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ARTICLE

Frege and the Fundamental Abstraction

Jim Hutchinson

Department of History, Philosophy and Religious Studies, Nazarbayev University, Astana, Kazakhstan
Email: jim.edwin.hutchinson@gmail.com

Abstract
According to Charles Travis, Frege's principle to "always to sharply separate the psychological from the logical, the subjective from the objective" involves a move called "the fundamental abstraction." I try to explain what this abstraction is and why it is interesting. I then raise a problem for it, and describe what I think is a better way to understand Frege's principle.

Keywords: Frege; Travis; Logic; Psychology; Metaphysics; Abstraction

1. Introduction

One of three principles with which Frege famously starts his *Foundations of Arithmetic* is "always to sharply separate the psychological from the logical, the subjective from the objective." According to Charles Travis, he is saying with this principle that "*Wahrsein*…must be distinguished sharply from *Fürwahrhalten*"; and making this distinction is a highly significant move that is "fundamental to Frege's whole philosophical view." Travis calls it "the fundamental abstraction" (Frege, 1884, p. x; Travis, 2021, p. 9).[1]

But how could distinguishing between *being true* and *holding for true* be so significant, when almost everyone agrees that the two are different? (For one thing, we sometimes hold for true things that are not true; and anyway, holding for true is something people do, while being true is not.) And how could such a common-sense distinction involve anything deserving of the name "abstraction"?

I aim here to explain the quite significant move that Travis sees expressed in Frege's principle, and why it is reasonably called "abstraction." After that, I will raise a problem for that move, and describe what I think is a better way to understand Frege's principle.[2] But first, let me describe a difficulty about Frege's philosophy which will help to bring out one reason the move is interesting.

2. How Can Frege Reach His Conclusions About Thoughts?

Frege stipulatively introduces the technical term, "thought," to stand for "that by which being true can come into question at all." He also claims that "a thought is something imperceptible," lacking perceptible-making qualities like shape and color; and that no thought is "private" to one thinker, "as an idea is to the ideator"—which is to say, none is graspable only by one person (Frege, 1897,

[1] All Travis references are to this work.

[2] I follow Travis in focusing throughout mainly on the viability and interest of things attributed to Frege, rather than how closely they correspond to Frege's words. (Signaled at, e.g., p. ix: "I hope the reading presented here is a reading Frege bears. But of course the reason for writing this book at all is that (I hope) it is a reading which will allow philosophy to profit from Frege.")

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p. 145, 1919, pp. 60–61). But he does not stipulatively introduce thoughts to be these ways: to be *those things by which being true can come into question at all, and which are also neither perceptible nor private.* So he needs an argument that thoughts are not perceptible or private, starting from their being that by which truth can come into question.[3]

Many theorists today agree that thoughts are neither perceptible nor private, and have no trouble arguing for these claims. For example, Matthew McGrath and Devin Frank describe a "standard line of argument": "[The thought that] there are trees…is false in a world without concrete entities. But if it is false in such a world, it must exist in that world, and so is possibly, and so actually abstract"; where imperceptibility follows from abstractness (McGrath & Frank, 2020).[4] As for privacy, one obvious way to argue that thoughts are graspable by many thinkers is by "develop[ing] an account [of what it is to grasp a thought]…that allows…[them to be] shareable" (Bermúdez, 2005).[5]

Frege, however, not only *does* not, but probably *could* not consistently give these arguments. When arguing for claims he sees as "logical"—which includes his claims about thoughts[6]—he famously issues an injunction against "rely[ing] on metaphysics and psychology…[thereby getting] stuck in the psychologico-metaphysical swamp" (Frege, 1893, p. xxiii; see also Frege, 1884, pp. v–x). He gives no precise explanation of what he counts as "metaphysics" and "psychology," but the above reasoning about the possibility of worlds without concrete objects presumably counts as metaphysics, and Frege himself explicitly refuses to give an account of grasping, claiming this to be a psychological matter (see, e.g., Frege, 1897, p. 157; Frege, 1919, p. 273).

There is, then, a difficulty here about Frege's philosophy. However plausible and familiar we find his claims about thoughts, it is still a good question how he would argue for them—especially because his injunctions on psychology and metaphysics preclude giving familiar arguments and it is not clear what else is available.[7] One reason Travis' reading is especially interesting—to me, at least—is that he identifies arguments for Frege's claims which appear not to violate his injunctions. This brings us to the abstraction.

3. Abstraction: The Work of the Just

Why can't a thought be perceptible? Why can't one of them have, for example, the perceptible-making property of being blue?

Travis' Frege answers by first clarifying that as intended, the stipulative introduction of thoughts—as "that by which being true can come into question at all"—implies that "a thought is just that which is, or which identifies, precisely what may be true, or if not, false. It is just that which identifies a determinate, answerable, yes-no question, 'True?' It identifies just that which is to matter to the answer." With that in mind, "suppose a thought…[were] blue…What way for how things were to matter to truth would [this] identify? What question of truth would [it] raise in part? In brief, none." So no thoughts are blue (pp. 10, 15).

The basic shape of the reasoning here is something like this:

P1: A thought is just that which identifies what matters to truth.

P2: Being blue is not a way of (even partly) identifying what matters to truth.

C: Therefore, no thoughts are blue.

[3]As Travis puts it: one should "only stipulate *once*…Anything further requires argument. The once…for [thoughts] is: a thought is (just) that by which truth can come into question at all." (p. 80)

[4]Their term is "proposition" rather than "thought."

[5]Bermúdez is discussing grasping demonstrative thoughts in particular.

[6]After all, he gives titles like "Logic" and subtitles like "A Logical Investigation" to papers focused around making such claims (see also, e.g., Frege, 1897, pp. 147–148; Hutchinson, 2022, pp. 11–13).

[7]One response to this difficulty is to hold, with Weiner (1990), that Frege regards many of his claims about thoughts as not literally true, and hence in no need of argument.

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Now, if being blue is not a way of identifying what matters to truth, then neither is being red. If it works, this argument should work "*mutatis mutandis* for…being red, or lozenge-shaped, or etc.," (p. 16) ultimately giving Frege a reason for taking each thought to have no perceptible-making properties at all: to be imperceptible. It should even work for being private, since being graspable only by a particular person is also not a way of identifying what matters to truth.[8]

But does the basic argument work? It can sound sophistical, until Travis emphasizes that "the notion *just* does work here" (p. 10).[9] The first premise—the one with the "just" in it, which is meant to be contained in the stipulative introduction of thoughts—is to be read as claiming that thoughts *only* have properties within a certain range; and then the second premise claims being blue to be outside the permitted range. The conclusion then follows.

It is standard to introduce theoretical entities by stipulating properties they are to have, but less common to, in this way, also stipulate ones they *do not* have. Astronomers, for example, introduced Pluto to be the orbiting object that explains certain perturbations in the orbits of Neptune and Uranus; but not to have *only* properties that account for those perturbations. (Otherwise, they would have been shocked when Pluto turned out to have a color, since its color does not help it to perturb orbits.) In order to argue that Pluto lacks a certain property P starting from the stipulative introduction, then, such astronomers had to argue that having P was actually *incompatible* with having the properties Pluto was stipulated to have: that having P would *prevent* Pluto from perturbing the relevant orbits. Denying properties becomes much easier if we introduce objects by stipulating a range of properties that they do *not* have—a sort of introduction that we can reasonably call "abstraction," since it "abstracts from" the forbidden properties. One need only—as in the argument above about being blue—note that P is outside the permitted range, and inside the forbidden one. (This might seem *too* easy: like trying to define something into existence. But no stipulative introduction, whether abstraction or not, does that. Rather, each such introduction embodies the risky assumption that there are things of a certain kind, proposing only to point them out and name them. In principle, it is no more risky to assume that there are things that *lack* certain properties than it is to assume that there are things that *have* others.)

Why introduce thoughts, or anything else, through abstraction? The basic reason Travis gives is that for there to be laws at all, there must be things well-behaved enough to be described by them; and it is often reasonable to expect such things to be insulated from the distorting effects of properties that lack the right connection to the relevant laws. Since Frege's ultimate concern is with the laws of being true, then, abstraction is a reasonable approach—perhaps not the *only* reasonable one, but one which has, for example, paid off in other sciences.[10]

We can now see, in outline at least, how the fundamental abstraction goes beyond merely noticing that being true is different from holding for true. It involves introducing thoughts—the things that are true—with a stipulation forbidding them to have any properties that might interfere

[8]Travis argues for this. When it comes to "[being] the one who alone could…grasp it," one cannot "specify[] how [this] matters to truth," because in order to say that the thought is graspable only by this person, we must already be able to say *what* it is that only this person grasps; which is to already be able to say what the thought identifies as mattering to truth; so that being graspable only by this person cannot contribute to this identification. (p. 85)

[9]This one really would be sophistical: "I hereby stipulate that 'Successors' are to be those individuals who are in the line of succession to some throne. Now, suppose some Successor were blue. What difference would that make to being in line for a throne? In brief, none: being in line for thrones is about ancestry, not color. Therefore, no Successor is blue." This conclusion may well be false. (Some Successor might, say, perform with the paint-based "Blue Man Group.")

[10]Frege's goal "is to bring to light that which logic governs: the laws of being true." To "install [the thought, introduced through abstraction] as the fundamental notion in an account of being true, is to adopt a strategy…at the start of [his] science." "The point of abstracting…[is] to arrive at items which might be governed by laws of logic…just as (it was hoped) abstracting to such quantities as force, mass, and acceleration might give laws of mechanics something to do." "We cannot forbid anyone from trying to identify law-like behaviour of being true without [abstraction]. If such person succeeds, so be it." (pp. 9, 13, 37, 234)

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with the regularity relevant to logical laws, which properties are taken to include those familiarly possessed by the activity of holding-true, along with color-properties and more.

We can also see that the relatively simple arguments abstraction allows—arguments like that above against blue thoughts—reach Frege's conclusions about thoughts without reasoning about possible worlds, giving an account of grasping thoughts, and so forth. These arguments plausibly require no serious engagement with psychology or metaphysics at all. So this reading of Frege promises to explain how he could reach those conclusions without violating his injunctions. This is, to my mind, one good reason to be interested in it.[11]

4. Clarifying the Fundamental Abstraction

To determine if this really makes sense, we must go beyond the general outline sketched above, and say something more exact about which properties thoughts are stipulated to lack. Here is what I think Travis has in mind.

Each thought "identifies" something that matters to truth. (The thought that grass is green, for example, identifies grass being green as what matters to its truth.) But not only does each thought do that: the *properties* by which each thought does that are "identifying" for the thought itself: each thought "is identified as the thought it is by, [and] only by" those properties, in that "for a thought to be the one it is just is for it to" have them—to "make truth turn as it does on how things are" (pp. 10, 81). So the relevant properties "identify" in two distinct senses. In the first, they *identify* certain things as mattering to truth; and in the second, they *identify* the thought that has them as the one it is. It is part of the stipulative introduction of thoughts that the properties that "identify" in the first sense are thoughts' *only* properties that are "identifying" in the second sense.[12] Finally, it is also part of that stipulation that "the features of a thought are simply those which identify it as the one it is, plus whatever other features any thought would have in having those" (p. 85). Put all together, the stipulative introduction of thoughts—the abstraction—implies that a thought can have no properties at all, other than those by which it identifies what matters to truth and the other properties which any thought *would* have in having those ones.

With this in mind, the anti-blueness argument must take on a slightly more complicated, two-stage structure:[13]

> P1: A thought is just that which identifies what matters to truth. (i.e., a thought's only identifying properties are those by which it identifies what matters to truth; and its only non-identifying properties are those any thought would have in having its identifying ones.)
>
> P2: Being blue is not a way of (even partly) identifying what matters to truth.
>
> C1: Therefore: being blue is not an identifying property of any thought. [P1, P2]

[11]Travis' reasons for this reading are not straightforwardly textual. For example, he points to no Fregean passage that sounds like the pattern of argument he attributes, and when it comes to the introduction of thoughts, none that include anything corresponding to the all-important word "just." (Sometimes it looks like he provides such a passage, but only because Travis' own "just" sometimes slides, unnoticed, inside the quotation marks. The acceptable "A thought is *just* 'that by which truth can come into question at all'," thus becomes the unacceptable "a thought…is to be 'just that by which truth can come into question at all'." (pp. 14–15.) The just-free Fregean sentence is: "Ich [nenne] Gedanken etwas, bei dem überhaupt Wahrheit in Frage kommen kann.")

[12]I think "essential" is the most widely-used name for properties that are "identifying" in this second sense (see, e.g., Fine, 1994, p. 76). Travis sometimes calls them thoughts' only "intrinsic" rather than "identifying" properties (p. 10). I do not think he thinks they are thoughts' only "intrinsic" properties, in the usual sense. As theorists of intrinsic properties point out, "some authors…use[] 'intrinsic'…to mean 'essential'" (Marshall & Weatherson, 2018, section 2).

[13]This structure is noticeable in the two "hence"s on page 85: "Hence it cannot be an identifying feature of a thought that it is [blue]; hence not any feature of a thought at all."

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P3: Being blue is not a property that any thought would have in having the properties by which any thought identifies what matters to truth.[14]

C2: Therefore, being blue is not a non-identifying property of any thought. [P1, P3]

C3: Therefore, being blue is not a property of any thought. [C1, C2]

5. A Problem with a Key Idea

I do not understand a key idea which appears in the abstraction and in P1 and P3: that of other properties "any thought would have in having" its identifying ones.

To see what confuses me, consider Frege's claim that thoughts have the property of being grasped by particular individuals (e.g., Frege, 1918–1919).[15] Arguments parallel to that above threaten to establish that this cannot be. Pia's grasping the thought that grass is green does not help it to identify grass being green as what matters to truth, so the relevant P2 is true. Nor does her grasping it *follow* in any obvious way from it identifying what matters to truth in the way it does. (It will keep doing that if she stops grasping it.) On the most natural way to understand the key idea—for me at least—the relevant P3 is thus true too. It would follow, then, that Pia does not grasp the thought. This sort of argument would ultimately imply Frege's claim that thoughts are grasped to be an error, revealing a failure to understand the consequences of his own abstraction.[16]

Travis, however, claims that "being grasped by Pia" *is* a property of certain thoughts, and indeed, one that "any thought would have in having" those thoughts' identifying properties (p. 85). Can we understand the key idea in a way that gives this result? I suppose that if we hold *everything* fixed—Pia's existence and history, the psychological laws involved in grasping thoughts, etc.—and then consider some thought T2 with the same identifying properties as a given thought T1, then it may well follow that Pia grasps T2, provided those other things imply that she grasps T1. But if the key idea leaves *everything* in place like this, it seems like barely any restriction at all; and accordingly, while the anti-grasping argument would indeed fail at P3, the anti-blueness argument would too. For being blue may well *be* a property that follows from identifying what matters to truth in some way, if *everything* else is in place. To ask whether it is such a property is, in effect, just to ask whether any thoughts are blue, since if one is, this presumably follows from *something*—say, some metaphysical law—together with its identifying properties. So on this reading of the key idea, the weakness of the abstraction would require the argument to effectively *presuppose* that no thoughts are blue. It is supposed to draw on a strong abstraction to *conclude* that.

I see five options for Travis' Frege here.

1. Insist that the argument above rules out thoughts' being blue, and explain the key idea in a way that makes this possible. One could explain it either:
   (a) in a way that also rules out thoughts being grasped, or
   (b) in a way that allows them to be grasped.

[14]That is, there does not exist a set of properties S such that: 1) S is the set of properties by which some thought identifies what matters to truth, and 2) in having the properties in S, any thought would also have the property of being blue.

[15]"An advance in science usually happens like this: first, a thought is grasped," where "the grasp of thoughts presupposes someone grasping."

[16]I think reading Frege this way is consistent with the most central aspects of Travis' reading. After all, Travis thinks Frege's tendency to "model[]…the pure business of being true, on phenomena involving words" without being duly "mindful of the gulf he warns of between the one topic and the other" leads him to make other errors *like* this one (p. viii). To the question what thinkers *do* grasp, if not thoughts, and what thoughts have to do with those things, Travis' Frege could reasonably respond it is not his job to answer such partly psychological and metaphysical questions, which do not belong to the pure business of being true.

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2. Admit that this argument cannot rule out thoughts' being blue, and either:
   (a) give a different argument that they cannot be blue, or
   (b) directly stipulate that they are not blue, or
   (c) just allow that they can be blue.

I just discussed the first two options. (The most natural way of understanding the key idea leads to 1a; and I do not see a way of understanding it that fits with 1b.) When I posed this problem to Travis, it is the other three options that he expressed interest in exploring.

Consider option 2a. It might seem to put us right back where we started: wondering how Frege could argue for his claims about thoughts, preferably without landing in the "psychologico-metaphysical swamp." But in addition to the problematic key idea just discussed, the abstraction also involves an as-yet uncontested first part: the stipulation that the properties by which they identify what matters to truth are thoughts' only *identifying* properties. Travis suggests a different argument, which relies only on this part of the abstraction. Noting that "for something to be blue is for it to have a spatiotemporal profile"—so that to argue against having such a profile is to argue against being blue—he says:

> A minimal truth-bearer [that is: a thought, a thinkable] cannot have a…spatiotemporal profile. Why not?…For a truth-bearer to be minimal in present sense, it must not also be something liable to *bear* a content. Such a something would be something of which one might ask *what* content it bore. But a truth-or-falsehood is not something of which this can be asked. To ask such a question one must first identify what it is that is to have the relevant content. But there is no way of doing this in the minimal case since so long as such a question might arise one will not yet have identified that of which the question is being asked. The point might be put thus: A thinkable (of present minimalist sort) is a content to be *borne*, not something which might *bear* one.[17]

I think the argument here goes like this:

> P1: A thought is just that which identifies what matters to truth (i.e., a thought's only identifying properties are those by which it identifies what matters to truth: a thought is identified by, and only by, the content that it is).
>
> P2: To bear a content, something must be identifiable independently of what content it bears.
>
> C1: Thoughts cannot bear contents. [P1, P2]
>
> P3: If something has a spatiotemporal profile, it can bear a content.
>
> C2: Therefore, thoughts cannot have spatiotemporal profiles. [C1, P3]

It is interesting—but as it stands, I think C1 does not follow from P1 and P2. Couldn't a thought be identified by the content it *is*, while also *bearing* a different content? This seems possible, contrary to C1;[18] and its possibility is left open by the invalidity of the inference.

The remaining options, 2b and 2c, will serve to introduce my final topic here.

[17]Personal communication.

[18]Suppose that since the Illuminati is international and includes members who are blind, deaf, etc., their secret code cannot rely on any particular ordinary language or even any particular visible or audible symbols. In their code, *thoughts* bear other contents. The thought that grass is green, for example—however conveyed—bears the content that *The Illuminati ought to rule the world.*

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6. Arguing Without Abstraction

Is it *important* to find arguments here, which do not violate Frege's injunctions on psychology and metaphysics, and which start from his general stipulation that thoughts are "that by which being true can come into question at all"? Why not take option 2b or 2c instead? That is, maybe Frege should just *directly stipulate* that thoughts are neither perceptible nor private. Or maybe he should just allow thoughts to be perceptible and private, as long as it is for, say, metaphysical or psychological reasons that have nothing to do with logical concerns. Would anything be wrong with that?[19]

Perhaps those are philosophically acceptable positions. But I think that *reading Frege in either of these ways*, rather than looking for arguments, would be a significant loss for us, because I expect he has interesting arguments of the kind just described, that we would then miss out on. I also think, however, that to find these arguments, we must reject a certain assumption that guides Travis' reading.

When Frege tells us to separate the logical and psychological, our first question should be: what do "logical" and "psychological" even mean here? I think Travis joins many interpreters in assuming the "psychological" to encompass all facts concerning mental activities and processes, including those processes by which thinkers engage with truth.[20] But Frege himself never says that all of that belongs to psychology; and his attempts to clarify "the psychological" imply that that is not what he has in mind. He says, for example, that "thinking is a mental process," and that those laws "in accordance with which thinking [inevitably] takes place," are "nothing other than psychological," emphasizing that what is psychological "can just as well lead to error as to truth…[it is] indifferent toward the opposition of true and false." He contrasts such laws with logical ones, which "prescribe how one ought to think wherever there is thinking at all." Frege positively identifies "the task of logic as the investigation of the [prescriptive] laws of thought," so that "like ethics, one can also call logic a normative science…The task we assign logic is…that of saying what holds," prescriptively, "for all…thinking."[21] If Frege thinks logic is primarily concerned with prescriptive facts about mental processes, he cannot see all facts about such processes as psychological. Instead, it looks like he sees as psychological only those facts concerning aspects of thinking which are indifferent toward the opposition of true and false, right and wrong.

This means that Frege's injunction permits arguments for logical conclusions to employ claims about aspects of mental processes which are *not* so indifferent, especially *prescriptive* ones. And he certainly makes such claims, in relevant contexts. For example, noting that to make judgements about something other than our "inner worlds" is to "expose [ourselves] to the risk of error," he makes the prescriptive claim that "we must make this venture…if we do not want to succumb to far greater dangers." Soon after, he defends the claim that thoughts are imperceptible by stating that even in perception itself, "without something non-sensible everyone would stay locked in his inner world" (Frege, 1919, pp. 73–75).

These claims suggest an argument along these lines:

P1: We ought to make judgements about things other than our own minds.

P2: We cannot make judgements about things other than our own minds unless thoughts are non-sensible.

[19]Travis suggested direct stipulation at an October 2023 workshop at Toronto Metropolitan University. Personal communication raises the suggestion that Frege should not care whether or not thoughts are perceptible; that all that really matters for his project is that being perceptible is not one of their *identifying* properties. ("When I'm talking about the sorts of properties a [thought] can have I'm talking about that by which a given [one] is distinguished from any other"; i.e., identified.)

[20]Thus, "to winnow the logical from the psychological," we must "prescind[] from such engagement" entirely. (pp. 9, 12). See also, for example, Dummett (1973), who claims that Frege's "inveighing against the intrusion of psychological notions" targets "notions concerned with mental processes." (p. 240)

[21]Quotes in this paragraph from Frege (1879–1891, pp. 2, 4), Frege (1893, p. xv), and Frege (1897, p. 139). For more on what Frege has in mind and how he can go on to offer apparently non-prescriptive laws (like "everything is self-identical") as logical, see, for example, MacFarlane (2002) and Hutchinson (2020, 2022).

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C1: Therefore, we cannot do what we ought unless thoughts are non-sensible. [P1, P2]

C2: Therefore, thoughts are non-sensible. [C1!?]

Such a final step would be possible only with the help of a hidden premise or unusual inference-rule: some assumption to the effect that *ought implies can.* Such an assumption also suggests straightforward arguments against the privacy of thoughts. (All physicists, presumably, *ought* to grasp the same laws of physics: there at least *ought* to be "a science in which many can be engaged in research" (Frege, 1919, p. 74).) I think Frege does rely on such an assumption in important arguments.[22] I also think that both the above identification of the psychological, and the exploitation of prescriptive claims to draw logical conclusions through a sort of ought-implies-can assumption, were fairly widespread in philosophy at the time, so it would be no surprise for Frege to make such moves.[23]

Though just a preliminary sketch, this at least raises the possibility that respecting Frege's characterization of psychology and logic might reward us with intriguing arguments for Fregean conclusions: arguments which neither violate Frege's injunctions nor require introducing thoughts with any problematic, abstraction-style stipulation. I myself believe that we will be so rewarded; and that reading Frege along these lines will ultimately reveal a philosopher very different than the one Travis has described for us, and more important for us today.[24] But since so much remains to be worked out, I cannot be confident about this until someone manages to write something about that philosopher that is as detailed and interesting as the book about the pure businessman of being true. That will be quite hard to do, given how very interesting Travis' book is.

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[22]Perhaps the quickest example is Section 5 of Frege (1884), which denies that there are infinitely many primitive truths by citing a "need of reason" that primitive truths be "surveyable." The fact that *if* there are infinitely many primitive truths, then reason will be unable to do the surveying it ought to do is apparently enough to rule that possibility out (see Hutchinson, 2021 for other examples).

[23]Husserl (1900) reports that it was standard to distinguish psychology and logic by saying that "Psychology…deals with thinking as it is, logic with thinking as it should be" (Section 19). Such prominent philosophers as Windelband (1883) distinguished them roughly this way, and saw some kind of ought-implies-can move as a legitimate way to reach logical conclusions, which are thus "conditioned through a goal, that as the ideal…must be presupposed." (p. 331)

[24]Hutchinson (2022) describes the interest of the sort of reasoning just described for anyone hoping to claim for any discipline the *autonomy* from metaphysics and psychology that Frege claims for logic; and Hutchinson (2021) discusses its relevance to issues about basic justification.

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