequently taken up by other members of the Lvov-Warsaw school. The disciplines of science were initially conceived by Twardowski in psychologistic fashion, as collections of judging acts or of dispositions to such acts. His paper of 1912, however, suggests a view of scientific disciplines in terms of the durable products of judging acts¹¹³, a notion which finds echoes in Leśniewski's view of his own logical systems as collections of concretely existing marks¹¹⁴.

Twardowski's mature ontology is, certainly, in the spirit of Leśniewski, Kotarbiński, and their followers in the sense that his concessions to Husserlian anti-psychologism do not involve him in embracing *essences*, *ideal meanings*, or other Platonic entities. Twardowski is, however, at odds with some of his successors in the Warsaw school in his strictures - very much in the spirit of Husserl - as to the dangers of exclusive or merely mechanical use of symbolic methods in the solution of philosophical and other sorts of problems. Thus, as we have seen, Twardowski distinguished between 'artificial' or 'substitutive' psychophysical products on the one hand and 'original' products on the other. Logic, too, involves the use of artificial products, products resting not on judgments actually made, but on judgments merely imagined. This occurs for example when the logician wishes to give an example of an inference which is formally correct but involves propositions which are in fact false. It occurs most pervasively, of course, where the logician uses symbols of an 'artificial' language, i.e. a language in the formulae of which no actual judgments would or could be expressed¹¹⁵.

Of course, much of logic (as also of mathematics) requires in practice the blind manipulation of symbols in order to obtain its results. As Twardowski points out, however, in his paper "Symbolomania and Pragmataphobia" of 1921, if such manipulation is to be justified, then it must be established not merely that

our symbolism is in conformity with the concepts and objects that we wish to represent, but also that this conformity is preserved through the successive stages of manipulation - that we have not, in our manipulations, departed from the world of things¹¹⁶. Otherwise, the formalist logician's

tendency to place symbols above things may result in bending things to comply with symbols, that is, making statements about things according to what follows from symbol-based assumptions and operations, regardless of what things tell us about themselves, or even contrary to what they tell us about themselves. (Twardowski 1921, p.5)

Mental processes ought, as it were, be guiding the successive stages in the process of production, to ensure that a meaning of an appropriate kind is capable of being bestowed upon its products and thereby also ensure that these products do not depart from the world of things. Some psychophysical products are produced in absence of an adequate accompanying mental process (or of any mental process at all). This is the case, for example, when we lie, or otherwise dissimulate. Hence natural languages, too, may be used 'substitutively' in Twardowski's sense. But it is the case also when the logician or mathematician, by operating on the basis of more or less arbitrarily selected hypotheses, succeeds merely in churning out formulae whose value is at best aesthetic¹¹⁷.

It might, now, be supposed that Twardowski's critical article of 1921 was directed against certain apparent excesses of his apostate pupil Leśniewski. Against this, however, it must be said that Leśniewski started using symbolism in his lectures only in 1920, and in his published work only much later. Certainly there are a number of respects in which Leśniewski might be accused of having gone beyond the bounds of what would normally count as intuitively acceptable (of what would be capable of 'original' judgment in Twardowski's terms). Thus, taken together with the fact that Ronald Reagan and certain red things exist, it is a consequence of the axioms of Leśniewski's mereology that there is a single object which is the sum of Ronald Reagan and all red things in the universe. Leaving such cases aside, however, we can say that the spirit underlying Leśniewski's approach to his systems is very much in line with Twardowski's anti-formalistic exhortations. Thus Leśniewski was from the start suspicious of purely formalistic conceptions of logical systems, and he held that the business of the logician is above all that of producing formal theories which would be true to the world of

things¹¹⁶. If, however, the axioms and theorems of a formal theory are to be true, then it must follow that they are capable of expressing judgments which are 'original' in Twardowski's sense. Hence Leśniewski was careful, in constructing his theories, to begin always with ordinary language formulations of his ideas which would be both generally intelligible and generally acceptable as true. He was careful also, in formulating his 'directives' for the manipulation of the resultant formulae that they should lead always, and evidently, from truth to truth. Hence, even though some of the more complex formulae yielded by the application of these directives might be non-original from Twardowski's point of view, the manner in which these formulae have been generated ensures, in Leśniewski's eyes, that they are at least in principle capable of expressing original judgments, if the power of our mind were only sufficiently great. This is consistent with Leśniewski's view that languages, both natural and artificial, are *tools* which may be used to take our thoughts further than they would otherwise be capable of going.

But such thoughts, if they are to be true, must in some sense be *caused* by the things in reality that make them true. In the introduction to his "On the foundations of mathematics", Leśniewski speaks of the 'states of intellectual torment when faced with reality' and of 'states flowing from an irrefutable, intuitive necessity of believing in the "truth" of certain assumptions, and in the "correctness" of certain arguments'¹¹⁹. He clearly held that logic, mathematics and science should begin with such 'intuitive necessities', and he rejected the idea that 'non-intuitive' or merely manipulative methods might lead to the solution of problems where intuitive methods had failed. On the other hand, however, he did not have a theory of 'intuition', and of the way in which our judgments about reality may be evoked by this reality itself. As he wrote in his *Foundations of a General Theory of Manifolds*, published in Moscow in 1916:

The psychological source of my axioms are my 'intuitions', which simply means that I believe in the truthfulness of my axioms, but I am unable to say why I believe in this, because I am not an expert on the theory of causality. (p.6)

8. Epilogue: From Psychology to Logic

It might be useful, in conclusion, to lay out in summary fashion the steps which led on the one hand to Husserlian formal ontology, and on the other hand to the modern truth-functional conception of logic, concentrating particularly on the contribu-

tion made to both developments by Bolzano, Brentano, Twardowski and their respective students.

1. Brentano, in 1874, effected what is almost certainly the first clear psychological differentiation of *judgment* and *presentation*. Certainly Bolzano and others had earlier done much of what was necessary to effect a clear *logical* distinction between the two (or rather between what Bolzano referred to as 'propositions in themselves' and 'presentations in themselves'). Bolzano's account of the underlying psychology is however far from clear¹²⁰, and in this he is no more than conforming to the standards of his psychologist and non-psychologist predecessors¹²¹. The logical distinction between judgment and concept had been familiar, certainly, to medieval philosophers, but it had been subsequently lost. Contemporaries of Brentano such as Schröder and Peano pointed out the difference in their work, but hung onto the parallels in their symbolisms. Frege's *Begriffsschrift* (§2), too, still retains elements of the traditional conception of judgment as a matter of the combination of ideas', though this is outweighed by a sophisticated theory of that moment of assertion or affirmation which is characteristic of the judgment as Frege conceives it. Note that Frege's moment of assertion, in contrast to the 'affirmation or denial' of the Brentanian theory, is always positive, and the view that negation belongs properly to what Frege called the judgeable content, rather than to the quality of the act of judging itself, a view accepted also by Husserl and Reinach, has since established itself quite generally among logicians¹²².

2. Stumpf, in lectures of 1888, called attention to the need to recognise, in addition to the content of a presentation, also a special *judgment-content*, to which he gave the name '*Sachverhalt*'. Hence the latter is, for Stumpf, a special kind of *content* and not, as it later became, a special kind of transcendent *object* (though of course neither he nor his mentor Brentano would at this stage have recognised a distinction here). This explains why, given the parallels between the Brentanian immanent content and the Bolzanian ideal content or 'proposition in itself', the theory of *Sachverhalt* put forward by Stumpf (and Marty) should have been so readily associated with the Bolzanian theory¹²³.

3. Twardowski, in 1894, following on from Bolzano, Zimmermann, Kerry and Höfler¹²⁴, pointed out the need to distinguish the object of an act from its (immanent) content. The act of judgment is seen by Twardowski, at this stage, as having a spe-

cial content of its own, but as inheriting its object from the relevant underlying presentation.

4. Three years later, Twardowski went further and pointed to the need to recognise a special unitary judgment-object; he thereby effected a generalisation of the content-object distinction to the sphere of judging acts. Here, too, Twardowski's move was not without its predecessors¹²⁵. It is however clear, that the recognition of a psychological and a logical distinction between presenting and judging has been to a large extent independent of the marking of a corresponding distinction on the side of the object. Not everyone took this separate, ontological step, and some (e.g. Frege and Russell) took it half-heartedly¹²⁶. With the appearance of Husserl's *Logical Investigations* at the turn of the century, however, the acceptance of the *Sachverhalt* as objectual judgment-correlate found wide acceptance not only among philosophers in Germany but also among psychologists and mathematicians such as Oswald Külpe, Otto Selz and Herman Weyl¹²⁷.

5. Another distinction anticipated in some degree by Bolzano is that between immanent and ideal content of a mental act. The ideal content of an act of presentation might be called a concept; the ideal content of an act of judgment might be called a proposition. Bolzano used the terms 'presentation in itself' and 'proposition in itself' (as opposed to 'subjective presentation' and 'thought' or 'judgment'); Frege spoke of '*Gedanke*' and '*Sinn*'¹²⁸. The significance of this opposition and the importance of the parallelism between the two sorts of content was, however, not clearly recognised before Husserl's *Logical Investigations* of 1900/01. This is because Bolzano, like Frege and his successors in the analytic tradition, in tending to leave aside questions of psychology, thereby left themselves in a position where they were unable to do justice to the relations between ideal contents and our thinking acts themselves. The applicability of logic to empirical thinkings and inferences is thus rendered all but inexplicable - an outcome which further reinforced the initial aversion to psychology. Brentano, on the other hand, and more orthodox Brentanians such as Marty and Kraus, tended to the opposite error: because they feared the 'Platonism' of ideal contents, their treatment of logic has been less than successful and therefore so also has been their treatment of the specifically logical properties of our mental acts.

The significance of the move to a concept of proposition as ideal or abstract entity, whether in Husserl's, in Bolzano's, or

in Frege's sense, will be clear. Above all, it made possible a conception of propositions as entities capable of being *manipulated* in different ways in formal theories - a conception which is not the least important effect of the anti-psychologistic movement in logic at the turn of the century. In just the way that Cantor had shown mathematicians of an earlier generation how to manipulate sets or classes conceived in abstraction from their members and from the manner of their generation, so the new generation of logicians was able to become accustomed, by degrees, to manipulating propositional objects in abstraction from their psychological roots in acts of judgment.

6. Another dimension to which the orthodox Brentanians did less than justice might be called the dimension of *logical grammar*. Here the crucial move consisted in the recognition that acts of judgment are distinguished from acts of presentation not only by the presence of a moment of assertion or belief, but also - on the level of grammar - by a special ('sentential', 'propositional') *form*, just as the *Sachverhalt* is distinguished in its ontological form not only from objects in the narrow sense but also from properties, relations, and so on. That which gets affirmed or asserted in a judgment must have a certain inner complexity, must, as one says, be 'propositionally articulated'. This is marked by the fact that the linguistic expression of a judgment must contain a verb - with all that this implies in the way of tense and aspect modifications. It must be capable also of modification by logical operators such as negation, conjunction, etc., as well as by modal operators such as 'it is possible that', 'it is necessary that', and so on¹²⁹.

Certainly Frege is responsible for some of the most important advances in our understanding of logico-grammatical form. It is ironical, however, that in his conception of sentences as special sort of names¹³⁰, he is, as far as the logico-grammatical treatment of the peculiarities of judgment is concerned, no further advanced than was Brentano. Here, again, one has to look to Bolzano in order to find truly coherent anticipations of the idea of propositional form in the modern period¹³¹, but the idea of a logical grammar, of a formal theory of the *categories* of linguistic units and of the categorial laws governing the combination of such units, was first put forward by Husserl in his IVth Logical Investigation¹³². This work influenced in turn the development of the theory of semantic (later 'syntactic') categories by Leśniewski and his successors in Poland¹³³.

Husserl, be it noted, pursues his logical grammar not by reading off empirically existing categories from known languages (whether natural or artificial), but by building up his theory on the basis of more abstract considerations relating, for example, to the opposition between simple and complex, categorematic and syncategorematic, defective and non-defective uses of language¹³⁴. His treatment of the more specific opposition between name and sentence is to be found elsewhere, in the fourth chapter of his Vth Logical Investigation, where he deals with the different modes of intentionality associated with different forms of language use. Leśniewski's theory, in contrast, takes as its starting point the pre-established opposition between name and sentence, and the same applies also to the logical grammar hinted at by Wittgenstein in the *Tractatus*¹³⁵.

7. One further distinction, here mentioned only in passing, is that between an episodic *act* of judgment and an enduring *state* of conviction or belief, Brentano did not see the need to draw this distinction and the same holds for his more immediate disciples, including Twardowski, as also for the British empiricist psychologists who inspired him. Thus Brentano's term 'judgment' comprehends indiscriminately both episodic assertions and enduring attitudes of belief or disbelief, and 'presentation', too, is subject to a similar ambiguity. It is this ambiguity which allows Brentano to regard the two sorts of phenomena as united together in perception, which he defines as a judgment founded on an intuitive presentation as its basis. A perception, on this view, is the intuitive having of an object, combined with an attitude of belief or acceptance of this object as existing¹³⁶. For one might otherwise be disposed to rule out any intimate union of judgment and intuitive presentation in view of the quite different temporal structures which seem to be characteristic of each. The judgment, as we might normally suppose, is an episodic *act*, intuitive presentation, on the other hand, is a *process* stretching through time¹³⁷.

Almost all logicians of the 19th century were, however, prepared to identify *judging* with *holding true*¹³⁸, an error that is manifested also in the modern analytic philosophical terminology of 'propositional attitudes', as also in the confusing analytic notion of 'entertaining' a proposition. Where, therefore, we have talked above of Brentano's or Twardowski's theory of 'acts', we ought more properly to have retained a more neutral terminology of 'phenomenon' or mental 'process' or 'activity'. True clarity in this respect seems to have been first achieved by Reinach in his already mentioned "Theory of Negative Judgment" of 1911. In-

terestingly, Reinach argues that, where the Frege-Husserl theory of assertion as a single positive moment of 'force' or 'quality' common to all judgments is correct for episodic judging acts, when we move over to deal with enduring states of conviction, then the Brentanian theory of affirmation and denial is more appropriate¹³⁹.

As will be clear, all the above developments are of more than merely historical significance: each represents a hard-won conceptual clarification with systematic importance in its own right. With the passage of time, however, many philosophers have come gradually to take for granted the distinction in question, with the consequence that they have ceased to reflect on why it is that these distinctions are important, and so have succumbed, by degrees, to the temptation to ignore them.

Notes

¹ I am grateful to Audenius Leblanc, Czesław Lejewski, Dieter Münch, Karl Schuhmann, Peter Simons and Jan Woleński for helpful comments on an earlier version of this paper.

² Woleński (*forthcoming*) is now the standard history of the Lvov-Warsaw school. On Twardowski's teaching see Skolimowski (1967, pp.26f.), who refers to Twardowski's 'Spartan drill'; see also Czeżowski 1939/46, esp. p.16, and Czeżowski 1960.

³ The teachers at the Theresianum at this time included Alois Höfler, later collaborator of Meinong and editor of Bolzano's works. It seems, however, that Twardowski did not attend any of Höfler's courses.

⁴ See Winter, ed, 1975. A parallel current of logical objectivism was fostered in Germany at about the same time by Hermann Lotze, whose students included *inter alia* Marty, Stumpf, Frege and Windelband. Cf. Morscher 1972.

⁵ For further details of Twardowski's studies in Vienna, see Dąbska 1978.

⁶ See Meinong 1899, Grossmann 1974, pp.48-53, 106-11.

⁷ Logic and Metaphysics, Aesthetics, Philosophical Seminar.

⁸ Cf. e.g. Brentano 1924/25, vol. II, p.39n, Eng. p.202n.

⁹ See Meinong 1904, pp.489, 494 of repr.

¹⁰ This meant that, like the Jagiellonian University of Cracow, itsuniversity enjoyed a rather liberal and tolerant atmosphere.

Thus Poles were allowed to study and to be taught by their own lecturers and professors, where 'in the other parts of partitioned Poland they were engaged in a most savage struggle for national and economic survival'. (Jordan 1945, p.39)

¹¹ On Twardowski's influence see, again, Woleński (*forthcoming*).

¹² See e.g. Ajdukiewicz 1978, p.348 and the paper by G. Küng in this volume.

¹³ See Smith 1987a.

¹⁴ See e.g. Jordan 1945, p.38.

¹⁵ Łuszczewska-Romahnowa 1967, p.155, as quoted in Schnelle, p. 90. See also Dąmbska 1978.

¹⁶ See e.g. his 1969.

¹⁷ Leśniewski mentions also the Munich philosopher Hans Cornelius, whose 1894 is concerned principally with the doctrines on existential *judgments* of Brentano and his followers. Leśniewski had in fact studied with Cornelius in Munich in 1909/10, taking courses also with Alexander Pfänder (Logic and Theory of Knowledge) and with Moritz Geiger (Seminar on the Philosophy of Mathematics).

¹⁸ From a wide selection of more recent works one might mention: Borkowski 1985, Suszko 1968, Stonert 1964 and Wolniewicz 1985.

¹⁹ See Łukasiewicz 1913, e.g. p.37, and also Łukasiewicz's discussion of the 'objective' in his 1910, dealt with at length by P.M. Simons in his paper in this volume.

²⁰ Cf. Tarski 1956, p.155, n.2, and the paper by Simons and Woleński in this volume.

²¹ Cf. Skolimowski 1967, pp.39-52.

²² See e.g. the remarks by Kotarbiński in his 1966, pp.210f.

²³ See the Prefaces to his 1931; compare also Ingarden's critical writings on Husserl's idealism, above all his 1929.

²⁴ Jordan 1945, p.35.

²⁵ This leaves out of account the rather more traditional ideas set forth in Brentano's early Würzburg lectures on metaphysics, presently in process of being edited by W. Baumgartner.

²⁶ See, above all, the newly published *Deskriptive Psychologie* of 1982. Note that Brentano's realism is manifested also in his life-long sympathy for the Aristotelian philosophy, and in his

uniformly negative, not to say disparaging, attitude toward the German idealist philosophers - an attitude shared, incidentally, by Bolzano.

²⁷ See Brentano 1982, Pt. I, ch. II, Pt. II, chs. I and II; Stumpf 1873, ch. V; Husserl's 3rd Logical Investigation, etc.

²⁸ This is first of all because Brentano's work in this period is centered so heavily around problems of psychology. But it reflects also a methodological view, derived from Comte, to the effect that science should concern itself exclusively with 'phenomena' and not with any associated 'metaphysical realities'. See Brentano 1867 and Münch (*forthcoming*). The view that psychology (and logic) are to be pursued without concern for metaphysics is defended also by Höfler (1890, §6). In his 1907, however, Höfler does go on to provide an account of the relation between mental phenomena and metaphysical realities, propounding a variant of the causal theory of perception.

²⁹ This term translates the German '*Vorstellung*', more usually rendered into English as 'idea'. 'Presentation' has the advantage that it has convenient verbal and adjectival forms. Moreover, as a technical term, it lacks some of the more misleading connotations of 'idea', and is above all less likely to foster the confusion - so prevalent among the British empiricists - between the act or process of presenting on the one hand and the content or object that is presented on the other.

³⁰ Reading back here the ideas set forth by Brentano in volume III of the *Psychologie* (1928). See also Kerry 1885/86 and part II of Husserl 1894.

³¹ See *Psychologie*, vol. I, pp.112, 124f., Eng. pp.79f., 88f.

³² *Psychologie*, vol. II, pp.127f., Eng. 266f.

³³ *Psychologie*, vol. II, pp.56f., Eng. pp.213f.

³⁴ *Psychologie*, vol. II, p.38, Eng. p.201.

³⁵ On the history of *Sachverhalt*-ontologies see Smith 1988a. On Stumpf and Marty in particular see Smith 1988.

³⁶ See Fabian and Simons 1986, p.39. Lotze, again, through his philosophy of '*Geltung*' or 'validity' provoked a similar series of investigations of value at about the same time in Germany.

³⁷ The Brentanists' goal of producing a general theory of values was inspired in part also by work on economic value by contemporary economists in Austria. See Grassl 1982, Grassl and

Smith, eds. 1985, and the references there given. On Brentano's theory of value in particular, see Chisholm 1986. On Husserl, see Roth 1960.

³⁸ See e.g. his 1904 and 1906/07.

³⁹ Ingarden 1938, p.258, quoted in Schnelle 1982, p.99.

⁴⁰ 1889, §57. See also Szrednicki 1965, p.25. Here, perhaps, we see the germ of Brentano's later view according to which truth has to be elucidated epistemically. See parts III and IV of his 1930.

⁴¹ See, again, Morscher 1972.

⁴² 1889, §50. Here and in what follows the translation has been amended. Above all I use 'reality' for '*Realität*' and cognate expressions, where Brentano's translators normally translate all such terms as 'thing'.

⁴³ '*Wirken*' = to have effects: see Marty 1908, §66. Marty was here almost certainly inspired by Lotze, who influenced Frege in this respect also. This seen for example in Frege's use of the terminology of the '*objektiv Nichtwirkliche*' in relation to abstract objects in his *Grundgesetze* (p.XVIII).

⁴⁴ See, again, 1924/25, vol. II, p.39, Eng. p.202.

⁴⁵ Other types of multi-categorial ontology were developed also: for example Frege's ontology of objects and functions, set-theoretical ontologies embracing sets and *Urelemente*, Platonistic ontologies (such as those propounded by Gustav Bergmann and his school) embracing particulars, properties and relations, and so on.

⁴⁶ Twardowski refers here to Marty 1884, pp.171ff.

⁴⁷ 1894, p.36, Eng. pp.33f.; trans. here and in what follows amended slightly.

⁴⁸ Łukasiewicz and Czeżowski both defined truth in this way in papers in 1900-1920. Łukasiewicz however adopted the Fregean definition in his "Two-Valued Logic" of 1921.

⁴⁹ See his 1889, §55.

⁵⁰ Consider, for example, the sentence 'Hans just now became a father'. Clearly, the event which took place some minutes ago and which makes the given sentence true may be such that it does not involve Hans himself at all; Hans may indeed be entirely ignorant of the fact that it has occurred.

⁵¹ This thesis was considered already by Aristotle. See *Cat.* 4 a 10 - 4 b 19, 14 b 12-23. Cf. also *De anima*, 428 b 7f., and Aquinas, *De veritate*, q. 1, a. 5 and 6 and q. 14, a. 12.

⁵² See his 1976, pp.105f. On the issue of relative vs. absolute truth see also Kokoszyńska 1936, 1948, 1951; Künné 1987.

⁵³ *Wissenschaftslehre*, §§125, 23.

⁵⁴ See his 1918, pp.10f.

⁵⁵ See e.g. 1905, p.45, where Russell criticises the assumption that 'denoting phrases stand for genuine constituents of the propositions in whose verbal expressions they occur'.

⁵⁶ On the influence of Twardowski's views in this respect see Kotarbiński 1913, Leśniewski 1913b, and the paper of Simons and Woleński in this volume.

⁵⁷ See e.g. his 1922/23, p.126.

⁵⁸ See Borkowski 1981.

⁵⁹ KrV, A 99.

⁶⁰ See e.g. Köhler 1947, pp.120f.

⁶¹ 1894, p.103, Eng. p.98. Cf. Heyer 1985, 1987.

⁶² Twardowski 1894, p.105, Eng. p.100. We might say also the general lion shares the *form* of any actual lion. See Ingarden 1964/65, vol. I, p.219.

⁶³ See Meinong 1915, §25, Grossmann 1974, pp.175ff., 206ff.

⁶⁴ The idea of general or incomplete objects might be employed also in providing an understanding of the way in which computer programmes handle variables as entities to which specific values are assigned in succession when the programme is run.

⁶⁵ See e.g. Sec. 17 of the "Introduction" to the *Principles*.

⁶⁶ 1894, pp.106f., Eng., pp.101ff. Cf. *De anima* 431 a 16. This law was accepted also by Husserl: see e.g. LU VI §27.

⁶⁷ 1894, p.106, Eng. p.100. Twardowski is here following Benno Kerry (1885/86) on the 'psychic processing' of intuitive presentations, who was in turn influenced by Cantor and Bolzano, as also by the doctrine of the indirect presentation of attributes put forward by Meinong (1882, pp.84, 96) and by Höfler's theory of 'psychic work' (Kerry 1885/86, p.437 and Höfler 1890, §§15, 26 and 1895). The idea of 'psychic processing' is present also in

Husserl's early works and also underlies the so-called 'production theory' of Meinong's psychologist disciples in Graz.

⁶⁸ Twardowski 1894, p.99, Eng., p.94. Cf. Kerry 1885/86, pp. 447f.

⁶⁹ Twardowski 1894, p.108, Eng., p.103. Cf. e.g. *Discourse de la metaphysique*, §§24ff; Husserl 1979, p.21.

⁷⁰ Cf. Ingarden's theory of quasi-judgments in §§25f. of his 1931.

⁷¹ 1915, §29. Cf. Grossmann 1974, pp.206-20.

⁷² On Twardowski's influence on Kotarbiński, see my 1987a.

⁷³ Łukasiewicz 1913, pp. 40, 47.

⁷⁴ Cf. Mulligan 1987.

⁷⁵ See Frege 1898/99, p.160 and compare Fine 1983, p.70.

⁷⁶ This development led, by degrees, to Russell's view that a logically proper name must be a meaningless analogue of 'this' or 'that'.

⁷⁷ LU II §11.

⁷⁸ Thus Leśniewski tells us that his argument applies to 'the "general objects" appearing in various systems, whether as "concepts" in the sense of ancient or "medieval" "realism", or as Locke's "general ideas", or as Professor Twardowski's "objects of general presentations", or as Husserl's "ideal" objects existing "outside of time"' (1913, p.319, cited according to p.46, n.36 of the translation of Leśniewski 1927/31). Cf. also the summary in Kotarbiński 1920.

⁷⁹ This is contrasted with the logical principle of excluded middle which asserts that *at least one of two contradictory propositions must be true*, a principle which Leśniewski, in his early works, rejects. Łukasiewicz, too, draws a distinction in his study of Aristotle of 1910 between the *ontological principle of contradiction* (the same attribute cannot at the same time belong and not belong to the same subject and in the same respect - *Met.*, 1005 b 19f.), the *logical principle of contradiction* (contradictory statements cannot at the same time be true - *Met.*, 1011 b 13f.), and the *psychological principle of contradiction* (it is impossible for any one to believe the same thing to be and not to be (*Met.*, 1005 b 23f.)). Leśniewski appears here to have adopted Łukasiewicz's terminology: see 1913, pp.316f. (with a reference to Łukasiewicz).

⁸⁰ See Fine 1983, 1985, and compare also the papers by Santambrogio listed below. Santambrogio, in some respects more faithful to Twardowski, begins not, like Fine, with the relation between the arbitrary object and the individuals which are its 'values', but rather with the notion of *indefinite description* and with the assumption that to every indefinite description there corresponds some one 'generic object'. One can then define a partial order relation among generic objects according to their relative 'degree of definiteness' (as *bald Polish logician*, for example, is more definite than *logician*). This enables Santambrogio to mimic certain aspects of the old doctrine of *species infimae*, and even to define what it is for an object to be individual in terms of the generic objects ~~sense which is~~ *compositedis* in some

⁸¹ Compare, on this, Husserl 1894a, §§7f.

⁸² Schuppe 1878, pp.49f., 79f., 167.

⁸³ See e.g. Aristotle, *De anima* III, 6 (430 a 27f.) also *Met.* 1027 b, 1051 b, *De int.* 16 a 9ff.; Wolff *Philosophia rationalis sive Logica* (1728), §40; Kant, *Logik* (1800), §19; Herbart, *Lehrbuch zur Einleitung in die Philosophie* (1813), §§52f.

⁸⁴ Cf. from a huge literature, Schuppe 1878, ch. XII; Sigwart 1888; Marty 1884, 1895; Cornelius 1894; Brentano 1889, §32; Reinach 1911, §12 of trans.

⁸⁵ See e.g. Schuppe 1878, pp.649f.

⁸⁶ Sigwart 1873, I, p.77. See also Lotze 1880, pp.57f.; Ueberweg 1882, p.189; Marty 1884, p.162.

⁸⁷ Meinong, too, while drawing a clear distinction between object and objective, drew no unequivocal distinction among objectives between judgment-content on the one hand and judged objectual correlate on the other, and a similar unclarity is present also in the work of Stumpf and Marty. See Smith 1988a and the references there given.

⁸⁸ This phraseology will recall Wittgenstein's treatment of positive and negative facts in the *Tractatus* (2, 2.06, 2.062, 2.11, 2.201, 4.1, 4.21, 4.3).

⁸⁹ See his 6th Logical Investigation, §§28, 33, 39. See also Husserl 1979, p.337 (written in 1894), which seems to have been Husserl's first and still tentative use of '*Sachverhalt*'. By 1898, Husserl is using the term without further ado (see *op. cit.*, p.340)

⁹⁰ LU V 20. Here Husserl extrapolates from Brentano, who had defined the content of an act of judgment as the totality of presentations on which it rests, its quality as the affirmation or rejection of this content. See Stumpf 1924, p.240. For 'content' Husserl uses 'matter'. Here we recall Frege's doctrine of assertion, as also the distinction propounded by Austin and Searle between propositional content and illocutionary force. See e.g. Searle 1983, ch. 1.

⁹¹ LU VI §§16f., 20. See Mulligan and Smith 1986 for a more detailed treatment.

⁹² See Willard 1984.

⁹³ Perhaps the single most important pre-Tractarian contribution to the literature on *Sachverhalt* is the essay "On the Theory of the Negative Judgment" by Adolf Reinach, a leading member of the Munich group whose lectures in Göttingen were attended *inter alia* by Ingarden and Ajdukiewicz. Cf. Mulligan, ed. 1987 and Schuhmann and Smith 1987.

⁹⁴ See Husserl 1894/96. The important paper "Intentionale Gegenstände" (1894a) was also sparked by Husserl's attempts to come to terms with Twardowski, and it is in this paper that Husserl first puts forward his doctrine - comparable in some ways to Russell's theory of descriptions - of intentional objects of presentation. See Mulligan 1987.

⁹⁵ Twardowski 1894, pp.51, 65, Eng. pp.49, 61; see also Höfler 1890, §15.

⁹⁶ Twardowski's ideas here anticipate many of the most important distinctions made by Husserl in his own 3rd Logical Investigation on the theory of parts and wholes, though Husserl is more sensitive than Twardowski to the dangers resulting from a view of formal relations as 'real moments' of the things. See Husserl 1979, p.354; LU III §22.

⁹⁷ On the Husserlian influence on this paper see Schnelle 1982, p.117 and Ingarden 1938, p.261. Twardowski's sub-title - "Comments on the Border Area of Psychology, Grammar and Logic" - recalls also the already-mentioned piece by Marty on "Subjectless Sentences: On the Relation of Grammar to Logic and Psychology" of 1884.

⁹⁸ Twardowski 1912, p.15.

⁹⁹ On the role of such substitutions in our experience of art in general see my 1986.

¹⁰⁰ Twardowski refers here to the theory of signs and meanings put forward by the Meinongian E. Martinak in his 1901.

¹⁰¹ Twardowski 1912, pp.21f.

¹⁰² Hence there can normally be no problem of our knowing which thoughts we want to express but in such a way that we would have no comprehension at all of the words we would need to express them. To have a thought, on the view suggested in the text, is already to have a presentation of the signs used to express it, accompanied by a disposition to express those signs.

¹⁰³ The notion of 'evocation' was exploited as the basis of a theory of the workings of language by Marty, who argues that the primary intention on the part of the speaker in making a statement is precisely: 'to generate a judgment in the hearer analogous to that judgment which as a rule the statement express'. (1908, p.362; see also pp.474f.) This idea was then taken over also by Karl Bühler in his *Theory of Language* of 1934, which recognises however 'expression' and 'representation' as two further primary intentions involved in language use. It is present also in Kotarbiński's theory of imitation: see §5 of my 1987a.

¹⁰⁴ See Brentano 1924/25, vol. I, pp.51ff., Eng. pp.37ff.

¹⁰⁵ As is almost always the case where we are dealing with natural kinds, we shall have to deal here with both standard and non-standard instances of the relevant kinds. See the theory of '*innere Sprachform*' put forward by Marty in his 1908, pp.354pp. *et passim*, and compare Smith 1987b.

¹⁰⁶ Twardowski 1912, p.23.

¹⁰⁷ Twardowski indeed refers in this context to the discussion of 'ideal meanings' in vol. II of Husserl's *Logical Investigations*: pp.8452ff., Eng. pp.616ff. (LU V §30).

¹⁰⁸ See e.g. the discussion of 'modulation' in Cruse 1986, pp.52f.

¹⁰⁹ Such 'modifying' uses of language were of particular interest to the Brentanists. See e.g. Brentano 1924/25, vol. II, p.62, Eng. p.220, Twardowski 1894, pp.13, Eng. p.11.

¹¹⁰ The meaning of the second person 'here', 'now', and so on, might be dealt with along similar lines. First person 'I', 'here', 'now', on the other hand, are to be understood as having meanings which are *incomplete*, in the sense that the mental products directly associated with the given expressions cannot exist in normal (which is to say, non-substitutive) cases, except in association with other mental processes, and above all with

processes of perception. See Mulligan and Smith 1986 for further details of a view along these lines.

¹¹¹ See, again, the papers collected in Mulligan, ed. 1987.

¹¹² The sub-title of Ingarden's 1931 - *Investigations on the Border Area of Ontology, Logic and Literary Theory* - may even be an unconscious echo of the sub-title of Twardowski's paper of 1912. Twardowski's view that psychophysical products form the subject-matter of the cultural sciences may find its echo also in Kotarbiński's account of cultural objects in his *Elementy*, e.g. at p.489.

¹¹³ Cf. Schnelle 1982, pp.114, 124.

¹¹⁴ See e.g. Leśniewski 1929, pp.36f., 62; 1930, pp.115f.; 1931, pp.115f.

¹¹⁵ Twardowski 1912, p.24.

¹¹⁶ Husserl, of course, defended a similar thesis for the case of arithmetic in his 1891.

¹¹⁷ Cf. Leśniewski's criticisms of certain practices of mathematicians in his 1927/31, ch. 2.

¹¹⁸ See e.g. Leśniewski 1929, p.78; Lejewski 1958, p.123.

¹¹⁹ Leśniewski 1927/31, p.8. It seems to be crucial to Leśniewski's position here that mental acts can stand in causal relations, an idea which was fundamental also to Brentano's account of deductive inference (see Rogge 1935), and was stressed in turn by Marty in his *Investigations of General Grammar*.

¹²⁰ Thus in §19 of the *Wissenschaftslehre*, he identifies without further ado what he calls an 'asserted proposition' with the 'thought of a proposition', and in the same section he comes close to identifying judging with a 'presenting accompanied by a holding as true'.

¹²¹ See e.g. Hume, *Treatise*, Bk. I, Pt. III, Sec. 7; Kant, *KrV*, B 93.

¹²² Cf. Husserl, LU V §20; Reinach 1911, §14 of trans. But contrast Łukasiewicz 1921.

¹²³ See e.g. H. Bergmann 1909.

¹²⁴ See Twardowski 1894, p.17n, Eng. p.15n.

¹²⁵ See Smith 1988a, and the references there given.

¹²⁶ Simons in his 1985 argues that this holds of Wittgenstein, too.

- ¹²⁷ See, again, Smith 1988a.
- ¹²⁸ *Wissenschaftslehre*, §§19, 49; Frege 1892.
- ¹²⁹ On part of what is involved in the notion of propositional articulation from a Husserlian point of view, see Mulligan and Smith 1986, §2, and compare Reinach 1911, §11 of trans.
- ¹³⁰ 1892, p.63 of trans.
- ¹³¹ *Wissenschaftslehre*, §127.
- ¹³² See Mulligan 1987 for a more detailed treatment of Husserl's views on this matter.
- ¹³³ See above all Ajdukiewicz 1935, a presentation of Leśniewskian ideas with the aid of Ajdukiewicz's own highly perspicuous fractional notation, and compare Gobber 1985.
- ¹³⁴ See the paper by W. Haas in the present volume.
- ¹³⁵ E.g. at 3.141.
- ¹³⁶ *Psychologie*, vol. II, p.48, Eng. p.209.
- ¹³⁷ Again, see Reinach 1911, §3 of trans.
- ¹³⁸ This holds of Bolzano too: see n. MM above.
- ¹³⁹ See K. Mulligan (*forthcoming*) for a detailed discussion of Reinach's arguments here.

References

- Ajdukiewicz, K. (1935): "Die syntaktische Konnexität", *Studia Philosophica*, 1, pp.1-27. *English translation as "Syntactic connexion", in McCall [ed.] 1967, pp.207-231 and in Ajdukiewicz 1978, pp.118-139.*
- Ajdukiewicz, K. (1978): **The Scientific World-Perspective and other Essays**. Dordrecht: Reidel.
- Bergmann, H. (1909): **Das Philosophische Werk Bernard Bolzanos**. Halle a.S.: Max Niemeyer, *repr.* Hildesheim: Olms, 1970.
- Borkowski, L. (1981): "Kilka uwag o zasadzie dwuwartościowości i logikach dwuwartościowych" (Some remarks on the principle of bivalence and many-valued logics). *Roczniki Filozoficzne*, 29/1, pp.9-14.

- Borkowski L. (1985): "A formulation of the classical definition of truth", *Studies in Logic and Theory of Knowledge* (Lublin) 1, pp.33-44.
- Brentano, F. (1869): "August Comte und die positive Philosophie", *Chilianeum: Blätter für katholische Philosophie. Kunst und Leben*. Neue Folge, vol. II, pp.15-37; repr. in Brentano's *Die vier Phasen der Philosophie*. Leipzig: Meiner 1926, pp.99-136.
- Brentano, F. (1874): *Psychologie vom empirischen Standpunkt*, vol. I, Leipzig: Duncker und Humblot, reproduced with additional material as vol. I of Brentano 1924-25.
- Brentano, F. (1889): "Über den Begriff der Wahrheit", first publ. in Brentano 1930, pp.3-29.
- Brentano, F. (1924-25): *Psychologie vom empirischen Standpunkt*, 2nd ed. in 2 vols. ed. by O. Kraus, Leipzig: Felix Meiner. Eng. trans. ed. by L.L. McAlister, *Psychology from an Empirical Standpoint*. London: Routledge and Kegan Paul, 1973.
- Brentano, F. (1928): *Vom sinnlichen und noetischen Bewußtsein*, vol. III of *Psychologie vom empirischen Standpunkt*, ed. by O. Kraus, Leipzig: Meiner, Eng. trans. ed. by L.L. McAlister, *Sensory and Noetic Consciousness*, London: Routledge and Kegan Paul, 1981.
- Brentano, F. (1930): *Wahrheit und Evidenz*, ed. by O. Kraus, Leipzig: Felix Meiner. Eng. trans. by R.M. Chisholm, *The True and the Evident*, London: Routledge and Kegan Paul, 1961.
- Brentano, F. (1933): *Kategorienlehre*, Leipzig: Felix Meiner. Engl. trans. *The Theory of Categories*, by R.M. Chisholm and N. Guterman, The Hague/Boston/London: Martinus Nijhoff, 1981.
- Brentano, F. (1976): *Philosophische Untersuchungen zu Raum, Zeit und Kontinuum*, ed. by S. Körner and R.M. Chisholm, Hamburg: Felix Meiner. Eng. trans. *Philosophical Investigations on Space, Time and the Continuum*, by B. Smith, London and Sydney: Croom Helm, 1987.
- Brentano, F. (1982): *Deskriptive Psychologie*, ed. by R.M. Chisholm and W. Baumgartner, Hamburg: Meiner.
- Bühler, K. (1934): *Sprachtheorie*, Stuttgart: G. Fischer.
- Cantor, G. (1887-88): "Mitteilungen zur Lehre vom Transfiniten", as repr. in Cantor's *Abhandlungen mathematischen und philosophischen Inhalts*, E. Zermelo [ed.] Hildesheim: Olms, 1966, pp.378-439.

- Chisholm, R.M. (1986): **Brentano and Intrinsic Value**, Cambridge: Cambridge University Press.
- Chisholm, R.M. and R. Haller [eds.] (1978): **Die Philosophie Franz Brentanos**, Amsterdam: Rodopi, *also as Grazer Philosophische Studien* 5.
- Cornelius, H. (1894): **Versuch einer Theorie der Existentialurteile**, Munich: Rieger.
- Cruse, D.A. (1986): **Lexical Semantics**, Cambridge: Cambridge University Press.
- Czeżowski, T. (1939-46): "Kazimierz Twardowski as teacher", **Studia Philosophica**, 3, pp.13-17.
- Czeżowski, T. (1960): "Tribute to Kazimierz Twardowski on 10th Anniversary of His Death in 1938", **Journal of Philosophy**, 57, pp.208-215.
- Czuber, E. (1898): **Vorlesungen über Differential- und Integralrechnung**, vol. 1, Leipzig: Teubner.
- Czuber, E. (1923): **Die Philosophischen Grundlagen der Wahrscheinlichkeitsrechnung**, Leipzig/Berlin: Teubner.
- Dąbska, I. (1978): "François Brentano et la Pensée philosophique en Pologne: Casimir Twardowski et son Ecole", in Chisholm and Haller [eds.] pp.117-130.
- Ehrenfels, C. von (1890): "Über 'Gestaltqualitäten'", **Vierteljahrsschrift für wissenschaftliche Philosophie**, 14, pp.242-292. *Eng. trans.* On 'Gestalt-qualities', in B. Smith [ed.] **Foundations of Gestalt Theory**, Munich/Vienna: Philosophia, 1987.
- Fabian, R. and P.M. Simons (1986): "The second Austrian School of value theory", in Grassl and Smith [eds.] pp.37-101.
- Fine, K. (1983): "In defence of arbitrary objects", **Proceedings of the Aristotelian Society, Supplementary Volume** 57, pp.55-77.
- Fine, K. (1985): **Reasoning with Arbitrary Objects**, Oxford: Blackwell.
- Frege, G. (1879): **Begriffsschrift, eine der arithmetischen nachgebildete Formelsprache des reinen Denkens**, Halle. *Eng. trans.* in J. v. Heijenoort [ed.] **From Frege to Gödel. A Source Book in Mathematical Logic. 1879-1931**. Cambridge, Mass.: Harvard University Press, 1967, pp.1-82.
- Frege, G. (1892): "Über Sinn und Bedeutung", **Zeitschrift für Philosophie und philosophische Kritik** 200, pp.25-50. *Cited according to the Eng. trans.* in P.T. Geach and M. Black [eds.] **Translations**

from the **Philosophical Writings of Gottlob Frege**, Oxford: Blackwell, 1960.

Frege, G. (1893): **Grundgesetze der Arithmetik, begriffsschriftlich abgeleitet**, Jena repr. Hildesheim: Olms, 1966, *partial Eng. trans.* by M. Furth, **The Basic Laws of Arithmetic**, Berkeley and Los Angeles: University of California Press, 1964.

Frege, G. (1895): "Kritische Beleuchtung einiger Punkte in E. Schröders Vorlesungen über die Algebra der Logik", **Archiv für systematische Philosophie**, 1, pp.433-456.

Frege, G. (1898-99 or later): "Logische Mängel in der Mathematik", *first publ. in Frege's Nachgelassene Schriften*, H. Hermes et al. [eds.] Hamburg: Meiner 1969, pp.171-181. *Cited according to the Eng. trans.* "Logical defects in mathematics", in Frege, **Posthumous Writings**, Oxford: Blackwell 1979, pp.157-167.

Frege, G. (1918): "Der Gedanke. Eine logische Untersuchung", **Beiträge zur Philosophie des Deutschen Idealismus** 1, pp.58-77. *Cited according to the Eng. trans.* "Thoughts" in Frege, **Logical Investigations**, ed. by P.T. Geach, Oxford: Blackwell 1977, pp.1-30.

Gobber, G. (1985): "Alle origini della grammatica categoriale: Husserl, Leśniewski, Ajdukiewicz", **Rivista di Filosofia neoscolastica**, 77, pp.258-295.

Grassl, W. (1982): "Einleitung" to R. Fabian [ed.] Christian von Ehrenfels. **Philosophische Schriften**, vol. I, **Werttheorie**, Munich and Vienna: Philosophia, pp.1-22.

Grassl, W. and B. Smith [eds.] (1986): **Austrian Economics. Historical and Philosophical Background**. London and Sydney: Croom Helm.

Grossmann, R. (1974): **Meinong**, London: Routledge and Kegan Paul.

Heyer, G. (1985): "Generic descriptions, default reasoning, and typicality", **Theoretical Linguistics**, 12, pp.33-72.

Heyer, G. (1987): **Generische Kennzeichnungen. Zur Logik und Ontologie generischer Bedeutung**, Munich and Vienna: Philosophia.

Höfler, A. (1890): **Logik. Philosophische Propädeutik**, *written in collaboration with A. Meinong*, Vienna: Tempsky, *2nd enlarged ed.* 1922.

Höfler, A. (1895): "Psychische Arbeit", **Zeitschrift für Psychologie und Physiologie der Sinnesorgane**, 8, pp.44-103 and 161-230.

- Höfler, A. (1907): "Die unabhängigen Realitäten", *Kant-Studien*, 12, pp.361-392.
- Husserl, E. (1891): **Philosophie der Arithmetik. Psychologische und logische Untersuchungen**, vol. I, Halle a.d.S., *critical edition as Husserliana XII*.
- Husserl, E. (1894): "Psychologische Studien zur elementaren Logik" as repr. in Husserl 1979, pp.92-123. *Eng. trans. by D. Willard, "Psychological studies in elementary logic", The Personalist*, 58, 1977, pp.295-302.
- Husserl, E. (1894a): "Intentionale Gegenstände", in Husserl 1979, pp.303-348.
- Husserl, E. (1894-96): "Review of Twardowski 1894", in Husserl 1979, pp.349-356.
- Husserl, E. (1900-01): **Logische Untersuchungen** (=LU), Halle a. d.S.: Max Niemeyer, *critical edition as Husserliana XVII, XIX/1, XIX/2, Eng. trans. of 2nd ed. (1913-21) by J.N. Findlay, Logical Investigations*, London: Routledge and Kegan Paul 1970.
- Husserl, E. (1979): **Aufsätze und Rezensionen (1890-1910)**, ed. by B. Rang, The Hague/Boston/London: Martinus Nijhoff (Husserliana XXII).
- Ingarden, R. (1929): "Bemerkungen zum Problem Idealismus-Realismus" Festschrift Edmund Husserl zum 70. Geburtstag gewidmet (*Jahrbuch für Philosophie und phänomenologische Forschung Ergänzungsband*), Halle: Niemeyer, pp.159-190.
- Ingarden, R. (1931): **Das literarische Kunstwerk. Eine Untersuchung aus dem Grenzgebiet der Ontologie, Logik und Literaturwissenschaft**, Halle: Niemeyer, *Eng. trans. of 2nd ed. by G.G. Grabowicz, The Literary Work of Art*, Evanston: Northwestern University Press 1973.
- Ingarden, R. (1938): "Działalność naukowa Twardowskiego", in Kazimierz Twardowski. *Nauczyciel-Uczony-Obywatel*, Lwów, pp.13-30.
- Ingarden, R. (1964-65): **Der Streit um die Existenz der Welt**, 2 vols., the 2nd in 2 parts, Tübingen: Max Niemeyer. *Original Polish edition 1947-48*.
- Ingarden, R. (1969): "Le concept de philosophie chez Franz Brentano", *Archives de Philosophie*, 32, pp.458-475 and 609-638.
- Johnson, W.E. (1924): **Logic**, Part III, *The Logical Foundations of Science*, London: Constable, repr. New York: Dover, 1964.

Jordan, Z. (1945): **The Development of Mathematical Logic and of Logical Positivism in Poland between the Two Wars** (Polish Science and Learning, 6), Oxford: Oxford University Press; *partially repr. in McCall [ed.] 1967, pp.346-397.*

Jordan, Z. (1963): **Philosophy and Ideology. The Development of Philosophy and Marxism-Leninism in Poland since the Second World War**, Dordrecht: D. Reidel.

Kerry, B. (1885-86): "Über Anschauung und ihre psychische Verarbeitung", **Vierteljahrsschrift für wissenschaftliche Philosophie**, Erster Artikel, 9, pp.433-493, Zweiter Artikel, 10, pp. 419-467, (Six further articles appeared between 1887 and 1891).

Köhler, W. (1947): **Gestalt Psychology**, New York: Liveright.

Kokoszyńska, M. (1936): "Über den absoluten Wahrheitsbegriff und einige andere semantische Begriffe", **Erkenntnis**, 6, pp.143-165.

Kokoszyńska, M. (1951): "A refutation of the relativism of truth", **Studia Philosophica**, 4, pp.1-57.

Kotarbiński, T. (1913): "Zagadnienie istnienia przyszłości", (The problem of the existence of the future) **Przegląd Filozoficzny**, 16.

Kotarbiński, T. (1920): "Sprawa istnienia przedmiotów idealnych", (The problem of the existence of ideal objects) **Przegląd Filozoficzny**, 23, pp.149-170.

Kotarbiński, T. (1929): **Elementy teorii poznania, logiki formalnej i metodologii nauk**, Lwów.

Kotarbiński, T. (1966): **Gnosiology, The Scientific Approach to the Theory of Knowledge**, Oxford: Pergamon Press, *Eng. trans. by O. Wojtasiewicz, of 2nd ed. of Kotarbiński 1929, with appendices.*

Kreibig, J.K. (1902): **Psychologische Grundlegung eines Systems der Wert-Theorie**, Vienna: Hölder.

Künne, W. (1987): "The intentionality of thinking: the difference between states of affairs and propositional matter", *in* K. Mulligan [ed.] pp.175-187.

Lejewski, C. (1958): "On Leśniewski's ontology", **Ratio**, 1, pp. 150-176, *as repr. in* J.J.T. Szrednicki et al. [eds.] 1984, pp.123-148.

Leśniewski, S. (1911): "Przyczynek do analizy zdań egzystencjalnych", (Contributions to the analysis of existential propositions), **Przegląd Filozoficzny**, 14, pp.329-345.

- Leśniewski, S. (1913): "Krytyka logicznej zasady wyłączonego środka" (Critique of the principle of excluded middle), **Przegląd Filozoficzny**, 16, pp.315-352.
- Leśniewski, S. (1913b): "Czy prawda jest tylko wieczna czy też wieczna i odwieczna?" (Is truth only eternal or both eternal and sempiternal?), **Nowe Tory**, 18.
- Leśniewski, S. (1914): "Czy klasa klas, nie podporządkowanych sobie, jest podporządkowana sobie?" (Is the class of classes not subordinate to themselves subordinate to itself?), **Przegląd Filozoficzny**, 17, pp.63-75.
- Leśniewski, S. (1916): **Podstawy ogólnej teorii mnogości. I** (Foundations of the General Theory of Manifolds), Moscow.
- Leśniewski, S. (1927-31): "O podstawach matematyki" (On the foundations of mathematics), **Przegląd Filozoficzny**, vols.30-34. *Cited according to the abridged Eng. trans. by V.F. Sinisi, "On the foundations of mathematics", Topoi, 2, 1983, pp.7-52. See also Sinisi 1966 and 1983.*
- Leśniewski, S. (1929): "Grundzüge eines neuen Systems der Grundlagen der Mathematik", **Fundamenta Mathematicae**, 14, pp.1-81.
- Leśniewski, S. (1930): "Über die Grundlagen der Ontologie", **Comptes rendus des Séances de la Société des Sciences et des Lettres de Varsovie**, cl. III, vol. 23, pp.111-132.
- Leśniewski, S. (1931): "Über Definitionen in der sogenannten Theorie der Deduktion", **Comptes rendus des Séances de la Société des Sciences et des Lettres de Varsovie**, cl. III, vol. 24, pp.289-309. *Eng. trans. in McCall [ed.] pp.170-187.*
- Lotze, H. (1880): **Logik. Drei Bücher vom Denken, vom Untersuchen und vom Erkennen**, 2nd ed., Leipzig: S. Hirzel.
- Łukasiewicz, J. (1910): "Über den Satz von Widerspruch bei Aristoteles", **Bulletin international de l'Académie des Sciences de Cračovie, Classe de philosophie** (1910), pp.15-38.
- Łukasiewicz, J. (1913): "Logical foundations of probability theory", *as trans. in Łukasiewicz 1970, pp.16-63.*
- Łukasiewicz, J. (1921): "Two valued-logic", *as trans. in Łukasiewicz 1970. pp.89-109.*
- Łukasiewicz, J. (1922-23): "On determinism", *as trans. in Łukasiewicz 1970, pp.110-128.*

- Łukasiewicz, J. (1970): **Selected Works**, L. Borkowski [ed.] Amsterdam: North-Holland Publishing Company.
- Łuszczewska-Romahnowa, S. (1967): "Program filozofii naukowej Kazimierza Twardowskiego", *Studia Filozoficzne*, 4, pp.154-168.
- McAlister, L.L. [ed.] (1976): **The Philosophy of Brentano**, London: Duckworth.
- McCall, S. [ed.] (1967): **Polish Logic 1920-1939**, Oxford: Clarendon Press.
- Martinak, E. (1901): **Psychologische Untersuchungen zur Bedeutungslehre**, Leipzig: Barth.
- Marty, A. (1884): "Über subjektlose Sätze und das Verhältnis der Grammatik zu Logik und Psychologie", *Vierteljahrsschrift für wissenschaftliche Philosophie*, 8, pp.161-192, *the 2nd of 8 articles repr. in Marty's Gesammelte Schriften*, II, 1, Halle a.d.S.: Niemeyer 1918.
- Marty, A. (1895): *Idem*, 7th article, *Vierteljahrsschrift für Philosophie*, 19, pp.19-87.
- Marty, A. (1908): **Untersuchungen zur Grundlegung der allgemeinen Grammatik und Sprachphilosophie**, vol. I, *only volume published*, Halle a.d.S.: Niemeyer.
- Meinong, A. (1882): **Hume-Studien II. Zur Relationstheorie**, *as repr. in Meinong, Gesamtausgabe*, Graz 1969-78, vol. II.
- Meinong, A. (1899): "Über Gegenstände höherer Ordnung und deren Verhältnis zur inneren Wahrnehmung", *Zeitschrift für Psychologie und Physiologie der Sinnesorgane*, 21, pp.182-272 *and repr. in vol. II of Meinong's Gesamtausgabe*.
- Meinong, A. (1904): "Über Gegenstandstheorie", *in A. Meinong [ed.] Untersuchungen zur Gegenstandstheorie und Psychologie*, Leipzig: Barth, *as repr. in vol. II of Meinong's Gesamtausgabe*.
- Meinong, A. (1906-07): "Über die Stellung der Gegenstandstheorie im System der Wissenschaften", *Zeitschrift für Psychologie und Physiologie der Sinnesorgane*, vols. 129 and 130, *repr. in vol. V of Meinong's Gesamtausgabe*.
- Meinong, A. (1915): **Über Möglichkeit und Wahrscheinlichkeit. Beiträge zur Gegenstandstheorie und Erkenntnistheorie**, Leipzig: Barth, *repr. as vol. VI of Meinong's Gesamtausgabe*.
- Meinong, A. (1965): **Philosophenbriefe**, R. Kindinger [ed.] Graz: Akademische Druck- und Verlagsanstalt.

- Morscher, E. (1972): "Von Bolzano zu Meinong: Zur Geschichte des logischen Realismus", in R. Haller [ed.] **Jenseits von Sein und Nichtsein**, Graz: Akademische Druck- und Verlagsanstalt.
- Mulligan, K. (1987): "Judgings: Their parts and counterparts", *Manuscript*, University of Geneva.
- Mulligan, K. (*forthcoming*) "Meinong on dispositions", in P.M. Simons [ed.] **Essays on Meinong**, Munich/Vienna: Philosophia.
- Mulligan, K. [ed.] (1987): **Speech Act and Sachverhalt. Reinach and the Foundations of Realist Phenomenology**, Dordrecht/Boston/Lancaster: Nijhoff.
- Mulligan, K., P.M. Simons and B. Smith (1984): "Truth-Makers", **Philosophy and Phenomenological Research**, 44, pp.287-321.
- Mulligan, K. and B. Smith (1986): "A relational theory of the act", **Topoi**, 5, pp.115-130.
- Münch, D. (1986): "Brentano's soul", to appear in **Grazer Philosophische Studien**.
- Pelc, J. [ed.] (1979): **Semiotics in Poland 1894-1969**, Dordrecht/Boston: Reidel.
- Reinach, A. (1911): "Zur Theorie des negativen Urteils", cited according to the *English trans.* in Smith [ed.] 1982, pp.315-377.
- Rogge, E. (1935): **Das Kausalproblem bei Franz Brentano**, Stuttgart: W. Kohlhammer.
- Roth, A. (1960): **Edmund Husserls ethische Untersuchungen**, The Hague: Nijhoff.
- Russell, B. (1905): "On denoting", as repr. in Russel, **Logic and Knowledge. Essays 1901-50**, ed. by R.C. Marsh, London: George Allen and Unwin, pp.39-56.
- Santambrogio, M. (1986): "Generic and intensional objects", *forthcoming in Synthese*.
- Santambrogio, M. (1987): "Intensional semantics", *Manuscript*, University of Bologna.
- Schnelle, T. (1982): **Ludwik Fleck-Leben und Denken. Zur Entstehung und Entwicklung des soziologischen Denkstils in der Wissenschaftsphilosophie**, Freiburg i.Br.: Hochschulverlag.
- Schuhmann, K. and B. Smith (1987): "Questions: An essay in Daurbertian phenomenology", **Philosophy and Phenomenological Research**, 47, pp.353-384.

- Schuppe, W. (1878): **Erkenntnistheoretische Logik**, Bonn: Weber.
- Searle, J.R. (1983): **Intentionality. An Essay in the Philosophy of Mind**, Cambridge: Cambridge University Press.
- Sigwart, C. (1873): **Logik**, 2 vols., Tübingen: Laupp.
- Sigwart, C. (1888): **Die Impersonalien, Eine logische Untersuchung**, Freiburg: J.C.B. Mohr (Paul Siebeck).
- Simons, P.M. (1985): "The old problem of complex and fact", *Teoria*, 5/2, pp.205-226.
- Skolimowski, H. (1967): **Polish Analytic Philosophy. A Survey and a Comparison with British Analytic Philosophy**, London: Routledge and Kegan Paul.
- Smith, B. (1986): "The substitution theory of art", *Grazer Philosophische Studien*, 25-26, pp.533-557.
- Smith, B. (1987a): "On the phases of reism", *forthcoming in J. Woleński [ed.] Kotarbiński: Logic, Semantics, Ontology*, Dordrecht: Nijhoff.
- Smith, B. (1987b): "On the cognition of states of affairs", *in Mulligan [ed.] pp.189-225*.
- Smith, B. (1988): "Brentano and Marty: An inquiry into being and truth", *in K. Mulligan [ed.] Mind, Meaning and Metaphysics. The Philosophy and Theory of Language of Anton Marty*, Dordrecht/Boston/Lancaster: Nijhoff, *forthcoming*.
- Smith, B. (1988a): "Sachverhalt", *in J. Ritter and K. Gründer [eds] Historisches Wörterbuch der Philosophie*, Basel/Stuttgart: Schwabe, vol. VIII, *forthcoming*.
- Szrednicki, J.J.T. (1965): **Franz Brentano's Analysis of Truth**, The Hague: Nijhoff.
- Szrednicki, J.J.T. et al., [eds.] (1984): **Leśniewski's Systems: Ontology and Mereology**, The Hague/Boston/Lancaster: Nijhoff.
- Stonert, H. (1964): "Languages and theories adequate to the ontology of the language of science", *as extracted in Pelc [ed.] pp.318-341*.
- Stumpf, C. (1873): **Über den psychologischen Ursprung der Raumvorstellung**, Leipzig: Hirzel.
- Stumpf, C. (1924): "Selbstdarstellung", *in R. Schmidt [ed.] Philosophie der Gegenwart in Selbstdarstellungen*, 5, pp.205-265.

- Suszko, R. (1968): "Ontology in the *Tractatus* of L. Wittgenstein", *Notre Dame Journal of Formal Logic*, 9, pp.7-33.
- Tarski, A. (1956): *Logic, Semantics, Metamathematics*, Oxford: Clarendon Press.
- Twardowski, K. (1891): *Idee und Perzeption. Eine Erkenntnistheoretische Studie aus Descartes. Dissertation.* Vienna.
- Twardowski, K. (1894): *Zur Lehre vom Inhalt und Gegenstand der Vorstellungen. Eine psychologische Untersuchung*, Vienna: Hölder, repr. Munich/Vienna: Philosophia, 1982, *Eng. trans. by R. Grossmann On the Content and Object of Presentations*, The Hague: Nijhoff, 1977.
- Twardowski, K. (1902): "Über relative Wahrheit", *Archiv für systematische Philosophie*, 8, pp.415-447.
- Twardowski, K. (1903): "Über begriffliche Vorstellungen", *Wissenschaftliche Beilage zum 16. Jahresbericht der philosophischen Gesellschaft an der Universität zu Wien*, Leipzig: Barth, pp.1-28.
- Twardowski, K. (1912): "Actions and products. Comments on the border area of psychology, grammar and logic", as extracted in Pelc, [ed.] pp.13-27.
- Twardowski, K. (1921): "Symbolomania and pragmataphobia", as extracted in Pelc, [ed.] pp.28-30.
- Ueberweg, F. (1882): *System der Logik und Geschichte der logischen Lehren*, Bonn: Adolph Marcus.
- Willard, D. (1984): *Logic and the Objectivity of Knowledge*. Athens: Ohio: University of Ohio Press.
- Windelband, W. (1900): *Geschichte der Philosophie*, Tübingen and Leipzig.
- Winter, E. [ed.] (1975): *Robert Zimmermanns philosophische Propädeutik und die Vorlagen aus der Wissenschaftslehre Bernard Bolzanos (Sitzungsberichte der Österreichischen Akademie der Wissenschaften, Phil.-hist. Kl., 299/5)*, Vienna: Verlag der Österreichischen Akademie der Wissenschaften.
- Wittgenstein, L. (1921): *Tractatus Logico-Philosophicus, new edition with Eng. trans. by D.F. Pears and B.F. McGuinness*, London: Routledge and Kegan Paul, 1961.
- Woleński, J. (1987): "Reism and Leśniewski's ontology", *History and Philosophy of Logic*, 7, pp.167-176.

Woleński, J. (1988): "Marty and the Lvov-Warsaw School", in K. Mulligan, [ed.] **Mind, Meaning and Metaphysics: Philosophy and Theory of Language of Anton Marty**, Dordrecht: Nijhoff.

Woleński, J. (*forthcoming*) **Logic and Philosophy in the Lvov-Warsaw School**, Dordrecht/Boston/Lancaster: Reidel.

Wolniewicz, B. (1985): **Ontologia sytuacji. Podstawy i zastosowania**, Warsaw: P.W.N.

Zimmermann, R. (1853): **Philosophische Propädeutik**, Vienna: Braumüller.