

**ASSERTIVE GROUNDS, SEMANTIC
DISCERNMENT AND DYNAMIC STRATEGIES
FOR THE ACCUMULATION OF TRUTH
ASSIGNMENT: A READING INSPIRED BY
KRIPKE'S APPROACH TO TRUTH IN 1975**

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ABSTRACT

This paper focuses on Kripke's article on truth from 1975. It is 1. a historiographical commentary, 2. an argument about the advantages of the theory, and an evaluation of its philosophical meaning. 3. An exploration of the possibility of interpreting it, together with a theory of truth revision, as a theory about the semantic discernibility of ungrounded sentences. 1. Kripke's paper has a framework to provide partial models for a language containing a truth predicate. Based on Kleene's three-value logic, he then shows that it is possible to find fixed points in which the assertion of an ungrounded sentence can sustain a cumulative distance with its anti-extension. 2. Against Tarski, we argue that his stratified theory presents an idealized version of where the attribution of truth to a sentence is safe and that he takes for granted the unproblematic coincidence between the anti-extension of a true sentence and the anti-extension of the truth-predicate. In this article, we will argue that this coincidence is highly problematic and that reaching safe stages for an assertion in problematic contexts depends on intensional and pragmatic assumptions to give cumulative uniformity to the rule that reviews the possible extension of that sentence. 3. At that point, we intend to bring a discussion with Belnap-Gupta's work on the revision theory of truth. This completes our article as a

contribution to explaining the possibility of semantic discernment in hypothetical and theoretical contexts of assertion.

KEYWORDS:

KRIPKE, QUINE, TRUTH, GROUNDNESS, PRAGMATISM, SEMANTIC-DISCERNMENT

PRELIMINARIES: UNGROUNDEDNESS AS THE PRE-STAGE OF PARADOX

In an *Outline of a theory of truth* (1975), Kripke set himself the task of resuming some pressing questions about the notion of truth. Inspired by semantic paradoxes originating from the unrestricted use of the predicate "truth," the author seeks a solution that would capture as many intuitive aspects as possible of our use of that predicate. He asks us to follow the reasoning:

Consider the ordinary statement made by Jones: '(1) Most (i.e., a majority) of Nixon's assertions about Watergate are false. (...) Suppose, however, that Nixon's assertions about Watergate are evenly balanced between the true and the false, except for one problematic case, (2) Everything Jones says about Watergate is true. (...). Then it requires little expertise to know that (1) and (2) are both paradoxical: they are true if and only if they are false. (Kripke, 1975, p. 692)

Suppose someone is explaining how to use the 'truth' predicate to a curious student. From the last example, it seems that one cannot teach him a simple and universal rule for paradox avoidance. There is no simple, semantic or syntactic way of preventing the projection of the truth predicate from *ruling against itself*. As said by Vann McGee, "*(Truth, vagueness, and paradox): 'True'*, in ordinary language, displays many of the characteristics typical of vague terms, but it displays other characteristics all of its own, notably the propensity to paradox" (McGee, 1990, p. viii).

If the circumstances in which the predicate is applied are quite unfavorable, its truth is attributed in the same circumstance in which the possibility of being false is not excluded. Semantic paradoxes are old acquaintances from the collection of philosophical curiosities, and they no longer impress as they did a few centuries ago. However, they are still crucial problems to instigate the curiosity about failure to produce meaning or genuine claims of truth (truth-apt sentences).

The virtue of Kripke's paper, in our view, is that it shows high sensibility to the philosophical problems that lie behind the technical difficulties; plus, it shows the *deep conditions* in which the paradox arises. That is, it shows what kind of non-paradoxical sentences share with the paradoxical sentences their characteristic traits: "It has long been recognized that some of the intuitive trouble with Liar sentences is shared with such sentences as: (3) (3) is true. which, though not paradoxical, yields no determinate truth conditions" (Kripke, 1975, p. 693).

Those sentences are not paradoxical, but they share with "this sentence is a lie" the following trace: the risk assumed by its assertion is ungrounded. Whatever it asserts, if it succeeds, it is by mere luck: "It is as easy to construct fixed points which make (3) false as it is to construct fixed points which make it true. So the assignment of a truth value to (3) is arbitrary" (Kripke, 1975, p. 709). Kripke grants that there is an "intuitive difference between 'grounded' and 'paradoxical'" (1975, p. 712). This difference can be captured by looking at how Tarski's hierarchy prevents the growing extension of the truth application. Assigning truth values to sentences at a level in the hierarchy is completely paradox-free only if the truth predicate that encompasses the extension of all true sentences at the same level is asserted in a language at a higher level in the hierarchy. This strategy fixes the assertion point of the sentence on a security platform because the assertion of a sentence can only receive a truth value at the exact point where the inverse value is impossible: "It is characteristic of the sentences in the Tarski hierarchy that they are safe (intrinsically grounded) and that their level is intrinsic, given independently of the empirical facts" (1975, p.

710). The idea of groundedness comes from the notion that a safely grounded sentence is fixed at a point of interpretation where it can set its dependence on the conditions of its truth in the most economical way.

The intuitive characterization of ungroundedness that is expressed by the Tarski solution is that ungrounded sentences are those sentences that fail to receive a truth value at the boundary where the inverse value is impossible. A sentence can be ungrounded because there is a grounding chain that circles back to that very sentence, and also because there is a grounding chain from that sentence that goes downwards without end. Ungroundedness is related to paradox. An ungrounded sentence fails to receive a truth-value exactly because it fails to ground its distance of falsehood by including the latter in the anti-extension of the truth predicate as a whole, and that is the natural reason why those sentences are prosperous grounds for paradoxes. At the limit, the problem of the lack of ground for a sentence expresses the challenge of the paradox in a more aporetic version, that is, as a problem concerning the independence priority of certain sentences over others, invoking Russell's proverbial description: "The process is like trying to jump on the shadow of your head" (Russell, 1985 [1959], p. 63). But it also shows this problem in situations where it can arise as a professional challenge, segregated from its malicious expressions and some scholastic idleness. To use ungrounded sentences as a case study for paradoxes is, in our view, one of the best moves in the 1975's paper.

As an experienced logician, Kripke watches the problem of the lack of ground in a less *acute* state, i.e., in non-paradoxical states. This strategy allows him to approach the problem from the perspective of its discreet symptoms, or from the signs that language gives before falling into an acute crisis. We may say that there is something in common between paradoxical sentences, sentences with proper names without denotation, referential entanglement¹, and category mistakes. Paradoxes arise from our logical indulgence towards the abnormal behavior of sentences and semantic constructions like these. Once it is established

1 We will introduce the meaning of this expression in subsequent chapters.

that the problem arises along with the needs of our logical indulgence, for example, our need to speak of classes of classes or to improvise an analogy that replaces an empty denotation, it becomes a little less mysterious to think of the *acute versions* of the problem, that is, the explicit paradox. Demystifying the problem is the first step toward a more realistic and intuitive solution. This opens the doors of philosophy and logic to an experimental solution, which observes strategies for disciplining the abnormal behavior of sentences, tracing limits and tolerable margins of abnormality.

The conflation of the problem of paradox with that of ungrounded sentences is the basis of the angle of this paper. Because this is not a paper about paradox, although we have to talk about it a lot. It is a paper about *assertive risk* and the conditions of *quasi-paradox*, the speculative chaos, and, finally, the impossibility of cumulative logical knowledge that is ensued by ungrounded sentences when their guiding content cannot ground their *assertive risk* by including the opposing sentences in the anti-extension of its semantic-value (being true or false). Our article aims, therefore, to observe how the disciplining of ungrounded sentences contributes to the cumulative growth of the consistency of a truth predicate. This allows us to address the problem of the semantic discernibility of problematic theoretical sentences. The disciplining of ungrounded sentences makes it possible to ground intensional semantic hypotheses about the possible extension and anti-extension of a group of sentences classified by their theoretical similarity - or their speculative contribution.

IDEALIZED CONDITIONS OF ASSERTION AND SUPERASSERTION:
THE GHOST OF TARSKI AND A SUGGESTED ALTERNATIVE:

Kripke's solution to the paradoxes is known as the truth-gap theory. The Liar phrased as "This sentence is false" can be resolved by stating that the sentence falls into a truth-value gap. For him: "The proof by Godel and Tarski that a language cannot contain its own semantics applied only to languages

without truth gaps" (Kripke, 1975, p. 714). But that's not the full story. The challenge is to keep the truth-value gap disciplined when it interacts semantically with the other sentences in the language. To answer that challenge, Kripke's solution makes use of his selected theory of truth, the theory of fixed points. As well summarized by Halbach and Horsten (*Axiomatizing Kripke's Theory of Truth*):

Kripke defined models of partial logic extending standard models where ϕ and $T[\phi]$ have the same truth value for all sentences ϕ , even if they contain the truth predicate. ϕ and $T[\phi]$ will be either both true or both false or they will both lack a truth value. (2006, p. 1)

Of course, there are disciplined and undisciplined ways to spread the gaps in true values, depending on how the grounded or ungrounded sentences interact with each other: "one uses a 3-value logic to describe how these defective sentences interact with other sentences" (Mcgee, 1990, p. 87). The spread of truth-value gaps may indeed solve problems, but it invites new ones. According to Burge, there are:

[...]versions of the Strengthened Liar (...). After claiming that (β) [i.e. (β) (β) is not true] is neither true nor false (or "bad" in some other sense), the gap-theorist must still face a precisely analogous Strengthened Liar tailored to his favorite description of the gaps. (Burge, 1979, in Martin, 1984, p. 89)

Kripke never made any attempt to hide the merits of the strengthened liar argument against his own theory. This would invite the revenge of the liar. We can only regain truth-aptness or normality in the use of gappy sentences when we already have a notion of the place of the value-gap at some point on the *grounding scale*. That's the point where it could regain the *normal spreading behavior* of truth, i.e., those circumstances where it is possible to validate the intersubstitution of $T(A)$ with A . Those points will be exactly the points in which the sentence occupies its least dependent level on Tarski's hierarchical scale. To disquote sentence A we have to speak of the sentence from that perspective. Kripke himself agrees that "semantical notions as 'grounded', 'paradoxical',

belong to the metalanguage" (1975, p. 80). This revelation leaves the ghost of Tarski at large.

Tarski had the merit of expressing the conditions under which the biconditional ('p' is true if and only if p) can be safely used. The search for points of assertion for 'p' where the inversion of its truth value is impossible is a sort of classificatory selection of conditions in which the content of 'p' does not depend on more than 'that p'. However, we are going to argue that Tarski's theory has weak merit. It only expresses in a general formula a completely ideal state of assertive possibility, namely, that level at which the assertion remains true and cannot invert its value. We can think that the sentence (p)"The second war ended in 1945" is not exposed to change its truth-value in our world and that this can be formalized by its expression at the hierarchical level where it is safely disquoted. In that state, its logical potential is reduced to this one: to deny "the second war did not end in 1945". But in a theoretical investigation that takes other possibilities about Second World War ending into account, to find the point where "The Second World War ended in 1945" may contribute in just *one way* to review the value of other sentences is no trivial deed. Depending on the point at which we established the possibility of asserting the sentence, we choose a *stance* to review the rest of the sentences differently. Tarski never thinks about those stances, because he takes for granted the extensional uniformity of the counterfactual "The second war *did not* end in 1945". He never thinks on the difference between the world war ending in 1963 or in 1995. If they are both false, they would be in a single extension, or in a single non-truth way. But to unify the extensional uniformity of that counterfactual is no trivial deed. It may depend on a number of our intensional hypotheses or, to an anti-intentionalist, it may depend on difficult pragmatic choices on how to review the bulk of our theories about the second war.

Tarski's theory does not take into account how different idealizations of the safety point for an assertion lead to different revisions of a group of compatible sentences. But in this chapter, we will focus on describing Tarski's theory as a simplified classification of the idealized assertion place, in the sense that it

corresponds to truth predicate assignment conditions that are only possible in ideal assertion states. It depends on the success in finding the general condition for that sentence to be asserted, even in non-actual conditions, i.e., idealized conditions. Naturally, the grounding of non-actual – or counterfactual – conditions of assertion is a breeding ground for paradoxes. They are conditions so plastic and flexible that they fail to exclude false interpretations from a projection of truth. An idealization of these assertive grounds is nothing but an attempt to stabilize these conditions to avoid paradoxes. To cite an example in the literature, Crispin Wright coined the term 'super-assertion' to express the idealized conditions of an incompletely grounded assertion: "A statement is superassertable if it is warrantably assertable, and is, as a matter of fact, destined to remain so, no matter how our state of information is improved" (Wright, 1992, p. 86). Kripke's solution, through fixed points for the accumulation of n-values in a positive orientation, is another option.

Tarski's solution has aged so well, however, because he reduces this state of idealization to a condition of the assertion that coincides with all possibilities of truth-functional interpretation of the sentence *p*. Thus he manages to reduce normative and ideal notions such as meaning, proposition, and possible assertion to a specification of the minimum extensional interpretation point of a sentence. His stratified solution is so elegant because it allows for an explanation of *intensional notions* of meaning-normativity used to classify sentences. Supposing that all true sentences of a language *cannot be denied* without falling into the anti-extension of the truth-predicate, this intensional property (i.e., '*cannot be denied*') may be reduced to its truth-functional expression. The T scheme reveals the pattern exhibited by any sentence that can be assigned-true consistently in language. It was for that reason elected as the best version of any account of *intensional* or meaning-normativity.

The selection is an idealization of the security of the assertion conditions of *p*, which Tarski's hierarchy expresses by fixing its least dependent level – which is also the level where it can be (*safely*) expressed by the T-convention: '*p*' is T iff *p*. When this is done, the sentence establishes its margin of possibilities of

interpretation at the most economical point of the system, that is, the least *dependent* hierarchical level *possible*. The truth predicate has to ensue a theory of truth that predicts all the instances of the T-scheme: 'p' is true if and only if p. The coincidence between the predicate 'is true' and Tarski biconditionals was underlined by Crispin Wright as a condition to express the difference between truth-apt and non-truth-apt statements:

My suggestion', he writes, 'is that since any predicate should be accounted a truth predicate which has just the features highlighted by minimalism, any discourse may count as truth-apt on which it is possible to define a predicate with just those features. And the condition for the definability of such a predicate is mere that the discourse is one of assertion, that its utterances be governed by norms of warranted assertability (1992, pp. 27-28).

Tarski's theory gives the conditions to find the unproblematic revision place of a sentence only for boundary sentences and its possible semantic compositions. Boundary sentences are sentences that do not need to inherit their truth value from others: "The theory of truth and falsity for boundary sentences, the theory modeled on Tarski's Convention T, is not problematic (...) The semantic theory for the non-boundary sentences, though, does not fare so well" (Maudlin, 2004, p. 86).

For cases where we need to assess the cumulative value of a truth assignment, Tarski's theory becomes limitingly sedentary. For the record, the cumulative value is different from the compositional value in this sense: the semantic composition takes into account only the extensional accumulation of truth, while there are other ways of reviewing the bulk of truth and accumulating it in a non-false direction. According to our interpretation, Tarski's theory is tied to a sedentary vision of the activity present in our paradox avoidance strategies. Tarski is taking for granted that the anti-extension of p, '(V) p', '(V) (V)P', etc., coincide with the anti-extension of the 'truth-predicate' as a whole. As we have seen by analyzing how "the World-war ended in 1945", a sentence may be revised in different theoretical contexts, one in which it ended in 1955, another in 1963, etc. All those heterogeneous ways of being false ruin the truth-functional

representation of 'p'. In a theoretical discussion, one has to unify all those possible falsehoods to be able to specify his alliances and oppositions to other theories. The alleged coincidence between the anti-extension of p and the anti-extension of the truth-predicate only occurs in ideal states in which the *intensional possibilities* of interpretation coincide with the options of truth-functional calculus.

To overcome this limitation with a dynamic conception, we will evaluate the advantages of Kripke's theory, complemented by the revision theory (Belnap-Gupta). But we can anticipate why Kripke's way of posing the question inverts Tarski's problem. In this inverted approach, T-conventions are not given in advance. They are idealizations possible only later, i.e., when there is already enough semantic stability to give uniformity to the revision of ungrounded sentences. In the Kripkean version of the problem, we need to build a *holistic* rule of revision that finds a common sensibility of sentences with the 'p content' to possible objections – so that 'World war ended in 1945' cannot be denied without inverting the semantic value of 'it is true that the world war ended in 1945'. This solves the previous problem, in which different hypotheses about the end of the second war would bring heterogeneous ways for 'p' to be false. The cumulative growth of the truth-predicate is achieved by unifying the rule that excludes its anti-extension. By doing that we are conceiving an *idealized* "possible extension" for our assertions, or an intensional theory – or yet a possible world semantics – to account for the common truth-sensibility of (p) and V(p). Tarski's question is thus inverted. Instead of the T-convention serving to eliminate intensional notions, it is the intensional hypotheses that need to be conceived and subjected to revisions to find the safe platform of assertion on which (p) can be safely disquoted. The fixed point at which a sentence is established in Tarski's way is therefore an idealized state of its truth conditions and not the natural or unique way in which it can be expressed to correct and revise the other sentences of the system.

THE DIFFERENT CHALLENGES OF TARSKI'S AND KRIPKE'S THEORY
OF PARADOX AVOIDANCE: THE EPISTEMIC AND PRAGMATIC NATURE
OF THE PROBLEM POSED BY KRIPKE.

Tarski thought and showed with his "undefinability theorem", that a bivalent language cannot contain its own truth predicate:

He does begin his article (in his famous article, 1931) by saying that he will be concerned with defining the true sentence of L. But a few paragraphs later he goes on to say that such a definition is possible only when L is limited in its expressive power. He says that for richer languages the definition is impossible. (Field, 2008, p. 33)

Let us think that ungrounded sentences like (3) circumvent the rule of bipolar determination without producing paradoxes. We can think of a sense in which the truth predicate can coexist within a language, even in conditions of risk and lack of ground. The challenge is to block the spillover of a truth assignment to unfeasible conditions of assertion (of which paradoxical assertions are just one case). To accomplish this, one option is to devise a semantics of three values. Kripke uses Kleene's semantics, including the designation n (none), along with f and v. He then proposes a solution for modeling ungrounded sentences, the so-called "fixed-point approach". The production of fixed points corresponds to stable places of interpretation, where any generalization of the truth predicate is uniform and retains the values of truth assignment previously offered. This is a theory that explains the conditions for the accumulation of truth assignments. The generalization of the truth predicate, from "p" to "it is true that p", is cumulative and non-reversible if done at a point of stability where the increase in extension has a proportional increase of its anti-extension. The fixed point is not stable if it allows paradoxical projections. It is stable, sustainable, or intrinsic – even for ungrounded sentences – if it projects the truth of a sentence where the distance from falsehood is *cumulative*:

...the predicate $T(x)$ increases, in both its extension and its anti-extension, as 'a' increases. More and more sentences get declared true or false as 'a' increases; but once a sentence is declared true or false, it retains its truth value at all higher levels. (Kripke, 1975, p. 704).

The Kripkean solution involves an intuitive idea about evaluating the possibilities of designation of truth values to a hypothesis. The challenge is to determine when the designation possibilities are cumulative; when they do not revert their truth to a falsehood value (and vice versa). The solution in question finds that this accumulation is possible if the points of warrant assertion in which the hypothesis has the value "n" (neither V nor F) are stable. That is, it remains neutral. It does not tend to one more than the other of the remaining values. That stability depends on the fixed point and the intrinsic sustainability of that point. We will call – following Kremer – this stable neutrality the monotony function on hypotheses. To put it in formal terms, we will ask for the help of Philip Kremer (2010):

Theorem 2.1(Kripke [9])Each total monotone function F on hypotheses has a least fixed point, $\text{lfp}(F)$. Hypotheses h and h' are compatible iff $h \leq h''$ and $h' \leq h''$ for some hypothesis h'' ; and h is F -intrinsic iff h is compatible with every fixed point of F .

Theorem 2.2(Kripke [9])Each total monotone function F has a greatest intrinsic fixed point, $\text{gfp}(F)$, which is not in general identical to $\text{lfp}(F)$.

(...)Kripke uses the least fixed point and the greatest intrinsic fixed point to define certain properties of sentences. (Kremmer, 2010, p. 350-1)

Kripke recognizes that this is another way of producing Tarski's results:

It is characteristic of the sentences in the Tarski hierarchy that they are safe (intrinsically grounded) and that their level is intrinsic, given independently of the empirical facts. It is natural to conjecture that any grounded sentence with intrinsic level n is in some sense "equivalent" to a sentence of level n in the Tarski hierarchy. (Kripke, 1975, p. 710)

It is true that, in a basic sense, Tarski's solution remains valid. What changes here is the nature of the challenge. The challenge of using the truth predicate is no longer, as in Tarski, the challenge of defining the formal adequacy of the language in which the biconditionals $((T)'p' \text{ iff } p)$ are extensionally unified:

the use of the term "true" in its reference to sentences in English then and only then conforms with the classical conception of truth if it enables us to ascertain every equivalence of the form ["p" is true if and only if p], in which "p" is replaced on both sides by an arbitrary English sentence. If this condition is satisfied, we shall say simply that the use of the term "true" is adequate. (Tarski, 1969, p. 64)

Instead, in Kripke's description of the challenge one seeks the fixed-point of semantic stability at which Tarski's biconditionals (T-schemes) can be used to generalize the pattern of the sentence without fear of paradox, even for arbitrarily grounded (or occasionally ungrounded) sentences like (3). This means that to succeed in disquote a sentence is no trivial deed. The principle that seems to favor Kripke's theory is that it avoids taking for granted the unproblematic nature of Tarski's biconditionals. Those are rather problematic for all relevant cases, i.e., when we are not treating with boundary sentences. According to Maudlin (*Truth and Paradox*): "the project of formulating rules governing the assertion and denial of sentences will not offer an analysis but rather an ideal" (2004, p. 96). If the conditions are *not ideal*, there would be a substitution of the T-scheme in which the sentence is true if false (as paradoxes show). By idealizing the use of the Tarskian pattern, we restrict ourselves to applying it only when there is a *uniform characterization* of the sentence on the right side of the biconditional. We want to avoid the kind of vicious entanglement that ensues when disquoting the sentence is not straightforward². For example, when the sentence reference/extension is indirect or descriptive, i.e., when its eventual extension does not exist, we need to account for its semantic contribution – saving compositionality – by *identifying* a possible extension. We have to *disentangle* the expression from its contingent descriptive dependencies, showing the extension as an identifiable contribution to the semantic composition. We have different disentanglement strategies depending on whether we interpret descriptions in a Fregean or in a Russellian way. But our priority is to avoid a lack of uniformity. We need to neutralize the

² Entanglement is the "phenomenon of an expression having its extension because it is concatenated with another expression" (Pleitz, 2018, p. 453).

multiplication of *ad hoc* rules to give an account of not-straightforward semantic compositions. Hence we can uniformize our semantic hypotheses designed to increase the anti-extension of the predicate truth always in the counter-flow of a uniform possible extension.

An idealization – an intensional hypothesis (or a pragmatic rule of review) – is necessary to maintain the uniform character or semantic unification of that possible extension. One way to guarantee the ideal character of the semantic evaluation is to use a principle of unification, as proposed by Pleitz: “the aim that the semantic theory we endorse should be uniform – the aim, that is, of covering the semantics and thus, in particular, the theory of extensions of all kinds of expressions within a single account” (2018, p. 443)³.

This approach is different from a stratified theory in several ways, which we can only hint at in small amounts in this article. The most obvious form of this divergence is that this theory (including Kripke’s theory) states dynamic conditions under which it is permissible to assert an ungrounded sentence. So:

Sentences like “All true sentences are true” and “All conjunctions are true just in case both their conjuncts, are true” (or the obvious translations of these into the formalized language), although not themselves true, can still come out to be what one is allowed to say. (Maudlin, 2004, p. 88)

These sentences regain their assertability by being constrained to an ordered revision place, that is, a place in the language where they can only be revised by revising the sentences that have *less ground priority* over them. In this safe place, the sentence cannot be denied and at the same fails to be included in the anti-extension of the truth predicate as *a whole*; which is another way of saying that the sentence may be very distant from the boundary of the chain and yet can be expressed by a Tarskian biconditional unproblematically (without ensuing paradoxes).

³ Pleitz says that “the requirement of uniformity is that the domain of the variables (and predicates) coincides [or does not go beyond] with the domain of the constants” (2018, p. 448).

THE PRAGMATIC CHALLENGE OF SEMANTIC DISCERNIBILITY

Now we can start to argue why the advantages of this conception are better exploited from the epistemic and pragmatic point of view. The reason is that the version of the challenge posed by Kripke can be put like this: one has to search for his safe points of assertion, idealizing the conditions of assertion. Kripke said that "in some sense, a statement should be allowed to seek its own level, high enough to say what it intends to say" (Kripke, 1975, p. 696). Now the challenge is to seek the level. This idealization is dynamic, and it is problematic in a sense that Tarski did not predict. The problem is much more like that of determining the cumulative process of excluding the anti-extension of the truth predicate (as a whole), as in an Empirical Investigation; than the problem of separating levels and meta-levels of expression. Instead of producing knowledge of the use of metalanguages applications, one would acquire knowledge of the platforms or leverage places that a language can produce or model to protect the truth of some ungrounded sentences, but not all of them. This invites us to think about Kripke's challenge in an inevitably epistemic, holistic, and pragmatic way. Comparing this challenge to Quine's in *Two Dogmas of Empiricism* can help us recognize this transition: "any statement can be held true come what may, if we make drastic enough adjustments elsewhere in the system" (Quine, 1963, p. 43).

The sustainability of the production of safe places is what is in question in the pragmatic challenge. Dogmatic *ad hoc* attributions of fixed points are notably not sustainable. We see here that it is not just the technical apparatus of the solution to the paradox that has changed from Tarski to Kripke. It is also the nature of the challenge. Kripkean's approach is, therefore, utterly distant from that of Tarski when one applies it to the full understanding of the conception of truth and its presence in debates, investigations, hypothesis evaluation, logical revisions, and *semantic discernment* in theoretical contexts.

A system grounded on security points does not allow arbitrary recall of values. It contains models that permit only benign or organic types of ungrounded sentences. A benign or organic ungrounded sentence is cumulative:

"the system is designed so that, once we have assigned a truth value T or F to a sentence, future investigations will not cause us to revoke that assignment" (Mcgee, 1990, p. 89). The challenge is to account for the stability of some but not all ungrounded sentences, which is similar to the challenge of empirical investigation: finding the better grounds to face the trial of external observations, without (dogmatically) shielding the possible truth of the theory.

At the other limit, the decision about which sentences have their extension most vulnerable to revision depends on intensional hypotheses that can control the behavior of *possible extensions* of the truth predicate. For example, the decision to sacrifice a group of sentences from Aristotle's Physics may come from a platform of opposition coming from Galileo's, Newton's, or Einstein's theory, and from possible alliances between these. The ability to order conceptual alliances through an intensional hypothesis – or pragmatic rules of revision – is what allows us to unload the extension of sacrificed sentences in the same *dump* as the anti-extension of our truth predicate (as a whole). If that *dump* is divided and multiple, something is wrong with our intensional hypothesis for the exclusion of possible extensions. This method is what allows us to build discernible semantic content even in contexts of hypothetical speculation. This shows that we cannot dispense with intensional hypotheses – or at least, pragmatic rules of revision – when we reason about the extensional coherence and globality of our truth-predicate.

SEMANTIC REVISIONISM: A CLASSICAL SOLUTION FOR A SECOND-ORDER PROBLEM

The question now is whether our understanding of the predicate "truth" changes for better or for worse in this framework. What does the determination of a fixed point add to the richness of our knowledge of the truth predicate? The predicate truth classifies successful assertions. The idealized version of successful assertions is the class of true propositions, i.e., the classification of all instances of the T-scheme. For the record, the idealization guarantees that no modal or

theoretical condition could predict the falsehood of the assertion if it is true. That classification will be idealized if it accounts for situations where the T-scheme accounts for intensional conditions of assertion (for example, Crispin's superassertions), like the conditions in which p is true if not false in modally stable and unified theoretical ways. In these contexts, the sentence has a *uniform sensibility* - it doesn't respond inconsistently - to factual and theoretical revision. A unified theoretical account of the extension of the sentence must account for the behavior of that sentence in its inferential interactions inside a language. Pleitz says that: "As we use logic to describe the logical form which makes explicit the inferential deep structure of natural language, this also establishes the desirability of a uniform semantics for natural language" (Pleitz, 2018, p. 448).

But for that uniformization to take place we need to conceive some logical notion capable of expressing this non-falsity concerning an intensional or modal classification. For this, second-order notions are invited. The search for rules that encode the priority ordering between sentences that are in a mutually dependent relationship, or entangled modally and inferentially, obviously invites a second-order logical solution:

What we need is a formal condition that obtains only when the truth values on the graph could have been assigned in such an ordered way. To write down such a condition requires that the language be somewhat stronger than we have needed heretofore. In particular, we need the language to contain a quantifier over functions, i.e. we need a second-order language. (Maudlin, 2004, p. 84).

It would be fruitful, however, if we could classically solve the problem, through a theory that revises the place of our Tarskian biconditionals according to the idealized needs of the ordering of grounds. This theory was given by Gupta-Belnap.

Anil Gupta and Nuel Belnap are among the pioneers who found inspiration in fixed-point semantics to build a powerful instrument to program the revision of the truth *en bloc*, rescuing extensional normality for the portions of the language that are grounded by the stability of a sustainable and well-

chosen fixed point. The authors' project involves the recovery of classical values. This program can give the false impression that their solution diverges from Kripke's, which uses three-valued logic and a non-classical interpretation. However, it will be clear that the divergence is purely technical. In both cases, the important thing is to recover the normative "normality" contained in the coincidence between "is true" and Tarski's biconditional. Their theory of truth has as its consequence "that truth behaves like an ordinary classical concept under certain conditions – conditions that can roughly be characterized as those in which there is no vicious reference in language" (1993, p. 201).

An account that takes paradoxes and circularity seriously can be given by this approach. According to Belnap and Gupta, circular concepts, such as truth, are but a special case of arbitrary systems of mutually interdependent concepts. 'Unmarried man' and 'bachelor' are an example of ungrounded interdependent synonyms. They are ungrounded mutually-dependent concepts because, despite being connected analytically, no truth table can model their dependence necessarily. This is a kind of entanglement. But we can neutralize the mutual dependence of terms such as unmarried man and bachelor, and express the logical truth of "unmarried men are bachelors" benignly, i.e., classically. According to Belnap and Gupta:

For models M belonging to a certain class – a class that we informally defined but which in intuitive terms contains models that permit only benign kinds of self-reference – the theory should entail that all Tarski biconditionals are assertible in the model (1993, p. 194)

The semantic rules that fix the relevant cumulative points to support true and analytic sentences depend on how we adjust the sustainability of the system to select mutually dependent statements (e.g., '..is unmarried' and '..is a bachelor') that are integral or organic to the system, because the system has the instruments to review them *in bulk* along with the less grounded sentences of the same language. The semantic rules relevant for the accumulation of truth depends, correspondingly, on how we manage to exclude those true sentences that have a

malign circularity, exploiting the language in unsustainable ways – because they cannot be reviewed *in bulk* with the rest of the less grounded sentences of the language. These conditions lead us to conclude that the knowledge present when one knows that a sentence can carry the predicate truth in a way that conforms to the disquotational scheme of Tarski (behaving like a classical extension *at that boundary*), as much as the knowledge present when one knows that a sentence is analytic (behaving like a logical truth *at that boundary*), is a piece of pragmatic and *dynamic* semantic knowledge about how much one is allowed to keep and sacrifice from its system of truths. The semantic rule that stabilizes that knowledge is only useful when we already know how to protect the system with a distribution of safe intrinsic or sustainable fixed points.

In our opinion, the solution based on the Belnap-Gupta theory (of Kripkean inspiration) would be akin to Donald Davidson's taste, because it is compatible with the latter author's attempt to give a criterion for judging truth and analyticity as predicates convertible to classical standards of revision, i.e., standards that are expressed by Tarskian methods:

if we treat T-sentences [Tarski's biconditionals] as verifiable, then a theory of truth shows how we can go from truth to something like meaning – enough like meaning so that if someone has a theory of truth for a language verified in the way I propose he would be able to use that language in communication (Davidson, 2001, p. 74)

No matter how difficult and even mysterious it is to determine the likeness of the meaning of sentences; one can always determine points of language that are sensible to revision in bulk, using a single rule. And that is enough for the purposes of consistent interpretation and even to *test* (equally consistent) competing theories of interpretation for a sentence.

LAST CHAPTER. THE LIMITS OF SEMANTIC DISCERNIBILITY: A
DIFFERENT READING OF THE MECHANISM BEHIND THE LEARNING OF
THE TRUTH-PREDICATE

At the beginning of this article, we entered into a brief dispute to suggest that Kripke's divergence from Tarski's theory inverts the problem of truth assignment. As the truth-predicate classifies successful assertions, one that is searching for consistent use of the truth-predicate needs to search for the *ideal conditions* where the assertion can never succeed and fail at the same time. The fixed-point theory provides a way of doing that in dynamic conditions where we also can increase our global perspective of the truth-predicate application. The *ideal conditions* of the assertion that are presented by the place of the sentence in Tarski's hierarchy are substituted by the conditions in which the assertions are sensible in bulk to the same states of revision. As someone finds those conditions, he is learning some ideal dynamic pattern for his sentences to appear safely in Tarskian biconditionals. Instead of placing the problem as to how to disquote a sentence, the problem is how to conceive the idealized possible extension of the assertion – or the intensional theory (possible world theory) – that finds the *bulk of possible interpretations* where the sentence asserted cannot be denied without rejecting a bulk of less grounded sentences.

This provides the theory with an antidote to a kind of naivete in Tarski's theory, namely the tendency to take for granted the coincidence between the anti-extension of a true sentence and the anti-extension of the predicate truth. This is possible only in idealized states, when we already learned a rule for the revision of the sentence in a way that coincides with our truth-functional calculus. The “possible interpretation” of a sentence may interact in many non-truth-functional ways with the other sentences of the system. As there is no single way to consider the extension of a counterfactual, but several possible extensions, this naivete needs to be revisited. It is necessary to understand that the choice of a fixed point has different revisionist consequences, and the real challenge is to maintain some discernibility limit between ungrounded sentences. The only boundary that is useful to conserve is one that distinguishes p and non- p in a way that is maximally compatible with a hypothetical anti-extension that evens out this difference. When one is learning how to build his cumulative anti-extension of the truth-predicate, creating his global broad view of *possible truth*, he is learning

how to improve his revision strategies to account for the "truth-predicate" in contexts of risk. To disquote his sentences is the collateral result of that learning, not what he knows in advance. The search for the appropriate level to express the assertive sensitivity of a sentence is done through hypotheses (about possible extensions) and revision. Therefore, in Kripke's voice: "It must not have an intrinsic level fixed in advance, as in Tarski's hierarchy." (1975, p. 696).

This conception provides important insights into the human capacity to plan for the cumulative growth of their knowledge of logical consistency in Dynamic Inquiry situations. Finding positions of stability to develop the cumulative growth of our assertions is, in fact, part of what we do in an empirical investigation. Our truth predicate matures the consistency of its rule of application the more we find a good intensional hypothesis (or, for an anti-intensionalist: pragmatic strategies of revision) to grow the *dump* of the anti-extension of truth in an *idealized* cumulative direction; the direction favorable to our best scientific paradigm. This provides a new angle for learning the truth predicate, based on the strategies devised to support the inclusion of a possible extension (the n-value) in a unified intensional classification. These strategies rank sentences on an assertiveness platform sensitive to a single, cumulative review rule.

This is what can be expected from a strategy for semantic discernibility in unsafe contexts of truth-predications, i.e., those contexts where the boundaries to ground our assertions are not clear. We maximize safety. From the grounds we have traced, one can never risk too much: if the assertion fails, it would fail to be true at the same *idealized assertoric condition* it fails in being non-false. The balance between reward and risk is stabilized. There will be no ways of being false more rewarding than others, i.e., no hypothetical risk more immune to revision than others. Being false will be matched with being non-truth in a single logical way, i.e., by teaching our logical learning with a single content. Of course, this is only achieved in highly ideal circumstances. This is important: because the sentence fails to be true in the same *possible worlds* or the same *intensional classification* where it fails in being non-false. The failure is *unified* because it is valid to revise

a second-order extension, a possible extension, or an intensional content. I.e., one would learn *discernible* and *cumulative unified logical information* from that failure.

But it is necessary to remember, and this article makes a move to do that, that one cannot take that stable circumstances for granted, as some *a priori* or eternal way of dividing propositions and pseudo-propositions (or truth-apt and non-truth apt sentences). To achieve stable differences between truth and falsehood, strategic semantic discernment skills are needed. Scientific paradigms and artificial languages can give a mature symbolic view of stable semantic discernment states for sentences that are distant from the boundaries of empirical review, but this does not change the fact that future crises of the foundations of that stability can always happen. When this occurs, strategic skills to restart semantic discernment are necessary. This ability to track unified logical learning for truth accumulation is perhaps the most important part of the knowledge acquired by one who knows how to recognize the idealized conditions to apply the truth predicate in a language, along with its ability to increase the global perspective on truth in general.

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