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tion maintains with itself and other civilizations. But the attempt
to frame the philosophic problem and philosophizing itself in terms
of a confrontation with all other peoples, cultures and religions
seems exaggerated or excessive.

The ongoing dialogue with the other within the horizon of the
logos opened and sustained in The World Phenomenology Institute's
Analecta Husserliana series seems well justified then. This is
especially so given the Institute's ongoing critique of the relation-
ship between philosophy and the sciences, between philosophic
search and knowledge of facts—which critique is the peculiar
feature of transcendental phenomenology. This publishing pro-
gram is celebrating its twenty-fifth anniversary in 1996, but each
and every day its project starts anew: always and inevitably—
immer wieder—it returns to its very beginnings.

II. HISTORY OF LOGIC

THE TOPICS OF
THE "FREGE-HUSSERL" TEXTS

IGNACIO ANGELELLI

Foreword
In this paper I examine the main topics that emerge in those
writings by Frege or by Husserl where either author refers to, or is
mentioned by the other. The topics in question belong to the general
areas of the philosophy of arithmetic, semantics, language and
logic.

After describing the "Frege-Husserl" texts (Section 1), I move
into a consideration of the thesis, presupposed by the two philoso-
phers, that (natural) number applies to everything; such a thesis,
not generally accepted by the classical philosophical tradition,
constituted the main motive for Frege's so-called "logicism" (Section
2). In Section 3 I compare Frege's and Husserl's particular attempts
to provide an analysis of the notion of natural number. In Section
4 I raise the issue of the extent to which Husserl "caught up" with,
or even became aware of, the new predication theory introduced by
Frege in 1884 in his Die Grundlagen der Arithmetik. Also, I claim
that a substantial portion of Husserl's psychological terminology—
in fact, of Husserl's so-called psychologism in his Philosophie der
Arithmetik—can be justified very well in terms of predication
theory. Finally, in Section 5 the remaining topics raised in the
Frege-Husserl texts are reviewed.

All translations, unless otherwise stated, are mine.

Most of this paper, in its present version, was read at a
symposium honoring I. M. Bochenski, held at Oakland, California,
March 26 of 1997 and sponsored by The World Phenomenology
Institute. I am grateful to the participants in that meeting for
helpful questions and comments.
1. The “Frege-Husserl” Texts

In 1884 Frege published Die Grundlagen der Arithmetik (Foundations of Arithmetic), in 1891 Husserl published Philosophie der Arithmetik (Philosophy of Arithmetic), which included a section titled “Freges Versuch” (“Frege’s Attempt”). Thereafter, in 1894, Frege published a review of Husserl’s book. In addition to this, the two authors made a few brief remarks on each other in their writings (Frege in “Ausführungen”; and Husserl in “Antwort,” “Beweis” (third and fifth articles), and Logische Untersuchungen “Prolegomena” §45 and I, §15).

There was also a correspondence between the two authors: one letter from Frege and one from Husserl in 1891; in 1906 two letters from Frege to Husserl. Of three other lost letters we have at least some general information on their content (See Frege, Briefwechsel).

In 1961 I visited Husserl’s private library, kept at Louvain University. I was impressed by the fact that almost all of Frege’s publications were there, including offprints sent by Frege himself. Husserl made very numerous remarks in the margins of Frege’s publications; I have published some of them in my reprint of Frege’s Begriffsschrift as well as in my edition of Frege’s Kleine Schriften.

In spite of all this, the Frege-Husserl philosophical relationship, interesting as it is, was not exactly an exceedingly happy one. In this regard, the comments sent by Husserl to Scholz in 1936, eleven years after Frege’s death, are very telling: “Ich habe Frege nie persönlich kennen gelernt u. erinnere mich nicht mehr an den Anlass dieser Correspondenz. Er galt damals allgemein ein scharfsinniger, aber weder als Mathematiker noch als Philosoph fruchtbringender Sonderling” (quoted in Frege, Briefwechsel, p. 92). (“I have never met Frege personally and I do not recall any longer the origin of this correspondence. He was at that time generally considered as a very ingenious, yet odd character, neither mathematically nor philosophically fruitful.”)

In this paper the Frege-Husserl relationship is examined narrowly in terms of the texts wherein either of the two authors refers to the other or is discussed or mentioned by the other. There is of course a broader relationship to be considered, namely, that of the issues that are common to both authors, even when in their discussions of these neither author refers to the other.

The following table should help to visualize the sequence of the Frege-Husserl texts:

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<thead>
<tr>
<th>Year</th>
<th>Frege</th>
<th>Husserl</th>
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<tr>
<td>1884</td>
<td>Grundlagen der Arithmetik</td>
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<tr>
<td>1891</td>
<td>Philosophie der Arithmetik</td>
<td>Section “Freges Versuch”</td>
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<td>1891 May</td>
<td>Letter</td>
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<td>1891 July</td>
<td>“Ausführungen über Sinn und Bedeutung”</td>
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<td>1893</td>
<td>“Antwort”</td>
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<td>1894</td>
<td>Review of Philosophie der Arithmetik</td>
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<tr>
<td>1903-04</td>
<td>Logische Untersuchungen (two references)</td>
<td>“Bericht über deutsche Schriften zur Logik” III, V</td>
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<tr>
<td>1906</td>
<td>Two letters</td>
<td>Three letters</td>
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<tr>
<td>1936</td>
<td>Postcard to Scholz</td>
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Many scholars have been examining the Frege-Husserl connection, as is clear from the bibliography given at the end of this paper. I should count also my own contribution, starting with a long section in Chapter 3 of my 1967 Studies.

The topics that emerge in the Frege-Husserl texts are the following: the universal applicability of number, analysis of the notion of number, predication, psychology, the Leibniz rule (the substitutivity of identicals), the semantics of singular terms vs. the semantics of general terms, the existential import of universal propositions, and the identity criterion for sentences.
2. Arithmetic as Part of the
"scientia universalis" or Ontology.
Frege's "Ontologism" Rather Than "Logicism"

The titles of Frege's second book and of Husserl's first book—
Die Grundlagen der Arithmetik (The Foundations of Arithmetic)
and Philosophie der Arithmetik (Philosophy of Arithmetic)—may
be misleading as to what are the real concerns of the two authors.
Neither Frege nor Husserl are dealing with some special field, as
one expects generally from books similarly titled, such as "philoso-
phy of biology," "philosophy of law," "philosophy of art," "philoso-
phy of physics," etc. In the hands of Frege and Husserl, the central
theme of their work—the attempt to understand the universal applicabil-
ity of number—leads straightforwardly to ontology. The reason is simple:
either Frege and Husserl strongly defend the universal applicability
of number, its transcendental (in the pre-Kantian sense) or even
supertranscendental status. Frege writes:

Liegst nicht der Grund der Arithmetik tiefer als der alles
Erfahrungswissens, tiefer selbst als der Geometrie? Die arithmetischen
Wahrheiten beherrschen das Gebiet des Zählbaren. Dies ist das
umfassendste; denn nicht nur das Wirkliche, nicht nur das Anschauliche
gehört ihm an, sondern alles Denkbare. (Grundlagen, §14).

(The basis of arithmetic lies deeper, it seems, than that of any of the
empirical sciences, and even than that of geometry. The truths of arith-
metic govern all that is numerable. This is the widest domain of all; for to
it belongs not only the existent, not only the intuitable, but everything
thinkable.)

And Husserl:

Jedes Vorstellungsobjekt, ob physisch oder psychisch, abstrakt oder concret,
ob durch Empfindung oder Phantasie gegeben, kann zusammen mit
einem jeden und beliebig vielen anderen zu einem Inbegriffe vereinigt
und demgemäß auch gezählt werden. Z.B. Einige bestimmte Bäume;
Sonne, Mond, Erde und Mars; Ein Gefühl, ein Engel, der Mond und Italien
u.s.w. Immer können wir in diesen Beispielen von einem Inbegriff, von
einer Vielheit und von einer bestimmten Zahl sprechen. (Philosophie der
Arithmetik, pp. 10-11)

[Historic of Logic 33]

Any object of an idea, whether physical or psychological, abstract or
cconcrete, whether given through sensation or phantasy, can be put
together with any other and with arbitrarily many others into an aggre-
gate, and accordingly, counted as well. For example, some individual
trees; the sun, the moon, the Earth, and Mars; a feeling, an angel, the
moon, and Italy; etc. We may always talk in these examples of an
aggregate, a plurality and a determinate number.

Since Aristotle the study of properties and laws that apply to
everything, that are transcendental, has been part of "first philoso-
phy" or metaphysics. In the early post-medieval period there devel-
oped a trend towards making of that study a separate discipline, for
which new names are invented, such as ontologia, ontosophia, etc.
A most interesting author in this connection is the Jesuit Pererius,
who boldly insists on keeping that discipline, which he calls scientia
universalis (universal science), well separated from metaphysics,
theology, or sapientia (wisdom):

Prima conclusio. oportet esse aliquam scientiam universalem diversam a
scientiis particularibus, quae agat de transcendentibus, et iis, quae
sparsa sunt per omnes disciplines (cuiusmodi sunt demem Praedicamenta,
et generales divisiones entis) ita ut subiectum eiusmodi scientiae sit ens
ut ens, principia eius sint dignitates quaedam generales (quorum princi-
ceps est illa, quodlibet est vel non est) species proxime sicut demem
Praedicamenta. Secunda conclusio. praedicta scientia universalis non
debet agere de intelligentiis per se, et ut sunt species entis, sed tantum
fortasse in ordine ad suum subiectum, nimium ut sunt generalia principia
et universales causae omnium entium. Tertia conclusio. Necesse est esse
duas scientias distinctas inter se, unam, quae agat de transcendentibus
et universalissimis rebus; alteram, quae de intelligentiis. Illa dicitur
prima philosophia et scientia universalis; haec vocabitur propri
metaphysica, theologa, sapientia, divina scientia. (De communibus, p.
14.)

(The first conclusion is that there must be a universal science different
from the particular sciences, which should deal with the transcendent
[things] and with those [things] that are scattered throughout the disci-
plines (such as the ten predicaments and the general divisions of being),
in such a way that the subject matter of such a science be being qua being,
and its principles be certain general axioms (the principal of which is:
everything is or is not) and the proximate species be the ten predicaments.
The second conclusion is that the aforesaid universal science should not
deal with spiritual entities per se and qua special kinds of being but
perhaps only in connection with its [the universal science's] subject
Husserl is aware, in his first book, of the grand connection between arithmetic and ontology or the *scientia universalis,* but he is obviously not interested in actually developing that insight at a technical level. Frege, in contrast, makes a most rigorous proof of that connection the central, if not sole, purpose of his whole intellectual life (in fact, he invents modern logic for the sake of that purpose). In this respect, Frege’s project in the philosophy of arithmetic appears enormously more serious than Husserl’s (but then Husserl went on to do many other, very important, things after his first book).

Frege does not use the, according to Kant, too arrogant term “ontology,” let alone “scientia universalis”; he employs the term “logic” instead—hence the popular name “logicism” for the trend in the philosophy of mathematics stemming from Frege. However, the meaning Frege finds in the term “logic” when he claims that arithmetic belongs to the same environment as logic is not that logic studies inference but that logic is a most universal theory, one applying to all objects. Logicism should be renamed “ontologism.”

It is convenient to make a distinction between the general idea of the *plausibility* of logicism—or *philosophical logicism,* as I have referred to it—and the actual construction of logicism. Frege failed, or thought that he had failed in the actual construction of logicism, as a consequence of the contradiction announced to him by Russell. I think it is nonetheless important to pay attention, independently, to his plausibility argument, which continues to be very appealing. The plausibility argument is briefly outlined by Frege in *Grundlagen;* when immediately after the passage quoted above, wherein Frege proclaims the transcendental nature of arithmetic, he rhetorically asks: “Sollten also nicht die Gesetze der Zahlen mit denen des Denkens in der innigsten Verbindung stehen?” [Should not the laws of number, then, be connected very intimately with the laws of thought? (*Grundlagen* §14). In other words, if the subject matter of arithmetic is at the maximal level of universality, it is plausible that the propositions of arithmetic are at that same level too, together with the propositions of logic, or ontology, or *scientia universalis.*

This basic argument for the plausibility of logicism is presented by Frege in more detail in the subsequent paper “Über formalen Theorien.” Incidentally, it was Bochenski’s merit, more than forty years ago, to reproduce in his *Formale Logik* the relevant portions of that hard to find paper—at a time when all of Frege’s writings were hard to find.

The question arises: why should Frege and Husserl be so emphatic about a thesis such as the universal applicability of number, that seems so trivially true? Had anybody claimed that number does not apply to everything, that some entities cannot be counted? To the surprise of most philosophers of mathematics, the answer is affirmative. In the Aristotelian-scholastic tradition there had been indeed a strong opposition to the universal applicability of number: number proper was often viewed as applying only to material objects—not as a transcendental. An interesting overview and discussion of this is that of Suárez in *Disputationes,* 41, 2. The “disputation” is on “whether discrete quantity is found in spiritual entities.” After reporting both on the *sententia affirmans* and on the *sententia negans* and pointing out that the latter view, namely, that number does not apply to spiritual entities, is the “common opinion” in the school of Thomas Aquinas, Suárez states that “numerus proprie sumptum pro quantitate discrete non inveniri extra res quanta et materiales” [number properly understood, as discrete quantity, is not found outside things that are quantitative and material]. To be sure, he is not quite comfortable with this thesis, and grants that in some sense “number can be found equally in angels and in stones.”

Neither Frege nor Husserl were directly aware of this strange conception of number. They knew of it only through such sources as Leibniz, whose text in this respect they both quote (*Philosophie der Arithmetik,* p. 11; *Grundlagen,* §24). Leibniz criticizes the “scholastics” for their restricting number to physical entities, and insists that everything can be counted—number is quasi metaphysica
Except indirectly via Leibniz, Husserl and Frege do not criticize the Schoolmen. From the authors they know, however, Husserl and Frege strongly oppose anyone whose theory may involve a restriction on the universal applicability of number; Husserl sees such a restriction in Mill’s empiricism, and Frege is above all concerned with the restriction involved in Kant’s grounding arithmetic on space-time.

The idea of restricting numbers to physical objects is not a matter of the past entirely. In the twentieth century a distinguished Neo-Thomist, J. Maritain, exemplifies that line of thought in his preface to R. Le Masson’s _La Philosophie des Nombres_: Maritain does not approve the author’s identification of cardinal number with transcendentally multiple.

Incidentally, Le Masson’s little book may be the most neglected essay on the philosophy of arithmetic in the twentieth century. The author was, apparently, a scholar with a mathematical as well as a neo-scholastic philosophical background; his sources range from the _Summa Theologica_ to Sierpinski’s _Leçons sur les nombres transfins_. With regard to the universality of number, he was definitely on the side of Leibniz, Husserl and Frege (as I recall from conversations, Bochenski shared this view too). Some of Le Masson’s analyses seem to duplicate, in Neo-Thomist guise, the views stated by Husserl in his first book. Where Husserl talks of an absolutely arbitrary _Inbegriff_, or set of objects, of each of which only the property of being an _Etwas_, a something, is retained, Le Masson speaks of a _multitude transcendentale_, a collection where total abstraction is made of the nature and peculiarities of its members: they are just “beings.” In order to shock his potential, most probably neo-scholastic, readers, Le Masson, obviously a religious man, dedicates his work to the Queen of the _Multitude of Angels, reginae multitudinis angelorum_, rather than simply to the Queen of Angels, _reginae angelorum_. Husserl dedicates his first book to somebody else, namely, to Brentano. This divergence between Husserl and Le Masson is compensated by many similarities, for instance, besides the above-mentioned “transcendent multiple,” there is their common unwillingness to consider 0 and even 1 as numbers proper.8

The fact that many philosophers of mathematics nowadays do not know that the universal applicability of number was not a unanimously accepted matter in the history of philosophy, is a consequence of a gap in the historiographical training of philosophers, in this country and worldwide, with the exception (to some extent) of some Catholic schools and a few other special cases. The degree of sophistication that has been reached in many philosophy departments around the world with regard to ancient philosophy helps, but falls short of duly enlightening our students with regard to the Aristotelianism-scholasticism that constitutes the backbone of the European medieval and early modern philosophical tradition. The addition of this, with its corresponding language, Latin, to our philosophy teaching plans—in that perfectly balanced and critical way so much recommended and so well exemplified by Bochenski—is in my view an urgent desideratum in today’s philosophy education.

3. What Number Is for Frege and What Number Is for Husserl; Frege’s Infelicitous Method and Husserl’s Poor Abstraction

Frege’s _Die Grundlagen der Arithmetik_ falls into two parts: before and after §62. Before §62 Frege performs good phenomenology, in addition to a ruthless critique of earlier opinions on what the nature of number is. After §62 he becomes a conventionalist.

In the first, good part of his book Frege reaches the conclusion that numbers have the peculiarity of always being associated with a concept. Twelve, for instance, is associated to the concept _apostle_; fifty is associated with the concept _American state_. Because of this link, it is no loss of generality to consider numbers under the form of “the number of a concept.” Besides, Frege emphasizes that numbers are objects, not properties or concepts, and that they are of course non-physical. His problem then is that of how to grasp such angelical entities. Unfortunately, rather than continuing with his phenomenological plan, he suddenly adopts a strange, new, and unsatisfactory method.
The new Fregean method has two stages. In the first stage, rather than explaining what number is, an identity condition for numbers is stated. As said, numbers can be referred to, without loss of generality, as the numbers of concepts. Frege's identity condition is not surprising: the number of the concept $F = \text{the number of the concept } G$ if there is, among the objects falling under $F$ and those falling under $G$, a one-to-one correspondence that Frege calls *equinumerosity*. Thus, for instance, the concepts *apostle* and *month of the year* are equinumerous. This, however, does not yet say anything about the fundamental question of what the nature of number is. To fill such a gap is the task of the second stage of Frege's method.

How exactly Frege proceeds in the second stage can be well understood from the point of view of later accounts and analyses, such as Carnap's. With regard to the second stage, Carnap tells us that we should "look around" (*Meaning and Necessity*, p. 1) for suitable entities—suitable to play the role of denotata of the singular terms of the form "$NF$". What suitability means is just compatibility with the identity condition stipulated in the first stage of the method. Frege, in fact, easily finds entities that are quite suitable for playing the role of numbers, namely, the equivalence classes (classes of concepts) relative to the relation of equinumerosity. Thus, for example, 12, or the number of the concept *apostle*, is defined as the class of concepts that are equinumerous to *apostle*.

This definition helps the cause of logicism, but is otherwise utterly arbitrary and unjustified. There are in fact indefinitely many other entities that are equally suitable, i.e., compatible, with the identity condition stipulated in the first stage of the method.

Here there comes to our mind a beautiful passage from Husserl's *Philosophie der Arithmetik*:

Im Uebriegen ist mit solchen Definitionen wenigsteth; die Schwierigkeit liegt in den Phanomenen, ihrer richtigen Beschreibung, Analyse und Deutung; nur im Hinblicke auf sie ist die Einsicht in das Wesen der Zahlbegriffe zu gewinnen (p. 142).

For a phenomenological reader, Frege's definition is a disappointment. Obsessed by his goal, the construction of logicism, Frege displays no interest in the correct description, analysis, and interpretation of the phenomena.

Husserl reacts strongly against Frege's method of defining number. In a section of his book titled "Freges Versuch" ("Frege's Attempt"), he writes:

Ich kann nicht einsehen, dass diese Methode eine Bereicherung der Logik bedeute. Ihre Resultate sind von einer Art, dass wir uns nur wundern können, wie jemand sie auch nur vorübergehend fur wahr halten konnte. In der Tat, was diese Methoden zu definieren gestattet, sind nicht die Inhalte der Begriffe Richtung, Gestalt, Anzahl, sonder deren Umfange (p. 134)

[I cannot understand how this method can be an enrichment of logic. Its results are such that we can only wonder how anyone could have accepted it as true even for a moment. As a matter of fact, what this method allows definition of are not the contents of the concepts direction, shape, number, but their extensions.]

While agreeing with Husserl's opposition to Frege's method, I am not sure that it is based upon the right reasons. The third sentence above is for me a source of perplexity, and I am inclined to wonder whether Husserl understood at all, or took the time to understand, the structure of Frege's method of definition. In fact, the third sentence indicates that Husserl believes that Frege defines not the concept of number but the extension of the concept of number. Frege surely defines number as an extension, but I fail to see that that extension is the extension of any concept of number.

Let us now look into Husserl's achievement in his plan of catching the essence of number. He starts from the *concrete* *Vielfaetigkeiten*, concrete manifolds. The problem for the philosopher is that of how to move from such concrete manifolds to the natural numbers. The traditional way to do this, from the scholastic meta-
physicians to Cantor, is abstraction. Husserl too chooses abstraction as the ladder needed to climb up to the numbers of arithmetic. Unfortunately, his instructions on how exactly to perform abstraction are insufficient, and in fact confusing. Basically, we are told that we should ignore, "abstract from," the nature of the elements of the given manifold and ignore their differences as well. All that we should retain, from each element of the initial manifold, is the fact that it is a something (Etwas). To our surprise, however, the result of this abstraction is not, as we or Frege would expect, the single concept something, under which the various elements fall, but a collection of somethings, one for each of the initial elements. This collection of somethings, or abstrakte Vielheit, abstract manifold (similar to, if not identical to, Le Masson's multitude transcendentale) is what Husserl calls number.

The proposed definition is readily seen to be ludicrous: transcendental and ghostly as it may be, the multitude or manifold in question is just one more set equinumerous to the initial concrete manifold and so no progress at all has been made in the quest for the essence of number. It must be observed that Husserl is not alone in this; he is accompanied by the classical philosophical tradition as well as by mathematicians such as Cantor. That is to say, Husserl does what almost everybody else does, with the exception of Frege—but then, as noted, Frege has his own peculiar way of disappointing us.

The abstraction leading to number should, of course, remove all the peculiarities and the particular natures of the elements of the set to be counted. This, however, is necessary but not sufficient. What is lacking? Husserl himself suggests that the abstraction in question should not concern the individual members of the manifolds but the manifolds themselves as such (p. 13). This sounds very interesting and enigmatic, but unfortunately it is only enigmatic, for Husserl does not explain how to go about it.

To sum up, neither Frege (due to his anti-phenomenological conventionalism) nor Husserl (due to his insufficient instructions concerning abstraction) appear to be successful in their common project of grasping the concept of number. I believe however that by taking what is good in each of the two authors it is possible to find a way out, as was hinted at by H. Weyl in the 1920s and done by P. Lorenzen in the 1950s (see my papers on abstraction).

4. Predication Theory and Psychologism

Predication theory is Frege's pièce de résistance. He accomplished his major revolution in predication theory in his Grundlagen, §53 (1884). The whole tradition was shaken by Frege's daring surgery on the theory of predication that had dominated Western philosophy and logic since Aristotle. It is interesting to observe that while Frege's revolution in predication takes place in 1884, his best statement in this respect is to be found in a letter to Husserl of 1906:


(The main task of the logician consists in the liberation from language and in a simplification. Logic should be the judge of languages. One should get rid of subject and predicate in logic; or these terms should be restricted to the falling of an object under a concept (subsumption). The relation of subordination of a concept under a concept is so different from that (from the falling under), that it is not permissible to speak of subject and predicate also in this case.)

Husserl's Philosophie der Arithmetik was not only published several years after Frege's Grundlagen, but was written by Husserl with Frege's Grundlagen very much in mind, so that one might assume that Husserl was aware, at the time of writing his first book, of Frege's exquisite distinctions and novelties in the theory of predication. But perhaps important authors do not read each others' books carefully enough. In fact, Husserl's analyses concerning concrete manifolds, abstract manifolds, and numbers, seem to be, here and there, vitiated by a still pre-Fregean predication theory and its typical problems, as Frege himself points out in his review and as I have mentioned elsewhere (Studies, 3.62)."
A detailed discussion of these issues in Husserl's book is not possible within the limits of this presentation. I will only mention three interesting passages having to do with predication theory.

In the context of discussing whether number is a property of concepts or not, Husserl writes:

Aber nehmen wir selbst an, es wäre immer so, wie man behauptet, wir colligierten und zählten stets nur Objekte, sofern sie unter einen gemeinsamen Begriff fallen, dann geht aus unserer Betrachtung klar hervor, dass die Zahl in keiner Weise als Bestimmung dieses Begriffs angesehen werden kann (Philosophie der Arithmetik, p. 185).

[But even if we suppose that it was always as claimed, that we collected and counted objects always and only insofar as they fall under a common concept, then it clearly results from our consideration that number cannot in any way be seen as determination of this concept.]

In reading this passage with an awareness of the differences between classical and Fregean predication theories, and assuming that Bestimmung (determination) = Merkmal (mark), one is led to classify Husserl as one more pre-Fregean philosopher who, upon encountering a property of a concept, feels compelled to ritually begin by making a statement to the effect of forbidding that the property in question be mistaken for a mark of the concept. The quoted Husserl passage seems to exemplify, once again, such a preliminary ritual.

In a second passage relevant to predication theory, Husserl says that, even if numbers are regarded as properties of concepts, they can be considered to be such only indirectly: “Nur indirekt kann man allenfalls sagen, der Begriff hat die Eigenschaft, dass seinem Umfange die Zahl vier zukommt” (Philosophie der Arithmetik, p. 189). [Only indirectly can one say that the concept has the property that number four belongs to its extension.] Here again one is tempted to view Husserl as a victim of pre-Fregean predication theory; the phrase “only indirectly” would seem to express a warning: “watch out, number is a property of the concept but not a mark of it, it is outside the concept.” Such an interpretation is encouraged by very similar phrases occurring in the scholastic literature. The properties “universal,” “common,” are recognized as properties of concepts but with a warning: “only negatively.” The Schoolmen say “only negatively” because of their being trapped in the Aristotelian predication theory, which creates the expectation that properties of concepts are marks of concepts. By saying “only negatively” they make sure that the property of the concept is not mistaken for a mark of the concept.

The context however suggests that reading Husserl’s “only indirectly” as the scholastic “only negatively” would be a mistake. Here, Husserl is not revealing fears associated with the old predication theory but simply stating that, properly, number is a property of the extension, not of the concept. (Does this lead to a revision of our reading of the first quoted text?)

My third text from Philosophie der Arithmetik shows that by focusing on predication it is possible to defend Husserl, at least to some extent, from the much repeated and even self-inflicted accusation of psychologism. This unfolds as follows.

Classical predication theory has its good, or at any rate interesting, things too. One of them, shared by Husserl but not by Frege, is a profound sense of the great differences among the predicates that are true of an object. Since Aristotle, predicates have been classified in a wide spectrum, ranging from those that are essential or internal to the object, to those that are merely external to it. This classification involves a ranking, in terms of importance, both ontological and cognitive. The more internal, the more important; the more external, the less important. At the external extreme of the hierarchy one finds two sorts of predicates: i) predicates of psychological origin (traditional example: “the wall is seen”) and ii) the so-called “formal” predicates (“to be something”: aliquid, Etcetra).

Husserl wants the manifolds that are the starting point of his construction of number to be absolutely arbitrary, for instance, (the Moon, Napoleon, the color red). The obvious question arises for him: what have these objects in common? Under the traditional bias favoring internal properties, the answer is: nothing. All that is left, in order to hold together the Moon, Napoleon, and the color red, is the fact that they are given at once in my consciousness. This is obviously Husserl’s reason for resorting to “die psychologische Natur der collectiven Verbindung” (the psychological nature of the
collective union], as the title of his Chapter III reads. Such a title does not express any rabid psychologism but the simple search for an explanation of how sets of arbitrary objects are constituted:

Frägen wir, worin die Verbindung bestehe, wenn wir z. B. eine Mehrheit so disparate Dinge wie die Röte, der Mond und Napoleon denken, so erhalten wir die Antwort, sie bestehe bloss darin, dass wir diese Inhalte zusammen denken, in einem Acte denken. (Philosophie der Arithmetik, p. 79)

[If we ask in what does the union lie, when we consider, for instance, a plurality of disparate things as redness, the Moon, and Napoleon, then we obtain the answer that it lies merely in the fact that we think these contents together, in one act.]

In other words, Husserl's psychological terminology corresponds to one of the two, above-mentioned ways of handling the most external properties. But he was also aware of the other alternative, as shown by the following most interesting text:

Eine leichte Unterscheidung wird zeigen, dass in gewissen Sinne beide Parteien Recht haben. Rechnen wir um Inhalte einer Vorstellung nur Theilvorstellungen im eigentlichen und strengen Sinne ("innere Merkmale") mannten sie manche Logiker (und betrachten demgemäss Vorstellungen nur dann als vergleichbar, wenn sie gemeinsame Theilinhalte dieser Art besitzen, dann gibt es unendlich viele disparate und unvergleichbare Vorstellungen, und es ist klar, dass dann die Zählung Vergleichbarkeit (in dieser Bedeutung) nicht verlangt, da vielmehr ganz disparate Dinge zusammengezählt werden können. Meine Seele und ein Dreieck sind zwei, obgleich sie keinerlei gemeinsame innere Merkmale besitzen. Rechnen wir jedoch zum Inhalte einer Vorstellung auch alle ihr zukommenden negativen und relativen Bestimmungen (die "dusseren Merkmale"), dann gibt es überhaupt keine unvergleichbaren Vorstellungen; denn es gibt keine, die nicht mindestens als unter den Begriff Etwas fallende, gleichartig sind. Und gerade diese Subsumption unter den Begriff Etwas müssen wir (nach unserer Theorie) hinsichtlich eines jeden der zu zählenden Gegenstände vollziehen, um die Zahl zu erfassen. Insofern ist also richtig, dass die zu zählenden Dinge unter einen gemeinsamen Gattungsbegriff (dies Wort freilich im ausserlichsten Sinne genommen) gebracht werden müssen. (Philosophie der Arithmetik, p. 158)

[A simple distinction will show that in a sense both parties are right. If we include in the content of a notion only partial notions in the proper and

strict sense (some logicians have called them "internal marks") and, accordingly, we consider notions as comparable only if they share common partial contents of this sort, then there are infinitely many disparate and incomparable notions, and it is clear that then counting does not require comparability (in this sense), since it is rather the case that entirely disparate things can be counted together. My soul and a triangle are two, although they do not have any common internal marks at all. However, if we include in the content of a notion also all the negative and relative determinations (the "external marks") that belong to the notion, then there are no incomparable notions at all; for there are none that are not of the same kind (gleichartig), at least insofar as they fall under the concept of something. And it is precisely this subsumption under the concept something that we must perform (according to our theory) relative to each of the objects to be counted, in order to grasp the number. To this extent it is therefore right that the things to be counted must be brought under a common generic concept (this expression taken, to be sure, in the most external sense).]

I believe that the problems pertaining to predication theory are the most interesting and important ones in Husserl's book, rather than the much talked about psychologism. It is time for Frege-Husserl scholarship to highlight predication issues rather than psychologism.

5. The Leibniz Rule and a Hint at the Remaining Topics

The so-called Leibniz rule of substitutivity of identicals (briefly RS) says that, if a = b, then "a" can be substituted for "b" anywhere salva veritate. Notoriously, this rule creates problems if unrestrictedly applied in ordinary language. In my study of the different kinds of reactions to this rule in the history of logic from Aristotle to the present, I have distinguished friends (subdivided into naive and critical) and opponents of the rule, and while counting Frege among the critical friends, I have found in a passage of Philosophie der Arithmetik an apparently good reason to put Husserl in the group of opponents, together with Aristotle and Aquinas. Here it is:

Hier die Definition des genannten philosophischen Mathematikers: [Footnote: H. Grassmann, Lehrbuch der Arithmetik (Berlin: 1861), S. 13]"Gleich heissen zwei Dinge, wenn man in jeder Aussage statt des einen das andere setzen kann". Im Wesentlichen dieselbe Definition hat schon Leibniz
of “das Wesen der Gleichheitsbeziehung” (“the essence of identity,” Review of Philosophie der Arithmetik). Curiously, the statement we miss in Frege turns out to be offered to us by Husserl in the last sentence of the quoted passage.

As it is not possible, within this presentation, to completely discuss the three remaining topics, I will restrict myself to brief comments on each of them.

In his letter of May 24, 1891 (Briefwechsel) Frege displays a beautiful diagram to teach Husserl the right connections, on the one hand, between singular terms and objects, and on the other hand, between general terms and objects. Frege emphasizes that while the singular term signifies the object, the general term does not signify any of the objects, but only the concept—for the objects (if any) fall under the concept. Thus the relation from general term to objects is a relative product, where only the first segment is semantical. The same point, including a criticism of Husserl, is made by Frege in “Ausführungen.”

A second beautiful text is offered by Frege towards the end of his last letter to Husserl (1906, Briefwechsel, p. 106), this time on the perennial issue of the “existential import” of the universal categorical sentences A and E (“all P are Q,” “No P are Q”). I believe this half page paragraph should belong in any anthology or source-book on the history of logic, for example, in a desired revised or updated edition of Bochenski’s Formale Logik. Frege reveals therein his normative approach to logic and language, so much forgotten in the recent marriage of the two fields.

Finally, with regard to the identity criterion for propositions (Gedanken, Frege’s letters of 1906, Briefwechsel, pp. 105ff.), it seems to me that it is less important to evaluate the actual technical significance of the proposed criterion than to appreciate its spirit. Frege, in writing to Husserl, as in general vis à vis the content-logicians (Inhaltslogikern), makes a point of stopping at some point the endless detection of different nuances in the meaning of expressions. This is a practical consideration more than a theoretical one.
NOTES

1. It is relevant to point out, in this symposium in honor of I.M. Bochenski, that he was at that time my dissertation supervisor and it was he who advised me to visit the Husserl Archives.

2. Neither Frege nor Husserl use these words in the scholastic sense. The term "supertranscendent(al)" seems to be postmedieval. Transcendent(al) predicates are those that transcend the categories and apply to every being; "supertranscendent(al)" emphasizes that the term applies not only to every real being but even to mental being, ens rationis, for example "thinkable."

3. See, for instance, the last paragraph of the main text of Ch. 4, p. 91 of the first edition of Philosophie der Arithmetik.

4. I. Angelelli, Studies, Ch. 10, p. 61.

5. Even Husserl, as we learn from his letter of July 18 1891, was unable to find a copy of the paper, and had to rely on an offprint sent by Frege himself.

6. L. Masson introduces 0 and 1 only as symbols to be added to the numerals representing number proper: "On joint zéro et un symbole de l'unité aux chiffres de nombres propres" (La Philosophie des Nombres, p. 21 (Thesis 12). For Husserl, cf. Ch. VII of Philosophie der Arithmetik, the section titled "Eine und Null als Zahlen."

7. Examples of the problems of the classical, Aristotelian, or pre-Fregean theory of predication are: lack of distinction between the falling of an object under a concept and the subordination of a concept under another concept; lack of distinction between the marks of a concept and the properties of the concept, and the concomitant fear that anything presented as a property of a concept will become a mark of the concept.

8. In my Studies, Ch. 5, fn. 39, I say that Husserl was "rid of traditional predication theory." This is based on the later work Logische Untersuchungen I, §41, where Husserl discusses the rule "a mark of a mark is a mark of the thing."

9. John of St. Thomas says that the nature in itself may be called communis but only negatively (Cursus, I, p. 316). Pesch, a neo-scholastic contemporary of Husserl, writes the following: "Haec natura absolute spectata ea est, quae ex dicoi modo comuniri vocatur universale directum ("universale") quia non est singularis; "directum," quia ad eam concipiendam nulla reflexione opus est; antiquiores eam potius vacabat universale metaphysicum (quia eius consideratio ad metaphysicum pertinet). Subtilius certe dicunt, quia, ut S. Thomas, ab hoc locumui modo abstinent. Num universitas non consequit nature specificae nisi negative. (Institutiones, Vol. II, n. 719, p. 209, emphasis added.) (This nature absolutely considered is the one that is called, commonly, direct universal ("universal"") because it is not singular; "direct" because in order to conceive it no reflection is needed; earlier authors rather called it metaphysical universal (because its consideration belongs to the metaphysician). More subtly speak, to be sure, those who, like St. Thomas, abstain from this terminology. For universality does not belong to the specific nature except negatively. (Emphasis added.)


BIBLIOGRAPHY

Not all items in this bibliography have been examined or discussed in the present paper. They are listed here in order to show—without aiming at completeness—the large amount of work done on the Frege-Husserl relationship.


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―. "Frege and Husserl on Number," Ratio 3, pp. 150-164.