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## FREGE ON TRUTH, BEAUTY AND GOODNESS

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**Abstract:** The paper attempts to shed light on Frege's views on the relation of logic to truth by looking at several passages in which he compares it to the relation of ethics to the good and aesthetics to the beautiful. It turns out that Frege makes four distinct points by means of these comparisons only one of which both concerns truth and makes use of distinctive features of ethics and aesthetics. This point is that logic is about reaching truth in the way that ethics is about reaching the good and aesthetics the beautiful. I then sketch how Frege can plausibly maintain this view about logic.

**Keywords:** Frege. Logic. Truth. Value. Ethics. Aesthetics.

Scholars of Frege have spent a good deal of energy in discussing his views about truth, logic, and the relation between them.<sup>1</sup> To one set of clues, however, scant attention has been paid. Repeatedly throughout his career, Frege attempted to illuminate the relation between logic and truth by comparing it to the relations between ethics and the good and aesthetics and the beautiful. Truth, beauty and goodness, of course, have had a long

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<sup>1</sup> See, for example, Burge, 1986; Goldfarb, 2001; Ricketts, 1996 and Shieh, 2002.

history in platonic philosophy. By the beginning of Frege's career, they were also coming to play a prominent role in neo-Kantian thought, particularly that of Wilhelm Windelband. It is plausible to conjecture that Frege was inspired to look at ethics and aesthetics to understand the link between logic and truth by their connection in the work of Windelband or other neo-Kantians, though I know of no direct evidence that he was.<sup>2</sup> But whatever the sources of Frege's use of the analogy, it is to his own writing that we must look for its meaning.

In the following, I shall look at the comparisons in detail in order to see exactly what Frege intended in likening the relation of logic to truth to that of ethics to the good and aesthetics to the beautiful. It will turn out that, although the language of the various comparisons is superficially similar, Frege actually makes four different points by means of the analogy. Furthermore, only one of these comparisons says something that both a) is about logic and truth and b) could not be better said by a comparison of logic to, for example, physics. I draw two general conclusions from this. First, Frege was struggling over how to understand the relation of logic to truth. (Perhaps this is obvious anyway.) If he had not been struggling, it would be almost unaccountable that a thinker as careful as he should have utilized the analogy of logic to ethics and aesthetics on a variety of occasions with little or no indication that it was being used so differently each time.

My second conclusion is that in attempting to reconstruct Frege's views on the relation of logic to truth, we should pay particular attention to the one comparison that appeals to the distinctive nature of ethics and aesthetics and is also genuinely about logic and truth. The reason we should pay special attention to it is

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<sup>2</sup> The comparison of Frege and Windelband is made by Gabriel, 1986 and 2002.

this: if we suppose it is the expression of an underlying, though perhaps unarticulated and dimly perceived, view on the relation between logic and truth, we get the best *explanation* of why Frege should have repeatedly turned to the analogy, taking it to be revealing something distinctive and profound about logic and truth, even on those occasions on which it was not.

### 1. A FIRST COMPARISON

The least helpful of the comparisons of logic to ethics and aesthetics comes from an unpublished note from 1915, "My basic logical Insights":

[T]he word 'true' has a sense that contributes nothing to the sense of the whole sentence in which it occurs as predicate. But it is precisely for this reason that this word seems fitted to indicate the essence of logic. Because of the particular sense that it carried any other adjective would be less suitable for this purpose. So the word 'true' seems to make the impossible possible: it allows what corresponds to the assertoric force to assume the form of a contribution to the thought. And although this attempt miscarries, or rather through the very fact that it miscarries, it indicates what is characteristic of logic. And this, from what we have said, seems something essentially different from what is characteristic of aesthetics and ethics. For there is no doubt that the word 'beautiful' actually does indicate the essence of aesthetics, as does 'good' that of ethics, whereas 'true' only makes an abortive attempt to indicate the essence of logic, since what logic is really concerned with is not contained in the word 'true' at all but in the assertoric force with which a sentence is uttered. (1979, p. 252)

This is the only place I know of in which Frege mentions ethics and aesthetics (and their relations to the good and the beautiful) to contrast them with logic (and its relation to truth). On all other occasions they are mentioned to bring out some similarity they are alleged to have to logic. The point of the contrast is that

while 'good' and 'beautiful' actually succeed in giving the essence of ethics and aesthetics, 'true' does so for logic only in a qualified way. We are not told here why, or in what sense, 'good' and 'beautiful' do give the essences of their disciplines, only that they do so without a doubt.

The reason why 'true' does not also give the essence of logic without a doubt is complex. A rough gloss on Frege's line of thought is as follows. Logic is really concerned with assertoric force.<sup>3</sup> But while the theorems of logic are asserted (they must be preceded by the judgment stroke (*Urtheilstreich*) that signals assertoric force), the assertoric force does not enter the content of the theorems. Truth, however, in the guise of the content stroke (*Inhaltstreich*), does enter the content of the theorems and abortively attempts thereby to represent assertoric force by content.<sup>4</sup> The reason it attempts to do this is because truth is connected to assertion - assertion is the presentation of a content as true. Since truth can be inserted into a proposition without thereby adding anything to it,<sup>5</sup> it can serve as a kind of surrogate for assertoric force. But of course, it cannot succeed in making assertoric force part of the content, since whatever content we have, it can be uttered with or without assertoric force. Even the content "I assert that ..." can be asserted or merely spoken. Nonetheless, the fact that

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<sup>3</sup> Why, then, cannot 'assertoric force' be used to give the essence of logic without a doubt? Perhaps because Frege is assuming that whatever expression is used to give the essence of a discipline must appear, or at least be capable of appearing, in the 'theorems' of that discipline. See the second comparison to follow.

<sup>4</sup> The exact relation of the content stroke to the concept of truth is complicated. See Burge, 1986, pp. 144-5 and Ricketts, 1996, p. 124 fn. 8.

<sup>5</sup> Frege takes 'It is true that *p*' to be equivalent to *p*. Precisely on the grounds of this redundancy, Frege says that "what... distinguishes [truth] from all other predicates is that predicating it is always included in predicating anything whatever" (1979, p. 129).

'true' attempts the impossible makes it fitted, though not without qualification, to give the essence of logic.

But why should Frege make the point that 'true' only gives the essence of logic qualifiedly by contrasting logic to ethics and aesthetics? Are these the only disciplines whose essence is given unqualifiedly? Since no explanation is provided of how goodness and beauty give the essence of ethics and aesthetics, it is impossible to say. Most likely, Frege is responding to the fact that previously he himself has compared logic to ethics and aesthetics without having remarked on the qualification with which truth gives the essence of logic. In that case, we must look to those other, positive comparisons. But we should note that despite this passage, Frege continued, after 1915, to compare logic to ethics and aesthetics without qualification (as in our next comparison).

## 2. A SECOND COMPARISON

The second comparison at which we shall look comes from "The Thought" (1918). At the beginning of that essay he writes:

Just as 'beautiful' points the way for aesthetics and 'good' for ethics, so do words like 'true' for logic. All sciences have truth as their goal; but logic is also concerned with it in a quite different way: logic has much the same relation to truth as physics has to weight or heat. To discover truth is the task of all sciences; it falls to logic to discern the laws of truth. (1977, p.1)

It seems that the comparison of logic to ethics and aesthetics is explained here by the immediately following comparison of logic to physics. An unpublished manuscript of 1897 also includes a passage (that occurs in the context of the fourth comparison at which we shall look below) in which the relation of logic to truth is explained in terms of the relation of physics to weight and heat:

Logic is concerned with the predicate 'true' in a quite special way, namely in a way analogous to that in which physics has to do with the predicates 'heavy' and 'warm' or chemistry with the predicates 'acid' and 'alkaline'. (1979, p. 128)

How, then, does physics relate to weight and heat? There are two possibilities. If Frege was careless in his choice of 'weight' and 'heat' (and likewise 'warm' and 'heavy' in the second passage), and meant really 'temperature' and 'mass', then presumably these predicates would represent theoretical concepts of physics. They would occur in the laws of physics. They (or their denotations) would constitute (part of) the subject-matter of physics. In that case, Frege would be claiming, by analogy, that 'true' is a fundamental concept of logic, that it occurs in the laws of logic, that it (or its denotation) constitutes the subject-matter of logic. These are, arguably, all things that Frege accepted.

If, on the other hand, Frege was not being careless in his choice of 'weight' and 'heat', then the relation of physics to those predicates is somewhat looser and vaguer. The predicates, in some sense, specify what physics is out to explain. It starts from everyday attributions of warmth and heaviness to things such as sun-warmed stones, and then gets to the root of what is really going on in such cases. In that case, truth would be the everyday phenomenon from which logic takes off, giving deeper explanations, as it were, of what is going on when we ascribe truth to thoughts or assertions. This too, it has been argued, is something Frege accepted.<sup>6</sup>

Frege's consistency in the choice of predicates over a period of 21 years may argue against carelessness and hence in favor of the second possibility just mooted. On the other hand, one might say

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<sup>6</sup> Burge, 1986 highlights Frege's 'pragmatic' methodology, which, for Burge, involves developing logical theory to deal with the ordinary uses we make of the concept of truth (among other things).

that the consistency of predicates between the two passages indicates that Frege simply copied or remembered his earlier example in writing "The Thought" and did not give a second thought to the choice of predicates.<sup>7</sup> In any case, we could sum up what the two possibilities have in common by saying that physics is about its predicates (or their denotations), or has them (or their denotations) as its subject-matter. Logic, then, according to this comparison, is about truth and has it as its subject-matter.<sup>8</sup>

Nothing distinctive about ethics and aesthetics, and their relations respectively to the good and the beautiful, seems to be called upon in making Frege's point in this comparison. One might even think that ethics and aesthetics are bad examples to make the point with since, unlike physics and chemistry, their having goodness and beauty as their subject-matter is mixed up with other, more complicated facts that might obscure the fairly simple point Frege wants to make in these passages.

As I shall argue when we come to discuss the context of the second passage just quoted (in the fourth comparison), the introduction of physics and chemistry there is actually a red herring in understanding the significance of ethics and aesthetics. It therefore seems to me possible that in the passage from "The Thought", Frege is also conflating two ways in which truth relates to logic, one brought out by the comparison to ethics and aesthetics, the other by the comparison to physics. I shall present a small piece of evidence in favor of this interpretation when I come to the fourth comparison. If I am correct, then the point about truth being the subject-matter of logic will only ever have been made by a

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<sup>7</sup> The use of the examples of 'acid' and 'alkaline' in chemistry might shed light on which interpretation is correct, though one would need greater knowledge than I have of chemical theory in the 1890s to decide.

<sup>8</sup> I am grateful to Peter Lewis for help with this and the preceding two paragraphs.

comparison of logic to physics (and chemistry), the invocation of ethics and aesthetics, in both cases, making a different point, but one whose difference is not acknowledged by Frege.

### 3. A THIRD COMPARISON

In a draft for a textbook on logic, called by its editors "Logic", dated between 1879 and 1891, Frege, as he often does, spends some energy on showing how logic is quite different from psychology. The "sharp divide" between these disciplines concerns the word 'true'. Psychology studies, among other things, the processes of thinking and reasoning in humans, but for the purposes of these studies, it is irrelevant whether the thoughts entertained by someone are true or not. By contrast, for logic, truth is of the utmost importance. In this respect, "logic has a closer affinity with ethics" (than with psychology).<sup>9</sup>

The property 'good' has a significance for the latter analogous to that which the property 'true' has for the former. Although our actions and endeavours are all causally conditioned and explicable in psychological terms, they do not all deserve to be called good. Here, too, we can talk of justification, and here, too, this is not simply a matter of relating what actually took place or of showing that things had to happen as they did and not in any other way. (1979, p. 4)

The general point of the comparison is clear. Ethics and logic have a normative dimension that is lacking in psychology. All actions that a person performs, good, bad and indifferent, have causal explanations that psychology may provide. Psychology may even show that what a person does has to happen the way it does. But it cannot account for an action's being good (or bad). That is

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<sup>9</sup> This is the only place of which I know where Frege makes a comparison to ethics without mentioning aesthetics. I suggest a reason for this below.



what ethics does. Ethics is thus seen as connected with psychology in that it deals with events that are explained by psychology, but it subjects them to normative evaluation. Frege seems to hold exactly the same for logic. Like ethics, logic approaches a field of events that are explained by psychology: not actions but thoughts or sequences of thoughts.<sup>10</sup> Psychology can causally explain these events, and perhaps even show how they are necessary. But it cannot apply the normative standard that logic can.

What is the normative standard applied by logic? Here we run into a problem. The passage suggests that 'good' and 'true' function similarly in ethics and logic. Ethics looks at our actions and picks out some as good. Does this then mean that logic looks at our thoughts and picks out some as true? In fact, it seems that in our passage, truth is not what Frege is primarily interested in. He says that in logic, like ethics, "we can talk of justification". Later in the same text, Frege makes the same point, this time with no mention of truth at all:

In the form in which thinking naturally develops the logical and the psychological are bound up together. The task in hand is precisely that of isolating what is logical. This does not mean that we want to banish any trace of what is psychological from thinking as it naturally takes place, which would be impossible; *we only want to become aware of the logical justification for what we think.* (p. 5; emphasis mine)

Frege does not say how he takes talk of justification in ethics to relate to the application of 'good'. In the context of logic, justification, for Frege, means showing (in a way that leaves no gaps)

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<sup>10</sup> Aesthetics may be left out on this occasion because the objects to which beauty is ascribed are not part of the domain of psychology, but rather such things as pieces of music, landscapes, faces, and so on.

how one truth depends logically on other truths.<sup>11</sup> There are thus two points of contact between the notions of justification and truth. First, there is the truth of the *justificans*, the proposition(s) used to support the *justificandum*. Secondly, there is the truth-preservingness of the logical rules by which the *justificandum* is inferred from the *justificans*. Truth-preservation, however, concerns truth only in a conditional sense. A truth-preserving rule is one such that *if* the propositions to which it is applied are true, the proposition inferred from them must also be true. As for the truth of the *justificans* itself, logic obviously has nothing to do with that.<sup>12</sup> In so far as logic's relation to truth derives from its relation to justification, it is, therefore, somewhat misleading to advertise the comparison with ethics made in these passages as revealing something about logic and truth *per se*.

The point of the comparison with ethics, that both logic and ethics have a normative dimension that is not reducible to the genetic explanatory terms of psychology, still stands, even if we take Frege not to be dealing here directly with truth. And so does the claim that to explain the origins of an act or thought, even to show that it is necessary, does not entail that it is good or true. But here, despite the use of the word 'true', logic is not said to tell us whether a thought is true, as ethics might be thought to tell us whether an action is good. Logic will tell us only whether it is justified. Such

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<sup>11</sup> See the discussion of the link between logic and justification in Goldfarb, 2001, p. 33ff.

<sup>12</sup> Except in the case in which we are concerned with the justification of a logical truth, and even there, Frege expresses scepticism over *logic's* business with the truth of the *justificans*: "The question why and with right we acknowledge a law of logic to be true, logic can answer only by reducing it to another law of logic. Where that is not possible, logic can give no answer" (1967, p.15).

justification, like truth and goodness, is not reducible to the genetic and hence has no place in psychology.

#### 4. A FOURTH COMPARISON

The fourth comparison comes in a passage that flanks that quoted above in which logic is compared to physics and chemistry, from an 1897 manuscript entitled "Logic":

When entering upon the study of a science, we need to have some idea, if only a provisional one, of its nature. We want to have in sight a goal to strive towards; we want some point to aim at that will guide our steps in the right direction. The word 'true' can be used to indicate such a goal for logic, just as can 'good' for ethics and 'beautiful' for aesthetics...

Like ethics, logic can also be called a normative science. How must I think in order to reach the goal, truth? We expect logic to give us an answer to this question, but we do not demand of it that it should go into what is peculiar to each branch of knowledge and its subject-matter. On the contrary, the task we assign logic is only that of saying what holds with the utmost generality for all thinking, whatever its subject-matter. (1979, p. 128)

In the first paragraph, Frege seems to be saying that each science must be directed at uncovering the nature of some essential feature of its subject-matter. 'True' points the way for logic as 'good' and 'beautiful' do for ethics and aesthetics. In this sense the point is similar to our second comparison. Truth is what logic is about; in doing logic we must keep our eyes on the notion of truth. And Frege does indeed go on, in the ellipsis, to make the above-quoted comparison of logic to physics and chemistry.

Frege says having a goal such as truth in sight will "guide our steps in the right direction". But this idea of truth's guiding our steps in the right direction is given an altogether different sense at the beginning of the second paragraph. For there, truth is not the

subject-matter of logic, but its very goal. It guides us in logic not because logic is supposed to study it, but because it is supposed to reach it. Here, at last, I think we see what is really distinctive, for Frege, about the role of 'good' and 'beautiful' in ethics and aesthetics: they are goals to which the respective disciplines enable us to aspire. Ethics, Frege is supposing, is about helping us to be good, or to do good things. Aesthetics guides us in the creation of beauty. Logic is said to be like them because it too has a goal, truth, towards the achievement of which it is the path.<sup>13</sup> The same sentiment is expressed, though without the comparison to ethics and aesthetics, in the introduction to the *Basic Laws of Arithmetic*: "It will be granted by all at the outset that the laws of logic ought to be guiding principles for thought in the attainment of truth" (1967, p. 12; emphasis mine).

How is it, then, that that the laws of logic help us reach our goal, truth? Does not Frege acknowledge that "we do not demand of [logic] that it should go into what is peculiar to each branch of knowledge and its subject-matter"? But if we do not, what truth is it that logic guides us to? Since Frege also says that logic "holds with the utmost generality for all thinking", it might be thought that

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<sup>13</sup> It is clear in our present example that the point made by the comparison of logic to physics and chemistry is not the same point as is being made by the comparison to ethics and aesthetics, for physics is most certainly not about helping us *achieve* warmth and heaviness! In the second comparison, from "The Thought", Frege also juxtaposes a comparison of logic to ethics and aesthetics and a comparison of it to physics. Yet Frege's language in describing, in the opening of "The Thought", how ethics and aesthetics relate to their predicates has a distinctively teleological ring to it. He says that 'beautiful' *points the way* for aesthetics, as 'good' does for ethics (and 'true' for logic). It would be odd to say likewise that weight pointed the way for physics. So maybe in the "The Thought", as in the present comparison, Frege is conflating two separate points: truth as the goal of logic, and truth as subject-matter of logic.

Frege is here alluding again to the connection of logic to justification. We can derive from logic such maxims as "If  $p$  implies  $q$ , then do not (simultaneously) judge that  $p$  and that not  $q$ ". While I think that Frege did hold that logic should provide us with such maxims, it can be seen on reflection that while such principles may be able to lead us away from falsehood or inconsistency, and towards logical closure of our beliefs, they cannot, as such, lead us to true beliefs. The view, then, that logic is concerned with justification cannot exhaust what Frege means when he says that logic's goal is truth unless we take him to be speaking very imprecisely when he says such things.

Fortunately, I believe another interpretation is at hand according to which Frege means what he says when he claims that logic can lead us to truth. The details of this interpretation are complex and I cannot give the whole story here.<sup>14</sup> But a summary of the interpretation goes like this. It is partly through inference that logic is regulative for our thinking. Yet Frege holds that inference can only be from premises known to be true. Sometimes he requires of the premises of an inference that they be asserted (rather than known to be true), but he also holds that one cannot assert what is false. Hence assertion and inference, which together may lead us to accept new thoughts, will indeed guarantee the truth of those new thoughts.

Inference and assertion are resolutely held by Frege to be logical rather than psychological notions. Since logic cannot assure us of the truths of physics, etc., the only area in which such conceptions of inference and assertion may operate is in logic itself. Frege holds that primitive laws of logic are self-evident, and hence can be asserted and provide us with materials for inference, which

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<sup>14</sup> I attempt to give the full story in my "Frege and the Relations between Logic and Thought" (unpublished).

will ultimately yield further logical truths (and also, given Frege's logicism, mathematical truths). Thus, the truth which logic helps us attain is logical (and mathematical) truth. This is not a trivial position, however, since as a Platonist about logic, Frege would have no *a priori* reason to expect us to be able to grasp the truths of logic and mathematics. That we can grasp the truths of logic and mathematics, via the self-evidence of the primitive laws and the use of these in inferences to derive more complex laws, is a substantive position in the epistemology of logic.

The essence of the interpretation I am outlining here is this. Frege actually takes logic to be connected to thought in two ways. Through the notions of self-evidence and assertion, logic offers up to us a grasp of basic logical truths. Through the notions of truth-preservation and (in)consistency, it regulates relations between thoughts. Where the topic of our thought is logic itself, or mathematics, the two types of connection unite to ensure that logic will yield truth – both basic logical truths and truths derived from them. Where the topic of thought is something else, however, logic cannot, as such, guarantee truth, but only consistency, closure and the like. It is because Frege was, for the most part, concerned with thought about logic and mathematics that he did not sufficiently distinguish these two ways in which logic is related to thought.

## 5. CONCLUSION

It is the fourth comparison that gets to the heart of Frege's repeated invocations of ethics and aesthetics to illuminate the relation between logic and truth. The first comparison yields little positive result, and seems to direct us to other comparisons in order to understand why ethics and aesthetics are picked to contrast with logic. The second comparison is designed to show that truth is the subject-matter of logic. Yet this point is made in greater detail, and

more successfully, by the comparison of logic to physics and chemistry. Those disciplines lack the normative element that gets in the way of understanding how truth is the subject-matter of logic. Yet evidently, when thinking of other disciplines with which to compare logic in order to make the point about subject-matter, Frege could not free himself of the thought that ethics and aesthetics had *some* important light to shed on the relation of logic to truth, even if, as we have seen, their true import is not about logic's subject-matter. With the third comparison, we do exploit the normative character of ethics, and hence could not equally well use physics or chemistry to make the point at issue. But, despite the use of the word 'true', an analysis of the passage indicates that Frege is there using ethics to make a point primarily about the relation of logic to justification, and only derivatively about its relation to truth. It is only in the fourth comparison that we genuinely bring together truth and the normativity of ethics and aesthetics. Ethics and aesthetics are relevant because they are disciplines concerned with achieving a certain goal. Logic, too, Frege tells us, has a goal. That goal is truth.

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