

# SPIELBEDEUTUNGEN

HUSSERL ON RULE-FOLLOWING AND THE MECHANIZATION OF THOUGHT

Mirja Hartimo

Wittgenstein is often thought to be the father of the view that the meaning of a word is its use in a language.<sup>1</sup> More specifically, as the doctrine goes, the meaning of a word is its use in accordance to a fixed rule. Therefore, in order to examine the workings of languages Wittgenstein examines language-games and calculi that are set up by means of fixed rules.<sup>2</sup> The view has inspired many philosophers to set up formal systems, by means of which they analyze notions such as meaning and understanding.

However, Wittgenstein also says that "the language-games are rather set up as objects of comparison which are meant to throw light on the facts of our language by way not only of similarities, but also of dissimilarities,"<sup>3</sup> suggesting that in fact to him a language is not itself a language-game, but something else. Hence Wittgenstein's investigations can be viewed as attempts to clarify the differences between language-games and languages. Indeed, some interpreters take Wittgenstein to be undercutting the attempt to construe an idealized model like that as a "theory of meaning." Indeed, Wittgenstein can even be read to be striving to deny the possibility and appropriateness of any theorizing about meaning.<sup>4</sup> With this in the background it is interesting to note that Husserl also discusses the notion of game-meaning [*Spielbedeutung*], which is the meaning signs have by virtue of the fixed rules of a game. As will be argued below, for Husserl game-meanings are fundamentally different from meaningful expressions.

Before proceeding any further, let us make a note on the translation of the word *Spiel*, here translated as "game." The notion of *Spiel* could also be translated as "play." However, "game" suits Husserl's notion better, since he is largely concerned with rule-governed games such as chess and arithmetic. On the contrary, "play" suggests

freedom from rules, activity that is not "serious" and has its purpose in recreation. This other sense has been cherished by Schiller and Gadamer, for example. However Husserl's *Spielbedeutung* is something else, since it is related to games with strict rules and it has its roots in algorithmic calculations. For Husserl, except in his early writings, game-meaning is often an anathema rather than a positive part of his philosophy.

This essay is devoted to understanding what Husserl means by *Spielbedeutungen* in the *Logical Investigations*. We will first discuss the roots of the notion of *Spielbedeutung* in Husserl's early writings. After that we will move to discuss what the *Spielbedeutungen* according to Husserl are. In the *Logical Investigations* Husserl divides all signs into either meaningful expressions or signs that merely indicate. Consequently, the natural starting point is to explore the question as to whether the signs endowed with *Spielbedeutungen* are indication-signs or whether they should be regarded as expressions, namely empty, symbolic representations. Perhaps somewhat surprisingly, the conclusion will be that they are neither. In the last section the significance of this conclusion will be discussed. As we shall see, it allows us to clarify what would be Husserl's view of meaning as rule-following. This conclusion also invites speculation as to why Husserl did not engage in further description of *Spielbedeutungen*. It will be suggested that the reason he did not engage in descriptions of inauthenticity is that his investigations have a normative character.

## The Roots

The roots of the notion of *Spielbedeutung* are in Husserl's very first philosophical writings. In the *Philosophie der Arithmetik* (1891, hereafter PA) Husserl distinguishes

between the authentic (*eigentlich*) and symbolic (*symbolisch*) approach to arithmetic, owing the distinction to Brentano's lectures.<sup>5</sup> The authentic representation of number is based on concrete acts of consciousness in which we represent collections (*Inbegriffe*) of things. Due to the limitedness of our intellect we can have an authentic representation of numbers only up to about twelve.<sup>6</sup> The rest of the numbers can be given only symbolically. By means of symbolic, algorithmic calculations an unlimited field of numbers can be constructed indirectly by means of signs. In fact most of arithmetic can be given only by means of symbolic operations. Hence, the PA relies heavily on the algorithmic method through which the remaining numbers can be given. In general early Husserl was very enthusiastic about the thought that the signs can do thinking for us. From the point of view of his later writings, this hubris about technology in 1890 is somewhat surprising:

Today a child who has learned to calculate can do more than the greatest mathematicians could do in antiquity. Problems which for them were hardly conceivable, and wholly unsolvable, are today solved by a beginner, without special effort and without special merit. And as tools of labor present a series of levels, ever increasing in complication up to the most wonderful of machines—mirroring the progress of mankind in mechanical productivity—so it is also with symbols in relationship to mental productivity. Upon the conscious application of symbols, the human intellect raised itself to a new and truly human level. And the progress of intellectual development runs parallel with progress in symbolic technique. The magnificent development of the natural sciences, and that of the technology based upon it, constitute above all else the pride and glory of recent centuries.<sup>7</sup>

The symbolic technique can be successfully applied without genuine understanding.

Even a child can learn to solve differential equations mechanically, without really knowing what is going on in the procedure. The existence of such mechanical procedures gives rise to a problem of understanding whether the signs used in such calculations have a meaning. In his lecture course for the summer semester of 1895 Husserl comes to a conclusion that the signs in arithmetic calculations have what he calls a game-meaning [*Spielbedeutung*] instead of their genuine arithmetical meaning:

If we in this way consider the signs for themselves, then that does not mean that they are therefore mere ornaments on the paper. They obviously have a certain meaning. What then is their meaning? Not anymore the corresponding arithmetical meaning. Since from it I have completely abstracted. Obviously the meaning now lies in the rules of the game. It is completely like in a game of chess. Bishops, castles, etc. I now claim: All calculation consists in that the original concepts, the number concepts and the relation and combination concepts that belong to them are replaced by their mere symbols and these are then considered as purely conventional game concepts. The game-meaning of these symbols then rests on certain rules of a game, which are nothing else than what strictly corresponds to the axioms, on which all arithmetical deduction is reducible through mere subsumption. In other words, to complete an arithmetical deduction. I don't need to think about the actual meaning of the signs in which the sentences find their expression. I only need to comprehend the basic laws as rules of a combination procedure with the symbols that I imprint in my mind. By moving around, in accordance with these rules, the signs of the specific expressions on paper I derive ever-new expressions until I arrive at expressions of a desired form. If I then

go from the symbols and their conventional meaning over to the authentic and original concepts, then I have a proposition about numbers, and this proposition is always correct.<sup>8</sup>

Husserl continues to explain the psychological mechanism which prompts us to experience signs with mere game-meanings:

It is easy to grasp on psychological grounds that such an experience must develop. Where the mathematician counters innumerable marks of similarly formed expressions and time and again comes to use the same rules, thus naturally a "thoughtless" usage is formed. One will spontaneously remain clinging to the spoken respect of signifying expressions, but they always combine in the externally correct way, which corresponds to the rules. Through frequent usage of the rules the signs gain a certain side-meaning. A number sign is something that captures one's attention in certain way. If two signs *a* and *b* are combined with the plus sign, then one can exchange them to their result, etc.<sup>9</sup>

In 1890 Husserl identified formal logic with this symbolic technique.<sup>10</sup> However, eventually his view of logic changes. In the 1895 lectures the game-meanings are based on the underlying logic, i.e., a certain system of axioms, and in the *Prolegomena to Logical Investigations* (1900), algorithmic methods are viewed as abbreviations and substitutes for meaningful deductions that belong to logic. Their role is to economize thought, since they do the work of deduction "without its charge of cogitative insight."<sup>11</sup> The function of algorithmic methods is thus to "save us as much genuine deductive mental work as possible by artificially arranged mechanical operations on sensible signs."<sup>12</sup> However, symbolic calculation as such is not justified. The sense and justification of the symbolic calculation depends on the meaningful thought in which the rules for the methods are fixed such that "a procedure, even when blindly performed, must necessarily lead to

an objectively valid individual judgement."<sup>13</sup> In the *Logical Investigations* logic is viewed as an axiomatic system that justifies the symbolic calculation.<sup>14</sup>

#### *Spielbedeutungen in the Logical Investigations*

Whereas in the *Prologomena* Husserl describes theoretical sciences and pure logic, distinguishing them from their psychological distortions, in the rest of the *Investigations* he engages in a phenomenological description of experiences of thinking and knowing. As calculational techniques do not involve meaningful thought, he does not say much about the way signs are given to us when we calculate. In the first *Logical Investigation* §20 he briefly alludes to the notion of game-meaning (*Spielbedeutung*), which he had introduced in his lectures in 1895. According to Husserl,

The true meaning of the signs in questions [signs in arithmetical symbolic thought] emerges if we glance at the much favored comparison of mathematical operations to rule-governed games, e.g., chess. Chessmen are not part of the chess-game as bits of ivory and wood having such and such shapes and colors. Their phenomenal and physical constitution is quite indifferent, and can be varied at will. They become chessmen, counters in the chess-game, through the game's rules which give them their fixed *games-meaning*. And so arithmetical signs have, besides their original meaning, their so-to-say *games-meaning*, a meaning oriented towards the game of calculation and its well-known rules.<sup>15</sup>

*Spielbedeutung* is thus a meaning as use in a rule-governed game. It is what many claim to be the Wittgensteinian notion of meaning.

In the *Prolegomena* Husserl's description of the psychological origin of *spielbedeutung* is more general and elaborate than the explanation he gives in his 1895 lectures: Game-meanings emerge from the need to do something with the signs, rather

than from a need to express something about the world. Thus they are like tool, but not tools for expressing contents but tools as pieces of chess are tools for playing a game. According to Husserl, the tendency of human beings to use tools to economize thought has a biological basis. In agreement with Avenarius and Mach, Husserl holds that a creature is better adapted to its living conditions the faster and more efficiently it can perform the acts need for its own self-preservation or the preservation of the species.<sup>16</sup> For the same reasons, human beings have developed methods to overcome the limits of their intellectual capacities. The use of such methods economizes thought as it "permits an indirect achievement by way of symbolic processes from which the intuitive element, as well as all true understanding and evidence are absent."<sup>17</sup> The result is the "far-reaching reduction of insight to mechanism in our thought-processes."<sup>18</sup> Husserl grows more critical of the usage of symbols later. In *Formal and Transcendental Logic*, he speaks of "game-symbols" (*Spielsymbole*) and "mathematics of the rules of the game" (*Mathematik der Spielregeln*, while warning us not to get lost in an excessive symbolism.<sup>19</sup> Game-meanings reappear again in the *Crisis of European Sciences and Transcendental Philosophy* where Husserl claims that "to the essence of all method belongs the tendency to superficialize itself in accord with technization."<sup>20</sup> He goes on to describe technization:

But now only those modes of thought, those types of clarity which are indispensable for a technique as such, are in action. One operates with letters and with signs for connections and relations (+, x, =, etc.), according to *rules of the game* for arranging them together in a way essentially not different, in fact, from a game of cards or chess. Here the *original* thinking that genuinely gives meaning to this technical process and truth to the correct results . . . is excluded . . . Actually the process whereby material mathematics is put into formal-logical form, where expanded formal logic

is made self-sufficient as pure analysis or theory of manifolds, is perfectly legitimate, indeed necessary; the same is true of the technization which from time to time completely loses itself in merely technical thinking. But all this can and must be a method which is understood and practiced in a fully conscious way. It can be this, however, only if care is taken to avoid dangerous shifts of meaning by keeping always immediately in mind the original bestowal of meaning [*Sinngebung*] upon the method, through which it has the sense of achieving knowledge about the world.<sup>21</sup>

In the *Crisis* this 'technization' is the source for the Crisis of Western Science. The shifts from genuine meaning to game-meaning are now referred to as "dangerous shifts of meaning." The problem of *Spielbedeutungen* thus is a problem of "merely technical thinking."

#### Are Signs Endowed with *Spielbedeutung* Empty Representations?

In the First Logical Investigation Husserl demarcates the realm of meaningful expressions from other signs by means of the distinction between expressions (*Ausdrücke*) and indications (*Anzeigen*). The question now is whether *Spielbedeutungen* are expressions or indications. The indications are signs that lack the insightfulness of meaningful expressions. Since the use of algorithmic methods does not involve genuine thinking, signs endowed with a *Spielbedeutung* could be considered to be indications. But they also could be symbolic expressions, i.e., empty representations.<sup>22</sup> In this case, the *Spielbedeutungen* would be mere empty intentions without any fulfillment in perception. A *Spielbedeutung* could then be considered as a kind of expression, not an indication.

Let us first consider the latter possibility: What are the symbolic expressions, or empty representations? As examples of "purely symbolic functioning of expressions" Husserl gives expressions that we may un-

derstand even though a person uttering it does not understand it, or that we may understand an expression of an act of perception without ourselves perceiving anything. For this reason, meaning-bestowing acts, or signitive acts, have to be distinguished from perception.<sup>23</sup> Husserl also calls expressions that have a purely symbolic function *leere Vorstellungen*, empty representations. Whereas the direct presentations of objects and also images have some fullness, to Husserl a purely signitive representation is without any fullness. A word represents the object meant and named, hence the word itself does not provide any fullness for the signitive representation. As Husserl puts it, all fullness resides in the actual "making present" (*Vergegenwärtigung*).<sup>24</sup> The signitive intentions or representations are in themselves "empty", and thus "in need of fullness."<sup>25</sup>

An empty representation (or what Husserl also calls a representative content) can be either a sign or an image. In the former case it is said to denote, and in the latter case it pictures.<sup>26</sup> According to Husserl, a signitive representation "institutes a *contingent, external* relation between matter and representative content, whereas intuitive representation institutes one that is *essential, internal*."<sup>27</sup> Whereas the signitive representation can be fixed to relate to any matter whatever, the intuitive presentation relates to a matter, which it resembles. The relation is internal. Whereas pictures somehow resemble the object they depict, there is no resemblance between signs and the objects denoted. Thus the relationship between the sign and the object signified is only arbitrary and external. Language is not something essentially tied to the world. Its relation to the world is contingent, and that is why there are several languages. How language is tied to the world we will learn from other language users when we learn to speak the language. Hence, in the end, all signs have their origin in association.

Empty *Vorstellungen* are related to the world such that they express a part of the world directly. In the words of Robert Sokolowski, "they express something that is not merely verbal; they bring something in the world to light. They articulate a part of

the world."<sup>28</sup> The words clothe the things like garments and, using Sokolowski's prolongation of Husserl's metaphor, you can have the garment just hanging in the closet and not clothing anything, "but it still belongs to what it clothes, and it longs to clothe it. The garment may be just hanging there in an empty, signitive intention, but the empty intention longs for fulfillment in intuition."<sup>29</sup> In other words, words can be used in the absence of things. The empty representations or symbolic expressions are meaningful, even though they are empty. Thinking and knowledge strive for truth hence the symbolic expressions long for fullness.

Let us compare empty representations to the signs with *Spielbedeutungen*. Empty *Vorstellungen* are empty, but not in the way the *Spielbedeutungen* are. The symbols endowed with a *Spielbedeutung* have no 'clothing' relation to the world. There is no relation whatsoever to the world. The symbols owe their meaning solely to the rules of the game. They do not refer to the extra-semiotic reality unless a separate act of an interpretation institutes such a relation. Hence they are not empty representations.

One could characterize the difference between empty representations and signs with a *Spielbedeutung* by distinguishing semiotic function from semantic function of a sign. The sign in its semiotic function is defined by means of other signs. A semiotic system is a closed system in that the signs in it do not refer to anything outside the context of the game. In contrast the sign in its semantic function refers to the world, and thus brings to light extra-semiotic reality.<sup>30</sup> Using this terminology Husserl's game-signs have a semiotic function while their semantic function either does not exist or tends to be forgotten. The use of game-signs, however, can be justified if one keeps in mind how they relate to the world, i.e., their semantic function.

If *Spielbedeutungen* are not species of expressions, one is led to think that perhaps the signs in symbolic calculations are understood in the sense of indication-signs (*Anzeigen*). So the next question is what are indications? First, signs in the sense of indications do not express anything,<sup>31</sup> hence the

*Spielbedeutungen* seem to resemble indication-signs rather than expressions. The indication-signs are signs in the sense that "a brand is the sign of a slave, a flag the sign of a nation, ... the Martian canals are signs of the existence of intelligent beings on Mars, that fossil vertebrae are signs of the existence of prediluvian animals etc."<sup>32</sup> Indication-signs show the presence of the thing they indicate. To cite Sokolowski again, "they turn our minds to the thing in question, they make us aware of it, but they do not say anything about it."<sup>33</sup> Indication-signs prompt us to attend to the thing indicated on the basis of association.

The distinction between indication and expression is related to another distinction, namely that between pointing to an indication (*Hinweisen der Anzeige*) and demonstrating a genuine consequence (*Beweisen der echten Folgerung*). The former lacks the insight of the demonstration of a genuine entailment. When we conduct proofs with insight, an objective proof corresponds to our subjective acts of demonstration. We in fact have an insight into this objective relation. Opposed to this, in the case of indication we may move from A to B even if there is no objectively necessary connection between the two. The connection between the two rests either on previously established actual connection or on blind reliance on authority.<sup>34</sup> Perhaps then a blindly carried out computation is a matter of *hinweisen der Anzeige*? It seems to indicate that the *Spielbedeutungen* would be merely indications.

But signs with *Spielbedeutungen* do not seem to merely indicate genuine thinking, for they have their own operational sense as well. Moreover, they have their meaning in the context of a game, and they have it due to a systematic set of rules and this is not the case with the indications. Whereas indication-signs are arbitrary, the meaning of algorithmic symbols is explicitly rule-governed. The system of rules defining the game-meanings has to be more or less coherent. On the contrary, the indication signs have a vague and arbitrary origin in associations lacking in structure and systematicity. They are a result of passive syntheses, to use Husserl's later term. But the origin of

*Spielbedeutungen* is not in the realm of passivity, but, in terms of Husserl's later philosophy, in the realm of the freely active I. The problem of the mechanization of thought, to which Husserl later draws attention, is thus a problem of forgetting this insightful origin of *Spielbedeutungen*. Respectively, the crisis is not about meaningful signs turning into indications, nor is it about fulfilled meanings being emptied into mere symbolic expressions, but it is about forgetting the active origin of the logical basis of the game-meanings.

### Conclusion

Thus we reach a somewhat perplexing conclusion: The game-meanings that play an important role both in the writings of early Husserl and the Husserl of the *Crisis*, do not seem to fit into Husserl's own architectonics of his *Logical Investigations*. The game-meanings are not properly either symbolic expressions or indications. Whereas symbolic expressions relate to meaningful thought and hence to what Husserl calls logic, the indications are arbitrary signs by means of which nothing is even attempted to be said. The game-meanings are not arbitrary signs as they owe their "game-meaning" to a system of rules. But they are not symbolic expressions either because they do not as such refer to extra-semiotic reality.

To get back to Wittgenstein (or rather Wittgensteinians), Husserl's view of mechanical language-games would be that the language-games are essentially inadequate to describe the functioning of language. For Husserl, those Wittgensteinians who set up formal theories to analyze the workings of language can at most capture the *Spielbedeutung* and thus fall short of saying anything about genuine meaning and language. What is really at stake in meaning and understanding remains completely unexplained in their approach. For Husserl, formal semantics would not be true semantics but only semiotics. Some Wittgensteinians think that reliance on formal semantics is precisely the view Wittgenstein tries to undercut and Husserl would agree with Wittgenstein on that reading. However,

these new Wittgensteinians would presumably think that Husserl's move to distinguish expressions from indications already shows a nonsensical impulse to philosophize and build a theory of meaning thus sharing Derrida's criticism of Husserl. However Husserl takes a different path: To be sure, Husserl is not interested in giving a theory of meaning that would explain the workings of language. Precisely because of this he needs to come up with a different kind of approach. The task of philosophy is to describe experiences of understanding from the first person perspective, and to Husserl, we all have an experience of understanding a proposition as opposed to an experience of being prompted by a sign. Thus, for Husserl, philosophy is possible and legitimate as phenomenology.

What remains mysterious is that given the importance of game-meanings to Husserl's philosophy he dedicates so very few words

to them. Rather than describing all kinds of human phenomena, including game-meanings, Husserl, in his *Logical Investigations*, instead strives to describe only logic and authentic understanding, mentioning inauthentic game-meanings only in passing. It is only later in Heidegger that one gets an analysis of inauthenticity. Husserl's neglect of inauthenticity might be because he simply is more interested in genuine understanding than mechanical *Spielbedeutungen*. But it also shows Husserl's "idealism" of some sort. It seems that by means of striving for a theory of authentic understanding Husserl hoped to secure it and to bring this about. By clarifying what authentic understanding is he wanted to revitalize it, to retrieve it. In his later philosophy Husserl is more explicit about the moral calling to philosophize. But this normative character is already present in Husserl's *Logical Investigations*.

#### ENDNOTES

1. Cf. Ludwig Wittgenstein, *Philosophical Investigations*, trans. Elizabeth Anscombe (Oxford: Basil Blackwell, ), §43. Hereafter cited as *PI*.
2. *Ibid.*, §83.
3. *Ibid.*, §130 suggesting that in fact to him a language is not itself a language-game, but something else.
4. See, e.g., Warren Goldfarb, "I Want You to Bring Me a Slab: Remarks on the Opening Sections of the *Philosophical Investigations*," *Synthese* 56 (1983): 265-47; "Wittgenstein on 2, 2, 2 . . . : The Opening of Remarks on the Foundations of Mathematics," *Synthese* 87 (1991): 143-80.
5. Husserl writes about Brentano that he understood "the eminent meaning of inauthentic representation for our whole psychical life, something that, as far as I can see, no one before him had fully comprehended." Full reference needed here: Edmund Husserl, *Philosophie der Arithmetik* (The Hague: Martinus Nijhoff, 1970), 193. Henceforth cited as *Hua XII*.
6. *Ibid.*, 192, 222.
7. Edmund Husserl, *Early Writings in the Philosophy of Logic and Mathematics*, trans. Dallas Willard (Dordrecht: Kluwer, 1994), 29. Henceforth cited as *CVA. Studien zur Arithmetik und Geometrie. Texte aus dem nachlass 1886-1901*, *Hua XXI* (The Hague: Martinus Nijhoff, 1983); *Hua XII*, 350.
8. *Hua XXI*, 61-62.
9. *Ibid.*, 62.
10. *CWV*, 17.
11. Edmund Husserl, *Logische Untersuchungen*, Erster Band, *Hua XVIII* (The Hague: Martinus Nijhoff, 1975), §9. The English translation is from Edmund Husserl, *Logical Investigations*, vol. 1, trans. J. N. Findlay (New York: Humanities, 1970), 68.
12. *Ibid.*, 69.
13. *Ibid.*
14. In the 1895 Lectures Husserl formulates his view of the kind of axiomatic theory that captures what he calls logic. In the modern terminology of mathematical logic such an axiomatic system is categorical, i.e., it defines the domain of objects up to isomorphism. In Husserl's vocabulary, in such systems of axioms, the theorems remain the same no matter in what domain we apply them; i.e., they remain the same whether we apply them to the domains of cardinals, ordinals, line segments, or durations of time, and so on (*Hua XXI*, 66). His view

#### SPIELBEDEUTUNGEN

- of logic remains essentially unaltered in the *Prolegomena*. On this see my "Husserl's *Prolegomena*: A search for the Essence of Logic," in Daniel Dahlsrom, ed. *Husserl's Logical Investigations* (Dordrecht: Kluwer, 2003), 123–46.
15. Edmund Husserl, *Logische Untersuchungen*, Zweiter Band, Hua XIX/1 (The Hague: Martinus Nijhoff, 84), §20; *Logical Investigations*, 305.
  16. Hua XVIII, §53.
  17. *Ibid.*, §54.
  18. *Ibid.*
  19. Edmund Husserl, *Formale und transzendente Logik*, Hua XVII (The Hague: Martinus Nijhoff, 1974), §33.
  20. Edmund Husserl, *Die Krisis der europäischen Wissenschaften und die transzendente Phänomenologie*, Hua VI (The Hague: Martinus Nijhoff, 1974), §9g, 48; *The Crisis of European Sciences and Transcendental Phenomenology*, trans. David Carr (Evanston: Northwestern University Press, 1970), 48.
  21. *Ibid.*, 46. Italics in original.
  22. Husserl distinguishes between symbolic expressions and empty representations in his 1908 lectures. *Vorlesungen über Bedeutungslehre Sommersemester 1908*, Hua XXVI (Dordrecht: Kluwer, 1987), §3, 13. For the sake of brevity the distinction will not be taken into account here.
  23. Hua XIX/1, VI, §1, §4.
  24. *Ibid.*, VI, §20.
  25. *Ibid.*, VI, §21.
  26. *Ibid.*, VI, §25.
  27. *Ibid.*, VI, §26. The translation is by Findlay, 741.
  28. Robert Sokolowski, "Semiotics in Husserl's Logical Investigations," in D. Zahavi and F. Stjernfelt, eds., *One Hundred Years of Phenomenology* (Dordrecht: Kluwer, 2002), 173.
  29. *Ibid.*, 175–76.
  30. I owe this distinction between signs and significations to Krzysztof Michalski, *Logic and Time*, trans. James Dodd (Dordrecht: Kluwer, 1997), 106–07. Husserl also uses the term Semiotik for the logic of symbolic methods in the *PA*.
  31. Hua XIX/1, I§1.
  32. *Ibid.*, §2. Translation is by Findlay.
  33. Sokolowski, "Semiotics in Husserl's Logical Investigations," 176.
  34. Hua XIX/1, I, §3.

Boston University, Boston, MA 02215