



A PHILOSOPHICAL RECAP OF THE NOTION OF SEMANTIC VALUE: AN ARGUMENT FOR SEMANTIC FOUNDATIONALISM AND A REVIEW OF THE PRAGMATIC FOUNDATION OF CONSENSUS PRODUCTION

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ABSTRACT: This paper is an assessment of the scientific role of the study of semantics to represent the technical types of consensus produced in human practice. We intend to bring up the problem of meaning outside the comfortable sphere of a simple, synchronic and a-historical line between meaning and pseudo-meaning. On the other hand, we question Quine's skepticism about the theoretical usefulness of postulating meanings. We will reverse the point of Quine's skeptical argument by stating that the underdetermination of an intensional theory by behavioral facts - the multiplicity of equally valid analytical hypotheses - favors the conclusion that intensional theories are necessary rather than disposable. We will argue that the theoretical understanding of the intensional hypothesis of use for sentences is an option to give stability to interpretative exchanges and communications. And it is so especially in contexts that favor the multiplicity of hypotheses about meaning (e.g., translation). Finally, we will make an apologetic return to the Fregean concept of *Sense*, arguing that there is a utility for semantic values even in contexts in which they depend on theoretical or regional contexts to be unlocked as a possible reference coordinate (modal, counterfactual contexts, etc.). We propose that "meaning" should not be understood as a projection of success, canonized as an absolute rational method; but rather as a series of strategies of assertion, which develop circularly in the historical sphere of communication. Our thesis can be situated as an alliance of Dummett's pragmatic interpretation of the Fregean concept of *Sinn*.

KEYWORDS: Semantics, Consensus, Meaning, Pragmatism.

1. Semantic values: reference and content as semantic priorities

According to John Martin, professor of the University of Cincinnati, in his *Semantics of Frege Grundgesetze*, "It has become the custom to describe a general approach to modern semantics as Fregean. Its main feature is a certain parallelism between syntax and semantics that is suggested in some of Frege's writings" (1984, p. 144). On the following page, the author writes: "In 'On sense and reference' in particular, he seems to assume a syntax in which parts determine wholes and a parallel semantic structure in which the references of syntactic parts determine the references of syntactic wholes" (MARTIM, 1984, p. 145). The discussions on the concept of reference (*Bedeutung*) after Frege aim to locate the study of the designative-

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relation in a technical route: predicates are mapped to their instances, and sentences are mapped to truth values. The concept of *saturation* represents the semantic relationship as an extensional expression capable of systematizing links between syntactical systems and models. We can track the origins of that conception to Bolzano: "Bolzano's doctrine redirects conceptual analysis onto the path that will eventually lead to Frege's *Begriffsschrift*" (COFFA, 1993, p. 32). From these considerations arises the concept of analysis and monomorphic parallelism that so fundamentally influenced the philosophy of the twentieth century.

One of the most important consequences Bolzano drew ... was a radical reformulation of an implicit semantic assumption that had enjoyed widespread acceptance since the times of Leibniz, the doctrine that an appropriate analysis of a subjective representation should identify in it as many parts as there are in the object represented. (COFFA, 1993, p.31)

The tortuous paths of semantic discussions of the twentieth century began somewhat unexpectedly, thanks to the controversies about the fundamentals of mathematics of the previous century. Most of the progress in the technical material developed to map values to expressions was made under the pressure of overcoming the structural indiscernibility of correlations between second-order concepts, among which would be: numbers. As time has passed, it became increasingly clear that the cost to achieve categoricity, or the extensional isomorphism between the possible interpretations of these complex concepts, was a high cost. After the decisive push of Godel's proofs, the study in question came closer to the format in which we see it today. Rudolph Carnap, who felt this pressure and, like few, converted it into rich philosophical reflection, learned to add semantic content to his syntax system: "Carnap's new approach was based on the idea that in order to define 'analytic' we must begin by correlating expressions with what he calls their values, presumably what they agree to stand for" (COFFA, 1993, p. 291).

Carnap's failure in representing all semantic notions by syntactic reductionism is a consequence that the notion of truth, i.e., our possible knowledge of what distinguishes a sentence from its contradiction, is irreducible. This brings us back to Frege. Whatever we know when we know that a sentence is true is not a formula we can repeat and reproduce by its general features. It is not an information about the connection of subject and predicate. It is a different kind of knowledge, involved in the cognition of the possible saturation of a function. What we can do is to map a value to a sentence and to mark it as a semantic value if it is interchangeable with elements that resemble it exactly in the determinate point that they share semantically. So there is no such a thing as a syntactic reflection isolated from semantics. The syntax is the abstraction of the semantic most general categories. A syntax that can represent extensional

generalization can project possible semantic content in a maximized way, i.e., extracting the most it can from every possible interpretation. This only shows that a Fregean syntax helps to give a full account of the conditions in which a sentence is entitled to be asserted, i.e., the conditions in which whatever is the extra-linguistic content, it gives just one semantic value to the sentence.

What we understand today as semantic knowledge is directly linked to the Fregean conception. Thus, one can determine logical category-places through a variety of expressions: nine is the square root of three, and also the sum of five with four. The way we code the referential relation is not merely formal, or topic-neutral; it contains some information that can be retrieved semantically. The logical place of the object "nine" can be reclaimed semantically by more than one propositional analysis, which, as a function, represents the generating operations that coordinate the reference to that object. So those objects, as far as they are surrogates of semantic values, can be coded and retrieved by semantic keys. Those keys code their cooperative value to repeat the guidance to a reference. A technical definition can save time: it reveals what is semantic knowledge in our interpretation and communication practices. It is defined as what contributes or is cooperative to guide the reference of the sign.

What is called a "semantic value" is the aspect of the sentence that is cooperative to the point to offer it a unitary knowledge of its reference. If there is no reference, the *intentional pointing* will remain semantically relevant if it is to be categorically integrated into the rest of the rules of the language and unified. It has to remain an incorporated cooperative unit to a possible or categorial meaning. That cooperation is reflected and generalized by the syntax. We say we know the meaning of the sign "Kripke's book on Wittgenstein" not because we know how to select its reference in a list of items, but because we can abstract the semantic value of the expression. This obviously may be useless, and in fact should not be overestimated, unless the aim is to situate our knowledge within a recursive table:

...equipped with the values of the constituents, we need only match them to the appropriate row of the appropriate recursive table (...). Once we are adept of these techniques we can easily produce tables in which our target sentence is assigned a definite value in each row (ETCHEMENDY, 1999, p. 16)

The dreams of logical syntax, present in different authors such as Frege and Carnap, and that also played a role in the paraphrasing methods of Russell and the first Wittgenstein, had this underlying understanding that a simple enough syntax could contain nothing short of referential-designating instructions, that is, it could not project any information that was short of semantic content.

2. Semantic knowledge as the minimum of knowledge of its consensual role: the concept of inertia for semantic projection

Let's take an example of any word, functioning as a predicate in a language. 'Blue' will do. According to the concept of semantic value, which we can also call a category value, that we outlined in the previous chapter, we may now say that what the word projects of a semantic nature is only what can function as a router of minimum meaning. It is the intentional instruction that offers knowledge of its structural role within language. This role is structural because it is an instance of the contribution of the expression in cooperation with the *native elements* of the language. It is the minimum knowledge one should have for the expression to be a router of its pattern or generalization when combined with the native elements of that language. So it would lose that value in circumstances other than that, for example, if it is included in another language. The projected pattern must be a rule that matches the more general rules of the language. It cannot simply be a code or *ad hoc* rule, because in this case, a person without knowledge of English could say they know how to use 'blue' just by memorizing their regular behavior. What one calls semantic or categorial in a word like "blue" is the information that resembles every word of the same category. And its potential router of meaning is the rule that projects it within language.

This is the basic message involved in the statement that knowing the meaning of "blue" is knowing the relevant part of that word to produce a class of sustainable analytical sentences in English, such as "the blue sky is not green". We will say that the categorial element of the concept creates inertia that determines its analyticity. A brief introduction may be given for the inclusion of that technical term. We are using the concept of *inertia* as an analogy with the concept of classic physics. It represents the tendency of movement towards a gravity pull. In semantics, the analogy is set to invoke the fact that certain truths and conclusions are favored inside that language. I.e., if no counter-movement stops it, those truths and conclusions tend to be inclined towards the categorial gravity pull of that language.

The inertia created by the significant pattern of "blue" makes it unsustainable to deny that it is "not green". If we only use the minimum inertial weight of these words, therefore, which is the *least they share* with the rest of the native elements of the language in which they occur, we cannot deny "the blue sky is not green" without contradiction.

It follows from this definition that words whose minimal projective instruction is poor, such as defined descriptions used in dependency-contexts, are also poor in meaning-value. They need more semantic load than that provided by the native elements of language to acquire the inertia that the other words have just by existing in that language. Descriptions seem to have a

semantic disadvantage over proper names (or rigidified expressions), judging by this reflection, because descriptive content needs more rules to inform its designation (especially in contrary to fact circumstances). It is not enough, in this case, to have a coherent and complete theory of meaning to know how to use it. This is the sense in which "King of France" or "Author of Waverley" have a poor meaning. They were conceived as incomplete symbols, by Russell: "denoting phrases never have any meaning in themselves, but that every proposition in whose verbal expression they occur has a meaning" (RUSSELL, 1905, p. 480). This is compatible to say that those expressions need rules that are not the formal rules of language to project its designating instructions (unless we find a Russellian way of paraphrasing their descriptive content away). Anyway, even paraphrasing them away does not change the fact that it is not enough to know the context of minimum category consensus in which those expressions are produced to know how to use it without contradiction. They can design a valid pattern for conflicting instances. So the pattern turns out invalid in the long run.

Abstracting this semantic value is to find a coordinate for the determination of this value that can be reproduced or reconstructed in any context of expression that does not violate a *minimum unit of semantic consensus*. Monomorphic or categorial structures are those that have its native elements homogeneous to model all their signs, so no sign needs more semantic rules to be modeled as meaningful. Words that rely on non-consensual support to be known have limited semantic value. They are used with incomplete knowledge of their possible generality. They cannot be generalized inside the structure only with the use of the native elements of the syntax. So they have a counter-inertia. The easiest expression for characterizing those elements is its problematic extensional aspect. Some have an irreducible intensionality. Of course, if they could be easily reduced to an extension, their possible generalization would be granted (and that is exactly what we agreed they can't do). As we will see, that hard extensional characterization is, at worst hypothesis, the symptom of something wrong in the categorial structure of the language, but that's not to say that those expressions lack meaning. It only means that the categorial structure may need to adjust to make them project their meaning. Of course that is not the ideal case for interpretation. The ideal case is the one in which the expression is uttered with maximum inertia. Even then, it is too radical to say they lack meaning. What we can say is that their semantic cost is higher, or that they are coded with incomplete knowledge of their analytical combinations, or yet that they do not project its pattern just by the *inertia* of their categorial contribution. They need to generate this inertial weight by hyper-semantic coding capabilities, in conjectural contexts of semantic hypothesis. This is the case, for

example, of necessary non-analytical propositions - such as those codified by empirical science (and which were called synthetic *a priori* by Kant). To be understood, it does not suffice to have knowledge of its semantic value projected by the language, nor does it suffice to know some class of empirical facts. They still have meaning nonetheless. It is conjectural and constructed outside the categories of the language, but it is still meaning. Hyper-semantics, in the sense of a higher-conceptual or conjectural semantic theory, is still semantics. Some meanings are only approximations of meaning; they have limited interchangeable characteristics. They are understood only inside the field of a scientific paradigm, or a field of limited cultural consensus. So they would fail to be translated outside those fields. They are still meaningful, though. Translations are the typical example that can only succeed by exploring conjecture fields. We will argue that translation is not, as Quine thought, the ultimate evidence in favour of skepticism about meaning.

Our thesis is moderate. If the expression has something able to transmit meaning, even if contextual, that is enough to help the universalization of its interpretation. We think that the important thing to know about the meaning is to achieve the maximum that the expression can give in its categorical contribution. It will only be dry-empty of meaning in radical categorial-infraction circumstances when it projects truth and falsehood in the extensional row of a truth-table, i.e. when nothing general can be extracted from it. This is to reach the routing limits of its use in a context. Knowing the "meaning" of the word is to know the semantic pattern it projects, but also the semantic support on which it depends to generalize this pattern or the nature of the consensus that sustains it as significant without an extra-load. As long as one knows how to give the word a unified and technical function, he knows how it is integrated harmoniously into the rest of the language. But it is not *the* "language" that conditions that unification of value. This can be done in contexts of translation, where the parties need to negotiate the consensual basis, and in the construction of scientific paradigmaticity (synthetic *a priori*). Then, to sum up, to know the meaning is to know everything a word can give of semantic contribution within a context of consensus that is stable, without breaking it or making it unsustainable.

3. Meaning skepticism and an answer to it

As the syntax of the natural language builds its association and identification resources historically, it is obvious that what we call its "syntax" will be filled with figures, metaphorical resources, conceptual residues borrowed from religion, science, and primitive *totemic*

classification, etc. First analytical philosophers (specially Frege and Russell) thought this was an unfortunate condition. Reforming this deficient condition was taken as a kind of institutional mission of this school. This conception ended up clearing the notion of Meaning of his myths and superstitions, until talking about *meaning* was no more than a simple way to dis-quote some sentences and classify them as instances of Tarski's bi-conditional ('p' is true if p). It seemed that there is no need for semantic theoretical notions after Tarski. Although exaggerated, this position was predictable by the line of evolution drawn from the beginning of this tradition. If a sentence having meaning is no more than its classification in a language in which it can be uttered out of citation (disquoted), then, predictably, the theoretical part of our understanding of the meaning never goes beyond the extensional understanding of the sentence within the language. The ability to mention the sentence in a Tarskian biconditional, thus, is all that is *theoretical* in a theory of meaning. This also means that the state of "significance" or "interpretability" of the sentence coincides with the state in which it does not need collateral and technical information that would break or divide the unity of the theory that predicts it.

So the significance - or the "*Interpretable*" character of the sentence - is but the role of this sentence within a language and the use of it for people who need merely structural knowledge to utter it. We do not need to re-reconstruct this knowledge as an intensional and ultra-theoretical cognition, even if we could. The question seems to be closed. It seems that way, though, as we speak and understand ourselves in the simplest and most consensual dimensions of life. Nonetheless, in those more delicate circumstances, when diplomacy or legal rules seem to find no ground of common agreement, this thesis faces new challenges. Analytical philosophy has never been comfortable talking about these areas of misunderstanding. But a philosopher brought to the discussion a ground of theoretical speculation where meaning seems to face similar radical challenges: translation. Quine, discussing a hypothetical scene in which two linguists dispute the codification (the construction of a manual) of a native verbal behavior, said, "my position is that either manual could be useful, but as to which was right and which was wrong there was no fact of the matter" (QUINE, 1977, p. 167). It is symptomatic of this quote that Quine used the criteria of right and wrong because this reconnects the question of meaning to the ancient controversy of analytical philosophy about the possible interpretations of moral sentences: "Our contention is simply that, in our language, sentences that contain normative ethical symbols are not equivalent to sentences which express psychological propositions" (AYER, 1974, p. 140). The evaluative vocabulary gives a false appearance of "fact" to normative properties of language. In *Two Dogmas*, this controversy is advanced

through other paths. Quine believes that intensional vocabulary and adverbs of necessity are characteristic of a language that already has the maturity to dis-quote its modal sentences in Tarski's way, explicitly showing its concept of "consequence" as extensional logical truths. Our objection, in the next lines, will follow the question: could this conversion of the linguistic and grammatical norm into evaluative or even moral "fact" (right and wrong) not be an intrinsic part of the linguistic competence of the native who understands the necessary sentences of his language? If so, in this case, Quine's argument says something true about the circularity of the definition of "analytical" and "meaning", but fails to convince about the disposable aspect of these meanings.

This question gives us tools to reply to Quine's skepticism about semantic foundationalism and intensionalism. When we need to solve empirical problems about the truth of sentences, we cannot separate them from the problem of the meaning pattern that offers identity pressures to decide to one rather than another side of a dispute. That's the aspect of the Sense problem that Quine and other skeptics can't avoid: the problem never parks into the extensional problem. Precisely because the meaning is indeterminate and subdetermined by the extension (more than one rule can govern the same extension), is that we need a part of our tests that is more theoretic than empirical (what is a "theoretical test" will be seen). That is why, as Paul Roth says (*What does translation translates*): "Carnap readily acknowledges that determination of extension might well leave intensional content undetermined (or underdetermined)" (2021, p. 19). That is important. Not because Carnap was being stubborn. But because there is no reason why Carnap would not acknowledge that since for him that is exactly where the problem lies. If we cannot determine extensionally a decision procedure to select right from wrong hypothesis about the linguistic behavior of a native, that is only one more reason to trust a categorical and semantic theory to hold our ground. We need theories to help us to stay safe in unstable circumstances. Reinforced codification of language in the law, for example, serves the aim of giving stability to possible interpretations. Those codes are introduced with theoretical awareness by jurists, so they must arrive at conclusions derived from some intensional theory. What is wrong with that? Quine seems to think semantic theories are destined to create a dogmatic framework for our meaning assessment, but that is just a prejudice. Theories of meaning can be viewed exactly as the critical and rational option for providing stable ground where communication, interpretation and translation face their most radical challenges: intensional determination. That is why Carnap would listen to *Two Dogmas* and not get impressed: "Two Dogmas' notwithstanding, Carnap still works with the

assumption that meaningfulness implies the presence of a theory of meaning” (ROTH, 2021, p. 19).

We will side with Carnap here, even if Quine was right about the circularity of meaning definitions. But we also side with Frege and the old *salva veritate* criteria. Our answer to Quine involves, though, a tolerance plea for some of the oldest criteria for synonym. In the course of a theoretical hypothesis about what *one means*, it is not uncommon to construct sound and analytical identities. The burden of verification of the hypothesis thus falls on the ability to encode the value according to which these expressions can be intersubstituted in other sentences *salva veritate*. Quine criticized this criterion by saying that in a language in which these substitutions are possible, there is already a notion of analyticity. One would presuppose the thing he wants to prove. We grant the criticism, but with the retort: we cannot avoid this circle, because the competent speakers of the language will not be ready to know margins of similarity and dissimilarity between sentences before they master the prescriptive meaning offered by a notion of "analytical". So in our opinion, Quine's critique has less reach than he thinks. He makes a valid point about the circularity of the test. But this does not show that our meaning theories are disposable. It shows that the intersubstitution *salva veritate* test has to be performed in a higher theoretical framework, and the semantic value that has the same "truth-contribution" need to be restricted to linguistic (or paradigmatic) contexts similar enough to each other in their categorial aspects. Linguistic learning has to go through this evaluative and intensional phase. Otherwise, the speaker would not distinguish himself from a parrot.

This section concludes that Quine brought something valid about the circularity of some of the notions of meaning. But Carnap is also right: because that circularity shows our theoretical maturity to talk about those meanings. Besides that, contexts of radical translation - where the stable ground for consensus is not extensional - are exactly the ones that would benefit from that theoretical maturity. Finally, we will suppose that there is still a place for semantic values and a theoretical understanding of the semantic elements in more complicated contexts, like translation and regional paradigms or technical frameworks. All of those historical constructions of semantic values might have just a negative contribution. We mean by that the fact that their positive contribution as an explicit semantic value (true or false) can only be unlocked under "negative" contexts like speculation, hypothesis, counterfactual models. They have a semantic load that can only be unlocked under very ideal or super-structural circumstances. The idea of inertia, outlined earlier, can help us here: a semantic value can be unlocked inertially or counter-inertially. Only when they are recovered in an inertial context do

they have a positive contribution. For example, the word "angel" and even the Christian "God" can only have their semantic value *retrieved* in certain specific cultural and hermeneutic contexts. That doesn't mean they are semantically irrelevant when working in counter-inertia, nor that they are deficient or paralogical (para-consistent). From a pragmatist point of view, it just means that historical ways of constructing semantic iterability are developed over time and form a chain of inferential possibilities to be corrected as new inferential interests arise. Sometimes a value resists as a negative contribution, and, when combined with the right historical circumstance, it finds the hermeneutic element for its meaning expression.

4. Frege's semantic foundationalism, the anti-skeptic origin of analytical philosophy and the pragmatic heritage of the question of semantic value

Frege's notational program is, rightly, associated with his need for a language that could give logical expression to arithmetic relationships, and also show the formal foundation of inferences. But from the semantic point of view, the priority is articulated differently: the author is devising a scheme for the construction of equivalence relations, which would replace Kant's synthetic functions of unity, for whom "the pure scheme of quantity (...) is the number, which is a representation that summarizes addition to one (homogeneous) unit to another" (KrV A 143 / B 182). The Fregean notation of function and argument brings to an intuitive and basic logical understanding, that is, a truth-functional understanding, the Kantian notion of synthesis of units and the famous statement, in the *Analytical of Principles*, that "understanding can make no other use of these concepts than that of judging by means of them" (B 93). It is the act of asserting or judging that leads from thought to the value of truth, to the extent that it forces reality to fall from one side or the other of a shared consensual line. In Frege, this theory is known as the principle of context, found explicitly in the introduction (p. X) of the *Foundations of Arithmetic*, and as Dummett says in *The Philosophy of Frege*, "it is certainly a mistake to try to demote its importance" (1981, p. 360).

What Fregean notation brings to logic is already involved in a semantic conception, in the sense that it is expressed as a system to map the dependence that sentences have on other sentences and the identification of the common basis that makes similar enough sentences respond in the same way to the same supports or oppositions. This artifice, even if incipiently, introduces in the expressive representation of the *semantic value* a substitute for the metaphysical idea of "reality" or the epistemological idea of "experience".

The idea of semantic value, at first represented by truth functions, helps to establish precisely the aspect of our enunciative activity that produces margins of propositional compatibility and incompatibility. With this, Frege produces a brilliant way to judge the intentionality of our utterances about reality or experience by the possibilities that they exclude or include. So we can model our intentional knowledge or the *aboutness* of our utterances as regular projections. This can be taught by reviewing the case of the infamous *material implication*. The truth table that characterizes completely the functionality of Filo's conditional (the material implication) is a projection. Its semantic value is not correlated to a current state of possible information, but a projected state. If one states that (*i) "the country will isolate itself if it elects an undiplomatic president", the correct way to lodge an argumentative objection is to say that it is possible to have an undiplomatic president and an un-isolated country; this objection only takes effect because it reverses the order of possibilities, stating a projection whose law is verified by contents opposed to (*i). Content opposite to (*i) would be a general rule that subsumes projected cases in (*i), but reverses its signal, that is, turns them into (*i) negations. If this content is not defined, that is, if we do not know how (*i) is subsumed in a broader rule that negates it instead of making it truth, neither will we know the difference between (*i) and its contradiction.

Now, in a semantically skeptical universe of thought, the truth of a projection has no prescriptive value, which entails that it does not differ from falsehood by a regular law; and whether it is true or false, therefore, is something completely unpredictable. From the point of view of the assertion of implication, semantic skepticism implies that reality cannot contribute or does not contribute to differentiating our inferences. Between matters of fact and meaning, there is no intersection.

We argue that Frege is an anti-skeptic about semantics. He believes in the theoretical utility of the notions of synonym and categorial resemblance. His anti-skepticism is one way of reading his commitments to semantic foundationalism and intensionalism. In this aspect, we can understand Frege's position as anti-psychologist and anti-skeptic, as well as semantically foundationalist: for him, there is a minimum of support of the reality experience invoked when we say "if p, then q", and this minimum is what can be transmitted to all other convertible connectives with it, for example, "p and q". Knowledge of that minimum is the knowledge of the interactive value that forms the classification of our synonyms and categories. When we draw up an abacus to identify all these conversions of connectives with a single proposition, what we say is this: this is the projection to which we are restricted, that is the full extent of inferential

effects within a choice on how to fill the values of our variables. The inferential weight is exhausted. The material implication table is the projected table because it exhausts or maximizes everything that can be extracted from a current reality state to any sentence form. For each state, the total semantic value is the sum of the minimum semantic value of each part. Each saturation of the functions thus corresponds to an irreversible state of the informational content, a part that cannot be taken back. And each material implication affirms a content that is distinct from the inverse projections and enters our calculation of total truth as a minimal margin of *reality* that we do not sacrifice because it is cumulative in our assertive practice. This is its semantic value, that is, what we no longer allow to be interpreted in the reverse tendency - unless we review all the thinking from the ground. The worldview, or metaphysics, thus generated by the semantic irreversible character of the semantic value is compatible with the causal world of natural science: a formal uniformity represented by a law. It is noteworthy the similarity with the Kantian explanation of the scheme of causal law: "the scheme of cause and causality of a thing, in general, is the real thing that, once arbitrarily put, is always followed by something else" (KrV A144 / B183).

This dramaturgy tells us a fundamental part of the history of logic and metaphysics in the early twentieth century. First off, it was built from an anti-skeptic framework and not from a Humean skeptical framework. It was built on the knowledge of the intentional content of logical patterns and on the knowledge of mere "forms" of inference. Frege accurately and unprecedentedly ensnares the idea of logical law and reality by expressing the *modus ponens* as the form of an inferential positioning designed to extract as much as it can from a state of things (or a maximal state of possibilities). This minimum part of any logical composition, or the categorial part, is that which is known when one knows how to use patterns of inference. So logic is built on top of semantic cognition. The issue is not only to avoid contradiction but to exploit as much as possible what can be said without contradiction in each case of any well-defended assertive strategy. A well-defended assertive strategy is one with knowledge of the Sense (intension) of what is asserted. Thus, our logical knowledge - on consistency and completeness - evolves along with our semantic knowledge - on the Sense known so that we know *how much* an utterance can derive or deduce. This evolution happens in the history of science, as the meaning - semantic - changes, changing what we could logically predict of it. Shifts of consistency are predictable only if we have robust semantic knowledge, i.e., more than mere extensional semantic knowledge. What is fundamental in our inferences is our *theoretical view* of the limit of the contradictory: a person scientifically instructed today can affirm that it

is contradictory to say that the *Earth is Flat*, because the Sense of Earth has changed to the point of its analysis allowing to see that the sentence is analytically false. But this was not the case until the scientific repertoire of modernity brought to our theoretical ontology a set of identifications and projections of identity. So the intensional margin of that interpretation was built. It is the knowledge of that formation of meaning that interest whoever wants to perform inferences about Earth. To know “logical forms” and “extensional correlations” is not enough. Therefore, it is a modification in the very notion of Sense that changes the limits of the contradictory and defines new valid inferences.

The available identity systems of a historical phase, imported from natural scientific theories, bring a theory that defines how empirical verification can be converted into semantic value. It defines, thus, how all our knowledge and learning are articulated logically from a single foundation of support: what at the same time verifies one side and negates another in each disputed theme.

The ability to dispense details when we maximize the foundation of all sentences is based on uniform inferential support which, on the other hand, is the expression of how a *single reference* affects or supports inferential possibilities in unison, or with a uniform load of support. A single theory of truth and reference must be unified for the inferences to select only one side of a group of possible states. The nature of this support depends on how a "theory of reference" regulates what we can logically learn with each load of states of things.

Another important digression. This theory of reference is not, as in Wittgenstein, the thesis of the similarity of form between world and proposition. Frege did not have a static view of the relationship between world and proposition. Even the notion of a world for Frege is not clear from his writings. The semantic value of sentences preserves the stability of an investigation of the truth for each new state of information on possible things. But it is not closed. The semantic value can unlock different knowledge in different modal and counterfactual contexts, for possible things assume different values in different combinations. The important thing is not to get a static and eternal knowledge of the truth. The learning of semantic value is that which is sought to produce identity patterns that structure the passage between one state of ignorance to another of lesser ignorance, each time we update scientific information and enrich the *knowledge safe of Senses* Frege mentioned in *Über Sinn und Bedeutung*.

The functional representation of sentences is a milestone because it translates into logic the notion – less logical than sociological – that *stable consensus* are regulating argumentative

disputes and that, as long as these disputes are made in the same domain, they can be distributed in general alliances and divergences that are organized on one side or the other of an algorithmically programmed *line* (*that separates truth from falsehood*). The polarization that is formed naturally by the operation of the categories that underlie the consensus ends up translating into a thesis on the bipolarity of the proposition and the computer programs that represent it. The functions map values to possible substitutions, producing propositions capable of expressing how the consensus scenario changes in each round of an argumentative tournament. If what is disputed is, for example, the existence of life on another planet, the different projections provide a consensual basis for measuring the propositional value that arguments assume and allows us to evaluate alliances between similar arguments, to the extent that they fall at the same side of the line. Of course, those alliances are vulnerable to change, as new propositions arrive at the scene. The algorithms readjust and the lines shift. This thesis makes no metaphysical commitments about the nature of reality and facts. But it implies a semantic relationship between the sentence and a state of information because the construction of a sentence as true or false is a restriction of how reality can be configured in a space of consensual logical possibilities.

Thus, it becomes clearer the relationship between the notation drawn to express mathematical relationships, and the Fregean Semantic Universe. Our interpretation is based on the hypothesis that the theory of functions and argument (Fx) in Frege is a key piece in the construction of an instrument to logically express the reflexive achievements of modern scientific laws, based on empirical correlations and uniformities. So he provides the rationale for a post-metaphysics conception of truth that was so valuable for logical positivism. For him, there are two categories of linguistic expressions, saturated and in-saturated. The complementation of an incomplete expression gives it its proposition, that is, it shows the table of truth being completed by the complementation values, just as a function is determined by the function of the possible components that fill its values. The function Fx says nothing about a substantial reality. It only states the form of a relationship between possible extensions. The form of subject-predicate is metaphysically inappropriate to account for the representation of the same content, although that limitation can be surpassed by other means.

If we think of sentences in the same way that we think of laws that link possible contents like these, the advantages are numerous. The main advantage, from the semantic point of view, is the exposition that the truth-value of a sentence does not describe a situation, such as the fact that P is affirmed of S or that these are combined in reality; but it formulates a framework of

possibilities of both truth and falsehood, which are distributed homogeneously by the consensual field provided for by the functional rule. When we say that a sentence is true, we immediately say that its negation is false. We do not describe an aspect of reality, but we present a complete drawing of that program line of distinction between truth and false from our knowledge of what we are granted to assert (knowledge of Sense). If we had, therefore, to answer why a sentence is true, this would always end up leading to a knowledge of the assertive principle that allows us to reconstruct this truth from a proof or demonstration, restructuring the scenario of possibilities. No matter of fact was described. It is the space of logical possibilities that is selected and adjusted each time. We think of the possibility of the truth of a proposition as we think of the means we have to argue in its favor. This is consistent with deflationism about truth, although it is a more complex thesis. Under no circumstances do we know an *object* of truth. We know only how a test restructures the scenario of the possible and distributes values to other sentences. When we try to generate this knowledge in a scientific generalization about the truth, we learn only what the whole of scientific knowledge already gave us to know. So all we know is the conditions of the assertability of that content. The ability to recognize the truth of a sentence can be generalized, but it does not transcend our knowledge beyond the particular true sentences that we know to be assertable. We don't get to know more than that. We don't get to know a property that could invoke or predict truth as a natural event.

Frege concludes that truth is something primitive and undefinable, which is also compatible with Kant's thesis, that one cannot teach anyone to judge. If one can recognize the truth and assert it, he has the tools for creating a pattern and to generalize that truth to similar cases, and even to exclude false sentences using the same pattern. All of this is not compatible with skepticism, though. Because one needs to know the pattern of judgment. If all he knows is something lesser, like an extensional correlation or an organon for truth application, he would be in what Kant calls a state of stultification. So fallibility of judgment and assertion do not imply the victory of skepticism. One may have to correct the pattern, but he is never so blind as to not having any pattern to assert. Otherwise, he is not asserting at all. If he is not asserting, the question doesn't even stand and it doesn't make sense to teach him by a formula (organon), or by pointing to reality or some strange fauna of "true sentences." The rule used by someone to infer, or his theory of inference, is the same as his judgment. Just as we change argumentative strategies, judgment reviews ways of judging connections. If the argument cannot generate a reflexive correction of the rule of judgment, an outside person can't build a positive fact – to generate a model, or to present examples – to teach that the inference is false. One cannot

assume a transcendent (in Kant) or extra-assertive (in Frege) position to correct psychologically or naturally the content of an inference.

We will now find a further reflective path. Pragmatism is, we argue, the best philosophical horizon for the semantic foundationalism we are defending here. Functional interpretations illuminate not only the truth-functional expression of sentences; they allow us to define the strategy that the sentence inaugurates to find a path to truth. This is done in a very simple way: functions express the very natural way in which speakers of a language draw their own rules of interpretation. Functions express what they suggest as fixed and stable, and what they leave open. Since we can alternate the fixed part and the variable part in our knowledge, the important thing to assign a semantic value to a sentence is how it projects on the situation its saturated possibilities. Each sentence is a defensive project, designed to lose the minimum of the pedagogical potential available at the time of its assertion. By establishing what is fixed and what can change in interpretation, we draw our defensive tolerance margin. To express ourselves with other figures: by making clear what is fixed and what is variable, what we are willing to give and what we are not, we enter the debate with a defined exchange strategy. We can then defend ourselves by knowing exactly what point of our assertion is the weakest. I.e., the part that, if rightly challenged, would reverse the value of our initial position.

The total field of an assertion defends or protects an entire zone of possible inferences. It does this by maintaining a common reference to everything that is inferred by the same foundation. Every assertion *minimalizes* the scope of reality that can serve as a falsifier for a judgment, and at the same time maximizes the semantic value of the sentence asserted as it is prepared to convert that minimum into a maximum reward. We have here a unified inferential and referential explanation. The context in which sentences and concepts acquire a function, or an argumentative value, is the place that unifies the identity of the reference or meaning and allows to determine the truth for each *maximum of eliminated falsehood*. The compatibility and incompatibility standards codified in the matter of concepts are a restriction to the minimum reference in which the judgment would be true, which is a defensive way of saying that our judgments organize the value of sentences to collect the maximum reward from reality. This matches Dummett's interpretation of assertions as strategies of meaning:

The semantic value of sentences is the principle of classification of constructions as those that prove and those that do not prove the sentence (...). (...). the sentence is true if there is a winning strategy in which the first move is the production of that sentence. (DUMMETT, 1991, p. 34)

We can imagine our inferential life, or the games of giving and asking for reasons in which we engage, as configured by constructions of *material implications* (*if p then q*) with an asserted content, because this is the most strategic way to start a move. As we still need to organize productive alliances and distinguish sentences that do not contribute to the generation of a semantic value, and even those that harm the search for a path (to a semantic value), pulling our game backward, the ideal sentence to start a strategy is simple: to say the least as possible. Prudence fits logical requirements. So to say the minimum, which is a pragmatic strategy, is also the way to generate semantic values. It is at the same time the sociological consensual basis and the mathematical way of retrieving the value that is iterable and learnable using only the semantic elements of language. When we formulate a material implication, we are saying very little. It is just what it takes to start collecting information about the semantic situation as a whole. Each material implication projects a way to maximize the value of sentences to collect rewards from reality. The goal, however, is not to win as if we are in a loser game. The goal is to find *win-win circumstances* or safe rewarding circumstances that one can model like a rational projection. In those projections, very often there is no winning at all. The important thing is to create the conditions where we say that we agree to disagree. These impasse circumstances characterize the provisional balance of all bids, producing significant consensus valid for this entire period of stability. Of course, however, we do not know – because we do not even know how to ask the question – how long the periods of stability last. Each period is a period of dominance of one type of Sense. This dominance is not dogmatic though, because it can be known theoretically and it can be criticized. The usefulness of a theory of meaning depends largely on how we can standardize semantic stability without creating dogmas, superfluous prescriptions, or intensional theories that abuse the politics of theoretical semantics.

Concerning moments of stability, however, we have everything we want: meanings, or patterns of identification and differentiation encoded in a way that is rooted in the structure of a language that we can understand by having an algorithm that mechanically generates all its true sentences. This state of *semanticity* is the state in which science finds itself when it is paradigmatic, or in which common sense is found when it can understand itself without irremediable conflicts. Linguistic learning would be, in this conception, a gradual organic construction of intensional identifications where external observation would be no more than the door that updates the state of available information, reviewing the synonymic consensuses whenever new scientific codifications appear.

Conclusion

We traced in the previous chapters a well-known story about post-Fregean category theories, which rely on the structure of language to give the monomorphic or categorial basis of sustainable logical transformations. But we told this story from a particular perspective. We did emphasize the foundationalist and the pragmatic part of consensus production. And we argued, against Quine, that contexts of translation, where meaning hypothesis may be multiple, favor the need for a stable linguistic ground that is theoretically mature. So intensional theories have an advantage over extensional ones in those contexts: they go deeper at the circular conditions of the language to create its means to dis-quote modal and counterfactual sentences. We have emphasized that safe categorial structures for translation and scientific paradigms build stable contexts for semantic exchange and inference. The recent history of pragmatism shows that there is a natural affinity between pragmatism key assumptions and Frege's thought, although the German author cannot be listed as a pragmatist by his signature.

The historical interpretation we wish to suggest with this article is as follows. By attempting to reduce arithmetic to logic, Frege inaugurated in the logical tradition a *sentencing model* up to the task of the methodological reflexive achievements of modernity. Frege continued thereby a reflexive tradition aligned with a demand for interpretation of reality adjusted to modern science. The form of subject and predicate was the last frontier of an old logical story unable to codify the progression of relational knowledge according to projected uniformities of quantities. The thinker rewrote the history of theories of interpretation from the perspective angle of the modern science framework: that of expressing the necessity and possibility through simulations and projections of uniformities. Learning to paraphrase is, in analytical philosophy, learning to adjust the extensional scope to the uniformity provided for by the sentence, to produce a general understanding of the principle of interpretation. This general principle of interpretation may be fallible, but it is a pattern of meaning nonetheless and not a mere formal or extensional skeleton. It promotes a systematic generalization of the type of post-scientific or modern reflection generated by scientific laws, extending this scope of reflexive evaluation to sentences. From the scientific point of view, truth is attached to a reflective domain restricted to the projection of the assertion. This restriction can be converted into a material implication, that is, the assertion of a general law connecting sentences in an orderly and cumulative format. In this format, the foundation that supports a sentence cannot reverse this support by supporting a contradictory sentence. From the semantic point of view,

the reflexive gain represents our sentences by the focus of the production of the basis of stability for possible argumentative disputes, provided that they dispute the same domain.

This interpretation tries to throw the weight of Frege's historical contribution to a less orthodox side. Traditionally, we think of the thinker as the responsible for the regimentation of language that eliminates the influence of psychology and other forms of codification intertwined with phenomenological, cultural, and, in general, human-political considerations. That interpretation is limited. In our reading, Frege helps to make explicit the reflective aspect in which language reaches a degree of intensional maturity. For example, when a science can produce certain conclusions, what is important is that it creates its categorial and semantic means for generating that conclusion inertially, or in its most easy way. To know how to reason in this science is to know that categorial frame. It is not to know some "form" or "skeleton". From that state of maturity of the science, it can give protection to assertive strategies and select the application of predicates as "analytical" and "synonymous with".

This is a foundationalism reading of semantics. Our reading is allied to a reading stream that doesn't just see Frege as the programmer of a computing language. To the extent that he reports to judgment and assertion the primacy of inferential activity, the author chose to engage in the construction of the reflexive potential – understood as a theoretical capacity to correct his categorial standards – involved in assertions. We create patterns of identification from the argumentative construction itself: when we assert, we are putting into play not only the truth of what we believe, but the generality of this truth encoded in the argumentative pattern.

This is the extent to which the language designed by Frege allows to logically express certain uniformity codifications linked to the domain of empirical science. This is a continuation of the Kantian tradition of making modern science reflexively mature to the point of being able to have a consciousness of its own, that is, being able to deduce its semantic categories (without the need for metaphysics). It is in this spirit that we believe that the following quote can be understood (*Posthumous Writings*) "Thinking is understanding a thought. Once we understand a thought, we can recognize it as true (make a judgment) and give expression to the recognition of its truth (make an assertion)." (FREGE, 1979, p. 200). The symbol of assertion in Frege is a way of characterizing the reflective potential of a deductive projection. So when one asserts, he always does so from a categorial self-corrected theoretical consciousness: he knows exactly the limit of its pattern to project its content. And he knows how to adjust that projection to new content. This knowledge is what Carnap called the "cognitive content" of the semantic value. To know this content is what distinguishes someone able to teach that value as a contribution

to truth according to the pattern of truth and "non-falsehood" it projects. The projectable content of a sentence shows the basic form – the *modus ponens* – that we use to produce the reflexive exhaustion of inferential content. It is how we maximize the collection of intensional learning accumulated from an interpretation domain. It exhausts our logical knowledge in each state of an argumentative dispute.

The theory thus outlined has enlightening compatibility with a pragmatic theory about truth. This interpretation of Frege's legacy coincides with Dummett's theory of truth, in which assertability becomes a condition that puts truth at stake, allowing a discursive competition to begin. Each inference inaugurates a bid that restructures the board of an argumentative dispute: "The semantic value of a sentence is, in fact, the class of all plays (succession of plays) consisting in the production of that sentence. (...)" (DUMMETT, 1991, p. 34).

REFERENCES:

- AYER, A.J. *Language, Truth and Logic*. Penguin Books, 1974.
- COFFA, J. Alberto. *The Semantic Tradition from Kant to Carnap*. Cambridge University Press, 1993.
- DAVIDSON, David. *Inquiries into Truth and Interpretation*. Clarendon Press. Oxford. 2001
- DUMMETT, Micheal. *The Logical Basis of Metaphysics*. Harvard University Press. 1991
- DUMMETT, Micheal. *The Interpretation of Frege's Philosophy*. Harvard University Press. 1981.
- DUMMETT, M. Truth, *Proceedings of the Aristotelian Society* 59(1), 141–62, 1959.
- ETCHEMENDY, J. *The Concept of Logical Consequence*. Cambridge Massachusetts. Harvard University Press, 1999.
- FREGE, G. *Die Grundlagen der Arithmetik*. Hrsg. J. Schulte. Stuttgart, Reclam, 1987
- FREGE, Gotlob. *Posthumous Writings*. Chicago: University of Chicago, 1979.
- FREGE, Gotlob. *Sense and Reference*. Reviewed work(s): Source: The Philosophical Review, Vol. 57, No. 3 (May, 1948), pp. 209-230. Published by: Duke University Press on behalf of Philosophical Review Stable URL: <http://www.jstor.org/stable/2181485> . 1948.
- QUINE, W.V.O. *Facts of the Matter* in: Essays on the Philosophy of W.V. Quine. Shahan, R.S. and Charles Swoyer eds. Norman, University of Oklahoma Press. 1977
- QUINE, W.V.O. (1961) *Two Dogmas of Empiricism*. Originally published in The Philosophical Review 60 (1951): 20-43. Reprinted in W.V.O. Quine, *From a Logical Point of View* (Harvard University Press, 1953; second, revised, edition 1961.
- KANT, I. *Critique of Pure Reason*. The Cambridge edition of the works of Immanuel Kant. Ed. Paul Guyer and Allen Wood. Cambridge University Press. 1998.

MARTIM, John N. The semantics of Frege's Grundgesetze, *History and Philosophy of Logic*, 5:2, 143-176. 1984.

ROTH, P. *What does Translation Translate?: Quine, Carnap and the Emergence of Indeterminacy*. Forthcoming paper in a volume on the Quine-Carnap debate edited by Sean Morris and to be published by Cambridge UP. 2021.

RUSSELL, B. *On Denoting*. *Mind*, New Series, Vol. 14, No. 56. (Oct., 1905), pp. 479- 493. 1905.

SLUGA, H. *Frege and the Rise of Analytical Philosophy*, *Inquiry*, vol. 18, 1975, pp. 471-89.

WITTGENSTEIN, L. *Philosophical Investigations*. Translated [from the German] by G.E.M. Anscombe, Oxford, Blackwell, 1967.