FORMAL ONTOLOGY AS AN OPERATIVE TOOL IN THE THORIES OF THE OBJECTS OF THE LIFE-WORLD: STUMPF, HUSSERL AND INGARDEN

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It is accepted that certain mereological concepts and phenomenological conceptualisations presented in Carl Stumpf's Über den psychologischen Ursprung der Raumvorstellung *and* Tonpsychologie *played an important role in the development of the Husserlian formal ontology. In the third* Logical Investigation*, which displays the formal relations between part and whole and among parts that make out a whole, one of the main concepts of contemporary formal ontology and metaphysics is settled: ontological dependence or foundation (*Fundierung*). My main objective is to display Stumpf's concepts of partial content, independent content, spatial wholes, sound wholes, and the different kinds of connection among parts, in particular, fusion (*Verschmelzung*). Second, I will show how Husserl improved this background, in particular with regards to the exact nature of the theory of manifolds (*Mannigfaltigkeitslehre*), in discussion with Georg Cantor, the father of set theory. Third, I will focus on Ingarden's use of formal ontology and on the different modes of being that can be justified by appealing to the concept of ontological dependence in its Ingardenian variations. If my interpretation is adequate, it should be inferred that formal ontology is the operative theory of phenomenological philosophy, and this must be acknowledged in its full significance with respect to the supposed independence of the phenomenological method since 1913. A further consequence, not developed in this essay, is that formal ontology can be mathematised.*

1. Introduction

Husserl's theory of science, as presented in §11 of *Prolegomena to Pure Logic*, volume I of the *Logical Investigations*, implies a formal theory of all possible formal theories. This is due to the main idea that logic *is* mathematics—an idea opposed to Gottlob Frege's—and to the influence of Bernard Bolzano and Bernard Riemann, among others. This science of sciences is articulated by meaningful categories on the side

of theory, categories that must be referred to as the *objectual domain*, which is determined by the ontological categories. In this way, we must take into account that, for Husserl, ontological categories are *formal* insofar as they are completely freed from any *material domain* of the application of the formal meaningful categories. Therefore, formal ontology, as developed in the third *Logical Investigation*, is the corresponding "objective correlate of the concept of a possible theory, definite only in respect of form."[1]

Volume XXI of Husserliana[2] provides insight into the theoretical source of Husserlian formal ontology.[3] In particular, it strives to define the theory of manifolds or the debate over the effective nature of what will later be called "set theory." Thus, what in §70 of *Prolegomena* is called a "Theory of Manifolds" (*Mannigfaltigkeitslehre*) is what Husserl

[1] Edmund Husserl, *Logische Untersuchunghen. Zweiter Band, Untersuchungen zur Phänomenologie und Theorie der Erkenntnis*. *Husserliana* XIX/1 and XIX/2, (ed.) U. Panzer (The Hague: Martinus Nijhoff, 1984), hereafter referred to as Hua XIX/1 and Hua XIX/2; tr. by J. N. Findlay as *Logical Investigations*, Vols. 1 & 2 (London: Routledge, 2001), hereafter referred to as LI/1 or LI/2. The passage quoted is from LI/1, 156.

[2] Edmund Husserl, *Studien zur Arithmetik und Geometrie. (1886–1901)*, (ed.) Ingeborg Strohmeyer (The Hague: Martinus Nijhoff, 1983).

[3] Gilbert Null, Peter Simons, and Kit Fine were the first to formalise the third *Logical Investigation*. In private electronic communication, Gilbert Null told me, "By the way, I advise you to replace Lesniewski's term 'mereology' for the term 'constituent ontology' when referring to Husserl's (realist) part-foundation theory. Lesniewski and his followers (Leonard, Goodman, Quine, Eberle, et al.) were all *nominalists*, and *mereology* is a *nominalist* part-whole theory, because it satisfies Goodman's *Principles of Nominalism*. Husserl's constituent ontology *violates* Goodman's Principles of Nominalism, so *it is not nominalist ontology*, and hence it should *not* be called 'mereology'. I know this usage has become quite extended, and you are the first I am telling that this usage is unacceptable. Its unacceptability is a direct consequence of a case I will make in *Husserl's Realist Constituent Ontology of Dependence*, where I will state that Husserl's Constituent Ontology of Dependence is not a mereology because it *violates* Goodman's Principles of Nominalism. So you will do your future self a favor if you henceforth avoid referring to Husserl's *Realist* Constituent Ontology of Dependence as a mereology." I think that Professor Null is quite right, so I will follow his suggestion. However, I also believe that "formal ontology" can be considered synonymous with "constituent ontology." Gilbert Null's most recent papers on this topic are "The Ontology of Intentionality I: the Dependence Ontological Account of Order; Mediate and Immediate Moments and Pieces of Dependent and Independent Objects," *Husserl Studies*, vol. 23, no. 1 (2007), 33–69; "The Ontology of Intentionality II: Dependence Ontology as Prolegomenon to *Noetic* Modal Semantics," *Husserl Studies*, vol. 23, no. 2 (2007), 119–59; and "Two-Valued Logics of Intentionality: Temporality, Truth, Modality, and Identity," *Husserl Studies*, vol. 23, no. 3 (2007), 119–59. The paper to which he made reference is provisionally titled "Stalking the Immediate Moment."

investigated around 1886–93. He was, at that time, trying to develop his *Raumbuch*. So geometry, space and set theory are in the background of the whole of *Logical Investigations*, and particularly of his *Theory of Parts and Wholes.*

It is worth highlighting that "geometry" here makes reference to Riemann, famous not only for having promoted non-Euclidean geometries, but also for his work of 1854, *On the Hypotheses that Lie at the Foundations of Geometry*, in which he describes a "very general philosophical distinction between discrete and continuous manifolds."[4] Discrete manifolds admit only such mode of determination or fragmentation as is allowed by the discrete transit from one individual to another, but the fragmentation of a continuous manifold always results in an individual of the same nature as that of the whole of which it is a part. This is the case with space, in one possible interpretation. The other issue worth noting is that in Riemann's theory, there is no room for intuition, be it Kantian or Husserlian. The nature of real space is a matter of empirical investigation, and mathematics is purely conceptual.

In this paper, I will present formal ontology as an operative-theoretical frame which phenomenological theories employ without thematising it explicitly *as such*. I will focus on some antecedents that thematised a similar statement. First, I will show how Carl Stumpf shaped his particular version of "phenomenological mereology" in his *Über den psychologischen Ursprung der Raumvorstellung* of 1873, in his well-known chapter 5 that deals with psychological parts. With reference to philosophical methodology, I will describe how he worked on the relation between conceivability and metaphysical possibility, and how this can be understood as compatible with phenomenological methodology. Then, following certain insights of Peter Simons[5], I will develop the different kinds of wholes that can be found there. We can find the emerging Husserlian topology in the concept of "pregnant whole." But this concept of whole is not understandable at all without considering the concept of foundation or ontological dependence. It has been demonstrated that this concept of foundation is intensional in nature, but also that extensionality can be saved by adopting the topological strategy. Third, I will show how Husserl himself applied his formal ontology in the case of the relation of the elements of presenta-

[4] Guillermo Rosado Haddock, "Husserl's Philosophy of Mathematics: Its Origin and Relevance," *Husserl Studies*, vol. 22, no. XX (2006), 193–222, here 210.

[5] Peter Simons, "The Formalization of Husserl's Theory of Wholes and Parts," in *Parts and Moments. Studies in Logic and Formal Ontology*, (ed.) B. Smith (Munich: Philosophia Verlag, 1982), 113–59.

tions in the fifth *Logical Investigation*. Serrano de Haro has claimed that this application of formal ontology is not as valid as might be thought at first glance. I will examine his criticisms to show that they are valid only if we introduce elements under the consideration of *Logical Investigations* which are alien to them, for instance, elements from *Ideas I*. Finally, based on certain insights of Roman Ingarden, I will try to apply the difference between abstract and concrete objects to a topic quite Ingardian in nature: dramatic structure. The relevance of the application of this difference to objects of this kind—that is, to consciousness and dramatic structure—is that both of them are objects of the life-world. In addition, dramatic structure is an abstract object that exists outside our own mental life, so it can be taken as a paradigmatic case of social and textual objects.

On the basis of my analyses, I shall draw certain conclusions about formal ontology and phenomenology: my point is that formal ontology is the operative theory in phenomenological philosophy, and that the significance of this claim can be fully understood only with respect to the independence of formal ontology from phenomenological method that has been *supposed* since 1913. But I intend this to be valid for phenomenology understood as Husserl himself understood it—namely, as a science of the life-world.

2. Carl Stumpf: "in Verehrung und Freundschaft, zugeeignet"

Carl Stumpf (1848–1936) made a vast contribution to the field of experimental psychology and particularly to the psychology of sound and the psychology of music. This should come as no surprise if we consider that the School of Brentano, where he was trained, intended to develop a philosophy syllabus related to the experimental sciences of his time. While attending the lectures of Brentano himself, Stumpf, attracted by the intellectual paths he figured could be opened following the experimental methodology promoted by his mentor, set his mind to study philosophy.[6] However, in philosophy he is better known as Husserl's professor. Franz Brentano could not act as thesis advisor, so he recommended his students to different professors who were able to perform this task. Stumpf's research came thereby to be supervised by Hermann Lotze, while Husserl's was supervised by Stumpf

[6] For a good introduction, see Denis Fisette, "Carl Stumpf," *The Stanford Encyclopedia of Philosophy* (Spring 2009), (ed.) Edward N. Zalta, at [http://plato.stanford.edu/archives/spr2009/entries/stumpf/].

himself. Stumpf was admired by the founder of phenomenological philosophy: *Logical Investigations* is "dedicated to Carl Stumpf with Honour and in Friendship."

In 1873, Stumpf published *On the Psychological Origin of the Presentation of Space*[7], in which he established certain concepts that are currently called "mereological."[8] In addition, it is possible to find theoretical strategies to justify his statements, which involve the complex relation between conceivability and possibility, that is to say, the relation between a specific skill or faculty and modalities. For Stumpf, a presentation of a colour without an extension is not possible; conversely, a presentation of an extension without a colour is not possible either. The variation of the members of the relation demonstrates—in what we would call today a "thought experiment"—that the decrease of one implies in some way the alteration of the other and vice versa. This variation is determined by the so-called "laws of essence" or, in Aristotelian terms, "generic laws." As is well known in mereological literature, this variation between different parts of a whole presents two sorts of parts: dependent parts and independent parts. Independent parts can survive separation from the whole of which they are part, whilst dependent parts cannot. It should be noted that Stumpf called these parts "partial contents" (*Teilinhalte*) and "independent contents" (*selbständige Inhalte*), and it was Husserl who undertook the new formulation in his third *Logical Investigation*.

Stumpf clearly states his point of view in the first lines of his famous chapter 5: "As if it were above all matters desirable and necessary to remember the phenomena of ordinary consciousness, which in this as in all cases prompt scientific inquiry."[9] Regarding Stumpf's adoption of this standpoint, Robin Rollinger claims that "a more succinct statement in favor of the precedence of phenomenological considerations could hardly be hoped for."[10] According to Stumpf, the case

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[7] Carl Stumpf, *Über den psychologischen Ursprung der Raumvorstellung* (Amsterdam: Bonset, 1965). Hereafter referred to as PUR.

[8] Again, see Gilbert Null's statement (note 3, above) about contemporary mereology and the theorisations of Stanislaw Lesniewski and Nelson Goodman. The primitive concept of both systems is the relational concept "be part of." For an excellent introduction, see Achille Varzi, "Mereology," *The Stanford Encyclopedia of Philosophy* (Spring 2010), (ed.) Edward N. Zalta, at [http://plato.stanford.edu/archives/spr2010/entries/mereology/].

[9] "*...als sei es vor allen Dingen wünschenswerth und nothwendig, sich der Phänomene des gewöhnlichen Bewusstseins zu erinnern, die ja in diesem wie in jedem Falle die wissenschaftliche Nachforschung anregen.*" (PUR, 106)

[10] Robin D. Rollinger, *Husserl's Position in the School of Brentano* (Dordrecht: Kluwer, 1999), 102.

to be accounted for and analysed lies in the fact that, in common perception, we have a presentation of a coloured surface, be it green, red or any other colour. He set aside considerations that appeal to muscular sensations and the concept that claims that one's own sensations are aggregates of smaller impressions, insofar as "in this consideration there is nothing interesting for the common sense." (PUR, 106) The case allows us to realise that two contents are presented, since we are able to differentiate them in one way or another: we *say* "that surface is red," but also, "*the red* of that surface is unpleasant to me." The contents are jointly presented in diverse ways, but what determines their relation is their belonging together or the affinity *between them*. Still more important, attention should be paid to the form of the combination in their presentation, what Stumpf calls "the modes and ways of presenting together." Once it is possible to establish what happens with the degrees of affinity between contents, the author will display the two main forms of combination in their presentation. Now the combination of contents is placed *in the presentation*. The (phenomenological) description that Stumpf presents aims at showing the relation these two contents will have, in one way or another, when "presented together" (*zusammenvorstellen*) and, as a consequence, he will not, for the time being, deal with the genetic question (the question of origin).

The first case under consideration is the conjunction of incompatible contents, which can work as a foundation or basis of a *judgement*. Take, for instance, the judgement "it is impossible that an iron be made of wood." If we agree with Brentano that every judgement is an ontologically dependent act of an originary presentation (a perception), allowing that in this case the presentation of iron is available to us, then the presentation of wood and a kind of combination *in the presentation*, which allows for the combined presentation, performs its role as the basis of the judgement. In this case, Stumpf does not tell us which could be that kind of combination, but he claims that the combination *could* be a kind of connection: "It may be a peculiar way of presenting together, but it is nevertheless a way of doing so."[11]

The following case to be analysed involves the combined presentation of qualities perceptible by different senses, such as colour and sound. This is considered possible because we already know that they are different. If we always had access to sound qualities alone, and no contact with chromatic qualities, we would not be aware of their similarities or differences. The possibility of this perceptive situation

[11] "*Mag es eine absonderliche Weise des Zusammenvorstellens sein, es ist eben doch eine Weise.*" (PUR, 107)