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Abstract

Alfred Tarski seems to endorse a partial conception of truth, the T-schema, which he believes might be clarified by the application of empirical methods, specifically citing the experimental results of Arne Næss (1938a). The aim of this paper is to argue that Næss' empirical work confirmed Tarski's semantic conception of truth, among others. In the first part, I lay out the case for believing that Tarski's T-schema, while not the formal and generalizable Convention-T, provides a partial account of truth that may be buttressed by an examination of the ordinary person's views of truth. Then, I address a concern raised by Tarski's contemporaries who saw Næss' results as refuting Tarski's semantic conception. Following that, I summarize Næss' results. Finally, I will contend with a few objections that suggest a strict interpretation of Næss' results might recommend an overturning of Tarski's theory.

Keywords: truth, Alfred Tarski, Arne Næss, Vienna Circle, experimental philosophy

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ORDINARY TRUTH IN TARSKI AND NÆSS

1. Introduction

Many of Alfred Tarski's better known papers on truth (e.g. 1944; 1983*b*), logical consequence (1983*c*), semantic concepts in general (1983*a*), or definability (1948) identify two conditions that successful definitions of "truth," "logical consequence," or "definition" require: formal correctness and material (or intuitive) adequacy.¹ The first condition Tarski calls "formal correctness" because a definition of truth (for a given formal language) is formally correct when it is constructed in a manner that allows us to avoid both circular definition and semantic paradoxes. Second, according to Tarski, a materially adequate definition of the term 'true', e.g., "aims to catch hold of the actual meaning of an old notion," and

¹ It should be noted here that a more catholic translation of the Polish word "trafny" is not "adequate" but "accurate" (cf. Patterson 2012). For the remainder of the paper, however, I will employ the word "adequate" as that seems to be the translation most commonly used in the nature of truth debate when discussing Tarski.

“does not aim to specify the meaning of a familiar word used to denote a novel notion” (Tarski 1944, 341). This condition is designed to ensure that the formal analysis of the term ‘true’ is compatible with the ‘common-sense’ or ‘everyday’ notion.

The aim of this paper is quite narrow: I will consider whether Næss’ results can be used to support the common-sense or everyday notion of truth that is seemingly a part of Tarski’s material adequacy condition. First, I will discuss Tarski’s views on the ordinary notion of truth. If my interpretation of Tarski is correct, then he was open to the possibility that the common-sense notion could be uncovered through the use of statistical questionnaires, much like the ones undertaken by Arne Næss in the 1930s. Not everyone seems to agree that Tarski took Næss’ empirical studies seriously. Perhaps most prominently are criticisms by Rudolf Carnap and Karl Popper. After I have responded to Popper and Carnap’s concerns, I will turn to Arne Næss’ empirical studies of the non-philosopher’s conception of truth, showing how experimental results supported not only Tarski’s semantic conception of truth but also other theories of truth. Finally, I will consider possible implications of empirical work for truth theories generally.

2. Tarski’s Semantic Conception of Truth

In the opening paragraphs of this paper, I alluded to the fact that the material adequacy condition of Tarski’s semantic conception of truth might include an accounting of the ordinary person’s conception of truth. One might dismiss such a reading of Tarski by insisting that his work intended to capture the notion of truth within a specific mathematical paradigm (cf. Betti 2008; Betti & Loeb 2012; Jané 2006). That is an appropriate reading of the formal components of Tarski’s conception of truth.² This section will attempt to reconstruct several pieces of evidence from Tarski’s work on truth where there seems to be some reference to the common-sense or everyday notion. Tarski seemed open to the possibility that the ordinary notion of truth may be uncovered via empirical means, i.e., a “scientific survey questionnaire” (Tarski 1944, 360fn29). In succeeding sections of the paper, thanks largely to Arne Næss, we have empirical results that reveal how intuitive the classical conception is. Some data support the view that ordinary person’s use the term ‘true’ in a way consistent with the Aristotelian conception and Convention-T, but there is data that support other uses of the term ‘true’.

Tarski accomplishes regimentation of the truth-concept by specifying the structure of the languages for which truth is defined and by specifying a formal criterion of material adequacy (i.e., of whether the formally defined concept tracks the ordinary use of truth) in terms of whether all instances of the equivalence

² There are many discussions of Tarski’s formal work, and my interpretation should not take away from that fine work. For a particularly good discussion, see Sec. 5 of Patterson (2008).

[T] X is true-in- L if, and only if p

follow from the proposed definition. Tarski's formal criterion of material adequacy permits the analysis of sentences into subsentential constituents, and it dissolves correspondence relations into appropriate semantic components: names refer to or denote objects and predicates apply to or are satisfied by objects. ' X ' is the name or description of a sentence in L , an object language, and p is a translation of the object language sentence into meta-language. Call the equivalence, i.e., [T], 'Convention-T.' Convention-T imposes a condition on defined truth predicates that Tarski often talks about grasping the intuition behind the "classical," "old notion," or "Aristotelian conception" of truth (cf. Tarski 1983b, 155; 1944, 342f.). Any theory of truth, according to Tarski, must entail, for any sentence X in a given language, a sentence of the form [T].

The orthodox interpretation of Tarski's semantic conception of truth has it that Convention-T is the material adequacy condition. Convention-T only applies to formal languages because there is no systematic way of deciding whether a given sentence of natural language is well-formed and natural languages are capable of describing semantic characteristics of their own elements. Since, for natural language, the latter permits semantic paradoxes, like the liar, to arise and the former allows ambiguity, formality remains a part of material adequacy.

While Convention-T applies to formal languages, there has to be a means of extending it to natural language. Tarski recognizes the difficulties faced by attempts to clarify concepts using only the resources of ordinary language because "like other words from our everyday language, [true] is certainly not unambiguous" (Tarski 1944, 342). The urge toward formalization is the urge toward imposing discipline upon our concepts. The extension of Tarski's concept of truth is given by the axioms derived from the T-schema: "*snow is white*" is true, if and only if *snow is white*. The T-schema is used to give an inductive definition of truth which lies at the heart of any realization of Tarski's semantic conception. For any instantiation of the T-schema, Tarski must have realized that it would not suffice for a general definition of truth because the instance could only cover whatever the schema's content is. For example, we could imagine an innumerable number of T-schema sentences:

"Grass is green" is true if and only if grass is green.

"Ewa Kopacz is prime minister of Poland" is true if and only if Ewa Kopacz is prime minister of Poland.

"Golf was created by Scots" is true if and only if golf was created by Scots.

No matter how many sentences we imagine using the T-schema it seems insufficient to generalize from these examples to a formal rendering of a theory of truth. So, Tarski must have devised the semantic conception of truth, using the two formal conditions: formal correctness and material

adequacy, in order to generalize over all instances of the T-schema.

The T-schema does represent a partial definition of truth, and it is something that should be accessible in natural language since the T-schema is expressed in natural language. The T-schema, then, should be something accessible to ordinary persons since they are at least minimally competent in the use of natural language. Its open accessibility seemingly requires us to consider whether ordinary persons believe the schema to be intuitively accessible.

Neither the nature of truth nor the nature of the truth concept is settled by the formally correct extensional account. Despite the fact that Tarski sometimes hints at the compatibility of the extensional definition with a correspondence story about the nature of truth, there is sufficient extant critical literature to withhold final judgment on whether Tarski's formalized semantic theory of truth requires a correspondence theory, or vice versa (cf. Field 1972; 1986; Kirkham 1992; Küne 2003; Popper 1972). Nevertheless, for those who return periodically to Tarski's early paper, "The Concept of Truth in Formalized Languages," coming now with an ear toward recent work in experimental philosophy, there is a further vein of thought to be mined: *an attempt to describe the ordinary folk notion of truth and thereby make clear how to satisfy the material adequacy condition using methods adapted from the empirical sciences.*³

In his early work, Tarski writes:

Every reader possesses in greater or less degree an intuitive knowledge of the concept of truth and he can find detailed discussions on it in works on the theory of knowledge. (Tarski 1983b, 153)

Who are the *readers* Tarski has in mind? And, what does it mean for any one of them to possess a greater or lesser degree of an intuitive knowledge of truth? Clearly, we cannot stake any claim about Tarski's taking seriously the ordinary person's conception of truth because he might be referring to every reader of his texts. Moreover, we cannot assert that Tarski's limiting his analysis to the conception of truth upheld by professional philosophers since all of his readers would not be limited just to educated philosophers. His view is not that everyone, even non-experts, is capable of having an "intuitive" grasp of the formal concept of truth, but that they have partial grasp of truth. His focus is how "every reader" has the capability of understanding the intuitive sense of truth. This interpretation of what Tarski claims at the beginning of CTFL leaves open the possibility that some readers, perhaps less educated ones or perhaps more educated ones, do not share in the intuitive sense of truth compatible with the 'old notion' or the 'classical

³ Tarski's early paper on truth to which I refer is the English translation, "The Concept of Truth in Formalized Languages" (hereafter "CTFL"), originally published in 1956 anthologized as a part of Tarski's collected papers: *Logic, Semantics, Metamathematics*. The paper was originally published in Polish in 1933, entitled "Pojęcie prawdy w językach nauk dedukcyjnych", and later translated into German (1935), entitled "Der Wahrheitsbegriff in den formalisierten Sprachen".

conception' inherited from Aristotle. This is not to say that the ordinary notion *is* representative of the formal analysis. Tarski conceived of the ordinary notion in a certain manner which is independent of Convention-T.

First, it is notable that section 1 of CTFL is entitled: "The Concept of True Sentence in Everyday or Colloquial Language." The title of this section seems to signal in Tarski at least an awareness of and possibly respect for the average person's understanding of truth if we assume that the ordinary person's conception is an accurate reflection of the 'old notion' as understood especially by its Aristotelian incarnation. Toward the end of the section Tarski reveals that a formally correct definition, one based upon the laws of logic, cannot be equivalent to the ordinary person's conception of truth. Tarski says:

If these observations are correct, then *the very possibility of a consistent use of the expression 'true sentence' which is in harmony with the laws of logic and the spirit of everyday language seems to be very questionable, and consequently the same doubt attaches to the possibility of constructing a correct definition of this expression.* (Tarski 1983b, 165, original italics)

Tarski seems to have used this section of the text to argue that the formal correctness condition of truth is distinct from the "spirit" of how ordinary person's⁴ use the term 'true', but nowhere does Tarski summarily dismiss the everyday or common-sense usage of the term. Of course, this does not mean that Tarski accepted the ordinary person's conception of truth as the foundation for any view on the nature of truth. Tarski was not an "ordinary language philosopher!" If Tarski took seriously the everyday use of the term 'true', then it was a matter of providing him with some insight of how the term is employed in natural language by linguists, philosophers, and non-philosophers, and coming to better understand the deficiencies in it – i.e., that it leads to paradox or prone to mistaken use on some occasions.

Contrast his discussion in the early work with his more popular article "The Semantic Conception of Truth and the Foundations of Semantics" (1944) where there are two distinct discussions of the concept. The first, and oft quoted, states:

We should like our definition to do justice to the intuitions which adhere to the classical Aristotelian conception of truth-intuitions which find their expression in the well-known words of Aristotle's *Metaphysics*:

⁴ Any language user is minimally competent in the employment of language, even someone who might be suffering from some kind of cognitive impairment that prevents them from developing sophisticated use of language. So, it seems unusual to distinguish between an ordinary language user and an extraordinary language user. The purpose here is not to suggest that there is a strong distinction between the two but that one might support such a distinction because philosophers are expert users of language, i.e., "extraordinary users of language", and ordinary people are not. One might respond to this claim, as one reviewer of this paper has deftly pointed out, by recommending that we view the "users" of language as one continuous or seamless web.

To say of what is that it is not, or of what is not that it is, is false, while to say of what is that it is, or of what is not that it is not, is true. (Tarski 1944, 342)

While the “old notion” to which Tarski refers here is consistent with the Aristotelian conception mentioned above, he believes that “our definition” should “do justice to the intuitions which adhere” to it. The intuitions presumably any person should have about truth should be consistent with this Aristotelian conception. But Tarski dutifully reminds us that,

The word “true,” like other words from our everyday language, is certainly not unambiguous. And it does not seem to me that the philosophers who have discussed this concept have helped to diminish its ambiguity. In works and discussions of philosophers we meet many different conceptions of truth and falsity, and we must indicate which conception will be the basis of our discussion. (Tarski 1944, 342)

The everyday use of the term “true” is not unambiguous and precise, according to Tarski. Philosophers have not “diminished” the ambiguity associated with the everyday use of truth in natural language. So, Tarski settles on the classical conception or “old notion” of truth.

Tarski indicates that he does not want to become embroiled in the debate over which ordinary conception of truth is correct (Tarski 1944, 355), but, in section 17: “Conformity of the Semantic Conception of Truth with Philosophical and Common-Sense Usage,” Tarski returns to the question of how we ought to think about the matter. Tarski is aware that some do not share his view that there is some compatibility between the ordinary notion of truth and elements of Tarski’s semantic conception.

[S]ome doubts have been expressed whether the semantic conception does reflect the notion of truth in its commonsense and everyday usage. . . . I happen to believe that the semantic conception does conform to a very considerable extent with the common-sense usage although I readily admit I may be mistaken. (Tarski 1944, 360)

Tarski expresses his view that the semantic conception “conforms to a very considerable extent” with the ordinary person’s notion of truth, but he also suggests that if some maintain that the ordinary concept of truth is different from it, then the issue “can be settled scientifically . . . with the help of the statistical questionnaire method” (Tarski 1944, 360). Here, Tarski seems to question whether that disorderly nature of anecdotal evidence is sufficient for coming to terms with the colloquial view of truth. Only Arne Næss, a Norwegian philosopher, had considered incorporating a systematic and well-organized empirical study of the non-philosopher’s view of truth. Interestingly and perhaps not surprisingly, Tarski

cited the work of Næss (1938a) as an example of empirical work relevant to settling the issue.⁵

Tarski does not give up on his intuitions about the ordinary notion of truth, but he seemingly abdicates ultimate authority over the question of whether the assumption of the classical conception of truth is actually capturing the content of the ordinary notion of truth. So the issue becomes an empirical one: *is the ordinary notion of truth the classical conception?* To get a better understanding of this Tarski believes we must turn to the empirical research of Næss.

This section has argued that Tarski considered the ordinary person's conception of truth to be distinct from, but no less important than, the formally correct conception, which is in some sense an extension of the Aristotelian or classical conception. I have raised some evidence that should compel us to reconsider the extent to which the ordinary conception of truth plays a role in Tarski's material adequacy condition without thereby also committing Tarski to some form of ordinary language philosophy – something that Tarski never endorsed. Finally, I have shown that Tarski even considered surveying ordinary persons to be something truth theorists ought to consider undertaking. This view is not uncontroversial, even among contemporaries of Tarski. In the next section, I will raise a criticism of the argument above that comes from the work of Carnap and Popper and argue that it is incorrect to interpret Næss' empirical results as in any way undermining or seeking to undermine Tarski's conception of truth. The explicit aim of Næss' project, laid out in the early sections of his 1938 monograph, reveal a very different story than what Carnap and Popper remembered.

3. Tarski, Næss and the Vienna Circle

Some very vocal and well-known members of the Vienna Circle have suggested it was Tarski who prompted Næss to perform the empirical studies in an effort to refute the semantic conception. In this section, I will attempt to shed some light on the historical matters surrounding the complex intellectual relationship between Tarski and Næss, as well as Næss' relationship with other prominent members of the philosophical community known as the Vienna Circle, such that I may, in the succeeding section, discuss some of the empirical results Næss reported in his 1938 monograph Tarski cited in his 1944 paper.

Both Popper and Carnap have argued that given what Næss heard from Tarski in the Copenhagen conference of 1936, Næss set out to perform empirical studies that would *undermine* Tarski's semantic conception. Popper writes:

⁵ Næss published two works in 1938 on the non-philosophers or common-sense conception of truth (1938a; 1938b). Tarski (1944) cited the monograph (1938a), but omitted a citation of the article published in *Theoria* (1938b). One might speculate that Tarski was reluctant to include a citation to the article in *Theoria* because it lacked the statistical and scientific rigor of the monograph.

At the Copenhagen Congress, in 1936, which Carnap did not attend, I tried to show that the doctrine of the unity of science and of the one universal language was incompatible with Tarski's theory of truth. Neurath thereupon suggested in the discussion which followed my lecture that Tarski's theories about the concept of truth must be untenable; and he inspired (if my memory does not deceive me) Arne Næss, who was also present, to undertake an empirical study of the usages of the word 'truth', in the hope of thus refuting Tarski. (Popper 2002, 363n44)

Carnap follows on:

Tarski says ... that the [semantic conception of truth] is also in agreement with the ordinary use of the word 'true'. It seems to me that he is right in this assertion, at least as far as the use in science, in judicial proceedings, in discussions of everyday life on theoretical questions is concerned. But I will not stress this point; it may be remarked that Arne Ness [sic.] has expressed some doubts about the assertion, based on systematic questioning of people. At any rate, this question is of a pragmatist (historical, psychological) nature and has not much bearing on the questions of method and results of semantics. (Carnap 1961, 29)

Whereas Popper claimed that Næss' project aimed to undermine Tarski's fine work, Carnap claimed that the data Næss collected gave rise to a form of skepticism. Popper and Carnap's interpretation of Næss' work is seemingly incompatible with his stated aim. In §1 of his 1938*a*, Næss tells us his aim and how he came to undertake the empirical studies of truth. Næss writes:

As students of philosophy we once read with special interest the papers of philosophers on the notion of truth. [...] Reading pragmatic authors we found their opinions on the truth notion quite acceptable and their criticism of "intellectualistic theories of truth" splendid. Reading anti-pragmatic authors we found their "theories" quite acceptable and their "down with pragmatism" reasonable. [...] [W]e made up our mind to try to state the possible sound scientific problems involved in philosophical discussions of the truth notion, and to form an opinion on their (possible) practical solvability. We found it natural to start with the philosophical theories and discussions of "the opinion of the ordinary man (the "non-philosopher") on the notion of truth." In contrast with other questions classed under the heading "the problem of truth," this particular one seems to us to some degree capable of a solution. By this we do not intend that other questions are "deeper," but rather that they are less intelligible, more ambiguous, vague, and badly stated. (Næss 1938*a*, 11)

Næss' undertaking empirical studies of truth seems to have been driven by what he perceived to be an

overwhelming disagreement between different theorists of truth, rather than anything to do with undermining any one theory of truth—including Tarski’s semantic conception.

Næss may have expressed some doubts of Tarski’s theory because all the data he had collected did not support *just* Tarski’s theory. He may have known that the data did not support one theory alone but thirteen different conceptions of truth (cf. Næss 1938a, 160-171). Carnap and Popper want us to believe that Næss’ collected data *undermined* or *refuted* Tarski’s theory. That is not the case at all! On at least one interpretation, both Popper and Carnap have embellished the aim of Næss’ empirical work.⁶

What is more controversial about Popper’s and Carnap’s claims is that Næss hoped to refute Tarski using systematic empirical studies of non-philosophers. It may have been a hope of Popper’s and Carnap’s that Næss’ empirical data refute Tarski’s theory, but the empirical data certainly do not yield that result. In fact, evidence suggests that Næss recognized Tarski’s semantic theory among those that were reflected in the collected data. Tarski (1944) cited Næss’ published and unpublished research (see footnotes 22 and 29), and Næss (1938a; 1938b) is obviously aware of Tarski’s semantic theory (see p. 148 footnote 1), so the influence of one upon the other is not asymmetric.

In Section 2, I pointed out that Tarski cited Næss’ empirical studies, aligning those studies with the ordinary person’s conception of truth. This section has provided some historical evidence, thanks largely in part to off-handed and brash comments by Popper and Carnap, showing that Næss’ empirical studies were not devised to undermine and ultimately to refute Tarski’s semantic conception of truth. What seems clear from the textual evidence provided in Section 2 is that Tarski himself came to recognize the possibility that empirical research could be relevant to his project of defining the ordinary concept of truth.

4. Næss’ Experimental Philosophy

Næss’ work resembles the contemporary methodological movement known as “experimental philosophy,” which has used empirical methods to investigate the psychological underpinnings of philosophical problems (cf. Alexander 2012; Knobe and Nichols 2008; 2013). In this section I will summarize some of Næss’ important findings in the data he collected and reported in his monograph. Unfortunately, nothing more than cursory notes exist supporting Tarski’s semantic conception of truth. The previous two sections have tried to support the claim that Tarski was open to the employment of empirical findings on the ordinary person’s views of truth to fill out his formal and generalized account. In the next section, I will contend with some objections that could arise from a strict interpretation of Næss’ work, such that I may, in the final section, provide an argument supporting the

⁶ For an excellent discussion of the connection between Rudolf Carnap and experimental philosophy, see Shepherd and Justus (forthcoming).

view that a synthesis of the formal and informal approach in the analysis of the concept of truth is warranted.

In much of his early philosophical work, Næss promoted an empirical approach to resolving philosophical problems, which though at the time of its publication was greatly derided (cf. Hempel 1950; Moore 1939; Nagel 1939) was later respected (cf. a letter from Carnap to Quine published in: Quine 2000). Ordinary people use philosophical terms, such as ‘truth,’ in everyday language. Insofar as they use it, and perhaps use it correctly, philosophers can come to a more thorough understanding the term’s usage by engaging ordinary people and not repelling them. Næss recognized that philosophers had been ignoring a valuable asset of research, namely ordinary people.

Næss describes the task of trying to take an experimental stance toward an account of truth (cf. Næss 1953*a*; 1953*b*). He describes how a philosopher might start by reviewing dictionary definitions, or operational definitions of truth from specific sciences, or by constructing “a formal definition suited to logical purposes” (Næss 1938*a*, 13). But, when this process leads to “various types of theories which deal with the non-philosopher’s opinion on the notion of truth,” with the “opinion of the man in the street” (Næss 1938*a*, 14), Næss immediately questions the philosopher of how one can come to such conclusions without rising from the armchair because the questions philosophers raise are empirical and no philosopher has asked non-philosophers for their views. Næss points out common phrases philosophers have employed:

- “The opinion of the man in the street on the truth-notion is - -”
- “To naive people truth means - -” • “The usual criterion of error is - -”
- “- - the definition of the truth and falsity of beliefs is not quite as simple as common-sense and MacTaggart suppose”
 - “If common-sense had been asked to formulate what is meant by the truth of a belief, this is probably what it would have written --” (Næss 1938*a*, 14f)

Næss rightly asks, “How do the philosophers *know* these things?” (Næss 1938*a*, 15) Næss explains that much of the work he and his lab assistants performed could have been prevented if philosophers had told us of how they came to know what the non-philosopher thinks. Since philosophers failed to support their views of the non-philosopher with anything more than mere speculation, Næss believed that one ought to take up a more systematic accounting. It does not help the philosopher to claim that non-philosophers do not have an opinion or conception of truth. That too must be supported by evidence. All of this leads Næss to say:

[T]he fact remains: [Philosophers’] writings contain almost nothing of [how they arrived at the conception of truth among non-philosophers]. Perhaps some of them have asked their wives or assistants for their opinions on the truth-notion, but there is very little to prove that they

actually employed such a method. [...] Even very superficial questioning of non-philosophers would make it almost impossible for anyone to believe that the philosophers writing about the opinions of ordinary people actually ask others than themselves. (Næss 1938a, 15)

In his experimental work surveying non-philosophers about their views on truth, Næss used open-ended questions. Open-ended questions provide the researcher with qualitative feedback. For example, he asked subjects:

What is to be understood by the expression “something is true”? Define the expression. (Næss 1938a, 24)

What is the c.c. (common characteristics) of that which is wrong? (Næss 1938a, 23)

Give me an example of something that is true. (Ibid.)

Do you employ the expression “the truth”? (If answered positively:) On which occasions? (Næss 1938a, 26)

An assistant recorded subjects’ responses to these questions, and the data were analyzed. Here are a few examples of Næss’ findings.

Subject P 79 was a 22 year-old student of medicine and he gave the following responses to Næss’ questions. (“L” stands for “leader of the tests” and “p” stands for “test-person”)

L: What is the c.c. [common characteristic] of that which is true? p: - (silence) - L: Have those things anything in common? p: That is not certain. - L: Is it quite incidental, when you in some situations use the word “true”? p: - It is probably founded on something or other - - (some talk) - L: Think of some situations in which you use the word “true” and think of what is common to these situations. p: - - (thinks) - L: Quite simple things, nothing solemn is meant. p: - - (meditates) - - If one says a truth oneself or a truth is told - - ? L: What is common to *all* that is true? p: Is it of importance who tells the truth? L: No. What is the c.c. [common characteristic] of *all* that is true? p: - - (silence). (Næss 1938a, 32)

Subject P 9 was a 36 year-old “amateur philosopher” with a very well developed philosophical “sense.” The subject was a barrister and, at the time of Næss' study, a student of literature.

L: (q131) Do you mean that there exists a c.c. [common characteristic] of what you call “true” or “right”? (If you distinguish between the words “true” and “right” then take the difference into

account in your answer.) What sort of investigation does this question require? Is it a “linguistic problem” or a “problem of fact” or is it neither this nor that?

p: I think that a c.c. exists: I do not differentiate between true and right. - The problem claims a logical and practical investigation. The question is both linguistic and founded on fact. - When I think of it, it may also be the question of a psychological, perhaps psychoanalytic investigation, if it is conceivable that an emotionally determined “choice” of what is to be looked up on as “true” is at issue. - Now, I am considering the problem of the truth-notion and the contents people give it - but I was perhaps asked to answer the question of c.c. *only*. So I have been talking nonsense, my answer was rash. - - I cannot write all that occurs to my mind in connection with this question. That would take the whole spring. The longer one thinks of these matters, the more doubtful the results. I prefer to consider the problems deeply, but for practical reasons I have to limit myself.

L: Presupposition: You answer “Yes” to q131. - Describe the c.c. of what you call “true” or “right.” Give an example and show that the c.c. holds in connection with the example.

p: The c.c. is an agreement between something I have thought (beforehand and afterwards) and the results of observation. I suspect that 1000 pages could be written about this before a real start was made. - Verification = making true. Will, however, a statement be true only when compared with the observation? How can “agreement” between an image of thought and observation be ascertained? And: other people must observe and hear the statements, and they must be able to speak about it. The test of truth by this means would in any case be exceedingly inaccurate. (Næss 1938a, 29)

These are *interesting* results. Subjects P 79 and P 9 respond in vastly different ways. Whereas P 79 seems to be perplexed by the leader’s question by offering silence in response, P 9 seems very much at ease. P 9 responds positively that there is a common characteristic of truth and seemingly offers a verificationist perspective (though, that is debatable), and P 79 fails to respond to the common characteristic question. Overall 94% of respondents are willing to affirm a “c.c.” (common characteristic) of truth. The two respondents described here clearly have very different conceptions of truth.

More immediately relevant to the question raised by Tarski are the following results. Næss tested subjects on whether they thought that truth was “agreement with reality” or “agreement with fact.” When test subjects were asked whether truth was agreement with reality, only 7% of the subjects thought it was an accurate characterization of truth (Næss 1938a, §§33-36). When subjects were asked whether truth was agreement with fact, only 5% of the respondents believed it was an accurate characterization of truth (Næss 1938a, §36). Næss reports that respondents are far more likely to agree

with a variety of Tarski's T-schema than with a non-philosopher's conception of truth (*cf.* Næss 1938a, [Figure 97,1] 148). For a non-formal rendering of Tarski's semantic conception, Næss says that study participants who received "PAf 148": "'p' ist wahr, wenn p" were divided; it "received much criticism as well as appraisal" (Næss 1938a, 148). Næss does not include the responses of all participants, but here are a few examples:

P 1: "It says truth is truth! A definition must be otherwise: one cannot use the same expression. It explains nothing. The same is said twice."

P 55: "This *seems* to turn round in circles."

Unidentified P: "But "viewed from outside", judged automatically by the thing itself, independent of any person, the formula is all right. A thing, an event, "something", is true if it exists in reality." (Næss 1938a, §93)

PAf 148 was identified as 'Tarski,' and Næss treated it as a non-formal interpretation of Tarski's semantic conception of truth. He writes in a footnote, "The "PAf 148" (Tarski) is not to be identified with the so-called "semantic notion of truth." To construct this notion the method of formalization is essential. There is, however, a tendency to look at PAF 148 as a definition of non-formal truth" (Næss 1938a, 148). Like the case presented earlier about the T-schema, we should think about it as a non-formal variant and partial definition of the formal and fully generalizable material adequacy condition, i.e., Convention-T.

Næss then offers his own interpretation of the experiment's results.

It is very difficult to see why one of these groups or both taken together should be called "the common-sense theory" of truth. There is no evidence in support of the hypothesis that anyone has made any attempt to investigate "common sense" in the sense required. Philosophic "truth-theories" seem wholly to be the fruits of "contemplation" and "intuition." (Næss 1938a, 70)

It seems that Næss is conflicted by the ordinary notion. The questionnaire method, though fruitful, has not led Næss to a uniform view of the ordinary notion of truth. He further corroborates this interpretation when Næss writes:

We have gathered more than 1000 examples from non-philosophers and a great many from philosophic literature, but it is by no means plain how we from this collection should be able to infer any *general* statement resembling definitions. (Næss 1938a, 71)

Given the wide variety of ordinary notions of truth he has collected using the questionnaire method, none of them stand alone as *the* ordinary notion or common-sense view.⁷

While the magnitude of the qualitative data appears to give no uniform answer for the ordinary use of “truth,” the data do seem to converge on some extant theories. Næss seemed to have endorsed this interpretation during an interview later in life. Næss admits:

I would say I think there are about thirteen interesting differences in the use of the terms "true" and "false." And one of the uses I found was the one that Alfred Tarski says is the right one.
(Rothenberg 1992, 49)

Næss reports that there are at least thirteen different uses of truth that best represent the ordinary person’s notion of truth. In other words, there is not just one singular and monolithic way of understanding how people use variants of the word ‘truth’; rather, Næss’ survey seems to have uncovered a variety of ways in which people conceive of truth and, among these different varieties, there seems to be one that is consistent with Tarski’s semantic conception.

Næss’ analysis of the collected data on the ordinary notion of truth in 1938*a* confirmed that Tarski’s semantic conception, in a rudimentary way, was present among the views offered by non-philosophers. Of course, the same empirical data could be employed to support other popular theories of truth. The appearance of thirteen different varieties of truth in the empirical studies seems to provide us with evidence against any one theory of truth supported unequivocally.

Clearly for many “armchair” philosophers this is a counterintuitive result. Not only is there no clearly unified folk theory but also Næss’ results do not even reveal a dominant folk account. Therefore, we have not discovered in Næss’ work data that perspicuously identifies a unique ordinary, common-sense, everyday, average concept of truth.⁸ Næss challenged philosophers who believed that they *know* what the non-philosopher believes. While some truth theorists have speculated that non-philosophers would agree that truth is correspondence with reality or the cumulative view of truth is “empirical truth,” Næss hedges away from making such brash claims. The frustration Næss expresses is not unfounded. Much of

⁷ A commentator suggested that Næss did indeed refute Tarski’s theory. This means that Tarski’s theory could not possibly be the ordinary notion. But, as I will point out below, this claim is in direct contradiction with what Næss claimed later in his life and by what Næss said in his work on the non-philosopher’s view of truth.

⁸ Note that Næss is careful not to say that there *is not* a common-sense or ordinary conception of truth. Nor does he think that the empirical work invalidates the work of traditional philosophers. “What we maintain is this: if we were in a position to direct an institute for the observation of non-philosophers and had a dictator’s power over the test-persons, we should perhaps arrive at a very general conclusion on what non-philosophers may be said directly or indirectly, to judge as true. We do not see, however, how we could arrive at as general (and sweeping) a conclusion as the philosophers. Consequently, we are cut off from the possibility of either validating or invalidating these conclusions” (Næss 1938*a*, 72).

the time philosophers abandon an empirical investigation in favor of the following counterfactual: *if one were to ask the folk about truth, this is probably what they would have written*. Contrary to this familiar approach, Næss maintains that no one should pursue an interest in a subject capable of empirical treatment if the investigator is unwilling to employ empirical methods to learn about the subject. As Næss writes with regard to his empirical work on truth:

The diversity and consistency of amateur theories of truth point to the possibility of an “experimental philosophy.” By this expression we do not mean more than in other cases in which “experimental” is used as a characteristic, for instance, “experimental biology.” If the ecology of pine forests is studied by means of planting pines in new areas and under systematically changing conditions, the behavior of the pines throws some light on the dynamics of pine woods in general. The fact that one cannot build a pine synthetically corresponds to the fact that we cannot experiment with milieu in which truth-theories grow spontaneously. (Næss 1938a, 161)

Here Næss provides a clearly empirical take on the problem of clarifying a philosophically significant notion, but the model differs from that employed by more recent experimental philosophers. Instead of testing specific narrow examples or constraining the possible forms that the concept of truth might take in advance, various conceptions of truth were allowed to emerge organically from the interviews.

5. How to Think about Ordinary Truth after Næss and Tarski

Although Næss focused on the concept of truth in the study under consideration here, he thought that the approach he developed had the promise of being applied to a wide range of philosophical notions.

The question arises how far speculations other than those centering around the essence of 'truth' can be investigated on the same lines as those adopted in this paper. No problem of speculative philosophy seems to be as easily dealt with statistically as the truth-problem . . . There are scarcely any of the traditional philosophical problems which are not suitable for this [questionnaire and free-response] procedure. (Næss 1938a, 161f)

Næss followed up his 1930 studies on truth with a number of different studies on synonymy, certainty, certainly true, definitely true, knowledge, and other concepts commonly employed by philosophers who believe their own intuitions accurately reflect the views of the ordinary person (cf. Næss 1949; 1950; 1951; 1953a; 1953b; 1956; 1957; 1958; 1960; 1961a; 1961b; 1966; 1982; 1992). Further, Næss worried that overly myopic experimental approaches may tend to favor “hasty and ‘profound’ conclusions if no carefully elaborated statistical material is already available” (Næss 1938a, 162).

Næss' work on the folk-theory of truth provides a valuable historical touchstone against which to compare more recent attempts at experimental philosophy, as well as raising some interesting points about methodology. However my main focus in this paper is on whether employing Næss' empirical results of the non-philosopher's conception of truth can be used to help support an element of Tarski's semantic conception of truth. Tarski's view can only be said to capture the *ordinary conception* of truth to the extent that it is materially adequate, i.e., Convention-T, can be instantiated among ordinary persons using the T-schema. Næss' empirical work confirms not only that correspondence and coherence, among other theories, are present in the ordinary person's conception of truth but so is Tarski's T-schema.

On a very strict reading of Tarski, the formalization of the concept of truth was based on the assumption that the ordinary concept of truth was more or less the same as what he calls the classical or Aristotelian definition. It appears that Næss' attempt to clarify the ordinary notion of truth via empirical methods has called into question whether this assumption is warranted. Let us consider three possible responses on behalf of this strict approach to Tarski. First, it might be the case that we have misinterpreted the results. Tarski (1944) notes that

in a group of people who were questioned only 15% agreed that “*true*” means for them “*agreeing with reality*,” while 90% agreed that a sentence such as “*it is snowing*” is true, if and only if, it is snowing. Thus, a great majority of these people seemed to reject the classical conception of truth in its “philosophical” formulation, while accepting the same conception when formulated in plain words. (Tarski 1944, 360)

The fact that 90% of people questioned accepted the plainly worded “*it is snowing is true, if and only if, it is snowing*” seems to suggest that the semantic conception of truth is correct, as an analysis of the ordinary predicate ‘is true’. But an ordinary person's endorsing a sentence as true is different from endorsing it as a model for a general definition of truth. So, we ought to be cautious in ascribing to the ordinary person anything approaching a “theory of truth” or Tarski's “semantic conception.”

Second, Næss' results fail to settle the question of what *the* ordinary concept of truth could be. Indeed, Næss' results show that there is no single folk-concept of truth against which to test Tarski's assumptions of the classical theory. The “folk” of Næss' study seem to hold every view ever imagined by philosophers. But at the same time they all share a deeper characteristic; all are attempts to express the nature of truth. One response to these results would be to say that every philosophical theory is a refined version of an un-asserted folk-theory about truth.⁹

We do not deny the possibility of someone being able - intuitively or by means of statistics - to find very deep rooted characteristics what “non-philosophers” declare to be true but we seriously

⁹ Cf. Næss 1938a, 161 on the distinction between *primitive* and *elaborated* theories.

doubt that the results should be stutable in the form of a definition or in the form of any other expressions similar to what philosophers call “criteria of truth,” “meaning of the word ‘true’,” “nature of truth,” etc. (Næss 1938a, 71)

If so, then one might advocate an approach that treats each putative folk-theory as expressing the dominant member of a cluster of different possible thin claims about truth. On this model, the folk theory of truth might best be understood as a cluster of platitudes with the particular conception the respondent offers functioning as the dominant or central platitude. Thus material adequacy might be the satisfaction of some or all of the platitudes.¹⁰

Finally, we might reject that the diversity of expressed views about the concept of truth actually mark a real difference; instead, either we might say that the wide range of popular views are all relativized expressions of a single view or we could hold that the different popular expressions designate the various modes of presentation through which we intuit a common referent, the concept of truth. In either case the diversity noted by Næss is not sufficient to completely undercut Tarski's project.

6. Concluding Remarks

Tarski's attempt to offer a formal definition of truth turns upon his assumptions about the nature of the ordinary concept of truth, that the ordinary person's view of truth is ambiguous, that, if queried, we should find that underlying people's responses is an assumption about the Aristotelian conception, “truth is agreement with reality” or some such formulation. An informal or partial element of Tarski's material adequacy condition for his formal semantic conception is the T-schema, and, unlike the formal analysis, is expressible in natural language. So, it seems that we can discover empirically whether ordinary persons agree or disagree with something approaching the T-schema.

Næss' empirical work offers some basis for thinking that Tarski's assumptions about the ordinary person's views of truth might be wrong. People are not necessarily confused about truth and its uses, though they do not agree with any one, singular, and monolithic conception of it, and one of the views is consistent with the Aristotelian conception, though it is by far not the one to which most people assent. Næss (1938a, 1938b) and Tarski (1944) seem to agree that the ordinary concept of truth should be informed by empirical data because the “intuitive meaning” of the sentences of colloquial language is unclear. Tarski thought that an appeal to empirical research would support his assumption and settle the content of the ordinary concept of truth. However, if the empirical data are correct, then Næss' experimental work has affirmed Tarski's assumption. The trouble is that it has also attested to the

¹⁰ It might be argued that such an interpretation comports well with *truth pluralism*, e.g., Crispin Wright's (1992) minimalism or Michael Lynch's (2000; 2001; 2004; 2005; 2006) Alethic Functionalism.

presence of other theories of truth among the responses of ordinary people.

So, ought we allow Næss' results to trump philosophers' intuitions? And, if we do, where does that leave us? Næss' empirical approach was not designed to directly respond to the formal questions raised by Tarski's definitional project. We should not be surprised that it did not answer them directly. Nevertheless, the empirical results presented by Næss cannot be ignored. The assumptions Tarski had about the folk's views of truth were confirmed, so Næss' results, contrary to what Popper and Carnap supposed, cannot be used against Tarski or his semantic conception of truth. Trumping a philosopher's conception of truth will take more than finding whether ordinary people agree or disagree with some way of conceiving of truth, whether that conception is formal or informal. But, if we want to devise a theory of truth that is compatible not only with formal analyses but with natural language, then we might want to consider querying ordinary people for how they employ the term 'true' and its cognates.

Truth theorists who invoke the 'ordinary concept' of X or who believe that they are theorizing about a concept that ought to have traction in ordinary language must look to accommodate or explain away such empirical results. Næss seems to have provided some evidence of a common-sense or everyday notion of truth that supports Tarski's semantic conception. The empirical evidence provided by Næss' groundbreaking experimental research might only function in a way that supports an informal interpretation of Convention-T, but no philosopher, especially someone as technically competent as Tarski, would say that the views of ordinary people would dislodge a rigid logical analysis of truth. On the contrary, the work can be used only as a way of supporting the formalization of truth from the less rigid and far more heterogeneous perspective of natural language. If this view is correct, then contemporary experimental philosophy should have plenty of material to devise an effective study on the concept of truth and further the discussion which originated in the dialogue between Næss and Tarski.¹¹

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