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# Logical Objectivity and Second Intentions

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## Abstract

At the birth of analytic philosophy, Gottlob Frege advances a conception of logic as being independent from all psychological acts of the knowing subject. Without calling into doubt logic's status as a paradigm of objectivity, the present essay challenges Frege's conception, both on logical grounds and in light of the scholastic theory of intentionality. Finding fault with two key doctrines of the analytic movement, the linguistic turn and anti-psychologism, it reinterprets them to exclude from logical consideration only those psychological acts that engender subjective interpretive variability. It then describes logic's dependence on non-interpretive psychological acts that ensue as a natural result of objects being apprehended by the intellect. These psychological acts, which are thematized in the scholastic tradition by Hervaeus Natalis as the imposition of second intentional relations of reason, do not infect logic with subjective interpretive variability, but rather, determine the justifiable parameters of logical objectivity.

## Introduction

At the birth of analytic philosophy, Gottlob Frege advances a conception of logic as being independent from all psychological acts of the knowing subject.<sup>1</sup> Without calling into doubt logic's status as a paradigm of objec-

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<sup>1</sup> G. FREGE, *The Foundations of Arithmetic*, 1884, trans. J.L. AUSTIN, London: Blackwell, 1950; *Grundgesetze der Arithmetik*, Band I, Jena, Verlag Hermann Pohle, 1893; *The Basic Laws of Arithmetic*, 1893, Preface, Introduction, §§1-52, trans., M. FURTH, Berkeley, University of California, 1964.

tivity, the present essay challenges Frege's conception, both on logical grounds and in light of the scholastic theory of intentionality. Section I *The Objectivist Turn* presents Frege's epoch-making methodological shift that inaugurates the analytic movement. Section II *The Linguistic Turn* and Section III *Frege's Anti-psychologism* critically evaluate two early dogmas of this movement.<sup>2</sup> Section IV *The Role of Intentionality in Determining Logical Form* describes the impact on logic of certain psychological acts first thematized in the medieval scholastic logical tradition as the imposition of second intentional relations of reason.<sup>3</sup> Section V concludes that logic depends on certain non-interpretive psychological acts of the knowing subject.

### I. *The Objectivist Turn*

Frege is recognized as the first philosopher to give logic methodological priority over other branches of philosophy:

From the time of Descartes until very recently the first question for philosophy was what we can know and how we can justify our claims to this knowledge. Frege was the first philosopher after Descartes to reject this perspective. For Frege logic was the beginning of philosophy; if we do not get logic right, we shall get nothing else right.<sup>4</sup>

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<sup>2</sup> MICHAEL DUMMETT affirms that analytic philosophy is born with the linguistic turn, *Origins of Analytical Philosophy*, Cambridge Massachusetts: Harvard, 1993, 5. M. KUSCH highlights the importance of Frege's refutation of psychologism to the analytic movement and notes its historical priority over that of Husserl, *Psychologism*, London, Routledge, 1995, 3.

<sup>3</sup> KWAME GYEKYE, "The Terms *Prima intentio* and *Secunda intentio* in Arabic Logic," *Speculum* 46 (1971), 32-48; SIMONE VAN REIT, *Avicenna Latinus, Liber de Philosophia Prima, Sive Scientia Divina*, Louvain-Leiden,, Peeters-Brill, 1977-1980, tract. I, cap. 2; THOMAS AQUINAS, *Quaestiones disputatae de potentia*, q. 7, a. 9, co; HERVAEUS NATALIS, *De secundis intentionibus, A Treatise of Master Hervaeus Natalis* (d.1323), *The Doctor Perspicacissimus, On Second Intentions*, trans. J. DOYLE, Milwaukee: Marquette, 2008; R. SCHMIDT, *The Domain of Logic According to Saint Thomas Aquinas*, The Hague: Nijhoff, 1966; M. TAVUZZI, "Hervaeus Natalis and the Philosophical Logic of the Thomism of the Renaissance," *Doctor Communis* 45 (1992): 132-152.

<sup>4</sup> M. DUMMETT, "Gottlob Frege," *The Encyclopedia of Philosophy*, ed. P. EDWARDS, vol. 3, New York, Macmillan Co. & The Free Press, 1967, 225-237, at 225-226.

Frege's philosophy of logic is part of the late 19th century revolt against prevalent forms of subjectivism in Western thought including empiricist inductivism, Kantian transcendental idealism, and Hegelian reduction of multiplicity to an underlying Subject or Absolute.<sup>5</sup> By asserting logic's independence from the knowing subject Frege supersedes these subjectivisms, as well as the logic of Aristotle, whose syllogistic is partially dependent on the subjective interpretation of natural language,<sup>6</sup> and of George Boole, whose calculus is a body of laws of subjective psychology "dependent upon the constitution of the intellect."<sup>7</sup>

Frege's hyper-objectivism is manifest in doctrines subsequently called "the linguistic turn" and "anti-psychologism."<sup>8</sup> Respectively these doctrines affirm that "a philosophical account of thought can be attained [only] by a philosophical account of language," and deny that "an account of the meanings of words must [or even can] be given in terms of the mental processes which they arouse in speaker or hearer" when these are "considered as unmediated by language."<sup>9</sup>

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<sup>5</sup> DUMMETT, "Gottlob Frege", 225; M. Potter, "The Birth of Analytic Philosophy," ed. D. MORAN, *The Routledge Companion to Twentieth Century Philosophy*, London, Routledge, 2008, 43-75, at 43.

<sup>6</sup> ARISTOTLE, *Prior Analytics*, I, 4-7; J. Łukasiewicz, *Aristotle's Syllogistic from the Standpoint of Modern Formal Logic*, Oxford, Clarendon Press, 1951, 2<sup>nd</sup> edition 1957, 7.

<sup>7</sup> G. BOOLE, "The Calculus of Logic", *Cambridge and Dublin Mathematical Journal*, 3 (1848), 183-198, 183; cf. P.H. NIDDITCH, "The Idea of a Complete, Automatic Language for Reasoning", in *The Development of Mathematical Logic*, New York, The Free Press, 1962, 34-37.

<sup>8</sup> RICHARD RORTY popularizes the expression "linguistic turn" attributing its coinage to Vienna Circle positivist G. Bergman, *The Linguistic Turn*, Chicago, The University of Chicago Press, 1967, 9, note 10; G. BERGMAN, *Logic and Reality*, Madison, University of Wisconsin Press, 1964, 177. M. KUSCH, *Psychologism*, London, Routledge, 1995, 98-99 attributes the coinage 'Psychologismus' to J. ERDMANN, *Die Deutsche Philosophie seit Hegels Tode* (Berlin, 1866), in criticizing Beneke's exaltation of psychology as "the foundational science for logic, just as it is... for all other sciences," F. BENEKE, *System der Logik als Kunstlehre des Denkens*, vol. 1, Berlin, F. Dümmler, 1842, 16-17.

<sup>9</sup> DUMMETT, *Origins of Analytical Philosophy*, 4; "Gottlob Frege", 225; *Origins of Analytical Philosophy*, 7.

## II. *The Linguistic Turn*

According to Michael Dummett, Frege is the first philosopher to take the linguistic turn. Specifically, in *The Foundations of Arithmetic* Frege answers in terms of language, rather than in terms of thought, the Kantian question of the how numbers are apprehended:

How then are numbers to be given to us, if we cannot have any representations or intuitions of them? Since it is only in the context of a proposition that words have any meaning, our problem becomes this: to define the sense of a proposition in which a number word occurs.<sup>10</sup>

If Frege had not taken the linguistic turn he would have answered that numbers are given to us through our subjective grasp of thoughts about them. Frege takes the linguistic turn, according to Dummett, because he recognizes that while there can be a "study of language independently of a direct study of thoughts," there can be no "study of the structure of thoughts carried out without reference to their linguistic expression."<sup>11</sup>

This claim of Dummett's seems to conflict with his acknowledgment elsewhere that for Frege "thought is graspable apart from its linguistic expression."<sup>12</sup> For Frege a comparison of thought and language can be made only by assuming that thought can be grasped without symbols:

Where a line of thought can be perfectly expressed in symbols, it will appear briefer and more perspicuous in this form than in words. Here I am presupposing that it is really the same line of thought, and that one is not following an entirely different method. Only then can the comparison be made.<sup>13</sup>

Given that thought can be grasped without its linguistic expression, it seems difficult to justify Dummett's claim that thought structure cannot

<sup>10</sup> FREGE/AUSTIN, 1884/1950, *The Foundations of Arithmetic*, section 62, 73.

<sup>11</sup> DUMMETT, *Origins of Analytical Philosophy*, 5, 7.

<sup>12</sup> DUMMETT, *Origins of Analytical Philosophy*, 10 cites FREGE's "Erkenntnisquellen", 1924/1925, *Posthumous writings*, 269.

<sup>13</sup> G. FREGE, "Frege to Hilbert, 1 October 1895", in *Gottlob Frege, Philosophical and Mathematical Correspondence*, trans. H. KAAK, Chicago, The University of Chicago, 1980, 32-34, at 33.

be studied without reference to this expression, and that the linguistic turn is thus a methodological necessity.

The linguistic turn may be accepted, however, as a methodological necessity for resolving conflicts of opinions. Language is a communally established datum whose formal structures and meanings can be symbolized and analyzed according to commonly recognizable standards.<sup>14</sup> In case of conflicts of opinions, these standards can be invoked to adjudicate subjective variability of interpretation and to establish mutual understanding:

If we could not grasp anything but what was within our own selves, then a conflict of opinions [based on] a mutual understanding would be impossible, because a common ground would be lacking, and no idea in the psychological sense can afford us such a ground. There would be no logic to be appointed arbiter in the conflict of opinions.<sup>15</sup>

Frege mentions nothing that prevents the study of the structure of thought via introspective reflection. Dummett would do better to interpret him as holding that without linguistic expression the study of thought structure would lack a criterion of adjudicating interpretive variation. Without linguistic expression, there can be no study of thought structure that is objective in the sense of being communally known to be free from varying interpretations by different knowing subjects. This does not imply, however, that linguistic expression renders logic free from influence by the psychological acts of the knowing subject, as will be discussed below.

Dummett identifies a second motive for the linguistic turn. Though Frege claims that thoughts and not sentences are the primary bearers of truth, he does not "show *how*... a sense can be grasped otherwise than as the sense of an expression to which reference can be ascribed."<sup>16</sup> Frege's defini-

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<sup>14</sup> NIDDITCH, 34-37.

<sup>15</sup> FREGE/FURTH, *The Basic Laws of Arithmetic*, 1893/1964, 17. *Grundgesetze der Arithmetik*, 14: "Wenn wir nichts erfassen könnten, als was in uns selbst ist, so wäre ein Widerstreit der Meinungen, eine gegenseitige Verständigung unmöglich, weil ein gemeinsamer Boden fehlte, und ein solcher kann keine Vorstellung im Sinne der Psychologie sein. Es gäbe keine Logik, die berufen wäre, Schiedsrichterin im Streite der Meinungen zu sein."

<sup>16</sup> DUMMETT, *Origins of Analytical Philosophy*, 10.

tion of 'sentence sense' as "the way in which its reference is given" and of 'sentence reference' as "the truth value of the sentence" suggests to Dummett that, contra Frege, sentences must be the primary truth bearers.<sup>17</sup> Since "the notion of sense cannot be explained save by appeal to that of reference," reference can hardly come after or be a property of sense.<sup>18</sup> Dummett concludes that "Frege's thesis that it is the sense to which the reference is primarily to be ascribed is incorrect."<sup>19</sup> Rather, according to Dummett "we must know what it is for a *sentence* to be true before we can know what it is for it to express a thought, and we must know what it is for an expression to have reference before we can know what it is for it to have a sense."<sup>20</sup>

Here Dummett seems to present the following dichotomy: Because sense is the way reference is given, reference must be logically prior to sense. But what, one may ask, of the possibility that sense and reference are necessarily logically simultaneous? It is difficult to imagine what a Fregean sense could be except in relation to a reference or truth value. It is difficult to imagine what a Fregean reference could be except in relation to a sense or way that the truth value is given. Sense cannot be understood without its connection to reference any more than reference can be understood without its connection to sense.

Of course, one may know the truth value of a sentence without knowing its corresponding thought. For example, if we know that on a True/False exam a student who achieved a perfect score assigned 'T' to statements 1 through 9 and 'F' to statement 10, then we know the referenc-

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<sup>17</sup> *Ibid.*, 9. FREGE defines the reference of a sentence as its truth value: "So werden wir dahin gedrängt, den Wahrheitswert eines Satzes als seine Bedeutung anzuerkennen," "Über Sinn und Bedeutung", *Zeitschrift für Philosophie und philosophische Kritik*, 1892, 25-50, 34. He also defines the sense of a sign as its mode of presentation: "... was ich den Sinn des Zeichens nennen möchte, worin die Art des Gegebenseins enthalten ist," *Ibid.*, 26. However, he gives no parallel definition of the sense of a sentence, despite discussing it at length.

<sup>18</sup> DUMMETT, *Origins of Analytical Philosophy*, 9.

<sup>19</sup> *Loc. cit.* Dummett cites FREGE, *The Basic Laws of Arithmetic*, I, which "fixes the intended interpretation of his symbolism by stipulations which lay down what the reference" of an expression is without mentioning sense.

<sup>20</sup> DUMMETT, *Origins of Analytical Philosophy*, 10.

es of statements 1-10. However, it is difficult to imagine how these statements could have references if they did not simultaneously have senses. It seems dubious that such knowledge of references without knowledge of corresponding thoughts shows that sentences rather than thoughts are the primary bearers of truth.

One might attempt to defend Dummett's position by noting that Frege postulates sense and reference as modes of presentation in a "domain of the objective" without relation to psychological acts of a knowing subject. Frege postulates them precisely in order to perform the theoretical work of eliminating the need for such a relation. By analogy one might note that a car is a mode of transportation, which logically implies a relation to a subject and to a destination. However, acknowledging this relation does not prevent one from conceiving of the car objectively, that is, completely independent of that subject and destination. The Fregean domain of the objective and its subject-independent contents are postulated precisely in order to logically precede the knowing subject. Thus, reference could attach to propositions before it attaches to thought.

Such a view of objectivity is shown to be incoherent in Section III below. Moreover, Section IV shows that a coherent view of objectivity must acknowledge a relation to the knowing subject. Here it suffices to conclude that, contra Dummett, Frege takes the linguistic turn neither because logical form can be studied only via linguistic analysis nor because the primary bearer of truth is language. Rather, Frege takes the linguistic turn because linguistic expression unlike thought is a communally recognized datum whose formal structure can be determined according to recognized standards free from the variability of psychological acts of interpretation.

### **III. Frege's Anti-psychologism**

#### *A. The Fregean Doctrine*

*The Basic Laws of Arithmetic* is Frege's most mature attempt to provide a logical system adequate to demonstrate arithmetic's fundamental theorems. The roughly twenty-five page introduction to volume I is a *locus classicus* of anti-psychologism. Frege's warning about "the corrupting in-



cursorion of psychology into logic"<sup>21</sup> centers on the distinction of being true (Wahrsein) from being taken to be true (Fürwahrgehaltenwerden):

Our conception of the laws of logic is necessarily decisive for our treatment of the science of logic, and this conception depends on our understanding of the word 'true'... Being true is different from being taken to be true, whether by one or many or everybody, and in no case is to be reduced to it.<sup>22</sup>

For Frege, while being taken to be true is a psychological act, being true involves no reference to psychological acts.

One could scarcely falsify the sense of the word 'true' more mischievously than by including in it a reference to the subjects who judge. Someone will no doubt object that the sentence "I am hungry" can be true for one person and false for another. The sentence, certainly – but not the thought; for the word "I" in the mouth of the other person denotes a different man, and hence the sentence uttered by the other person expresses a different thought.<sup>23</sup>

Of course, being true and being taken to be true are not mutually exclusive. What is taken to be true may also actually be true. However, according to Frege, the former's reference to a particular judging subject is irrelevant to truth. Frege extends this exclusion to all psychological acts because they include reference to subjects who judge. Moreover, he adds that since logic concerns the laws of truth (Gesetze des Wahrseins), the laws of logic are also independent of all psychological acts of the judging subject:

I understand by 'laws of logic' not psychological laws of takings-to-be-true, but laws of truth. If it is true that I am writing this in my chamber on the 13th of July, 1893, while the wind howls out-of-doors, then it remains true even if all men should subsequently take it to be false. If being true

<sup>21</sup> FREGE/FURTH, *The Basic Laws of Arithmetic*, 1893/1964, 11-12.

<sup>22</sup> *Ibid.*, 12-13. *Grundgesetze der Arithmetik*, 15: "Wahrsein ist etwas anderes als Fürwahrgehaltenwerden, sei es von Einem, sei es von Vielen, sei es von Allen, und ist in keiner Weise darauf zurückzuführen."

<sup>23</sup> FREGE/FURTH, *The Basic Laws of Arithmetic*, 1893/1964, 14. *Grundgesetze der Arithmetik*, 17: "Kann man ärger den Sinn des Wortes 'wahr' fälschen, als wenn man eine Beziehung auf den Urtheilenden einschliessen will!"

is thus independent of being acknowledged by somebody or other, then the laws of truth are not psychological laws: they are boundary stones set in an eternal foundation, which our thought can overflow, but never displace.<sup>24</sup>

In light of a putative distinction between the objective and the psychological, Frege posits a “domain of the objective” where being true and the laws of logic have a status independent of the judging subject, unlike acts of psychological judgment:

For me there is a domain of what is objective, which is distinct from that of what is actual, whereas the psychological logicians without ado take what is not actual to be subjective. And yet it is quite impossible to understand why something that has a status independent of the judging subject has to be actual, *i.e.*, has to be capable of acting directly or indirectly on the senses.<sup>25</sup>

Thus, for Frege, truth concerns the purely objective. It has a status independent of the judging subject and has nothing to do with actual perception or judgment.

### *B. Frege's Hyperbolic Anti-psychologism*

Error in interpreting reality is a common place of ordinary experience. Rightly insisting that aspects of psychology that give rise to misinterpretation of reality are logically irrelevant, Frege moves to eliminate them from logical consideration. In so doing, however, he eschews relation to the judging subject altogether: “One could scarcely falsify the sense of the word ‘true’ more mischievously than by including in it a reference to the

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<sup>24</sup> *Ibid.*, 13. *Grundgesetze der Arithmetik*, 15-16: “Ich verstehe unter logischen Gesetzen nicht psychologische Gesetze des Fürwahrhaltens, sondern Gesetze des Wahrseins.”

<sup>25</sup> FREGE/FURTH, *The Basic Laws of Arithmetic*, 1893/1964, 15-16. *Grundgesetze der Arithmetik*, 18: “Ich erkenne ein Gebiet des Objectiven, Nichtwirklichen an, während die psychologischen Logiker das Nichtwirkliche ohne weiteres für subjectiv halten. Und doch ist gar nicht einzusehen, warum das, was einen vom Urtheilenden unabhängigen Bestand hat, wirklich sein, d. h. doch wohl fähig sein müsse, unmittelbar oder mittelbar auf die Sinne zu wirken.”

subjects who judge.”<sup>26</sup> Here Frege overshoots his mark. The observation that psychological acts of “takings-to-be-true” are irrelevant to logic warrants excluding these but not all psychological acts from the consideration of logic and its laws.

Frege considers that he has shown truth to be entirely subject-independent. This is his motive for positing a “domain of what is objective” to which being true and the laws of logic pertain, but to which the psychology of the judging subject is irrelevant. To the contrary, psychological acts thematized in the scholastic tradition as the attribution of second intentions are relevant to truth and to the laws of logic. The dependence of logic on second intentions will be discussed below immediately following an evaluation of the coherence of Frege’s doctrine.

### *C. Incoherence and Contradiction*

A problem arises regarding the coherence of Frege’s distinction of being true from being taken to be true. What is taken to be true may or may not be true, as ordinary experience show. However, if being true excludes all reference to a judging subject, then how could being taken to be true, which includes such reference, ever truly be taken to be true? The argument can be made via *modus tollens* and double negation:

- 1) If being true excludes all reference to a judging subject, then being taken to be true, which includes reference to a judging subject, is not truly being taken to be true.
- 2) Being taken to be true, which includes reference to a judging subject, truly is being taken to be true.
- 3) Being true does not exclude all reference to a judging subject.

Thus, there is a truth about being taken to be true, namely that it truly is taken to be true, which includes reference to a judging subject.

Frege postulates truth as having no relation to a judging subject because he recognizes the irrelevance to truth of being taken to be true. A

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<sup>26</sup> FREGE/FURTH, *The Basic Laws of Arithmetic*, 1893/1964, 14.

postulate, however, is justifiable only if it coheres with the system within which it is postulated. The observation that there is a truth about the psychological act of being taken to be true does not cohere with Frege's characterization of the true as excluding all reference to a judging subject. The truth about being taken to be true, namely that it really is taken to be true, cannot be characterized as objective in Frege's sense of what "has a status independent of the judging subject."<sup>27</sup>

In general the appearance-reality distinction breaks down unless we admit that, beyond what might be deceptive about appearance there is something true about it, namely that it really is appearance. In particular, Frege can avoid incoherence and contradiction only by recognizing that there is something true about being taken to be true, namely that it really is taken to be true, and thus, that being true cannot exclude reference to the judging subject.

#### IV. *The Role of Intentionality in Determining Logical Form*

Aristotle, recognizing the relevance of logical form to reasoning, replaces parts of natural language arguments with content neutral symbols for that form, thereby partially freeing logic from dependence on the subjective interpretation of natural language.<sup>28</sup> Over two thousand years later, Frege's *Concept Script*<sup>29</sup> provides the first fully symbolic quantificational logic adequate for arguments about multiple generality required in mathematics.<sup>30</sup> Frege's anti-psychologistic conception of logic, however, while aimed at guaranteeing logic's objectivity, obscures the role of intentionality in de-

<sup>27</sup> *Ibid.*, 15-16.

<sup>28</sup> For example, ARISTOTLE categorizes valid arguments according to figure ( $\sigma\chi\eta\mu\alpha$ ), or the location of their middle term, *Prior Analytics*, I, 4-7; cf. JAN ŁUKASIEWICZ, *Aristotle's syllogistic from the Standpoint of Modern Formal Logic*, Oxford, Clarendon, 1951, 7-8.

<sup>29</sup> *Concept Script*, 1879, trans. S. BAUER-MENGELBERG, in *From Frege to Gödel*, ed. J. VAN HEIJENOORT, Cambridge, Harvard, 1976, 1-82.

<sup>30</sup> For example, the successor relation (S), "Every natural number has some successor" or " $(\forall x) (Nx \rightarrow (\exists y) (Ny \ \& \ Syx))$ ;" cf. *Frege's Philosophy in Context*, ed. M. BEANEY, E.H. RECK, London, Routledge, 2005, 216.

termining logical form. This role is brought to light on the basis of scholastic philosophical tenets within a theory of intentionality that identifies logic's proper subject matter as second intentional relations of reason.

### *A. The Scholastic Theory of Intentionality*

Scholastics in the Aristotelian tradition hold that all knowledge begins with the senses.<sup>31</sup> On this basis, concrete mind-independent real beings come to be mentally present to the knowing subject through acts of simple apprehension.<sup>32</sup> All other knowledge, whether of real beings or of abstract mind-dependent beings of reason such as privations, negations, contradictory objects, chimeras, logical relations and the like, is grounded in sense-based knowledge of real beings.<sup>33</sup> Thus all knowledge has a metaphysical foundation and implies a metaphysical distinction of knower and known.

In this tradition all knowledge also implies a logical distinction of object as what is mentally present to a subject, and subject as that to which object is mentally present.<sup>34</sup> Whatever the knowing subject takes as its object, whether real being or being of reason, has its foundation in reality and to that extent is metaphysically distinct from the knowing subject.

In contrast to the metaphysical and logical distinctions implied in knowledge, this tradition further affirms the mutual epistemic determination of knowing subject and object known, for which it coins the term

<sup>31</sup> AQUINAS, *Summa Theologiae*, I, 78, 4, 4: "Intellectus nihil cognoscit nisi accipiendo a sensu;" cf. I, 84, 3, co.; ARISTOTLE, *Posterior Analytics*, II, 19, 99b20-35.

<sup>32</sup> cf. AQUINAS, *Summa Theologiae*, I, 78-79, 84-86; cf. note 44 below. A defense of the claim that we know real being through the senses falls outside the scope of the present discussion.

<sup>33</sup> The distinction between real being and being of reason distinction is rooted in Aristotle's distinction of being in the categories and being as true, *Metaphysics*, V, 7 1017a22-35; cf. AQUINAS, *De ente et essentia*, I, 1. HERVAEUS NATALIS specifies that unlike beings of reason, real beings have being "circumscripta omni operatione intellectus," *De secundis intentionibus*, I, 1, *contra*; cf. B. WUELLNER, *A Dictionary of Scholastic Philosophy*, Milwaukee, Bruce Publishing, 1966, 32-33.

<sup>34</sup> AQUINAS, *Summa Theologiae*, I, q. 1, a, 7, co.: "Proprie autem illud assignatur obiectum alicuius potentiae vel habitus, sub cuius ratione omnia referuntur ad potentiam vel habitum."

'intentionality'.<sup>35</sup> What may be called the *recipitur dictum*<sup>36</sup> that "whatever is received is received according to the mode of the receiver" implies not only that the object known epistemically determines the knowing subject, but also that the knowing subject, in virtue of its mode of receiving, and only to that extent, epistemically determines the object known.

In light of the *recipitur dictum*, truth and reference are also recognized as being intentional in nature. Truth as conformity of intellect and reality implies, not only that the intellect conforms to reality, but also that reality, in virtue of the intellect's mode of apprehending it, and only to that extent, conforms to the intellect.<sup>37</sup> Similarly, not only does the referring subject conform to the object referred to, but also the object referred to conforms to the knowing subject in virtue of the subject's mode of apprehending it (and only to that extent).

Intentionality may be considered formally with respect to whatever concerns the subject's act of knowing, or materially with respect to whatever concerns the object known.<sup>38</sup> Intentionality considered formally concerns whatever is involved when the intellect knows something, including intelligible species, acts of understanding, and concepts.<sup>39</sup> An intention taken formally is an object only (*tantum*) as terminus of an act of under-

<sup>35</sup> HERVAEUS NATALIS coins the term 'intentionalitas' to highlight the epistemic determination of object by subject; cf. *De secundis intentionibus*. Scholastic usage contrasts contemporary usage of the term 'intentionality, which indicates only the epistemic directedness of subject towards object.

<sup>36</sup> "Omne quod recipitur in aliquo, recipitur in eo per modum recipientis," AQUINAS, *Super. Sententias*, lib., II, d. 17, q. 2, a. 1, arg. 3 and *De potentia Dei* q. 3, a. 11, arg. 14; cf. PSEUDO-DIONYSIUS' *De divinis nominibus*, IV, 1 and *De caelesti hierarchia*, XII, 2; BOETHIUS, *De consolatione philosophiae*, V, proem. 4.

<sup>37</sup> "Veritas est adaequatio rei et intellectus," AQUINAS, *Quaestiones disputatae de veritate*, q. 1, a. 1, co.; cf. VAN RIET, *Avicenna Latinus, Liber de Philosophia Prima*, tract. I, cap. 8, p. 55: "Veritas autem quae adaequatur rei, illa est certa, sed est certa, ut puto, respectu suae comparationis ad rem, et est veritas respectu comparationis rei ad ipsam." (Translation of the author)

<sup>38</sup> HERVAEUS, I, 1, resp.: "...illud...quod per modum repraesentationis ducit intellectum in cognitionem alicuius rei" and "illud quod se tenet ex parte rei intellectae."

<sup>39</sup> HERVAEUS, I, 1, resp.: "... omne...illud...quod ducit intellectum in cognitionem alicuius rei, sive illud sit species intelligibilis, sive sit actus intelligendi, sive conceptus mentis." "... terminum tantum ipsius tendentiae;" cf. TAVUZZI, 1992, 136.

standing.<sup>40</sup> Intentionality considered materially concerns that to which an act of understanding tends.<sup>41</sup> An intention taken materially is that which is understood taken as object.<sup>42</sup>

### *B. First and Second Intentions*

In this tradition objects are considered with respect to two levels of intentionality. What are referred to as "first intentions" are objects inasmuch as they are known through features actually present to the intellect. They are denoted by terms of first imposition, such as 'man,' 'ox,' 'white,' or 'black' for positive real beings, and 'blind' and 'deaf' for privative beings of reason.<sup>43</sup> A first intention attests to an object's indubitable nature and proximate or remote foundation in reality.<sup>44</sup>

By contrast, what are referred to as "second intentions" are features that are not present to the intellect first intentionally, but that accrue to objects as a natural result of the subject's mode of exercising an act of knowing.<sup>45</sup> They are denoted by terms of second imposition such as those

<sup>40</sup> HERVAEUS I, 1, resp.: "... terminum tantum ipsius tendentiae."

<sup>41</sup> *Ibid.*: "... res ipsa quae intelligitur in quantum in ipsam tenditur intellectus."

<sup>42</sup> *Ibid.*: "... illud quod intelligitur quicquid sit illud."

<sup>43</sup> *Ibid.*: "... nomina primae inpositionis significant primam intentionem ..." and "... sive affirmative ut homo, bos, album, nigrum, et similia, sive privative ut caecum, surdum, et similia, et ista pertinent ad primam intentionem materialiter captam."

<sup>44</sup> Some scholastics characterize intentionality as representational, thereby prompting polemics about the foundation of intentional objects in reality. ARISTOTLE and AQUINAS emphasize that judgments, not acts of intention, are susceptible to falsity, *De anima*, III 6, 430a, 27-28; *Commentary on Aristotle's De anima*, lib. III, lect. 11, n. 16. AQUINAS also notes that a nature's foundation in being is warranted not by cognition's insusceptibility to error, but by a nature's actual intelligibility, since a given nature is intelligible to the extent that it is in act, *Super Boetium De Trinitate*, Q. V, a. 3, 121-132; *Sententia libri De anima*, Lib. III, 1, 11, n. 19. Evaluation of this doctrine falls outside the scope of the present discussion.

<sup>45</sup> AQUINAS, *Scriptum super Sententiis*, Lib. 1 d. 23 q. 1 a. 3 co; *Quaestiones disputatae de veritate*, 21, 3 ad 5. In discussing logic's subject matter Aquinas describes second intentions as "... illis intentionibus, quas ratio adinvenit in rebus consideratis ... quae quidem non inveniuntur in rerum natura, sed considerationem rationis consequuntur," *Sententia libri Metaphysicae*, Lib. IV, lec. 4, n. 5. HERVAEUS associates first and second intentions with terms of first and second imposition. *De secundis intentionibus*, I, 1, *responsio*.

mentioned below, but become first intentions when they are taken as objects by the knowing subject.

Second intentions accrue to objects taken first intentionally as a result of the three acts of the intellect.<sup>46</sup> In acts of simple apprehension the second intentions ‘genus’, ‘species’, ‘difference’, and the like accrue to objects treated by syllogistic logic, while the second intentions ‘conjunct’, ‘antecedent’, ‘consequent’, and the like accrue to objects treated by both propositional and predicate logic. In acts of judgment the second intentions ‘subject’ and ‘predicate’ accrue to objects treated by syllogistic logic, while the second intentions ‘compound’, ‘negation’, ‘conjunction’, and the like accrue to objects treated by both propositional and predicate logic, and the second intentions ‘function’ and ‘argument’ accrue to objects treated by predicate logic alone. In acts of reasoning the second intentions ‘major’, ‘minor’, and ‘middle’ accrue to objects treated by syllogistic logic, while the second intentions ‘premise’ and ‘conclusion’ accrue to objects treated by all forms of logic.

### *C. Logic’s Proper Subject Matter:*

#### *Second Intentional Relations of Reason*

The scholastic tradition describes logic’s proper subject matter as those relations that accrue second intentionally to its objects.<sup>47</sup> This description applies not only to the Aristotelian syllogistic with which this tradition primarily is concerned, but to all forms of logic. It is through relations be-

<sup>46</sup> cf. TAVUZZI, 1992, 137.

<sup>47</sup> AQUINAS identifies the proper object of logic generally as the order that reason establishes in its own acts, *Sententia libri Ethicorum*, lect. 1, comm. 1. HERVAEUS NATALIS relates that logic treats second intentions, those features that accrue to things as a result of their being known. The proper object of logic comprises relations among second intentions indicated by species, genera, and universals, and relations of those objects to the intellect, such as their *esse intellectum* and *esse obiective*, *Quaestiones quodlibetales*, 1309, ed. M. A. Zimara, G. ARRIVABENUM, Venice 1513, reprinted Ridgewood, (NJ), Gregg Press, 1966, qdl. III, q. 1, a. 3 and 1309-1316/2008, q. V, a. 2, resp. Tavuzzi notes that these are “relations of reason, purely logical predicates which accrue to real entities only insofar as they exist *obiective* in the soul, and not at all as they exercise extramental being.” TAVUZZI, 1992, 136-137.



tween second intentions, for example, of the various kinds mentioned in the preceding paragraph, that the mind is able to move on the basis of what is known to what is previously unknown,<sup>48</sup> and thus, "their consideration is useful in order to have the common way of proceeding in other sciences."<sup>49</sup>

In syllogistic logic relations of affirmation or denial of the inclusion or exclusion of all or some of one class of objects with respect to another class of objects taken as first intentions accrue second intentionally as a natural result of how these classes are considered by the intellect. For example, to a first intention of apples a second intentional relation such as inclusion in the genus 'fruit' may accrue as a natural result of how the first intention is considered by the intellect. Similarly, whether a species or genus is taken as a subject or a predicate, and whether a proposition is taken as a premise or a conclusion are second intentional relations that accrue as a natural result of how they are considered by the intellect.

In propositional logic, relations of negation, conjunction, disjunction, and implication among propositions taken as first intentions accrue second intentionally as a natural result of how these propositions are considered by the intellect.

In predicate calculus, relations of affirmation or denial of the application or non-application of all or some arguments of a given nature with respect to functions of a given nature taken as first intentions, as well as relations of negation, conjunction, disjunction, and implication among propositions taken as first intentions accrue second intentionally as a natural result of how they are considered by the intellect.

In the scholastic logical tradition the laws of logic depend ultimately on the metaphysical foundation of knowledge. This foundation implies

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<sup>48</sup> AL FARABI, *Ihsa' al-'ulum (Enumeration of the Sciences)*, Cairo, Librairie Anglo-Égyptienne, 3<sup>rd</sup> ed., 1968, 67-69; VAN RIET, *Avicenna Latinus, Liber de Philosophia Prima*, tract. I, cap. 2, 10: "Subiectum vero logicae ... sunt intentiones intellectae secundo, quae apponuntur intentionibus primo, secundum hoc quod per eas pervenitur de cognitio ad incognitum;" ALBERT THE GREAT, *De praedicabilibus*, tr. I, c. 5, ed. BORGNET, M I, 8b.

<sup>49</sup> HERVAEUS, *De secundis intentionibus*, V, 3, *responsio*: "Logica considerat entia rationis in quantum eorum consideratio est utilis ad habendum modum commune procedendi in aliis scientiis."

both the distinction of knowing subject and object known, and in light of the *recipitur dictum*, their mutual if partial epistemic determination. The knowing subject epistemically determines the object known to the extent that it receives that object according to its mode of knowing. Thus, the imposition of second intentional relations onto objects of first intention constitutes a psychological act fundamental to logic.

### V. Conclusion

This essay rejects the view prevalent in the analytic tradition that logical objectivity requires independence from all psychological acts of the knowing subject. Without calling into doubt logic's status as a paradigm of objectivity, it finds fault with this view both on logical grounds and in light of scholastic doctrine on intentionality.

After describing Gottlob Frege's epoch-making shift in philosophical methodology, it draws attention to inadequacies in two fundamental analytic doctrines. The linguistic turn is philosophically significant, not because of the purported impossibility of studying thought structure apart from language structure, which is taken to be independent of subjective psychology, but because linguistic expression, unlike thought, is a communal datum whose structure can be grasped according to commonly recognized standards, free from the variability of subjective introspective interpretation. Similarly, anti-psychologism is philosophically significant, not because of the purported irrelevance of all psychological acts to truth, but because psychological acts that engender interpretive variability are logically irrelevant. Given that any truth about being taken to be true necessarily bears a relation to the judging subject's psychological acts, Frege's hyperbolic rendition of anti-psychologism is shown to be incoherent.

In view of scholastic doctrine on the nature of intentionality and its role in logic, this essay further shows that a coherent characterization of objectivity must acknowledge the impact of certain psychological acts thematized by Hervaeus Natalis as the imposition of second intentional relations of reason. Invoking the principle here called the *recipitur dictum*, that whatever is received is received according to the mode of the

receiver, scholastic logicians recognize the mutual if partial determination of subject and object. Thus, in relations of truth and knowledge not only does the intellect conform to reality, but reality, in virtue of the intellect's mode of apprehending it, and only to that extent, conforms to the intellect. The objectivity of logic rests on the metaphysical foundation of knowledge, which implies the distinction of knowing subject and object known, as well as the partial determination of the object known according to the knowing subject's mode of apprehending it intentionally. The scholastics identify the relations that the intellect imposes second intentionality onto objects of first intention as logic's proper subject matter.

The psychological act of imposing second intentional relations onto objects of first intention does not infect logic with the interpretive variability that a measured anti-psychologism justifiably repudiates. Relations between second intentions do not vary with the knowing subject's interpretation. The laws governing these relations are the laws of truth that Frege incoherently attempts to isolate from all psychological acts by placing them in a "domain of what is objective."<sup>50</sup> By casting reference as truth value and attempting to grant it logical priority over sense,<sup>51</sup> and by attempting to eliminate from logical consideration all "reference to the subjects who judge,"<sup>52</sup> Frege obscures the partial codetermination of subject and object, and the logical role of psychological acts of second intention highlighted by Hervaeus. The linguistic turn and anti-psychologism bring to light the true nature of logical objectivity only when they are interpreted within the framework described by the scholastic logical doctrine of intentionality.

Logical theory is justified in excluding from its consideration psychological acts of the knowing subject by which interpretation may vary from one knowing subject to another. It transcends the justifiable and enters into incoherence, however, when it claims that logical objectivity requires independence of all psychological acts.

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<sup>50</sup> FREGE/FURTH, *The Basic Laws of Arithmetic*, 1893/1964, 13.

<sup>51</sup> FREGE, *Über Sinn und Bedeutung*, 1892, 34.

<sup>52</sup> FREGE, *Grundgesetze der Arithmetik*, 14: "... eine Beziehung auf den Urtheilenden."