

## DISCUSSION

### REPLY TO FELIX KAUFMANN

Felix Kaufmann's new paper continues his discussion of the concept of truth, which was begun in two earlier papers contained in the Symposium on Probability.<sup>1</sup> He criticizes my conceptions concerning the semantic notion of truth as explained in three contributions to the Symposium<sup>2</sup> and in a recent book.<sup>3</sup> I wish to comment briefly on the main points of Kaufmann's discussion.

#### I

I previously illustrated my discussion by the following four example sentences:<sup>4</sup>

- (1) "The substance in this vessel is alcohol."
- (2) "The sentence 'the substance in this vessel is alcohol' is true."
- (3) "X knows (at the present moment) that the substance in this vessel is alcohol."
- (4) "X knows that the sentence 'the substance in this vessel is alcohol' is true."

Now Kaufmann maintains that "in contrasting 'knowledge' and 'truth' no reference should be made to a particular person."<sup>5</sup> I agree with Kaufmann that for the logic of science it does not matter to *which* person we refer, but I do not see how we can make a complete formulation without a reference to *some* person, at least to an unspecified person X. Kaufmann regards it as necessary to amend "a minor flaw" in my formulation by, replacing my phrase "X knows" with "It is known."<sup>6</sup> However, it seen obvious to me that the latter formulation, though customary, is elliptical and is to be interpreted as containing a tacit reference to a person or group of persons, for instance, the speaker or the scientists working in a certain laboratory or the majority of scientists in 1947 or the like. Therefore, in

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<sup>1</sup> KI: "Scientific Procedure and Probability," this journal, Vol. VI (1945), pp. 47-66. KII: "On the Nature of Inductive Inference," *ibid.*, pp. 602-609. KIII "Rudolf Carnap's Analysis of 'Truth'," *ibid.*, Vol. IX, pp. 294-299.

<sup>2</sup> CI: "The Two Concepts of Probability," this journal, Vol. V (1945), pp. 513-532. CII: "Remarks on Induction and Truth," *ibid.*, Vol. VI (1946), pp. 590-602. CIII: "Rejoinder to Mr. Kaufmann's Reply," *ibid.*, pp. 609-611.

<sup>3</sup> *Meaning and Necessity: A Study in Semantics and Modal Logic* (Chicago, 1947).

<sup>4</sup> CII, pp. 598 f.

<sup>5</sup> KIII, p. 296.

<sup>6</sup> *Ibid.*

the following discussion, I take the example sentences in the original form quoted above.

## II

It seems to me that the term ‘to know’ is used in philosophical discussions two different senses. In the stronger sense, knowledge logically implies truth; for example, “X knows that it rains” is understood as implying “It rains.” In the weaker sense, the term is not meant with this implication. In my earlier discussion,<sup>7</sup> I had in mind the weaker sense, as Kaufmann correctly interprets.<sup>8</sup> But I think now that Kaufmann may be right in regarding the stronger sense as more customary.<sup>9</sup> Therefore I will accept this interpretation for the following discussion. Thus I agree now with Kaufmann in regarding the conjunction (logical product) of (4) and (2) as redundant, and the conjunction of (4) with the negation of (2) as contradictory. However, this change in the interpretation does not alter the main point of my argumentation as Kaufmann seems to believe it would. Although in the present interpretation (4) logically implies (2), (2) does not imply (4). Therefore the two sentences are not logically equivalent; they still have different contents; and this was my main point. Thus the result remains that we must distinguish between ‘true’ on the one hand and ‘known to be true,’ ‘verified,’ ‘established,’ ‘highly confirmed,’ ‘warranted as assertible,’ etc., on the other. The concept variously expressed by the latter phrases and similar ones may imply truth but it is not identical with truth. This is what I maintain against the conceptions of Kaufmann, Dewey, Neurath, and others. Truth is here understood in the semantical sense<sup>10</sup> and has nothing to do with the idea of perfect knowledge or absolute certainty. Kaufmann’s judgment identifying or at least closely connecting these two concepts<sup>11</sup> must be due to a misunderstanding. He summarizes his judgment at the end of his paper in the following italicized statement: “*There is no domain of legitimate application for a general concept of truth which would encompass a) logical implication, b) warranted assertibility, and c) total coherence — or even any two of these items.*”<sup>12</sup> I wish to state emphatically that the semantical concept of truth does not encompass any one of these three concepts. (If logical truth were taken as (a) instead of logical

<sup>7</sup> C II.

<sup>8</sup> KIII, p. 297.

<sup>9</sup> *Ibid.*

<sup>10</sup> Alfred Tarski, “Der Wahrheitsbegriff in den formalisierten Sprachen,” *Studia Philosophica*, Vol. I (1936), pp. 261-405; Tarski, “The Semantic Conception of Truth, and the Foundations of Semantics,” this journal, Vol. IV (1944), pp. 341-376; Carnap, *Introduction to Semantics*, and the book mentioned in footnote 3.

<sup>11</sup> KIII.

<sup>12</sup> *Ibid.*, p. 299.

implication, then it would indeed be contained—but merely as a special case—in the general concept of truth). As the repeatedly emphasized equivalence of the sentences (2) and (1) makes clear, the truth of a sentence means simply that the facts are as described in the sentence, whether anybody knows it or not. The question as to how we are to find out whether the facts are as described is a different matter; this question is to be answered by stating criteria of confirmation.

### III

One of Kaufmann's principal objections against the semantical concept of truth as applied to synthetic sentences is his assertion that this concept "has no procedural significance." It is not quite clear to me in which sense the latter term is meant. Kaufmann says explicitly that he does not regard the concept of truth as self-contradictory,<sup>13</sup> but he believes that "it is 'meaningless' in the sense in which the term 'meaningless' is used by logical positivists."<sup>14</sup> This formulation and the use of the phrase "devoid of procedural significance" suggest that Kaufmann means to say that the concept of truth is meaningless because no procedure for its application is specified, in other words, no operational definition is given. This view however, is simply refuted by the equivalence of (2) with (1). Because of this equivalence, the criterion, to be formulated in terms of procedural rules, for the application of the concept of truth in (2) is just the same as that for the application of the concept of alcohol in (1). Thus the sentence (2) cannot be meaningless because it means the same as the sentence (1), which none of us regards as meaningless. Since I have explained this point at an earlier occasion,<sup>15</sup> I need not go into further details here.

### IV

Kaufmann's present discussion and certain parts of the earlier ones give the impression that "devoid of significance" is perhaps not meant in the sense of "meaningless" but in the much weaker sense of "devoid of usefulness." The question of the *usefulness of the concept of truth* is indeed an important question. To give a fully substantiated answer would be a complicated task. An answer to the question is not necessary for an analysis of the meaning and a characterization of the logical nature of the concept of truth. Therefore I have not discussed the question in my former papers. And I must limit myself here to a few remarks.

I agree with Kaufmann that the use of the concept of truth is not *necessary* either in deductive or in inductive logic since the basic concepts of

<sup>13</sup> KII, p. 605.

<sup>14</sup> KI, p. 60; repeated in KII, p. 605.

<sup>15</sup> CII, pp. 600-602.

these two fields (logical implication and degree of confirmation, respectively) can be defined without referring to truth. This remark applies in particular to the deductive principles of the excluded middle and of contradiction (“the disjunction of any sentence and its negation is analytic,” “the conjunction ... is contradictory”). On the other hand, the use of the concept of truth in deductive logic is customary and often convenient, for example, in the formulation of the two principles mentioned (“of a sentence and its negation at least one is true,” “. . . at most one is true”), further in conditional statements (e.g., “if *i* is true then *j* is true,” which is a consequence of the deductive statement “*i* logically implies *j*”), in the formulation of semantical rules for the connectives in the form of truth-tables (which, however, could be formulated instead in terms of logical implication), and in many other cases. Kaufmann prefers to avoid the concept of truth in all these cases in order to preserve the conceptual purity of deductive logic. There is no objection against this procedure. On the other hand, there does not seem to be any compelling reason for requiring, others to follow the same ascetic procedure if they find the use of the concept of truth convenient.

While in deductive and inductive logic the use of the concept of truth is convenient but not necessary, in other fields it is indispensable. This is a consequence of the peculiar form of the definition of truth, which is not explicit but recursive.<sup>16</sup> Therefore (in analogy to recursively defined arithmetical functions) the term ‘true’ is eliminable in statements of a simple form where it is applied to completely specified sentences, but in general it is not eliminable in statements of a more complex form, for instance if the sentence declared to be true is only indirectly characterized or referred to by indefinite, generalized phrases (quantifier phrases with ‘every,’ ‘any,’ ‘some,’ or the like). Consider, for example, the statement:

(5) “The sentence uttered by *X* at 10 A.M. this morning is true.”

While the statement (2) can be transformed into the statement (1) which no longer contains the term ‘true,’ an analogous transformation is not possible for (5), because the latter statement does not give the wording of the sentence asserted to be true. The same holds, for example, for the proverb “In vino veritas,” which may be paraphrased by something like the following general statement:

(6) “Many of the statements made by people under the influence of wine are true.”

Or, to give a more serious example of the same general character:

(7) “The relative frequency of true statements among the official me-

<sup>16</sup> See the publications mentioned in footnote 10, especially Tarski’s *Wahrheitsbegriff* and my *Introduction*, pp. 31 f.

teorological predictions of the weather for the next day was increased in the last fifty years from 40% to 80%.”

(There is, of course, a statement analogous to (7) with ‘highly confirmed by subsequent observations’ instead of ‘true’, but this statement is not equivalent to (7)).

Generally speaking, the concept of truth occurs in formulations within the context of empirical investigations concerning human behavior and, in particular, assertions and beliefs, for instance, from a psychological, sociological, legal, or historical point of view. When the concept of truth appears within contexts of this kind, it is not, in general, eliminable.

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