ORIGINAL RESEARCH

The epistemic normativity of conjecture

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Abstract This paper has two aims: (1) it develops and defends a fully-fledged account of the epistemic normativity of conjecture (2) it goes sharply against orthodoxy, in arguing that conjecture is epistemically more demanding than assertion. According to the view defended here, one's conjecture that p is permissible only if one knows that one has warrant, but not sufficient warrant to believe that p. I argue for my account on three independent grounds: (1) the Bach and Harnish account of the nature of communicative speech acts, (2) the plausible normative relation between assertion and other constatives, and (3) the normativity of belief in conjunction with constatives' epistemic function.

Keywords Epistemic norms · Conjecture · Assertion · Knowledge norm

1 Introduction

Philosophical orthodoxy has it that conjecture is cheap: not a lot of epistemic work is needed to perform it well. In fact, the epistemic normativity of conjecture is often the favourite contrast case for the epistemic normativity of assertion:[1] the latter requires knowledge; conjecture requires less. In a nutshell, I take the literature to date to feature the following *universally* shared assumption:

Conjecture is cheap (CIC): Conjecturing is less epistemically demanding than assertion.

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[1] E.g. Williamson (2000), Turri (2010), and Smithies (2012).

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Other than voicing this well circulated assumption, not a lot of work has been put into figuring out the details when it comes to the epistemic normativity of conjecture.[2] This is very surprising in more than one way.

First, it is surprising because this lack of interest cannot be traced to lack of interest in the epistemic normativity of speech acts in general: to the contrary, it is fair to say that the latter has been one of the hottest topics in recent epistemology.[3]

Second, the lack of interest in conjecture is surprising because it cannot be justified by a lack of centrality of this speech act to our linguistic affairs. We often lack the epistemic authority to outright assert something that, nevertheless, needs to be communicated. In these cases, conjecturing comes in handy: it is one of the most important linguistic tools at our disposal.[4]

Last and most importantly, the lack of interest in conjecturing cannot be justified by a lack of centrality of this speech act to our epistemic affairs. Philosophers and scientists alike agree that conjecture is a crucial tool in our epistemic endeavours. It is, for instance, central to our scientific practice; historically, some philosophers even thought that scientific theory, and human knowledge generally, is irreducibly conjectural (Popper, 1963). Furthermore, empirical studies show that conjecture is a crucial tool in learning and problem solving.[5]

In previous work (Simion, 2021) I have gestured towards an account of the epistemic normativity of conjecture that goes sharply against orthodoxy, in claiming that conjecture is more epistemically demanding than assertion. In this paper, I develop the account in full, I defend it against objections that have been pressed against its early incarnation in the meantime, and I show that it compares favourably with orthodoxy.[6]

In order to do that, I first look into two motivations to believe CIC holds—one speech-act-theoretic, and one epistemological—and argue that they fail to support it (Sects. 3 and 4). Second, I put forth my preferred account of the epistemic normativity of conjecture. According to this view, one's conjecture that *p* is permissible only if one knows that one has warrant, but not sufficient warrant to

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[2] But see my previous work (Simion 2021) for the first attempt at sketching a normative picture for conjecture. This paper is indebted to this early work and builds on it.

[3] The question that has been at the forefront of this literature has concerned the epistemic normativity of assertion, in particular, the identity of the epistemic condition on permissible assertion. While there is no shortage of proposals, it is fair to say that the two main contenders are the knowledge norm of assertion (e.g. Benton 2011, 2014; DeRose 2002; Hawthorne 2004; Goldberg 2015; Kelp 2018; Slote 1979; Turri 2016a, 2016b; Unger 1975; Williamson 2000; Simion 2016a, 2019a, 2019b, 2019c, 2019d, 2021; Simion & Kelp, 2017a, 2018; see also Littlejohn and Turri 2014 for an excellent collection) and the justification norm of assertion (e.g. Douven 2006; Kvanvig 2009; Lackey 2008). While the knowledge norm and the justification norm are arguably the two leading views on the market, a number of further candidates have been defended, including the truth rule of assertion (e.g. Weiner 2005; Whiting 2013), the belief rule of assertion (e.g. Bach 2008; Hindriks 2007), the safety rule of assertion (e.g. Pritchard 2014), as well as context-variant accounts (e.g. Brown 2010; Gerken, 2013; Goldberg 2015; McKinnon, 2013).

[4] Hedged assertion will be another such tool. For excellent work on this topic, see e.g. Benton and van Elswyk (2018).

[5] E.g. Anthony (1996), Berqvist (2005), and Canadas et al. (2007).

[6] Many thanks to two anonymous referees for Philosophical Studies who helped improve the account defended here to a very significant extent.

believe that *p*. I defend this view on three independent grounds: Bach and Harnish's taxonomy of constative speech acts (Sect. 5), the characteristic attitudes expressed by conjecture and assertion, and conjecture's epistemic function (Sect. 6).

2 Individuating conjecture

A few things are worth getting out of the way from the start: first, conjecturing is to be distinguished from epistemically less demanding neighbouring speech acts, such as the speech act of tabling a hypothesis, the speech acts of supposing, or the speech act of assuming for the sake of the argument.[7] These latter speech acts are often put to good use with no epistemic support at all. The history of science is peppered with cases of implausible hypothesis tabling—indeed, many think scientific revolutions occur that way -, and the history of philosophy was arguably built on assuming just for the sake of the argument—and even for *reductio*.

Indeed, it is not surprising that often taxonomies of speech acts that even categorise conjecture as pertaining to a different category of constative than hypothesising. According to Bach and Harnish's (1979) taxonomy, for instance, conjecture is a suggestive, expressing the belief of the speaker that there is reason, but not sufficient reason, to believe that p, and the intention that the hearer believe that there is reason, but not sufficient reason, to believe that p. In contrast, hypothesizing (like e.g. stipulating, supposing, and assuming) is a suppositive: in hypothesizing that p, the speaker expresses their belief that it is worth considering the consequences of p, and the intention that the hearer believe that it is worth considering the consequences of p.

Conjecture, while sometimes confused[8] with one or the other of these speech acts, is a more highbrow affair—epistemically speaking. To see this, it will be useful, first, to think of cases of explicit conjecturing—i.e., cases in which one conjectures that *p* via the performative 'I hereby conjecture that *p*.' Note that if, say, you ask me: 'What will you be teaching next year?', and I reply 'I conjecture that I will teach epistemology next year,' and subsequently you find out that I had no reason at all to believe so—or, even worse, that I had reason to believe I was not going to teach epistemology—I am properly criticisable for my speech act (Kelp & Simion 2017b). It would be perfectly fine for you to say: 'Why would you say that?' This seems to suggest that, even if CIC holds, conjecture requires, at least, some warrant to believe *p* over not-*p*.

In contrast, the amount of epistemic support required for tabling a hypothesis that p, for assuming p, or for supposing that p. seems to be a question of whether the hypothesis/assumption/supposition at stake is worth tabling: depending on practical context—on what is to gain/lose from tabling the particular hypothesis in

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[7] See Simion (2021) for a normative proposal for suppositives.

[8] Indeed, in many historical writings in philosophy of science conjecturing and hypothesis tabling are used interchangeably. Popper's (1963) *Conjectures and Refutations: The Growth of Scientific Knowledge*, for instance, takes conjecture to serve the purpose of tabling an idea and then trying to falsify it, with a background expectation that there might be mistakes to be found.

question—it may well be permissible to table a hypothesis that one has no epistemic support for whatsoever—just to see what follows from it. Conversely, though, it may also be, at times, that practical stakes are so high that something very close to knowledge is required—in cases in which, e.g., considering the implications of a hypothesis is extremely costly.

Another useful way to distinguish between conjecture and hypothesis is to consider their functions. Conjecture is the speech act by which we communicate that p when we lack the amount of warrant required for outright asserting that p. Tabling the hypothesis that p, in contrast, has the function of enabling us to see what follows from p, and, in turn, to communicate that it's worth considering what follows from p (Simion, 2021). Indeed, tabling hypotheses seems to be the paradigmatic tool with the function of bringing something forth for consideration just to see what follows from it.[9] Furthermore, note that it is mysterious why we should have two speech-act-theoretic tools (tabling hypotheses and conjecturing) with the same function—i.e. that of investigating the credentials of a scientific claim that is not supported by any evidence—and none for informing our scientist colleagues that we have some evidence (albeit not enough) for p.[10]

3 Against the speech-act theoretic argument for orthodoxy

We have seen that most philosophers think that conjecturing requires fairly minimal epistemic support, and less than outright assertion (CIC). This assumption is well spread and widely voiced both in the literature on epistemic normativity and in speech act theory.

I have argued in previous work (Simion, 2021) that one can endorse Conjecture Is Cheep on either speech-act theoretic grounds, or epistemological grounds. In what follows, I will argue that none of these ways work.

According to the speech-act-theoretic argument (or SATA for short), what would make CIC attractive is the intuitive thought that what essentially distinguishes conjecturing from asserting is what Searle and Vanderveken (1985) dub the "degree of strength of the sincerity condition." According to Searle and Vanderveken, two speech acts might be the same along other dimensions, but express psychological states that differ from one another in the dimension of strength. Requesting and imploring both express desires; however, the latter expresses a stronger desire than the former. If this view is right, it is plausible to conceive of conjecture as expressing a weaker doxastic attitude than assertion expresses. That is, while

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[9] If I am right, we can explain scientific revolutions as cases of hypothesis tabling that went really well. Thanks to Alan Weir for pressing me on this.

[10] That being said, if I turns out that conjecturing and hypothesis tabling are taken to be one and the same speech act—the reader should consider this paper to be an exercise in conceptual engineering, motivated by the conflict between this usage and the data suggesting that conjecturing against the evidence is properly criticisable, as well as by our need for a speech act that communicates that the speaker has some warrant, but not sufficient warrant, to believe that p. Explicating conjecture as distinct from hypothesis tabling in terms of strength of warrant required will achieve this goal. Thanks to an anonymous referee for pressing me on this.

assertion expresses full belief, the thought would go, maybe conjecture expresses an attitude that is stronger than suspension, but weaker than full belief: a (higher than 0.5) credence that p,[11] or a belief that it might be that p, or that it's probable that p etc. It is easy to see how one could think that there's only a short step from a view like this to (something in the vicinity of) the following norm:

The warrant norm of conjecture (WNC): One's conjecture that p is epistemically permissible if and only if one has more warrant for p than for non-p.

The thought leading to WNC could go as follows: Conjecturing expresses a weaker doxastic attitude than belief (maybe a credence that p, or a belief that it might be that p, or that it's probable that p etc.). In turn, the following seems like a plausible epistemic principle: One's doxastic attitude D is epistemically permissible if and only if one has enough epistemic warrant for D. If so, the thought would go, all in all, something in the vicinity of WNC will seem to follow: since conjecture expresses a doxastic attitude D that's only permissible in the presence of more warrant for p than for non-p, the permissibility conditions for D will be inherited by conjecture.

Since WNC asks for less than full belief for permissible conjecture, and assuming (in line with the majority of philosophers in this debate) that the norm of assertion implies full-belief-level warrant,[12] CIC is also thereby vindicated. Declan Smithies (2012), for instance, takes this sort of route in arguing that conjecture is cheap:

> […] I will explain why the norms for assertion are more demanding than the norms for conjecture by appeal to the claim that the norms for belief are more demanding than the norms for high confidence (Smithies, 2012, 276).

One can quibble with the details, of course: for instance, one could think that WNC is too weak in two ways; first, while conjecture does not require a lot of epistemic work, it does require more than a level of warrant barely surpassing chance (if my evidence makes it 0.5000005 likely that p, I don't seem to have enough support to

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[11] I will be assuming, in line with the literature I am discussing, that a quantitative notion of warrant is available, and that credences can be modelled in terms of probability assignments. These are by no means uncontroversial theses, but I lack the space to discuss parallel, purely qualitative versions of the arguments put forth in the literature. Importantly, on some dualist views concerning the relation between credences and full belief—i.e., views that take them to be metaphysically distinct varieties of doxastic entities, non-reducible to each other—it is strictly speaking mistaken to characterize a particular credence as weaker than full belief, since they are not comparable. Thanks to an anonymous referee for pressing me to clarify this. For defenses and discussions of dualism, see Pollock (1994), Adler (2002), Frankish (2009), Friedman (2013), Ross and Schroeder (2014), Buchak (2014), Littlejohn (2015), Pettigrew (2015), Carter et al. (2016) and Staffel (2017).

[12] Benton (2011), DeRose (2002), Hawthorne (2004), Slote (1979), Turri (2016a, 2016b), Unger (1975), and Williamson (2000), Simion (2016a, b).

conjecture that p; or so the thought would go.)[13] So maybe the relevant minimal threshold should be somewhat higher than 0.5. Second, one could think that WNC is too weak if one likes factive norms for constative speech acts, and thereby thinks that a conjecture that is not true is epistemically defective (Turri, 2010). Finally, one could, to the contrary, think that WNC is too strong: how about cases in which I conjecture that p as I regard p as the most likely of the various candidates (but still less likely than 0.5, since there are say 10 mutually incompatible options)? Can't this sort of conjecture be permissible? I will take up this issue in Sect. 5 below.

For now, these details will largely be inconsequential, WNC will do. What is important is that, since WNC asks for less than full-belief-level warrant for permissible conjecture, while full-belief-level warrant is a plausible requirement on assertion, CIC is also thereby vindicated.

Unfortunately for this version of SATA, though, deontic properties do not transmit via the 'expressing' relation: just because an action *phi* expresses an attitude A, it need not follow that the permissibility conditions for the latter get inherited by the former. My being impolite to my neighbour may express my disliking my neighbour. Compatibly, it doesn't follow that just because it is permissible to dislike my neighbour, that it is also permissible to be impolite to my neighbour. Conversely, while spoken blame expresses mental blame, it may be permissible to blame my 5-year old son in speech for pulling the poor cat's tale, (just to communicate to him that he should be nicer in the future, that it's not OK to mistreat animals etc.); this, however, does not make it permissible to blame him in thought for pulling the cat's tale: after all, he's five, he doesn't know better.

At this stage, the SATA champion can come back with a refurbished version of their argument for WNC—call it SATA*—along the following lines: it lies in the felicity conditions of the speech act of conjecture for the doxastic attitude expressed to actually be present when a conjecture is made. In turn, the SATA* champion could argue, it is plausible to believe that felicity conditions are also epistemic permissibility conditions. As such, the speaker will need to actually hold the (weaker than belief that *p,* but stronger than suspension) doxastic attitude D that *p* in order to epistemically permissibly conjecture that *p*; furthermore, D would have to be suitably warranted. In sum, the thought would go, since it is plausible that there is a particular doxastic norm on conjecture, whatever the epistemic norm for the

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[13] This worry, in line with the resto of the paper, and the literature discussed, assumes a quantitative notion of warrant. On top of this, however, it also it assumes that (i) warrant can be represented by a number between 0 and 1, (ii) the midpoint of that scale represents a meaningful number, and (iii) that it's possible to obtain levels of warrant barely exceeding the .5 midpoint. Some philosophers will resist some of these claims. I personally find claim (iii) highly implausible. Since not much hinges on this worry, however, I will take the liberty to make these assumptions. Crucially, though, the worry can be generated with a purely qualitative notion of warrant as well, in the following way: on a qualitative notion, we will have permissible suspension at the epistemic point at which one has better warrant for p than for non-p. In turn, the corresponding norm for conjecture would presumably ask for one's warrant for p to be better than for not-p as a minimum requirement for permissible conjecture. But, again, one might wonder if that's enough, or rather a substantial difference in quality is needed. (There is also room for pushback here from conjectures that are being made at the frontiers of new scientific fields, which plausibly have barely above chance warranted given the evidence).

relevant doxastic attitude is, it will get inherited by conjecture. Here it goes, for reader's convenience:

1. One's conjecture that p is felicitous only if one has a doxastic attitude D that *p* that is stronger than suspension.
2. A speech act S is epistemically permissible only if it is felicitous.
3. One's conjecture that p is epistemically permissible only if one has a doxastic attitude D that *p* that is stronger than suspension. (from 1 and 2)
4. A doxastic attitude D that is stronger than suspension is epistemically permissible if and only if one has more warrant for *p* than for non-*p*.[14]
5. Therefore, WNC: one's conjecture that *p* is epistemically permissible if and only if one has more warrant for *p* than for non-*p*. (from 3 and 4)

Unfortunately, when unpacked, it becomes clear that the argument does not go through: since the third premise above ((3)) features D *simpliciter*, while the forth ((4)) stipulates necessary and sufficient conditions for epistemically *permissible* D, and since D does not imply epistemically permissible D, the SATA* line fails: deontic 'possible' does not work like this.[15] For instance, if norms of politeness require one to wear a tie at dinner, should one wear a tie, one meets the relevant norm of politeness. Compatibly, one might wear the tie in question impermissibly (say, because it's stolen from the tie shop). Norms of politeness will not be bothered much: all they stipulate is that one should wear a tie, not that one should do so permissibly. Similarly, in the case of interest to us, there will be worlds where you have an epistemically impermissible doxastic attitude D that *p* that is stronger than suspension, but you still *do have* it, therefore you can epistemically permissibly conjecture. Once more, permissibility does not transmit like the SATA* line needs it to transmit.

What the SATA* champion needs for the argument to go through, then, is to modify (3) so as to feature epistemically *permissible* D throughout. This refurbished version of the SATA* argument would, indeed, be valid. However, it is not clear what in the SATA general story can be taken to offer support this stronger version of (3). Recall that (3) was sourced in a view of the nature of speech acts that individuates them by the attitudes they express, whereby felicity conditions for speech acts ask for the conditions expressed to be instantiated, and on which felicity conditions are epistemic permissibility conditions. There is no reason, however, to impose a stronger felicity condition on conjecturing, i.e. asking for epistemically permissible D to be in place. After all, what is expressed by conjecture is merely D,

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[14] There will be plausibility problems with the sufficiency direction of this premise: after all, to put it in rough terms, there are many levels of warrant above .5, which means that one can have an impermissible combination of e.g. a .7 credence with .6 warrant. This detail will not matter much, since the argument doesn't work on either the necessity or the sufficiency direction due to failure of deontic transmission. Thanks to Chris Kelp for pressing me on this.

[15] On a narrow scope interpretation of the deontic claims in the argument, the conclusion fails to follow. On a wide scope interpretation, standard deontic logic vindicates the conclusion; however, this is widely taken to be a problem rather than a feature of standard deontic logic; very roughly, one core problem (but hardly the only one) for deontic inheritance is that 'ought' is context sensitive. For discussion, see, e.g. McNamara and De Putte (2022).

not epistemically permissible D. As such, it would seem, the SATA* champion does not have enough normative resources to deliver the refurbished (3). *Mutatis mutandis*, the SATA* champion cannot afford the refurbished version of her argument, nor CIC.

4 Against the epistemological argument for orthodoxy

We have seen that the speech-act-theoretic argument—relying on considerations pertaining to the nature of the speech act of conjecturing—failed to support WNC—and thereby CIC—in virtue of falling short of normative resources.[16]

I have argued in previous work (Simion 2021) that one alternative is to turn to a normative domain for the needed resources: maybe CIC will follow on epistemological grounds (henceforth, the epistemological argument, or EA).

Many people in the literature on assertion defend a Knowledge Norm of Assertion (KNA).[17] According to KNA, knowledge is necessary for permissible assertion. In support of this thesis, champions of KNA have adduced extensive evidence, including: the unassertability of lottery propositions—if assertion requires knowledge, given that one cannot know lottery propositions,[18] KNA correctly predicts lottery propositions are not assertable; the paradoxical soundingness of Moorean conjunctions of the form 'p but I don't know that p'—if KNA holds, Moorean assertions present the speaker as knowing that p and knowing that they do not know that p, which, in turn, by the factivity of knowledge, implies a contradiction; linguistic data pertaining to the intuitively permissible challenges and criticisms of assertions of the form 'How do you know that p?' or 'Do you know that p?' (e.g. Williamson, 1996); the epistemic etiological function of assertion of generating knowledge (e.g. Kelp, 2018); difficulties with using 'know' in parenthetical position in sentences such as 'It is, I know, raining' (Benton, 2011); last but not least, a vast amount of experimental data also gives strong support to KNA (Turri, 2013, 2015, 2016a, 2016b, Turri et al., 2017).

Although no definite proposal concerning the epistemic normativity of conjecturing has been defended in the literature to date, the issue does often come up in passing in the assertion debates. When it does, conjecture is often used as a contrast case in defence of KNA, as *the* paradigmatic speech act that requires less than knowledge (i.e. weaker evidential support) for its epistemic propriety (e.g. Turri, 2010; Williamson, 2000). Here is Tim Williamson, for one: "There is, for example, a speech act of conjecturing P, for which the evidential norms are more relaxed than they are for assertion" (2000: 244). According to John Turri, as well, different speech acts come at different 'epistemic costs': guessing is cheap, conjecturing

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[16] Which is not to say that there cannot be other, different speech act theoretic arguments in support of CIC that do not fall short of the needed normative load.

[17] E.g. Benton (2011), DeRose (2002), Hawthorne (2004), Goldberg (2015), Kelp (2018), Slote (1979), Turri (2016a, 2016b), Unger (1975), Williamson (2000), Simion (2016a, b).

[18] This claim, while endorsed by the vast majority of epistemologists, is not universally accepted. See e.g. (Gibbons 2013) and (Sosa 2015) for notable exceptions.

requires some epistemic support, assertion asks for knowledge. They are ranked on a so-called "credibility index" (2010: 85), depending on what degree of credibility is required by the speech act type. For assertion, the standard is knowledge; the standard for conjecturing is lower. Since less credibility is needed for conjecturing that p than for asserting that p, the thought would go, and since knowledge is the norm of assertion, the epistemic norm of conjecturing should feature a weaker epistemic standing than knowledge.

Here is the argument unpacked, on a first approximation:

The epistemic argument (EA):

(1) If a speech act A is lower on the credibility index than another speech act B, then A is less epistemically demanding than B.
(2) Conjecturing is lower on the credibility index than assertion.
(3) (CIC) Therefore, conjecturing is less epistemically demanding than assertion.

The problem with unpacking EA as above is that premise (1) is false: just because a speech act A is lower on the credibility index than speech act B, it does not follow that more epistemic work is required for B than for A. In particular, the claim only holds when indexed in a quantitative way to a particular proposition. To see this, let's unpack this idea of credibility index further. Turri does not get into much detail about how this index is constituted, but what he does say is that it is intuitive that one needs to put less of one's credibility on the line for conjecturing than for asserting, and that this is what determines a particular speech act's position on the credibility index. Here is Turri:

> Asserting that Q places more of your credibility on the line than conjecturing that Q. Swearing that Q places more of your credibility on the line than merely asserting that Q. Let's call the amount of credibility you place on the line by making an alethic speech act its credibility requirement. […] Competent speakers can intuitively sort credibility requirements along a spectrum. Call the resulting ordering the credibility index for alethic speech acts. The lesser a speech act's credibility requirement, the lower it ranks on the index; the greater the requirement, the higher it ranks (2010, 84–85).

It becomes clear that what Turri has in mind with his credibility index is a quantitative spectrum of epistemic warrant for p: the stronger the speech act, i.e. the higher it is on the spectrum, the more epistemic warrant for p is needed. This seems like the most plausible explanation of why one 'places more of one's credibility on the line' in making a speech act that is higher on the credibility spectrum (on the assumption, of course, that the credibility of the source at least partakes in warranting p in testimonial exchanges). I agree that more warrant for p is needed for asserting that p than for conjecturing that p. That being said, this is not enough support for CIC. To see this, here is he correspondingly refurbished EA:

EA*:

1*   If a speech act A is lower on the credibility index than another speech act B,
      then less warrant for p is required for performing A on p than for performing B
      on p.
2*   Conjecturing is lower on the credibility index than assertion.
3*   Therefore, less epistemic warrant for p is required for conjecturing that p than
      for asserting that p.

EA* is a good argument. Unfortunately for the champion of CIC, it fails to establish
it; (3*) does not imply CIC: the fact that less epistemic warrant for p is required for
conjecturing that p than for asserting that p does not imply that conjecturing is less
epistemically demanding than assertion. It merely implies a restricted CIC*:

   CIC*: Conjecturing that p is less epistemically demanding with regard to the
quantity of warrant for p than assertion.

   Compatibly with assertion requiring more warrant for p (so relative quantitatively
superior epistemic support), conjecture may still be more epistemically expensive in
qualitative terms: that is, it might be that the *kind* of support that is needed for
permissible conjecture is harder to achieve. Here is (Lackey, 2011) on this important
distinction when it comes to the normativity of assertion: " the norm of assertion
focuses only on the *quantity* of epistemic support for proper epistemic assertion,
such as knowledge, justified belief, certainty, and so on. But the assertoric *quality* of the support, such as whether the belief in question has firsthand or secondhand
grounding, is just as important." Importantly, also, the quality of support is not
restricted to the type of source as in Lackey's example: it can, e.g., concern
accessibility conditions on warrant, higher or lower order support, discursive
justifiability etc.

   Compatibly, then, conjecture might well be more demanding epistemically, in
qualitative terms, not narrowly indexed to the quantity of warrant required for p. To
take but a few examples, for instance, it might be that the norm of conjecture
features an accessibility condition, in a way in which assertion does not; or it might
be that one needs to also be able to discursively justify conjectures, but not
assertions; or, indeed, to follow Lackey's example, it might be that second-hand
support is not good enough for conjecture. And so on.[19]

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[19] What is the relation between quantity and quality of warrant? And are two speech acts always
comparable in terms of the warrant required to perform them, or will quality introduce incommensu-
rability in the value-theoretic picture? These are very interesting issues that require serious discussion.
Not much attention has been paid to these questions in epistemology (although see e.g. Carter & Gordon
2011, 2016 and Simion 2016a, b for some relevant discussion); however, a lot of relevant discussion can
be found in value theory, in the debated concerning incomparability/incommensurability of value. See
e.g. (Schroeder 2016, 2.3) for an excellent overview. Since warrantedness is an evaluative property, we
should expect (at least some) of the results there to transfer to epistemology.

5 The knowledge norm of conjecture

We have seen that Bach and Harnish (1979) individuate speech acts by the attitudes they express: according to them, a speech act is a constative just in case it expresses a belief and an intention that the hearer form or continue to hold the like belief. Here is the view in full:

Constatives (assertives, predictives, retrodictives, descriptives, ascriptives, informatives, confirmatives, concessives, retractives, assentives, dissentives, disputatives, responsives, suggestives, suppositives) = expressions of a belief, together with the expression of an intention that the hearer form (or continue to hold) a like belief.

The central variety of constatives is constituted by assertives. On Bach and Harnish's view, the later express the belief that p and the intention that the hearer believe that p:

Assertives (affirm, allege, assert, aver, avow, claim, declare, deny (assert … not), indicate, maintain, propound, say, state, submit): In uttering e, S asserts that p if S expresses: i. the belief that p, and ii. the intention that H believe that p.

Conjecturing pertains to the category of suggestive constatives. On this framework, they are individuated as follows:

Suggestives (conjecture, speculate, suggest)[20] In uttering e, S suggests that P if S expresses: i. the belief that there is reason, but not sufficient reason, to believe that p, and ii. the intention that H believe that there is reason, but not sufficient reason, to believe that p.

I have argued in previous work (Simion, 2021) that, on Bach and Harnish taxonomy, all constatives are actually species of assertion. Several of them are species of assertion in a straightforward way that is not particularly interesting, nor should it be a matter of much controversy: predictives, for instance are assertions about the future: according to Bach and Harnish, they express the belief that it will be the case that p, and the intention that the hearer believe that it will be the case that p. Retrodictives are assertions about the past. Ascriptives and descriptives are species of assertion that are concerned with property attribution. And so on. Bach and Harnish themselves point out (1979: 46) that most of the specialized types of constatives satisfy the definition of assertives. This type then stands out as a higher category.

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[20] Bach and Harnish (1979, 43–44) include guessing in the category of suggestives. For the purposes of this paper, I would like to stay neutral on this front. Here is why: if they are right, and if they are also right that suggestives express beliefs that there is reason but not sufficient reason to believe that p, and intentions to get the hearer to believe this as well, it would seem that small children cannot guess due to not being sophisticated enough for second-order thought. But this seems prima facie counterintuitive, and there are empirical studies that show that children have the concept of guessing from very early ages (e.g. Miscione et al., 1978). Another detail of the Bach and Harnish taxonomy that I choose to not take on board is their thought that hypothesizing is ambiguous between a suggestive and a suppositive. (1979: 44). According to Bach and Harnish, some illocutionary act tokens can be of more than one type, performed with the intention appropriate to each. Hypothesizing is one such speech act in their view: depending on the speaker intention, it can, at times, act as a suggestive rather than as a suppositive. Since I don't like the heavy role hat speaker intention plays in this account, I don't take this on board.

The harder cases to see are those of less committal constatives that concern us here, such as suggestives. Recall that on the Bach and Harnish model, suggestives are expressions of i. the belief that there is reason, but not sufficient reason, to believe that p, and ii. the intention that H believe that there is reason, but not sufficient reason, to believe that p. Interestingly, though, if this account is correct, suggestives will also be a species of assertion. To see this, let us dub q the proposition 'There is reason, but not sufficient reason, to believe that p.' The above account of suggestives then becomes: Suggestives are expressions of (i) the belief that q, and (ii) the intention that H believe that q. As such, suggestives with content p collapse into assertions with content q. In this, suggestives under the Bach and Harnish's model are, indeed, a species of assertion: assertions about there being reason, but not sufficient reason, to believe that p. Here it goes:

Suggestives Assertions that q: 'There is reason, but not sufficient reason, to believe that p.'

5.1 Normative transfer

If all constatives are species of assertion, in turn, we should expect some variety of normative transfer from assertion to all constatives. Species will be governed by a norm that is at least as strong as that governing the type (Simion 2019a, b). To see this, think, for instance, about dancing: if there is a norm requiring one to wear light shoes for dancing, one must, thereby, also wear light shoes for waltzing, in virtue of the latter being a species of dancing.[21]

That being said, normative transfer need not imply normative commonality (Simion 2019a, b): To see why, note that the relevant norm for the kind of shoes required for waltzing may be more demanding than the one governing dancing *simpiciter*. After all, what distinguishes waltzing from just any dancing is the fact that it is governed by some distinctive norms on top of the ones governing the type it belongs to. Thus, it can be that the relevant norm for waltzing is stronger than the one for mere dancing; and, as a matter of fact, waltz shoes are not just any light shoes, but medium heel, pointy, cross-strapped light shoes.

Assume now that a biconditional knowledge norm is the right norm for assertion:

The (biconditional) knowledge norm of assertion (K(B)NA) One's assertion that p is epistemically permissible iff one knows that p.

What follows is that K(B)NA, together with the Bach and Harnish taxonomy of constatives, delivers the necessity, but not the sufficiency direction of a knowledge norm for all constatives (Simion 2021). Knowledge will be necessary for the epistemic permissibility of suggestives in virtue of them being species of assertion, but it may not be sufficient in virtue of their respective specific features. Here it is:

The knowledge norm of suggestives One's suggestive with content p is epistemically permissible only if one knows that there is reason, but not sufficient reason, to believe that p.

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[21] Of course, the dancing example is just a conditional—the claims below are made on the assumption that there is a norm asking for light shoes for dancing (there probably isn't one).

Correspondingly, we get, on a first approximation, the following knowledge norm of conjecture:

The knowledge norm of conjecture#1 (KNC.#1) One's conjecture that *p* is epistemically permissible only if one knows that there is reason, but not sufficient reason, to believe that *p*.

On the view above, the norm for conjecturing asks for knowledge of there being reason but not sufficient reason to believe that *p*. Let us now try to further refine the view. The first important question will be: what does 'reason but not sufficient reason to believe' stand for? How much epistemic support?

I take the answer to this question not to be straightforward at all, and to depend on the variety on suggestive we are talking about. According to Bach and Harnish, the genus 'suggestives' includes conjecturing, speculating and suggesting.[22] While it is far beyond the ambition of this paper to diagnose the amount of epistemic support required for every one of these speech acts, I do want to say, in line with Turri (2010), that I would expect them to lie on a credibility spectrum, whereby 'reason but not sufficient reason to believe' requires more warrant in the case of conjecture than in the case of speculating or suggesting. To put some flesh on the bones of this, I want to propose that one should have warrant to believe that *p rather than* non-*p*, but not enough for full, knowledge-level belief that *p*. Also, while I am not in the overly ambitious business to provide a precise warrant threshold here, I take it, in line with the earlier discussion, that it is intuitive that the 0.5 threshold should be somewhat substantively surpassed—warrant for a 0.500000001 credence will likely not be enough support for conjecture (although I don't take this to be a significant complication: our warrants don't often come as finely grained as this; see also fn.). For the sake of simplicity, I will use 'warrant to believe that *p*' henceforth to stand for the amount of warrant thus specified: *warrant that somewhat significantly supports p over non-p*. Let's have a second shot at stating the view:

The knowledge norm of conjecture#2 (KNC.#2) One's conjecture that *p* is epistemically permissible only if one knows that there is warrant, but not sufficient warrant, to believe that *p*.

One problem with KNC#2 is that it is too strong:[23] the problem is the clause that requires knowledge that *there is* not sufficient warrant to believe that p for permissible conjecture. Since knowledge is factive, that is a lot to ask: consider a case in which a colleague scientist on the other side of the world has just discovered more (indeed, enough for full belief) evidence that warrants *p*. In that case, unbeknownst to me, it is false that *there is* not enough warrant to believe that *p*, therefore I cannot know it. I am thus in breach of the norm if I conjecture that *p*. Intuitively, this is the wrong result: what seems to matter for permissible conjecture is one's knowledge of warrant one *has*. In other words, for me to conjecture p permissibly, it seems sufficient to know that *I* lack sufficient warrant for p; it does not seem to require that I know that *no one* has warrant for p. And

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clearly, to know that *I* lack warrant for p does not entail that I know that *there is not* sufficient warrant for p. Here it goes:

The knowledge norm of conjecture (KNC) One's conjecture that *p* is epistemically permissible only if one knows that one has warrant, but not sufficient warrant, to believe that *p*.

KNC is the formulation I want to stick with.[24] I will, of course, stay theoretically neutral on how one must conceive of the relevant notion of warrant, just feel free to plug in your favourite view. Similarly, what the 'having' relation consists in is a hotly debated notion in the literature, and it falls way beyond the scope of this paper to dive into this debate. I will say one thing that does matter for the view though: I take the warrant at stake to be propositional rather than doxastic: one need not have any belief or credence that p in order to permissibly conjecture that *p*. This seems right: plausibly, the main function of conjecture in our epistemic life is to make progress in inquiry. It is plausible, however, that while inquiry is still ongoing, it is permissible for the subject to withhold on *p,* or to not even have any doxastic attitude towards p altogether. KNC neatly accommodates this intuition.[25]

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[24] KNC is strictly an epistemic norm. Importantly, norms of a particular type T can sometimes be overridden by stronger norms (of T type or not), which explains why hey do not hold unexceptionally. Indeed, the epistemic norm of conjecture—whatever the correct one might be—will make no exception: it will be often overridden by e.g. moral or practical norms, with the result that the latter will set the all-things-considered permissibility standard. If you put the gun to my head and ask me to conjecture that o with no reason at all to believe that p, it's permissible (all-things-considered) for me to do so, albeit it remains epistemically problematic.

[25] Notably, motivation internalism is implausible about epistemic normativity: just because I have warrant to believe that p/form a particular credence that p, it need not follow that I actually go ahead and form the relevant doxastic attitude: that is what the notable distinction between propositional and doxastic justification relies on. Of course, if I have propositional justification to believe that p, it is, according to many (e.g. Chrisman 2008) impermissible not to form the corresponding doxastic attitude (other epistemolgists—e.g. Alston 1988—disagree that there are such things as epistemic obligations to believe—due to worry pertaining to the implausibility of doxastic voluntarism, in conjunction with an epistemic ought-implies-can principle)). Often, however, we have warrant to believe that p and we irrationally fail to form the corresponding belief. Classic examples in the literature include cases of irrational fear of flying preventing one to form the belief that flying is safe in spite of the evidence, cases of epistemic injustice where I fail to form beliefs based on the testimony of women and people of color due to sexist/racist bias, cases of cognitive penetration and motivated reasoning that deliver resistance to evidence (See also Carter & Simion 2020 for discussion concerning the normativity of testimonial trust). For classical cases illustrating speech act/doxastic attitude fragmentation—i.e. cases where e.g. I warrantedly assert against believing, see Lackey's (2007) *Creationist Teacher* cases against the knowledge norm of assertion, featuring a robustly religious teacher asserting the truth of evolutionary theory based on warrant she has in favor thereof, in spite of lack of belief, in what Lackey intuits is an epistemically permissible speech act. One can easily imagine a parallel case in which the Creationist Teacher conjectures, albeit she disbelieves, that evolutionary theory is true. Furthermore, mentally conjecturing that p is also compatible with not forming any doxastic attitude about p: conjecturing is a mental act, while beliefs and credences are mental states, thus metaphysically distinct entities. They can exist independently of each other. Cases of cognitive fragmentation are easy cases in point (see Borgoni, Kindermann, and Onofri (2021) for an excellent volume on the topic). For further work on the permissibilioty of transitional attitudes in inquiry see Julia Staffel (forthcoming).

Crucially, also, my claim here is merely that, while inquiry into whether p is still ongoing, it's permissible not to have any doxastic attitude *towards p*. Of course, this is merely a permissibility claim sourced in what I take to be the correct epistemic norm of conjecture. As such, it is compatible with (1) it being permissible to hold such doxastic attitudes (whatever they may be – credences that p, beliefs that p,

Finally, it is important to note that KNC implies the denial of the Conjecture is Cheap orthodoxy: if KNC is correct, conjecturing that *p* is more epistemically demanding than asserting that *p* in qualitative terms, since KNC, but not KNA, requires (1) access to one's warrant for *p*, and (2) a second order doxastic attitude. *Contra* orthodoxy, conjecture, in contrast to assertion, is a sophisticated affair.

5.2 The upper warrant threshold

One might wonder why KNC features an upper warrant threshold. After all, its equivalent for assertion does not: it is perfectly fine, on KNA, to assert from certainty. Why would the norm of conjecture be any different? Why this disanalogy?

Consider:

Counter Moore: I conjecture that this patient has the flu, and I have conclusive evidence that he does.

This sounds weird: why not just go ahead and assert it outright if you know you have conclusive evidence for he claim? KNC explains the weirdness: it is necessary for permissible conjecture that the warrant possessed not be enough for outright belief.

One might, though, on second thought, wonder whether this is an advantage for KNC rather than a bug.[26] After all, Counter Moore is easily explained by Grice's maxim of quantity, whereby one should try to be as informative as one possibly can. Counter Moore flouts this maxim: given that I know that the patient has the flu, I can assert it outright rather than merely conjecture it. If Gricean maxims take care of the issue, the thought would go, the epistemic norm at stake need not.

A few things about this. First, the relation between epistemic norms of speech acts and Gricean maxims is not normatively exclusive: it is not the case that, just because a Gricean maxim regulates a particular conversational phenomenon, it need not be taken care of via the corresponding epistemic norm. Take Gricean Quality—asking for one's assertion to be truthful and supported by evidence—as the paradigmatic example:[27]

several people have, in fact, relied on it to argue for one account or another of the normativity of assertion. There is also a good reason why this—i.e. non-normative exclusivity—is so: Grice's maxims are sourced in a prudential cooperative principle; as such, Grice's maxims are prudential maxims. Crucially, though, prudential and epistemic norms can coincide: indeed, they do so, very roughly, in cases in which the prudential goods at stake are also epistemic goods, such as knowledge, or information. Since conversations are instances of epistemic

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Footnote 25 continued

beliefs that it might be that p, beliefs that it's probable that p etc.); (2) other norms – not norms of conjecture, but maybe norms of belief/credence/withholding etc.—requiring one to form the relevant doxastic attitudes in the presence of the relevant level of epistemic warrant (3) other types of norms – practical, moral etc. requiring the doxastic attitude to be present.

[26] Thanks to Chris Kelp for pressing me on this.

[27] See Benton (2016) for an excellent discussion.

cooperation—cooperation concerning information exchange—unsurprisingly, Gricean maxims and epistemic norms will overlap to a significant extent.

Second, I want to stress that the maxim of quantity is a paradigmatic such example: after all, the worry with not being as informative as one possibly can is that (1) we lose epistemic goods in the testimonial exchange, and (2) a false belief will be generated in the audience—i.e. a false belief about how much the speaker knows about the issue. Since losing epistemic goods and generating false beliefs are uncontroversially epistemically bad things, we shouldn't be surprised that quantity-related considerations will feature in conjecture's epistemic norm.

Third, note that there is an asymmetry between assertion and conjecture when it comes to quantity-related considerations. To see this, let us follow Turri (2010) and take the speech act that is higher than assertion on the credibility index to be the speech act of guaranteeing, and let's stipulate, just for the sake of the argument, that it is governed by a certainty norm. Now, here is the interesting disanalogy between assertion and conjecture: explicitly conjecturing that p when one knows that p is inappropriate in that it intuitively generates the false implicature that one does not know that p. Relatedly, when a speaker does so, they are the proper subject of criticism: 'why didn't you tell me you knew that p?' In contrast, merely asserting rather than explicitly guaranteeing when one is certain that p seems fine, and does not open the speaker to similar criticisms. If I'm certain that there's a table in front of me and I assert it, you would not criticise me along the lines of 'Why didn't you guarantee that there's a table in front of you if you were sure there was one?.' I will not attempt to explain the source of this disanalogy here: likely, the rarity of occasions when we enjoy certainty, as well as the rarity of occasions when we need to guarantee that something is the case, will play a role. What is important to note for my purposes here is that the disanalogy exists: conjecturing, but not asserting, generates false quantity implicatures when employed in spite of having enough warrant for making stronger speech acts. Furthermore, it does so unexceptionally—i.e., this effect does not seem to suffer from much contextual variance. If that is so, this explains why there is a disanalogy between the norm of assertion and that of conjecture, in that the latter, but not the former, should feature an upper warrant threshold.

5.3 The lower warrant threshold

One could wonder whether KNC is too strong to account for conjecture's role in inquiry. To see this, consider a case in which Detective D is investigating a crime, and she has seven suspects: the butler and the six sons of the victim. Based on the evidence D has so far, she has a warranted 0.4 credence that the butler did it, and warranted 0.1 credences respectively that each of the sons did it. Surely, the thought would go, the detective is warranted to conjecture that the butler did it under these circumstances.[28]

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[28] Thanks to Chris Kelp and Glen Pettigrove and MMM for pressing me on this front.

I agree that detective D is warranted to conjecture that the butler did it in the case above. What I want to propose, however, is that the type of warrant at work here is practical rather than epistemic: D is under a contract to find the murderer, and they thereby are practically obliged (therefore permitted) to conjecture of at least one of the seven suspects that they did it in order to move forward with the investigation. In other words, the detective cannot afford to just suspend judgement and go home in this case. To see that it is merely practical rather than epistemic warrant that is at work here, note that having 0.4 warrant in favour of p: "The butler did it" amounts to having 0.6 warrant for not-p. According to D's evidence, then, it's more likely that the butler did not do it than that he did it. It is highly implausible that this is an epistemic situation that warrants conjecturing that p—"The butler did it". To see this, consider a case in which you know that a coin is rigged against landing heads such that it is now only 0.4 likely it will do so. Surely, if anything, in this case, it is permissible to conjecture it will *not* land heads.

5.4 Prior plausibility

Before I close this defence of KNC, one important thing to note is that KNC enjoys high levels of prior plausibility, in that neither of the underlying thoughts behind SATA and EA will serve to support a warrant norm over my knowledge norm. The knowledge account proposed here is perfectly compatible with—indeed it can be read as an incarnation of—the view that conjecturing requires less epistemic support than assertion, insofar as the claim is restricted to a quantitative claim about the warrant needed for the particular proposition that constitutes the content of the speech act in question (which is, I'm fairly convinced, what was meant by the people cited in the two sections in question to begin with). After all, on my view, while assertion that p requires knowledge that p, conjecturing that p merely requires knowledge of one having warrant but not sufficient warrant to believe that p. As such, the quantity of epistemic support required for the proposition at stake is much lower for proper conjecturing than for proper assertion.

The view proposed here is also compatible with the claim that conjecture expresses a degree of belief that p that is lower than full belief; even if this is so, it can still be that what is epistemically required for permissibly conjecturing is what KNC requires, i.e. access to the grounds for said degree of belief.[29]

KNC is, of course, in one crucial respect more demanding than the warrant norm (WNC), in that it requires epistemic access to one's warrant for p. Again, this seems right: conjecturing, as opposed to asserting, is an epistemically highbrow affair, often employed in sophisticated contexts such as academic and scientific practice. Small children and animals don't engage in this practice: over-intellectualisation is a feature of the view, not a bug.

Consider also:

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[29] Importantly, in isolation, KNC together with this type of view will imply the denial of the claim that felicity conditions are normatively charged: after all, KNC does not require there to be any credence that p present for conjecturing that p. Compatibly, though, there could be that there is an additional, moral sincerity norm, for instance, that delivers the normative charge.

Moore#1 I conjecture that this patient has the flu but I have no reason to believe that they have the flu.

This sounds bad. KNC explains why: knowing that one has enough warrant for believing that p is required for one's permissible conjecture. In contrast, it is worth noting that the warrant norm struggles to do so: if all that is needed for permissible conjecture is warrant for e.g. a 0.6 credence that p, it may well be[30] that I don't have access to the grounds that warrant my credence, and, furthermore, that I take myself not to have any.[31] If so, WNC lacks the resources to explain the paradoxical soundingness of Moore#1. Similarly, consider:

Moore#2 I conjecture that this patient has the flu but I have no idea why one might think that.

Again, KNC, but not WNC, nicely explains the paradoxical soundingness of the above: knowledge of one's grounds for p is necessary for proper conjecture. Since, on most views on warrant, having warrant is compatible with not having access to the grounds constituting the warrant in question, WNC delivers the result that there is nothing wrong with Moore#2.

Couldn't champions of WNC simply add an access requirement to avoid this problem? Or perhaps an additional norm that permits the audience to request sources that will leave the conjecture not in good standing if sources cannot be provided? They could. The question that remains to be answered by WNC champions is the epistemic condition on access. If it's knowledge, WNC comes close to collapsing into the competitor KNC. If it's not knowledge, why not? After all, discursive justification will likely involve a bunch of assertions, which, if KNA is correct, will have to be knowledgeable. These are questions that are for the WNC champion to answer though.

6 Two more arguments for the knowledge norm of conjecture

The derivation above relies on Bach and Harnish's taxonomy of communicative speech acts; this is not particularly theoretically loaded: Bach and Harnish's taxonomy is roughly translatable to e.g. Austiniam and Searlian taxonomies as well. The derivation also relies, however, on Bach and Harnish's preferred way to individuate speech acts, by the attitudes that they take these speech acts to express. Since some readers might not endorse the Bach and Harnish way to do things in speech act theory—in particular, their individuation recipe—this section will provide two more arguments for KNC that do not rely on their framework. In particular, I expect normativists about the nature of speech acts—who take speech

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[30] This will depend on your view on warrant. On the vast majority of views in the literature warrant does not entail access to grounds for belief. Strong access internalism denies this claim, so on this construal the differences between KNC and WNC will shrink considerably. I take strong access internalism to be a relatively unpopular view, however.

[31] People who think there is such a thing as merely psychological defeat might argue that, in taking myself not to have warrant for my belief, my belief is thereby defeated. For arguments why there is no such thing as merely psychological defeat see e.g. (Graham and Lyons Forthcoming).

acts to be constituted by norms in the same way in which games and languages are (e.g. Searle, 1969; Williamson, 2000)—will more likely to be convinced by the arguments below than by the Bach and Harnish-based derivation.

The first Bach and Harnish-independent argument for KNC that I want to propose is pretty straightforward: it relies on the independently plausible claim that, even if speech acts are not to be individuated by particular attitudes that they express, they do, as a matter of fact, characteristically express said attitudes. Assertions characteristically express beliefs that p. Predictives characteristically express beliefs about the future. And so on. In turn, I find it plausible that conjectures characteristically express the belief that the conjecturer has warrant, but not sufficient warrant to believe that p. After all, recall that conjecture is often employed in academic and scientific practice: it seems important, for such contexts, to have a speech act that communicates our epistemic circumstances in this way. If that is so, again, characteristically, conjectures will amount to assertions that q, where q is: 'there is warrant but not sufficient warrant to believe that p.' If so, in virtue of this type/species claim, in conjunction with KNA, and via normative correspondence, we get the result that, characteristically, one must know that one has warrant but not sufficient warrant to believe that p in order to permissibly conjecture that p. This latter claim does not entail KNC, of course. But it does make it eminently plausible via inference to the best explanation: the best explanation of why characteristically one must know that one has warrant but not sufficient warrant to believe that p in order to be a good token of its type. As such, this incarnation of the permissibly conjecture that p is that KNC is the norm of conjecture.

Second, we can derive the knowledge account for conjecture independently of both the Bach and Harnish individuation model, and the type/species claim above, on functionalist grounds. Here is a claim that I find eminently plausible: characteristically, constatives have the aim to generate beliefs in the hearer.[32] This is a weak and, I submit, extremely plausible empirical claim: it is not an analysis of constatives and has no individuation ambitions.

Now, here is a fairly popular thesis about the epistemic normativity of belief: A belief that p is a good belief iff one knows that p. Crucially, this is an evaluative, not a prescriptive norm of belief: it is an ought-to-be, not an ought-to-do. It merely gives correctness conditions for belief: the 'good' at stake pertains to the Geach-ian (1956) category of attributive goodness: it describes what it is for a token of a particular type to knowledge norm of belief should be less controversial than its prescriptive counterpart, which several philosophers take to ground the claim that justified belief is knowledge.[33] The claim here is merely that beliefs that fall short of knowledge are defective as beliefs, i.e. as tokens of their type. It does not imply any

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[32] I am not talking about speaker aims, but rather about the constitutive aims of the practice of uttering constatives. I now clarify that practices often have constitutive aims: games are the paradigmatic example. I take (together with other speech act theorists, and I have defended this view extensively elsewhere) speech practices to have constitutive aims and norms. Of course, often speaker aims coincide with the constitutive aims of practices. They need not, however. See Simion 2021 for exensive discussion.

[33] E.g. Williamson (2000).

commitments about the nature of justification or the permissibility of belief formation.[34]

If both of the claims above hold—i.e., if constatives characteristically aim to generate beliefs in hearers, and good beliefs are knowledgeable beliefs, I submit that the following claim is eminently plausible: characteristically, constatives aim to generate knowledge in the hearer. I don't take this claim to follow via normative inheritance—indeed, Sect. 3 has shown us that wouldn't work. Rather, I take it to be extremely plausible because of this speech act's continuous existence. After all, it is plausible that the characteristic aim of constatives is to generate good rather than bad beliefs. Otherwise, it's a mystery why these speech acts are not discontinued: if hearers were not to be incentivised to take constatives up in virtue of their beneficial effects—knowledgeable beliefs—they would stop doing so, which, in turn, would render speakers less likely to engage in making these speech acts to begin with. The practice would disappear. Here is Ruth Millikan on this issue:

> Language devices will produce effects that interest speakers often enough to encourage continued replication only if hearers replicate hoped-for cooperative responses often enough. (Millikan 2004, 25).

Note, also, the very high plausibility of this claim for several constatives, no matter what one's view on speech act individuation may be, such as: predictives (characteristically, they aim to generate knowledge about the future), retrodictives (characteristically, they aim to generate knowledge about the past), etc.

If it is plausible that constatives characteristically aim to generate knowledgeable beliefs in hearers, though, so is a functionalist view of the normativity of constatives. After all, one way to spell out this claim is in functionalist terms, i.e. where we take talk of characteristic aims to track functions: Constatives have the epistemic function of generating knowledge in hearers.

Of course, the content of the knowledge claim will vary from one variety of constative to another: predictives will be in charge of generating knowledge about the future, descriptives with knowledge about properties and so on. Here is the corresponding claim for conjecture:

The knowledge function of conjecture (KFOC): Conjecture has the epistemic function of generating knowledge of the speaker having warrant, but not sufficient warrant to believe that p in hearers.

To see the plausibility of this claim, let's take a mainstream, widely endorsed, etiological reading of this functionalist claim (e.g. Buller, 1998; Godfrey-Smith, 1994; Graham, 2012; Kelp, 2018; Millikan, 1984; Neander, 1991; Simion, 2016b, 2021). On the etiological theory of functions, functions turn on histories that explain why the item exists or operates the way it does. Take my heart; plausibly, tokens of the type pumped blood in my ancestors. This was beneficial for my ancestors' survival, which explains why tokens of the type continued to exist. As

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[34] Also, crucially, the knowledge norm of belief is well liked by speech act theorists from diverse camps (e.g. Bach 2008; Williamson 2000). For a defense from the normativity of assertion see Williamson (2000).

a result, my heart acquired the etiological function (henceforth also e-function)[35] of pumping blood. Acquiring an etiological function is a success story: traits, artefacts and actions get etiological functions of a particular type by producing the relevant type of benefit. My heart acquired a biological etiological function by generating biological benefit. Through a positive feedback mechanism—the heart pumped blood, which kept the organism alive, which, in turn, insured the continuous existence of the heart—our hearts acquired the etiological function of pumping blood.[36]

According to the etiological theory of functions, then, a token of type T has the e-function of type B of producing effect E in system S iff (1) tokens of T produced E in the past, (2) producing E resulted in benefit of type B in S/S's ancestors and (3) producing E's having B-benefitted S's ancestors contributes to the explanation of why T exists in S.

Note that KFOC meets these conditions for conjecture with flying colours: plausibly, the practice of conjecture has generated knowledge of the speaker having warrant, but not sufficient warrant to believe that p in hearers in the past, which was epistemically beneficial for hearers, and which, in turn plausibly keeps the practice alive.

By being selected for it, our hearts have acquired the function of pumping blood in our organisms (Graham, 2012, 449). Successfully pumping blood will amount to function fulfilment. But functions will also come with associated norms prescribing the right way to proceed for reliable function fulfilment. Because its function contributes to the explanation of its very existence, the trait in question *is malfunctioning* if it does not perform in a way that is associated with likely function fulfilment. According to the etiological theory of functions, proper functioning maps on to the way in which the trait functioned back in the day when it acquired its function. Your heart will pump blood in normal conditions, i.e., conditions similar to those in which it was selected, when functioning normally, that is, when functioning in the way in which it was functioning when it was selected for its beneficial effects. Plausibly, in normal conditions, a normally functioning heart will fulfil its function of pumping blood in your system by beating at a particular rate. According to the etiological theory, then, normal functioning is proper functioning: a heart functions in the way it should when it functions in the way it did back in the day when it acquired its function: when it beats at a particular rate.

The e-functionalist picture constitutes itself in a fairly straightforward norm-identification machinery; first, we take a look at the function plausibly served by the

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[35] For application of the etiological account of functions to the normativity of belief, see e.g. Millikan (1984) and Graham (2012). For a knowledge-first incarnation thereof, see (REDACTED).

[36] Now, not all functional items follow the model of the heart: there will be cases where a requirement of selection over generations for function acquisition will seem implausibly strong (Sosa, 2015). The paradigmatic case is that of beneficial macro-mutations, also known as hopeful monsters (Graham, 2012, 30). While etiology does require some history, it does not require an awful lot of it (Graham 2012). What is essential to function acquisition is the positive feedback loop—whereby the trait in question generates a beneficial effect that contributes to its own continuous existence. Thus, a trait can also acquire a particular function by on going, maintenance selection, or through a learning process, or even by the metabolic activity of the organism.

trait/artefact/action in question. Once the function is identified, the question we need to ask ourselves is: how did the trait/artefact/action plausibly fulfil its function at the moment of function acquisition? The answer to this question will give us normal functioning which, on the etiological account, corresponds to proper functioning; therefore, the answer to this question delivers the content of the norm we are after.

If KFOC holds, KNC nicely drops out of it via this route. Conjectures will reliably generate knowledge about speaker's warrant in hearers in normal conditions, i.e., conditions similar to those in which they acquired their function, when functioning normally, that is, when functioning in the way in which they were functioning when they were selected for their beneficial epistemic effects. When functioning normally, conjectures will meet the epistemic norm constitutively associated with their epistemic e-function of reliably generating testimonial knowledge[37] of the speaker having warrant but not sufficient warrant to believe that p; they will work the way they are supposed to work, where the right way of working is partly constituted by reliably delivering these epistemic goods in normal conditions. Thus, an epistemically proper conjecture will be one that, in normal conditions, generates knowledge of the speaker having warrant but not sufficient warrant to believe that p in the hearer in the way it did back when it acquired its epistemic function. Since it is plausible that conjecture fulfilled said function via being knowledgeable—after all, the paradigmatic[38] way in which knowledge is generated in hearers in testimonial exchanges is via transfer from speakers -, the knowledge account drops right out of conjecture's etiological function. As such, what we get is a derivation of KNC that, once again, does not rely on individuating speech acts by the attitudes they express.

7 Conclusion

This paper has defended the first account of the epistemic normativity of conjecture in the literature. I have argued for a knowledge account from three different angles: (1) the Bach and Harnish account of the nature of communicative speech acts, (2) the plausible type-species relation between assertion and other constatives, and (3) the normativity of belief in conjunction with constatives' epistemic function.

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[37] See e.g. Kelp and Simion (2017a) for an account of the value of knowledge that vindicates the claim that knowledge constitutes a benefit in the relevant sense.

[38] For cases of knowledge generation on the hearer's side in spite of lack of knowledge on the speaker's side see e.g. Lackey (2008), Graham (2012).

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