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# COMPREHENDING SPEECH

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> Paying attention to language *per se* is difficult.
>
> –Merleau-Ponty (1973: 77)

## 1.

Consider attempting to make out the words of an interlocutor in a noisy bar. By carefully attending to the sounds that they are producing and perhaps also to the accompanying movements of their mouths, faces, and hands you are able to make out what they are saying—to comprehend their speech. You thereby come to entertain a thought that your interlocutor has expressed, for example, the thought that they would prefer a pint of Adnams. And you may also come to associate that thought with their production of words that express it and with their having so expressed it. (Indeed, if the thought that your interlocutor expressed involved some forms of indexicality—for instance, if it was the thought that *they* (the speaker) would *now* (the time of speaking) prefer Adnams—then your comprehending the thought would appear to be dependent upon your taking a view as to its provenance in a particular production of speech.) Typically, you are able to achieve this even though the bar is noisy and even though the background noise is partly constituted by other productions of English words that overlap with your interlocutor's. In fact, it would be possible for you to achieve as much even if another speaker had produced simultaneously a matching sound—if they had asked for a pint of Adnams in a voice that would in the same context be indiscriminable from your interlocutor's—just as long as you were in a position to discriminate in your perceptual context amongst the different sources of those sounds and so to direct your attention to your interlocutor's production rather than the interloper's. Proper exercise of these abilities can play an important part in shaping the success of consequent thought and action, not only in determining that you buy the right drink for the right person, but more

widely in determining that you respond correctly to the thoughts and wants that are expressed in your presence.

Although we are typically in a position correctly to identify the distal sources of our acts of comprehension, through perception of productions of speech, it appears that we need not always be in that position. Descartes makes the following observation about the role of speech perception in comprehension:

> Words, as you well know, bear no resemblance to the things they signify, and yet they make us think of those things, frequently even without our paying attention to the sound of the words or to their syllables. Thus it may happen that we hear an utterance whose meaning we understand perfectly well, but afterwards we cannot say in what language it was spoken. . .But perhaps you will say that our ears really cause us to perceive only the sound of the words. . .and that it is our mind which, recollecting what the words. . .signify, represent their meanings to us at the same time. (Descartes, 1664/1985: 79)

Descartes' interest in linguistic understanding is due to two apparent similarities with perceptual cognition more generally.[1] First, Descartes takes the relation of the immediate deliverances of the sensorium—sensations, say—to the normal objects of perceptual cognition—ordinary objects, properties and activities—to be, like the relation between words and what they express, somewhat arbitrary. Second, and related, he takes the epistemological role of sensation in mediating perceptual cognition to be akin to the role of speech perception in mediating understanding. Although Descartes does not draw definite conclusions, one might be tempted to reason as follows. Since the comprehension of content expressed in an episode of speech can be indifferent to our attending to, making judgements about, or remembering the perceptually revealed details of that episode, it is held that the perception of speech can play the role, not of supplying justificatory support for knowledgeable uptake, but rather of being a mere trigger to immediate comprehension. Similarly, since the perceptual cognition of ordinary objects, properties, and activities can be indifferent to our attending to, cognizing, or remembering the details of sensory activity, it is held that awareness of sensation does not function as an element in its justification. Both points of similarity leave open the nature of the triggered states or episodes: whether they are, as Descartes has his interlocutor say, episodes or states purely of the mind or understanding, or whether they bear the imprint of their causal pedigree, so are episodes or states partly of sensory awareness.

Whatever Descartes' own intentions were in drawing attention to the apparent possibility of comprehension in the absence of conscious awareness of certain aspects of speech, acknowledgement of that possibility might be thought to point to a way of distinguishing ordinary cases of sensory perception from cases of comprehension. For it might be held that belief or judgement based upon sensory perception is dependent epistemically upon its basis, so that a belief, or a judgement so based would count as knowledgeable only if it were

properly integrated with, and not merely caused by, its sensory basis. By contrast, it might be argued that knowing or understanding what has been said in one's presence depends only upon the proper epistemic functioning of the faculties responsible for one's facility with content. And on that basis, it might be argued that understanding what has been said, and the epistemic standing of further cognitive work based upon that achievement, differs from sensorily based belief and judgement in that it is dependent at most causally on operations of one's sensorium.

As well as its intrinsic interest, the issue bears on a wide range of questions in the philosophies of language, mind, and knowledge. To what extent is comprehension a perceptual, as opposed to a cognitive achievement? Is it possible to acquire a priori knowledge on the basis of others' testimony? In what, if any, ways does the comprehension of speech invoke constitutive connections with other speakers and their activities, for instance through perceptual contact? Of particular interest to the present author is the question whether normal awareness of what others have said—normal understanding or comprehension—depends upon awareness of an association between their words and the contents they express through the use of those words. For I have argued elsewhere that, if we assume that normal understanding does depend upon such awareness, then it is puzzling how we should account for the understanding apparently exhibited by speakers that are apparently unable to conceptualize such associations—for instance, small children and some people on the autistic spectrum.[2]

In what follows, I shall pursue the question whether sensorily based belief can be distinguished from comprehending, or knowing what a speaker has said, in the way proposed. I shall take as my stalking horse the most sophisticated available presentation of a view according to which the two types of output can be so distinguished, that developed in a series of important papers by Tyler Burge. A happy consequence of this approach is that it provides an opportunity to offer a summary of some of Burge's subtle and wide-ranging work on this topic. Burge's view is both attractive and complex, and I think that many of its subtleties have not been fully appreciated.[3] However, I shall argue that one of the major epistemic functions of comprehension pursued by Burge, its role in sponsoring the transmission of knowledge, is not well served by his account.

## 2.

What, then, is the epistemological role of speech perception in acquiring knowledge from what others say? In seeking an answer, one might reason as follows. One can only acquire knowledge from another's words if one understands what they say. And understanding what they say is dependent upon perceiving an episode of speech.[4] Hence, one might conclude, the perception of speech supplies an essential element in the justification of, or entitlement to, knowledge acquired from what others say.[5]

Although the initial steps of the reasoning are plausible, they fail without supplementation to sustain its conclusion. Supplementation is required at two points. First, no reason has been supplied for viewing the role of understanding an utterance to be that of supplying an essential element in an entitlement to what one comes thereby to know. For all the reasoning shows, it might be that understanding an interlocutor's utterance that such-and-such serves, not to supply an element in an entitlement to believe that such-and-such, but rather to put one in a position to enjoy whatever entitlement the interlocutor then possessed to believe that such-and-such. Second, no reason has been supplied for viewing the role of speech perception to be that of supplying an essential element in an entitlement to one's understanding of the interlocutor's utterance. For all the reasoning shows, it might be that the perception of speech serves, not to supply an essential element in one's entitlement to a cognition delivered by the understanding, but rather to causally trigger the generation of episodes of comprehension with epistemological statuses independent of their merely causal pedigree.

Although both lines of resistance rely upon a distinction amongst the epistemological functions of elements responsible for the epistemic status of a piece of cognition—between, on one hand, triggering, sustaining, preserving, or enabling conditions and, on the other, essential components in an entitlement—they are independently capable of undermining the initial line of reasoning in favour of a justificatory function for the deliverances of speech perception. One could resist the reasoning by holding that speech perception plays a justificatory role with respect to understanding, but that understanding itself plays a merely enabling role, allowing the subject of understanding to share in their interlocutor's epistemic status. And one could resist the reasoning by holding that understanding plays a justificatory role with respect to knowledge gained from testimony, but that understanding is not reliant for its justification upon the sensory perception of episodes of speech.

A guiding theme in Burge's work on the topic of knowledge transmission is his attempt to secure the possibility of the transmission of a priori knowledge *as* a priori. That is, Burge aims to explain, not only how someone who has a priori knowledge that such-and-such can communicate that knowledge to another, but also how the other's knowledge can retain a priori status despite the transmission of knowledge depending upon the perception of speech. He explains his notion of a priori knowledge as follows:

> I understand '*a priori*' to apply to a person's knowledge when that knowledge is underwritten by an a priori justification or entitlement that needs no further justification or entitlement to make it knowledge. A justification or entitlement is *a priori* if its justificational force is in no way constituted or enhanced by reference to or reliance on the specifics of some range of sense experiences or perceptual beliefs. (Burge, 1993a: 458)

Since Burge accepts that ordinary knowledge transmission is dependent upon speech perception, he draws a distinction, of the sort alluded to above, between two sorts of dependence. On one hand, we have dependence of a piece of cognition for its *justificational force* upon the specifics of what is sensorily experienced. On the other, we have dependence of a piece of cognition for its acquisition or preservation on a mere enabling or triggering condition. Having drawn the distinction, it would be open to Burge to attempt to explain the transmission of a priori knowledge by neutralising the justificatory role of speech perception in either of the two ways mentioned above. Burge chooses the second way, and seeks to argue that, while the products of comprehension play a justificatory role with respect to the knowledge got from others, speech perception has only a triggering or enabling function in underwriting the cognition of content, and the preservation of the justificatory status that content has for the interlocutor.

Burge's account of the comprehension of speech, then, must provide that the epistemological role of episodes of comprehension can be indifferent to their sensory pedigree.[6] That is, it must demonstrate, not only the possibility of forms of comprehension whose epistemological status 'is in no way constituted or enhanced by reference to or reliance on the specifics of some range of sense experiences or perceptual beliefs'. It must show that such forms of comprehension are able to fulfil their epistemic function in furnishing justificatory support for pieces of knowledge acquired on their basis. Crucially, such forms of comprehension must not rely upon sensory perception to supply required elements in their inferential justificatory support. And, of equal importance, neither must those forms themselves *be* forms of sensory perception. Or, more precisely, their being forms of sensory perception must not be essential to their capacity to play their required role in mediating further epistemic statuses.

The issue dividing Burge from his opponents concerns the respective epistemic functions, in supporting the communication of knowledge, of the deliverances of two faculties: a faculty of sensory perception, marked as such by its special dependence upon the sensorium in sustaining causal and informational connections with particular concrete objects, properties, and events; and a faculty of understanding, marked as such by its role in sustaining ordinary thinking capacities. The role of ancillary faculties—e.g. those responsible for deductive or inductive reasoning and, as we shall see, certain forms of memory—is taken to be neutral, except insofar as they take inputs from the other faculties. Burge considers two conceptions of comprehension and argues that neither should be accepted. According to the first, episodes of comprehension are outputs of the understanding, under the inferential, justificatory guidance of sensory perception of episodes of speech. According to the second, episodes of comprehension are exhaustively determined by the operations of sensory perception, so that comprehension just is a form of sensory perception. I shall expound Burge's arguments against the two positions in order.

## 3.

Burge's argument against the first position has three stages. In the first stage, Burge presents a model of epistemological entitlement. In the second stage, the model is applied to communication in a way that reveals the products of speech perception to be inessential to one's entitlement to knowledge gained from others. In the third, independent considerations are offered against the view that speech perception provides essential elements in such an entitlement.

The first stage is driven by reflection on cases where it might seem plausible that a distinction should be drawn amongst necessary conditions for knowledge. The aim is to motivate a distinction between those elements that must be mentioned in describing an adequate justification or warrant for belief and those elements that serve as mere enabling or triggering conditions. The operation of the latter elements may be required in acquiring or sustaining possession of the justification constituted by the former elements; but they are otherwise inessential to epistemic status.

Consider the role of memory in sustaining one's capacity to follow the steps of a proof—the function of what Burge calls *preservative* memory. Plausibly, the proper functioning of memory here is essential to the epistemic status of any belief formed on the basis of following through the proof. If one has forgotten or mis-remembered an earlier step, then that can affect critically the epistemic status the conclusion of one's reasoning has for one. More generally, the course of one's cognitions as one follows a proof must be suitably interconnected, hence underwritten in part through the proper functioning of memory. But it is plausible that one's justification for belief in the conclusion need not mention the fact that one's memory functioned properly. What is required is that the thoughts that one entertains in following the proof are suitably connected. Although that may depend on the proper functioning of one's memory, one need not in addition entertain beliefs about the functioning of memory. Thus, we might distinguish between the justificatory role of the things one remembers in following through the proof—the propositions constituting the proof—and the enabling role of memory, in preserving one's ability to think the propositions involved in the proof as one works through it and in preserving justificatory support from earlier to later steps despite the earlier steps no longer being before one's mind.

Burge attempts to underpin the distinction between essential elements in a justification or entitlement and mere enabling conditions through appeal to what he calls the *Acceptance Principle*:

> A person is a priori entitled to accept a proposition that is presented to him as true and that is intelligible to him, unless there are stronger reasons not to do so. (1993a: 469)

The Acceptance Principle is a central plank in Burge's project of domesticating putatively Externalist determinants of epistemological status. In Burge's view,

appeal to such determinants—for instance, reliability—must be underwritten through appeal to the functional nature of the faculties, resources, and episodes that they condition. The (*prima facie*) entitlement constituted by the reliability of a faculty, resource, or episode cannot outstrip the autonomous status that would be afforded by exercises and their products that optimally fulfil the proper function of the faculties, resources, or episodes that they involve. Where the operations of a faculty provide *pro tanto* entitlement to cognition with some epistemic status, the optimal functioning of the faculty must provide a *guarantee* of cognition with that status—i.e. must suffice for that status. This aspect of Burge's entitlement-based epistemology is crucial to his overall account of comprehension. Burge holds that non-optimal operations of a faculty can derive epistemic status from optimal operations of that faculty, so that the output of such non-optimal operations can be shaped by factors external to the non-optimal operation just insofar as those factors would impact upon its optimal operation, and so be internal to its optimal, status guaranteeing operation. Hence, in one direction, non-optimal operations of comprehension can exploit the powers of optimal operations, and derive epistemic status from possible optimal operations. And, in the other direction, the possible impact of operation external factors is constrained by the powers of optimal operation: factors that would have no impact upon optimal functioning—i.e. factors that go beyond what optimal operations can suffice to determine—can play no role in determining the epistemic status of imperfect operations. The epistemic status of any of a faculty's operations cannot outstrip the epistemic status of that faculty's optimal operations. Although I shall not argue it here, I think that this represents a minimal fix of Externalist epistemology. I shall assume that any adequate epistemology must be subject to at least that degree of Internalist constraint. Those who find that assumption controversial should assess the remainder as conditional upon its acceptability.[7] My argument against Burge's view aims to exploit his view that the epistemic powers of a faculty cannot outstrip its optimal, status guaranteeing function. The aim is to demonstrate that, on the (shared) assumption that the optimal operations of the faculties responsible for comprehension can sustain the transmission of knowledge, those faculties must include sense-perceptual elements.

The entitlement articulated through the Acceptance Principle is only *pro tanto*, a default but defeasible epistemic status. The a priori, default status of the principle is taken by Burge to be a regress-halting component of properly functioning justificatory practice:

> A presupposition of the Acceptance Principle is that one is entitled not to bring one's source's sincerity or justification into question, in the absence of reasons to the contrary. This too is an epistemic default position. (1993a: 468; see also, e.g., 463)

Further support for the principle comes from reflection upon the functional nature of mental or epistemic faculties—in particular, constitutive principles

of rationality and charity—and the idea that one is entitled to presume upon the proper functioning of rational systems, faculties, and, derivatively, their products.[8] Such an entitlement may be defeasible through empirical information. But it is a default, in the sense that it can sustain an entitlement sufficient to confer positive epistemic status on a subject without requiring additional premises to the effect that there are no defeaters in a particular case.

One's entitlement depends, not only upon whether a proposition that is presented as true in fact derives in the right way from an earlier cognition, but also upon whether (some-) one was entitled to that earlier cognition.[9] As Burge explains the latter sort of dependence,

> We would not be entitled to the belief if it were preserved from *unwarranted* acquisitions that we had forgotten: we cannot, I think, become warranted by forgetting the poor grounds we originally had, and then relying on the remembered belief. (1997: 39–40, Burge's emphasis)

Correlatively, then, there are two sorts of defeat to which a piece of cognition is subject: defeat of an entitlement to enjoy the entitlement of an earlier cognition; and defeat of the entitlement to the earlier cognition.[10] Moreover, the basic entitlement to a piece of cognition, and hence its epistemic classification as a priori or aposteriori, depends upon the extended entitlement that includes the entitlement to the earlier cognition:[11]

> Memory is no more intrinsically an empirical faculty than it is a rational faculty.... Even in empirical reasoning, memory has a purely preservative function that does not contribute to the force of the justification, but simply helps assure the proper working of other cognitive capacities over time. (1993a: 463–4)

If the entitlement for a piece of cognition is a priori, memory can preserve its a priori status; *mutatis mutandis* if the cognition is aposteriori. As Jim Edwards emphasizes, the Acceptance Principle functions as a sort of defeasible rule of inference. In undefeated cases, it facilitates the transfer of warrant or justificatory status without itself playing the role of a premise.[12] Unlike genuine elements in a justification or entitlement, which must work together to ensure the epistemic status of a piece of cognition, absence of defeat—so, for instance, proper functioning of memory—is a mere enabling condition for the status and proper linking of genuine elements of the entitlement.

Before moving on to consider the second stage in Burge's argument, the extension of the basic account to knowledge gained from others, we should pause to note two points about his account as it applies to preservative memory. The first is that the account given thus far is neutral between the two lines of resistance to a perceptually based epistemology of comprehension outlined earlier. That is, one might view the account as treating memorial presentations-as-true

as epistemologically insulated from their memorial pedigree, but as playing a justificatory role with respect to later cognitions. Or, one might view the account as requiring that memorial cognitions must be marked, or indexed, as such—that the subject's epistemic economy must be sensitive to their status as putatively retained—in order for them to fulfil their later epistemic functions, while allowing that their memorial status itself plays no further justificatory role.

The second point is an explanation of the first. The reason the account can afford to be neutral about whether a memorial presentation-as-true must be marked, or indexed, as such is that its being so-marked would have no effect on the epistemological classification of cognitions in whose entitlement it serves—that is, in determining whether they are a priori or aposteriori. Such marking would only have such an effect if it carried *empirical* information concerning particular subject matters—particular objects, properties, or episodes. But preservative memory carries no such information. An aspect of the Acceptance Principle is that one is a priori—though defeasibly—entitled to presume upon the proper functioning of one's faculties. As long as the relevant features of proper functioning do not depend upon contingent features of particular exercises of a faculty, particular applications of the Principle need not import empirical elements into an entitlement that they help to constitute. One is therefore a priori entitled to presume upon information concerning particular subject matters that is fixed solely by completely general requirements on the proper functioning of one's faculties. But the proper functioning of a subject's memory with respect to any given presentation-as-true ensures, quite generally, that the presentation is preserved from an earlier cognition *of the subject*.[13] So despite their carrying information about a particular, contingent subject matter, exercises of preservative memory can retain their epistemological neutrality because the information they carry is determined by general conditions on proper functioning of any such exercise.

## 4.

Burge seeks to extend his basic account to knowledge acquired through communication. Burge outlines his account as follows:

> In interlocution, perception of utterances makes possible the passage of propositional content from one mind to another rather as purely preservative memory makes possible the preservation of propositional content from one time to another. (1993a: 481)

As in his account of preservative memory, Burge exploits the distinction between enabling or triggering conditions and justificatory elements. Again, the Acceptance Principle plays a key role. But in this case the role is, not to preserve the justificatory status of cognized content intra-personally across time,

but rather to preserve it inter-personally. Like preservative memory, preservative interlocution functions to facilitate the recipient's access to whatever warrant is already possessed by their interlocutor and not to generate afresh a warrant for the recipient. As Burge puts it,

> The default entitlement to believe propositions one received in interlocution presumes a more primary epistemic warrant somewhere in the chain of interlocutors. (1997: 44, fn. 2)

Hence, the epistemological classification of a piece of cognition acquired from another in accord with the Acceptance Principle is determined by the classification it had at source:

> Sometimes, the epistemic status of beliefs acquired from others *is not empirical.* In particular, it is not empirical just by virtue of the fact that the beliefs are acquired from others. (1993a: 466, Burge's emphasis)

It should be obvious how the Acceptance Principle can mediate vicarious justification via cognizance of a genuine presentation-as-true. But it may be less obvious how the account sustains an entitlement to comprehension of genuine presentation that is not constituted or enhanced by perception of an interlocutor's speech. In order to bring the initial stage of knowledge transmission within the purview of his account, Burge makes explicit a strengthening of the Acceptance Principle:

> We are a priori prima facie entitled to accept something that is prima facie intelligible and presented as true. For prima facie intelligible propositional contents prima facie presented as true bear an a priori prima facie conceptual relation to a rational source of true presentations-as-true. . . (1993a: 472; see also 1997: 45, fn.4; 1999: 243ff)

Because the proper function of the understanding, in application to speech episodes, is to deliver awareness of genuinely intelligible propositional contents together with their true force—for our purposes, their having been presented as true—one is a priori entitled to take prima facie awareness of such to be genuine.

## 5.

We can use a simple example to make clear how an entitlement might be articulated in a particular instance. Kim believes that there is no largest prime. Her belief has an entitlement that is sufficient for it to count as knowledge and that is not constituted or enhanced by products of sensory perception. So, Kim has a priori knowledge that there is no largest prime. Within earshot of Jo,

Kim utters the sentence, 'There is no largest prime'. Jo's auditing those words causes her understanding to produce in her a cognition of the propositional content that there is no largest prime, with what appears to her to be the force of a presentation-as-true received from without. Jo comprehends the expressed content as received and as having been presented as true, thereby accepting the immediate deliverance of her faculty of understanding. Although she makes that transition automatically, she is entitled to do so because, first, one is in general a priori, albeit defeasibly, entitled to accept as genuine an apparently received presentation-as-true and, second, there are in this case no defeating considerations.[14] Crucially, as explained above, the explanation for why she is entitled to accept the deliverances of her faculty of understanding is, not an element in her entitlement or justification, but rather a sort of meta-entitlement to have elements in her first-order entitlement. Thus, the fact that making explicit the absence of defeat for Jo's basic, a priori entitlement would involve mention of the proper operation of her sense perceptual faculty does not in itself suffice to make her entitlement empirical.

That completes the first stage in the articulation of Jo's entitlement: the account of her entitlement to accept as having been presented as true the propositional content that there is no largest prime. The second stage articulates her entitlement to accept the propositional content itself, to believe that there is no largest prime. Here again, Jo may make the transition to acceptance automatically. Two sorts of entitlement are involved: first, one's entitlement to accept what is presented to one as true, and so to partake in whatever extended entitlement that presentation possesses; second, the extended entitlement possessed by the presenter-as-true, one's interlocutor. In the present case, the first sort of entitlement is one's general, a priori, entitlement to presume on the proper epistemic functioning of one's interlocutor; the second consists in whatever elements and meta-entitlements constitute Jo's interlocutor's entitlement—that is, Kim's extended entitlement to believe that there is no largest prime. Again, both sorts of entitlement function only because they are not subject to defeat. Again, the absence of defeaters need not be mentioned in an entitlement sufficient for Jo's belief to count as knowledge. Jo's first-order entitlement contains no empirical elements: her knowledge, like Kim's, is a priori.

The two features of Burge's account of one's entitlement to cognition gained through interlocution of most importance to the remainder are the following. First, as noted above, optimal epistemic status cannot, on Burge's account, outstrip optimal fulfilment of proper function. Second, episodes of comprehension play an essential role, as elements with their own proprietary justificatory force, in the constitution of any extended entitlement one can gain through an interlocutor.

## 6.

The upshot of the first two stages of Burge's argument is that an account can be given of the knowledge-sufficing entitlement to some cases of

comprehension—crucially, cases that are able to function as mediators in the transmission of knowledge—that makes no mention of the products of speech perception. As noted above, the first two stages depend upon the claim that the faculty responsible for comprehension can function optimally to guarantee (i.e. suffice for) knowledge transmission without dependence upon sense perception. In the third stage, Burge argues that an account of the sort he presents should be preferred to one on which comprehension is the upshot of inference from—so inferentially entitled on the basis of—the perception, or perceptual cognition, of speech. Since I agree with Burge that inferential models of the role of speech perception in comprehension are unacceptable, I shall not comment in detail on the third stage of his argument.[15] However, the considerations have some bearing on the credentials of the more straightforwardly perceptual models to be considered in the remainder and so deserve an airing. Aside from observing that such inferences seem, at best, sub-personal, and that 'explicating [such inferential entitlements] is well-nigh impossible. . .even for philosophers' (1999: 240)—points that Burge takes to be indecisive—he offers three main considerations.

The first consideration harks back to Descartes:

> Understanding depends on perceptual awareness and implicit memory of words in something like the way that perception depends on utilization of sensations or perceptual representations in forming perceptual beliefs. But forming beliefs about the properties of words is no more the aim of understanding than forming beliefs about sensations or perceptions is the aim of perception. Understanding of speech may well precede an ability to conceptualize and form beliefs about a distinction between words and the objects they indicate or the meanings they convey. It is well known that memory of the properties of words is less reliable and more ephemeral than memory of what one understands through the words. (Burge, 1999: 241)

The consideration has two related aspects. The first is that the epistemic statuses of instances of comprehension can be greater than their supposed inferential bases. The second is that the aim—read: function—of comprehension is not the formation of beliefs about the properties of episodes of speech. I take the first consideration to weigh heavily against some inferential models of the epistemology of understanding. But the second is less compelling. It is not obvious that the function of understanding does not involve sustaining awareness of associations between speech episodes and expressed content. That depends upon the precise character of that function; for present purposes, it depends upon the role of speech perception in knowledge communication and, hence, on the probity of Burge's positive account.

The second consideration has a more recent provenance:

> When communication runs smoothly, the question of justifying one's understanding does not seem to arise. It is no more in place to ask someone who is a perfectly competent language user to support his or her presumed understanding

> of someone who says "push-button telephones are more common than rotary ones" than it is to ask a normal perceiver how he or she justifies a perceptual belief that that is a brown lectern, when he or she is looking at one in good light. These questions are philosophers' questions. Addressing them well requires giving weight to the fact that they do not arise in that form in ordinary life. (1999: 241)

This consideration has force against many substantive forms of inferential conception. However, it is compatible with conceptions according to which answering justificatory questions is too difficult for ordinary folk because the requisite inferential transitions are sustained inaccessibly, as a matter of mere entitlement. And it is compatible with conceptions wherein answering justificatory questions is in ordinary cases too easy to warrant response. Consider the following exchange. Kim: 'George said that the train is delayed'. Jo: 'How do you know? I didn't hear him speak and even if I had, what he says sounds to me like mere noise.' Kim: 'I know what he said because, first, I did hear him speak and, second, I have/speak/know French, so I can understand the "mere" noises that he makes.' Of course the need for such response is rare. But that appears to be, not because stakes or relevant alternatives have somehow been raised so that ordinary epistemic practices require supplementation, but rather because the relevant responses are ordinarily so obvious to all parties. However, the second consideration does carry weight against inferential conceptions according to which ordinary, personal level accounts of warrant must reconstruct a cogent inference from mere sounds, or even sentences, to claims about expressed content.

The third consideration is a thought experiment:

> Suppose that we could not perceive words others speak. Suppose that the stimulus effects of the words nevertheless affected us by some natural causal process in such a way that we reliably understand their sense. . .as received—rather than as initiated. Suppose that we could not directly know or even reliably guess anything about the words whose effects were thus injected. Suppose that the word sounds. . .called up understanding of conceptual content. . .by bypassing the perceptual system, but triggering the same central mechanisms by which we understand our own speech . . . . The words might become perceptible when but only when something in the context provides grounds to doubt the standing comprehension of what the interlocutor is saying. Understanding, however, remains as good as ever. (Burge, 1999: 244)[16]

Again, much depends upon the function of understanding. It is at least plausible that one might reliably entertain propositional contents on causal exposure to speech episodes that express those contents, despite being wholly unaware of those episodes. It is somewhat less plausible that, absent meta-level reflection on the provenance of one's entertaining, one would be in a position to reliably entertain content *as received, rather than as* [self-] *initiated*.[17] Be that as it may. As

I shall argue shortly, the function of comprehension in knowledge-transmission demands more.

## 7.

That completes Burge's case against models of comprehension according to which speech perception supplies an essential element in its inferential entitlement. The second account Burge considers is one according to which episodes of comprehension are sense-perceptual due to their being the sole responsibility of exercises of the sensorium. Burge objects to this account—decisively, in my view—that comprehension requires the entertaining of expressed content, so exercise of the understanding:

> We do not perceive the contents of attitudes that are conveyed to us; we understand them. We perceive and have perceptual beliefs about word occurrences. We may perceive them as having a certain content and subject matter, but the content is understood, not perceived. (Burge, 1993a: 478)

## 8.

The way in which the dialectic was established involved two key assumptions. The first assumption, made explicit above, is that the issue concerns the roles of two faculties—sense perception and the understanding—in producing episodes of comprehension. The second assumption—one that has thus far remained implicit—is that sustaining each episode is the responsibility of *either* a sense-perceptual faculty *or* the faculty of understanding. For, I shall argue, the considerations Burge presents against a sensory model of comprehension are powerless against a model involving both sensory and intellectual components. Given the second assumption, an episode of comprehension is either sense-perceptual—the product of the perceptual faculty—or a product of the understanding. If it is the latter, it can at most depend upon independent sense-perceptual episodes. Since comprehension is not purely sense-perceptual and since, according to Burge's arguments, it need not depend for its justificational force upon sense-perceptual episodes, the only role left for speech perception to play is an enabling role. Given his assumptions, Burge has exhausted the options. So the cogency of Burge's argument depends upon the virtue of those assumptions. I shall focus here upon the second assumption.

Recall that Burge's entitlement epistemology has the following core feature. The epistemic powers of a faculty cannot outstrip the powers of its optimal function, so that unless the optimal functioning of a faculty would guarantee cognitions with some status, the sub-optimal operations of that faculty cannot have that status. It is only because optimal functioning of a faculty can

guarantee the obtaining of conditions determinative of epistemic status that those conditions can play a role in shaping the status of non-optimal operations even where the conditions are external to—not guaranteed by—those non-optimal operations, considered independently of their optimal counterparts. In what follows, I shall argue that that feature of Burge's epistemology has as a consequence that, on the shared assumption that operations of the faculty responsible for comprehension are able to underwrite the transmission of knowledge, the optimal operations of that faculty must involve the operations of a sense-perceptual faculty. More specifically, Burge's epistemology requires that the optimal functioning of the faculty responsible for comprehension can guarantee the status of certain elements required for the transmission of knowledge partly grounded in its operations. Otherwise, the ordinary sub-optimal operations of the faculty cannot deliver elements with that status even *pro tanto*. And, as I shall argue, the requirement on optimal functioning can be met only if the faculty responsible for comprehension is a partly sense-perceptual faculty. It is a faculty whose optimal operations are the unified upshot of sense perception and the understanding, and cannot be decomposed into independent operations of those two sub-faculties.

There appears to be no difficulty of principle in understanding how items of cognition can be the unified, non-decomposable upshot of the exercise of more than one faculty or cognitive resource.

Consider, for one sort of example, Jo and Kim. Jo and Kim know how to drive to London, although neither possesses this knowledge in isolation: only Jo knows how to state directions to London; only Kim knows how to drive. We might think that, since someone might know what Jo knows without being paired with a driver and someone might know what Kim knows without being paired with a navigator, it is possible to decompose Kim and Jo's state of communal knowledge into individualistic components. However, things are not so straightforward. In the sense in which Jo's state of knowledge is separable, George also knows how to state directions to London. But unlike Kim and Jo, George speaks French. There is no way to recompose what Kim and Jo know by appeal only to the things we have said that they each know separately.[18]

Another sort of example is provided by the range of partly perceptual episodes involved in some experiences of pictorial representations. Consider, for instance, seeing some lines as a (pictured) duck, or seeing a (pictured) duck in some lines. Awareness of the (pictured) duck can rely, not only upon sensory perception, but also upon faculties of memory and imagination. But aspects of one's experience that register the representational features of the lines cannot be enjoyed independently of sensory presentation of the lines. And it is far from clear that the specific sort of experience of the lines one enjoys in seeing a pictured duck therein can be enjoyed without seeing the (pictured) duck.[19]

A third sort of example, of especial interest in the present context, is the integration, in speech perception, of sub-components of the sense perceptual faculty responsible for audition and vision. The effects of this sort of integration

become apparent, for instance, through the ventriloquist effect, wherein a heard voice can appear to emanate from the silent mouthing of a dummy.[20]

There appear to be numerous examples of types of psychological states and episodes whose most fundamental nature is constituted by the operation of what we might think of as a super-faculty composed by sub-faculties. They are not mere congeries of more fundamental types of experience or attitude. Rather, they are individuated by the combination of a single experiential or attitudinal typing—say, their typing as an episode of perception or a state of knowledge—together with a single content clause. Their distinctive feature is that their content clause marks them out—indexes them—as due to exercises of multiple faculties, each faculty responsible for only some of the aspects of their content. In short, they are fundamentally unified psychological episodes—or, as I shall sometimes say, *cognitions*—with more than one aspect. Without wishing to prejudge the question whether the various aspects of cognitions due to such integrated operations can be disentangled in any particular case, let us extend the use of 'aspect' to apply also to the products of independent operations of different faculties. It is then apparent that we can classify conceptions of episodes of comprehension along two dimensions. Along the first dimension, we can ask whether or not a conception treats episodes of comprehension as exhaustively perceptual or perceptually justified, where an affirmative answer requires that all aspects of those episodes are taken to be perceptual or perceptually justified. Along the second dimension, we can ask whether or not a conception treats all aspects of episodes of comprehension as belonging, indissolubly, to a single episode type or cognition. We can tabulate answers to the two questions as in figure 1:

| | | Are all aspects of comprehension perceptual or perceptually justified? | |
|---|---|---|---|
| | | Yes | No |
| Are all aspects involved, indissolubly, in episodes of comprehension aspects of a single episode type or cognition? | Yes | Pure perceptual model | |
| | No | Perceptual justification model | Burge's triggering or enabling model |

**Figure 1.**

As figure 1 reveals, Burge fails to consider a fourth conception, according to which an episode of comprehension is a single cognition with two aspects, the co-operative output of exercises of sense perception and the understanding. For all his argument shows, episodes of comprehension might involve the operation of distinct faculties—speech perceptual faculties and the understanding—and yet fail to decompose into elements that are the sole responsibility of speech

perceptual faculties and elements that are the sole responsibility of the understanding. On such a view, episodes of comprehension are viewed as the responsibility of a super-faculty able to recruit and integrate the operations of both sensory and intellectual faculties. And such a conception of episodes of comprehension has some independent plausibility. Consider a description of episodes of comprehension that Burge appears willing to endorse: 'We may perceive [word occurrences] as having a certain content and subject matter.'[21] Prima facie, the description applies to a single episode type or cognition—a sort of perception—involving the joint exercise of two faculties: sense-perceptual registration of words together with understanding registration of content and subject matter. But, as we have seen, Burge must reject any such characterization of the episodes of comprehension upon which the communication of knowledge depends. Since Burge holds that episodes of comprehension supply genuine elements in the entitlement of later cognitions, he must deny that later functions of those episodes depend upon their having perceptual aspects.

It is as yet unclear how Burge's positive account compares with the revealed conception, or how the latter fares in the face of his negative considerations. Over the course of the following three sections, I shall argue that the conception enjoys critical advantages over Burge's in accounting for the communication of knowledge.

## 9.

To reiterate: the question at issue is not whether comprehension invariably involves—or, even, must involve—aspects of cognition sustained by the faculty of sense perception. From the outset, I have allowed that episodes of some forms of comprehension can be free of perceptual taint. And it should be apparent, equally, that it is open to Burge to accept a role for sense perception in comprehension, so long as that role has no justificatory function. The question dividing Burge and me is the following: must the episodes of cognition delivered by the optimal, status guaranteeing operations of the faculty responsible for comprehension have perceptual aspects if they are to guarantee comprehension based elements involved in the communication of knowledge? For if an affirmative answer is given to that question, then the faculty responsible for comprehension able to sustain knowledge transmission, even *pro tanto* as in sub-optimal cases, must be a partly sense-perceptual faculty. Since Burge's account has it that the cognitions constituted through the operations of comprehension have a justificatory function in sustaining the transmission of knowledge, he is required to give a negative answer. I shall now argue for an affirmative answer: in order to fulfil their epistemic function in facilitating the transmission of knowledge from one person to another, the cognitions constitutive of comprehension must have a perceptual aspect.

To a good first approximation, the integrated account views comprehension as, in Timothy Williamson's terms, *prime*.[22] That is, the integrated account denies

that, consistently with its epistemic status, episodes of comprehension can be *factorized* into sub-episodes, with each sub-episode the responsibility either of the sensorium or the understanding. Rather, according to the integrated account, the epistemic status of episodes of comprehension depends, not only upon the proper functioning of the sensorium and the understanding, but also upon the proper functioning of a super-faculty, consisting of both sub-faculties operating in a properly integrated way.

Williamson is concerned primarily with what we might call *vertical* primeness. He argues that subject-internal and subject-external factors in some examples of environment-involving cognition must be properly integrated. To take one example, he argues that states of knowledge about the external environment cannot be factorized into subject-internal factors—perhaps including belief—and subject-external factors—including truth. Although states of knowing depend upon both subject-internal and subject-external factors, they depend also upon the proper integration of those factors, upon the ways in which the subject-internal and subject-external factors fit together. By contrast, our present concern is with what we might call *horizontal* primeness. Here, the question at issue concerns putative requirements, not on the proper integration of internal and external factors in world-involving cognition, but rather on the proper integration of the operations of different faculties involved in multiple-faculty cognition—operations that, taken individually, may or may not be vertically prime. For present purposes, it can be agreed that the optimal functioning of comprehension requires the optimal functioning of both sensory and intellectual faculties. At issue is whether, in addition, the optimal functioning of comprehension requires the optimal functioning of what is in effect a super-faculty involving both the sensorium and the understanding. The defender of Burge's triggering account of comprehension must argue that optimally functioning comprehension can be factorized horizontally into sensory and intellectual components; the defender of the integrated account must argue that this is not possible.

In a little more detail, and following Williamson's discussions of vertical primeness, we can think about the issue in the following way. A type episode of comprehension, *C*—say the type: comprehending an utterance of 'There is no largest prime'—involves the following:

(i) A pure product of the understanding, *U*: a type of episode that can be fully characterized without appeal to faculties other than the understanding.
(ii) A pure product of perception, *P*: a type of episode that can be fully characterized without appeal to faculties other than sensory faculties.

It is open to both the triggering and the integrated accounts to hold that the occurrence of a specific type of episode of comprehension of type *C* entails the occurrence of a specific *U* and a specific *P*. They can also agree that there must

be a causal connection between the $U$ and the $P$, so that for instance the $P$ causes the $U$. The accounts disagree, however, about the converse entailment.

The triggering account holds that the epistemic status of an episode of comprehension is determined just by the epistemic status of components $U$ and $P$, perhaps in conjunction with their causal connection. The integrated account holds that the epistemic status of comprehension is dependent also upon the way the faculties responsible for $U$ and $P$ work together to constitute a super-faculty: optimally functioning comprehension requires the optimal functioning of the super-faculty.

Since the integrated account holds that episodes of comprehension, given their epistemic status and function, can be prime, it holds that cases can pattern in the following way. Optimally functioning comprehension occurs in two cases, $\alpha$ and $\beta$. In both cases, since comprehension episodes entail them, episodes purely of the understanding and episodes purely of perception occur, with suitable epistemic statuses and functions to sustain optimally functional comprehension. However, at a more specific level, it is possible to distinguish the types of comprehension episode that occur. And it is possible at the more specific level for the entailed types episodes of understanding to fail to be exactly alike, and for the entailed types of episodes of perception to fail to be exactly alike.

For instance, case $\alpha$ might differ from case $\beta$ in perceptual respects due to slight differences in the volume of the target utterance; and the cases might differ in understanding respects due to different causal effects of that perceptual difference. More generally, instances of a generic comprehension episode type can vary in physical (or other) respects, so that we can distinguish more specific types of comprehension episodes. And that variation can make for failures of two such specific type of occurrence to be alike sensorily or intellectually.

Let $C_1$ and $C_2$ be two specific types of comprehension episode involving comprehension of an utterance of 'There is no largest prime'. The understanding component of $C_1$ is $U_1$; and the understanding component of $C_2$ is $U_2$. The perceptual component of $C_1$ is $P_1$; and the perceptual component of $C_2$ is $P_2$. So $U_1$ and $U_2$ are physically (or otherwise) different specific ways for the understanding component of a generic comprehension episode-type to occur; hence, $U_1$ and $U_2$ are intellectually dissimilar. And $P_1$ and $P_2$ are physically different ways for the sensory component of a generic comprehension episode to occur; hence $P_1$ and $P_2$ are sensorily dissimilar. Now case $\alpha$ involves comprehension episode type $C_1$, involving the conjunction of understanding and perceptual components ($U_1$ & $P_1$). And case $\beta$ involves comprehension episode type $C_2$, involving ($U_2$ & $P_2$).

On the assumption that these components are independent, we can now consider cases $\gamma$ that are like $\alpha$ with respect to the understanding (so intellectually dissimilar from $\beta$) and perceptually like $\beta$ (so perceptually dissimilar from $\alpha$). Thus, we can consider a case involving the understanding component of $C_1$ and the perceptual component of $C_2$, so ($U_1$ & $P_2$). Let's call this episode type $C_?$.

According to the integrated account, comprehension episodes with particular epistemic statuses are prime. Hence, on that account, it's possible for there to be such a $\gamma$ case—an episode of type $C_?$—in which no episode of optimally functioning comprehension occurs. That is, the integrated accounts holds that it is possible for there to be such a case in which no episode with the epistemic status of $C_1$ or $C_2$ occurs. To a first approximation (induced by the need to add in a causal connection between understanding and perceptual components), the defender of the triggering account must deny that such a case is possible.

Crudely, the idea here is as follows. Since $C_1$ and $C_2$ are both optimally functional, so are their $U$ and $P$ components. Hence, if the optimal function of comprehension can be factorized into the optimal function of components, plus causation, we should be able to bring together the understanding component of $C_1$ with the perceptual component of $C_2$ in order to produce an optimally functional comprehension episode type. The triggering account predicts that, so long as its components are causally linked in the right way, $C_?$ is guaranteed be a specific type of optimally functional comprehension. The integrated account denies this.

If the only function of speech perception was to trigger operations of the understanding, to cause us to entertain content, then I think the triggering account might be acceptable. But speech perception has another function: it serves to determine the identities of our particular sources, the particular sources for the contents we come to entertain in communication. And this function for speech perception is essential to knowledge transmission via testimony. As we shall see, the triggering account is unable to sustain that function.

## 10.

I shall now sketch an argument that comprehension is epistemically prime. I shall be continuing to work on the assumption that optimally functional comprehension must be sufficient, all else being equal, to underwrite the testimonial transmission of knowledge.

Let me begin with an outline of the sketch. The argument for the epistemic primeness of (epistemically optimal) comprehension has two stages. The first stage is an argument that the acquisition by a subject of knowledge via testimony requires the subject's optimal functioning to determine the identity of their sources. It is in effect an argument for the vertical primeness of chains of testimonial knowledge transmission. Consider a testimonial chain involving independent subject components and source components. It does not suffice for knowledge transmission that the source components function properly and the subject components function properly. It is also required that the testimonial chain involving subject and source functions properly. For instance, consider a case, $\alpha$, in which a subject, $A$, is optimally functioning and their source, $B$, is optimally functioning. Now consider a case, $\beta$, in which $A$ and $B$ are optimally functioning, but $A$ takes testimony from dysfunctional $C$, rather than from $B$. In

$\beta$, *A*'s epistemic status insofar as it is independent of the testimony received from *C* can be as good as it was in $\alpha$. And *B*'s epistemic status can also be as good as it was in $\alpha$. Yet, since *A* acquires testimony from dysfunctional *C*, rather than from optimally functioning *B*, *A*'s status in $\beta$ is sub-optimal. But now suppose that *A*'s optimal functioning in $\alpha$ is consistent with *A*'s being in case $\beta$—in particular, that it is consistent with *A*'s having taken testimony from *C* rather than from *B*. In that case, the optimal functioning of *A*, even conjoined with the optimal functioning of the individual who was *A*'s *de facto* source, *B*, would fail to determine that *A* was optimally functioning with respect to the cognition *A* acquired via testimony. And in that case, optimal functioning of each link in the testimonial chain would not suffice for the transmission of knowledge.

In short, something about the optimal functioning of the subject must determine that their source is one particular individual rather than any other, so that the optimal functioning of the subject is incompatible with their having another source. Determining the identity of a particular source involves (a) identifying the source using perception and (b) identifying the perceived individual as the source for the subject's entertaining of a piece of communicated content.

The second stage is an argument that the triggering account can't meet the required condition on proper functioning of testimonial chains. A subject could meet the conditions that the triggering account imposes on proper functioning consistently with the subject entertaining content on the basis of its presentation by any of a variety of sources. According to the triggering account, the subject's cognition may present an entertaining of content as derived from one or another source; but optimal functioning of the subject is compatible with that presentation of source failing to sustain knowledge transmission. That completes the outline. I shall now run through the two stages of the argument in more detail.

The first stage of argument is designed to show that testimonial knowledge transmission is possible only if the optimal functioning of some (possibly improper) part of the testimonial chain determines the identity of the source component. Let's assume an account on which the proposed condition fails and consider the consequences.

We saw above that one function of comprehension of a presentation-as-true, as of preservative memory, is to furnish its subjects with access to some extant entitlements to accept the content so presented, if such entitlements are available. We also saw that not just any extant entitlements are accessible by such a route. Being told that there is no largest prime by someone whose only right to believe it is that they have found some fairly large primes cannot furnish one with access to the entitlements of those who have proven the proposition. Rather, one gains access only to the entitlements that accrue to the cognition at the source of the presentation-as-true made available to one through comprehension.

To that extent, comprehension and preservative memory are on a par. But there are differences—differences that may be obscured by focus upon cases involving a single potential interlocutor. Unlike memory, which enables access

only to one's own prior entitlements, properly functioning comprehension can potentially provide access to entitlements residing in any of a variety of sources. Suppose that Kim and Jo both attempt to present as true the proposition that there is no largest prime. Kim's right to believe that proposition takes the form of a very weak induction, whilst Jo has proved it. In such a situation, the status of one's extended entitlement to accept the proposition through comprehension of its presentation is dependent upon which particular presentation-as-true is the source of one's comprehension. So the status of an entitlement gained through comprehension is hostage to a particular feature of the circumstance in which that comprehension is produced, the specific source to which that comprehension is responsive. Not only that, but the particular feature to which one's entitlement is hostage is a contingent feature of one's circumstance, the sort of feature that it is a proprietary function of perception to reveal.[23]

We noted earlier that preservative memory also carries information for its subject concerning contingent features of particular subject matters. And we saw that its carrying such information does not affect the epistemological classification of the cognitions it preserves. The reason for this is that the general function of a subject's memory is to provide access to only one extended entitlement, that accruing to the subject's own earlier cognition. Hence, the proper function of an exercise of preservative memory determines, independently of features of the circumstance extrinsic to the memorial cognition or features specific to that particular cognition, the particular source of the extended entitlement to which it allows access. Since the Acceptance Principle presupposes an a priori entitlement to rely upon the proper function of cognitive resources and faculties, it sustains an a priori entitlement to presume upon its deliverances having a source in one's own earlier cognitions. It serves, thereby, to provide a non-empirical link with one's own extended entitlement despite the fact that, in so doing, it carries information about a particular, contingent subject matter.

By contrast, the function of the understanding in facilitating the interpersonal preservation of entitlement fails to determine which particular extended entitlement its operations preserve. The understanding may function perfectly in delivering to one cognizance of a presentation-as-true sourced either with Kim or with Jo, or indeed with anyone else. In the case of comprehension, then, the reach of a priori entitlement is limited to sustaining a right of access to whichever extended entitlement happens to reside with its source. Which source that is, and hence which extended entitlement, is beyond its purview. Of course, the Acceptance Principle provides an entitlement to presume upon the proper functioning, hence entitlement, of one's interlocutor, whoever they are. The present point is only that which person the cash value of that transpersonal entitlement depends upon, hence which extended entitlement, cannot be fixed by the proper functioning of the understanding.

In assessing the present account with respect to the first stage of the argument, let us begin by reverting once more to the analogy with memory. In that case, it is indifferent whether we view what fixes one's source as a suitable

sort of causal connection or rather as the properly functioning perspective of the subject. This is because both potential determinants converge on a single source, the subject themselves. As we have seen, the case of communication is quite different. Here, each of the various presentations that the subject comprehends may have a different causal pedigree. But nothing in the subject's own perspective discriminates the sources of those various presentations. From the subject's perspective, it is as if each presentation has the same source. In effect, the account makes the subject's perspective on communicated presentations an outward-facing analogue of memorial, or otherwise first-personal, presentations: for the subject, it is as if each of her presentations is either received, so communicated from without, or self-initiated. No more fine-grained discrimination need be made available to them by the optimal functioning of the faculty responsible for comprehension.

The potential divergence between perspectival determination of source and merely causal determination of source—that is, between determination that is internal, and determination that is external, to optimal functioning—might not matter in a world in which interlocutors were guaranteed to function perfectly. In such a world, any presentation-as-true received by a subject would have the same epistemic status—would be knowledgeable—and the only epistemic differences between sources would reside in their knowledge or ignorance of particular facts. There would be no risk, for example, of conflict amongst the deliverances of comprehension and, so, of a need to privilege some of those deliverances over others. In a world like that, distinctions amongst sources would be irrelevant to the status of the various extended entitlements one gained access to via comprehension. But our world is not like that. In a world like ours, populated by interlocutors that can be faulty or capricious, responsible epistemic practice often demands sensitivity to epistemic differences amongst one's sources. Unlike the inhabitants of a world of epistemic angels, we are in some danger of being confronted, through comprehension, by conflicting presentations. For our purposes, then, it is crucial that we should be able, at least in principle, to differentiate our sources and, where appropriate, exploit sensitivity to conditions defeating an initially global presumption of trust in order to privilege one source over another.

In order to fix ideas, assume that the optimal functioning of the subject fails to determine the identity of their source and consider the following over-simplified cases. First, assume normal conditions of access to the sources of presentations and consider the following pairs of cases. In case $\alpha$, one hears Jo say that there is no largest prime and one hears Kim say that there is a largest prime. One's initial entitlement to accept what both Jo and Kim present is undermined. But one is in a position to assess one's sources. In particular, one is in a position to see whether one's *pro tanto* entitlement to accept the presentation of either source is subject to defeat and so to regain entitlement to accept the other source's presentation. In case $\beta$, one hears Jo say that there is no largest prime and then say that there is a largest prime. In this case one's initial

entitlement to trust Jo is undermined. But in this case, there is no question of exploiting conditions defeating one's entitlement to trust Jo in order to win back one's entitlement to trust Jo. Of course, that assessment is too simplistic; there are various ways of differentiating the statuses of different presentations stemming from the same source. But the structural point survives into more realistic cases.

Second, then, assume that the particular sources of different received presentations are inaccessible from one's perspective—that is, that they are not determined by one's optimal functioning. It should be obvious that if one were in those conditions, then it would be for one as if one were in a case like $\beta$ whether or not one were in fact in a situation like $\alpha$. There would be no way for one to exploit conditions defeating one's entitlement to accept a presentation in order to regain entitlement to accept the other deliverances of receptive comprehension. Within the simplified conception of cases we are currently working with, the following situation is possible. One's comprehension faculty is functioning perfectly, so that its products reveal to one genuine presentations-as-true. One comprehends a presentation-as-true by an impeccable source so that, were one in a position rationally to accept that presentation, one would thereby acquire knowledge. Yet one also comprehends a conflicting presentation and so, because one has no means of differentially assessing the two presentations, one cannot attain a position in which one is entitled to accept either. One's own faculties are functioning perfectly and so are (one of) one's interlocutors'. From the perspective of the present account, one is in the optimal position sustained by the functions of internal and external components of an extended entitlement. In spite of this, one's principled ignorance of source renders one unable to exploit that position.

The structural problem here is due to the way that the account we are considering decomposes an extended entitlement into internal—subject-centred—components and external—interlocutor-centred—components, so that only a causal connection holds the components together. Still assuming these conditions, consider another case. Jo is perfectly functioning and knows that there is no largest prime; Kim functions imperfectly and, while believing the proposition, does so on poor inductive grounds. Both Jo and Kim attempt to present one with the proposition that there is no largest prime. One's comprehension faculty works perfectly, and delivers to one the right presentation. As luck would have it, the causal source of one's comprehension of the proposition that there is no largest prime is Jo's attempt, rather than Kim's. Hence, on an account that sustains the factorization of testimonial chains into subject and source components, one should be in a position to know that there is no largest prime. But compatibly with the perfect functioning of the internal component of one's extended entitlement—one's comprehension faculty—and the perfect functioning of what is, in fact, the external component of one's extended entitlement—Jo's understanding, reason, and presentational faculties—one might easily have lacked the extended entitlement one in fact possesses. For it might easily have

been the case that Kim's presentation trumped Jo's in serving as the causal source of one's comprehension. At the centre of Burge's optimal function based epistemology, causal happenstance, external to the optimal functioning of the faculties involved, would be required to play a critical role.[24]

That completes the sketch of the first stage of argument for the horizontal primeness of comprehension: the testimonial chain consisting of the source of testimony and the subject who aims to acquire knowledge from that testimony cannot be factorized into independent components. Rather, something about the participants in the chain, and their interaction, must determine the identity of the chain, by determining the identity of the source. Plausibly, responsibility for this resides with the optimal functioning of the subject. The second stage of the argument is designed to show that the responsibility cannot be met according to the triggering account of optimal functioning. I shall begin by outlining how the integrated account can meet the required condition.

The integrated account sustains the following account. Comprehension derives from the operation of a super-faculty involving both perception and the understanding. Optimal functioning of the super-faculty determines an association between a speech episode and an entertained content, an association fixed by the episodic output of exercises of the super-faculty. If the super-faculty responds to *A*'s assertion by enabling a cognition associating *A*'s utterance with the content that *A* thereby expressed, then it is incompatible with the optimal functioning of the super-faculty that the understanding component—the subject's entertaining of the content that there is no largest prime—was derived from *B*'s assertion. Determination of source is fixed, first, by optimal function of perception and, second, by optimal function of a super-faculty involving perception and the understanding. Perception serves to identify a particular individual as source; the super-faculty informs the subject that the perceived individual is responsible for the content that they come to entertain through comprehension. The outputs of the super-faculty are cognitions to the effect that that particular utterance gave expression to a particular entertained content, perhaps taking the form of knowledge that that utterance expressed this content. To be sure, puzzles remain concerning the way in which sensory perception underwrites the identification of particular sources, and the proper characterization of integrated outputs.[25] But there is no immediate reason to think that these puzzles indicate problems of principle rather than questions of detail. How does Burge's triggering account fare with respect to the determination of source?

I shall assume, for reasons sketched in the first stage of the argument, that the understanding cannot, without supplementation from sensory perception, determine the sources of the presentations-as-true whose entertaining it enables. However, the triggering view has a variety of other resources at its disposal. In particular, the triggering account can appeal to the individual optimal functioning of sensory perception and the understanding, respectively, in order to cope with some types of problem case.

Consider a first problem case, involving an operation of one's understanding induced by a sensory hallucination as of an appropriate source, but where there is no appropriate external source.[26] Suppose, for instance, that one hallucinated an utterance of 'There is no largest prime', perhaps at the end of a very long mathematics conference. Here, there would be no genuine source for the operation of the understanding, which would therefore trivially fail to sustain the transmission of knowledge. And yet the imagined case might appear to be one in which one's faculty of understanding is optimally functioning, so that at the very least, the functioning of sensory perception would have to play a role in determining the epistemic status of the output.

However, it is plausible that the triggering account has the resources to respond to this type of case without appealing to the status of sensory functioning. It is at least consistent with the triggering account that the only power of sensory perception that the understanding lacks is the power to determine for the subject the particular individuals and properties with which they are confronted. So, although the proper functioning of the understanding cannot sustain the identification of any particular source, since that would be a perceptual task, it can involve accurately depicting the presentation of content by *an* appropriate source. That is, it is open to the triggering account to view the optimal functioning of the understanding as determining whether or not there is at least one suitable presentation of content to which its operations are responsive. Hence, the triggering account has the resources to show that an entertaining of content based upon this sort of perceptual hallucination would involve a malfunction, and in particular a malfunction of the understanding.[27]

The triggering account also has resources to deal with a second sort of case. Suppose that the operation of the understanding, the entertaining of content, was induced by a *veridical* perceptual hallucination? That is, suppose the subject has a hallucination as of an individual uttering 'There is no largest prime' and, on the basis of that hallucination, entertains the content. And suppose that, in fact, the hallucination was caused, via some tortuous route, by someone's uttering the words 'There is no largest prime'. In that case, we could not trace the problem to a malfunction of the understanding, since there was in fact an appropriate source, and yet it would be a case in which the source was not determined in an epistemologically appropriate way.

Again, the triggering account has resources to deal with this sort of case. The triggering account is allowed to appeal to the optimal functioning of each of the faculties responsible, causally or constitutively, for episodes of seeming comprehension, considered independently of their roles in the system as a whole, or a super-faculty thereof. In this case, the episode of seeming comprehension was triggered by the operations of the sensorium, via a sensory hallucination. And although such hallucination need involve no malfunction in the understanding, it would obviously involve a perceptual malfunction. So, the triggering account has the resources to deal with the second sort of case.[28]

The capacity of the triggering account to cope with the first two cases depends upon its being possible to trace the malfunctions involved in those cases to malfunctions in the operations of one or another of the individual faculties involved in the production of seeming comprehension. That suggests that we might be able to present a problem case of a similar sort involving the connections between the understanding and perception such that the triggering account cannot explain the malfunction it involves.

Let's call any piece of perception or cognition that fails to be suitably (i.e. epistemically) responsive to its causal source an hallucination. There appears then to be space for a purely *intellectual* hallucination. This would involve the understanding producing an entertaining of content (as though received from perceived speech), but where that entertaining was insensitive to operations of perception in something like the way that perceptual hallucination is insensitive to the external world. Of course, if no appropriate source were present in the subject's environment, then this would amount to a malfunction in the understanding. And as we have seen, the triggering account has the resources to deal with cases that can be traced to such malfunction. However, *veridical* intellectual hallucinations also appear to be possible. These would be intellectual hallucinations wherein an entertaining of content in fact responded to the expression of that content in the environment, and perhaps to the sensory perception of an utterance that expresses that content, but in a way that was insensitive (or insufficiently sensitive) to the particular perceptual cause of the entertaining. Perhaps, for example, such cases might involve veridical perception of an appropriate source together with an appropriate entertaining of content, but where the perceived source diverged from the causal source of the entertaining. For instance, if we follow Burge in allowing that an entertaining of content might be caused in a way that bypasses the typical perceptual route, we might construct such a case by simply reinstating perceptual access to the causal source, without fixing up an appropriate connection between the perception and the entertaining. And intellectual hallucination of that sort would be consistent with optimal functioning according to the triggering account, since it would be consistent with perfect sensory and intellectual functioning. But then optimal functioning would be consistent also with the entertaining having any of a variety of perceived, or non-perceived, sources. Hence, it would be consistent with a failure of optimal functioning to determine the particular source of the entertaining and so, given the first stage of the account, with a failure to acquire knowledge from testimony in conditions of optimal functioning at all links in the testimonial chain.

That completes the sketch of the second stage of the argument and so the argument as a whole. In the context of an account of epistemology based upon optimal functioning, the upshot is that episodes of comprehension suitable to underwrite ordinary cases of testimonial transmission of knowledge—suitable, that is, independently of special epistemic crutches like inductive inference—are prime. Their epistemic status cannot be factorized into the independent statuses of intellectual and sensory components.

Thus far, I have been working on the simplifying assumption that optimal functioning of a faculty ought to supply a guarantee of maximal epistemic status (so, for instance, must guarantee truth in order to guarantee factive epistemic statuses like knowledge). However, the basic complaint against the triggering account is structural, and so survives into a variety of alternative conceptions of optimal functioning. For instance, it is a fairly straightforward matter to show that a recipient of testimony and the causal source of that testimony can both meet reliability or safety conditions with respect to their functioning independently of their involvement in any particular testimonial chain while the recipient fails to meet those conditions with respect to beliefs acquired through the testimony, due to a lack of reliability or safety in their connection with the reliable source. One sort of case would involve a recipient of knowledgeable testimony who might easily have taken testimony from a competing source whose testimony was unreliable or non-veridical. Similarly, it is a fairly straightforward matter to show that a subject's sensory and intellectual faculties might be individually reliable whilst their joint operation was unreliable. For instance, the subject might reliably track the production of speech sounds and reliably entertain contents presented as true, and yet be unreliable with respect to the association of speech sounds and presented contents. One sort of case would involve a subject whose normal perceptually based sensitivity to contents expressed in English was easily trumped by a non-perceptual sensitivity to presentations in French, so that in situations involving competition between potential English speaking and French speaking interlocutors, they would take contents presented in French to have been presented by English utterances. The issues here warrant further discussion, but I do not think that the discussion would materially affect the conclusion of the argument.

The upshot of the argument is that faculty operations that are able to subserve elements of cognition required for knowledge transmission must involve the operations of a sense-perceptual faculty. Hence, operations with that status even *pro tanto* must be operations of a partly perceptual faculty. Due to the partly perceptual nature of their source faculty, the cognitions delivered by that faculty are therefore partly sense-perceptual.

## 11.

How did Burge arrive at an account that allows for the sort of fracture within a subject's extended entitlement detailed above? A natural diagnosis would be divided attention. Burge's overall account gives his Acceptance Principle two applications: first, in entitling one to accept as genuine putative presentations-as-true; and second, in entitling one to accept genuine presentations-as-true. Individual attention to either application does not require one to consider how they fit together. Speech-perceptual aspects of episodes of comprehension have no obvious function in either application of the Principle. A central function

of the perceptual aspects, I have argued, is to integrate the applications. Hence, blinkered attention to individual applications of the Principle would not reveal the epistemological function of the perception of speech.

Consider, in this light, Burge's four negative arguments against perception-based models of comprehension. First, it should be obvious that Burge's argument against a pure perceptual model has no force against the integrated model of comprehension. Second, the force of Burge's thought experiment, based around speech-blind comprehension, depends ultimately, as noted earlier, upon whether, and in what ways, the epistemological functions of episodes of comprehension require them to involve sensory aspects. Isolated consideration of episodes of comprehension can fail to reveal such a function. Hence, from that perspective, the case Burge asks us to consider can seem genuinely possible. It is only when one considers the role of comprehension in facilitating the communication of knowledge that the functional poverty of comprehension in the case that Burge presents is revealed.

Third, there is the consideration that functional comprehension can withstand perceptual malfunction. As a version of Descartes' observation, the consideration is ineffective because sub-serving communication requires only perceptual registration of a speech episode, not revelation of its detail. As an observation about the non-perceptual function of comprehension, the response to Burge's thought experiment stands. Some, though not all, functions of comprehension, are indifferent to perceptual performance.

The fourth consideration, the insouciance of ordinary epistemic practice, actively supports a partly perceptual model. Suppose that one were to ask how Kim knows that George would prefer Adnams, perhaps being open to the answer: George told her. Then—unless one was in the grip of the idea that any perceptual episode must be exhaustively so—one might find both illuminating and satisfying the answer: She *heard* (or *saw*) him say it.

## 12.

I have argued that the knowledge preserving function of comprehension requires that the episodes of cognition constitutive of comprehension have a dual nature: they are products partly of the understanding and partly of sense perception. I have *not* argued that the function of speech perception is to supply justificatory elements in the extended entitlements to which episodes of comprehension provide access. That result is the upshot of a particular feature of Burge's account, about whose credentials I am neutral. On Burge's account, comprehension supplies essential elements in an extended entitlement. So, if Burge were to accept the conception of comprehension presented here, without amending other elements of his overall account, he would be forced to allow that sense perception is implicated, through its role in the constitution of episodes of comprehension, in supplying elements with justificatory force. He would have

to accept that the transmission of a priori knowledge as a priori is not possible except, perhaps, amongst angels. Nonetheless, my basic disagreement with Burge does not concern the justificatory role of perception in communication, with respect either to episodes of comprehension or to later cognitions that gain their epistemic status through comprehension. Our basic disagreement concerns the nature of episodes of comprehension able to function in knowledge transmission: I have argued, while Burge denies, that such episodes are partly the work of sense perception.

As noted at the outset, there may be a way of retaining much of the overall architecture of Burge's account compatibly with a partly sense-perceptual conception of comprehension. Rather than viewing episodes of comprehension as adding to the justificatory force of an entitlement that they help to constitute, one might try for an account on which the function of those episodes is itself preservative. I have insufficient space to pursue such an account here. But I want to conclude by noting two points in its favour.

First, we are already in the market for a distinction between access conditions—a form of enabling condition—and elements in an entitlement. With the distinction in hand, no obvious difficulty attends treating comprehension as part of an access condition. Of course, the propositional content so comprehended does form part of an entitlement, the entitlement to which one's interlocutor has access. Hence, according to an access condition conception, the propositional content itself might be thought of as possessing a dual role, as both inlet to, and constituent of, an entitlement. But it would be a mistake to think that that duality—or better, neutrality—must impact upon the function of particular cognitions with that propositional content. In particular, an episode of comprehension may have only the access role with respect to a subject's engagement with a particular entitlement, despite the comprehended content itself playing other roles.

Second, there are independent reasons, given Burge's characterization of justificatory involvement in an entitlement, for refusing to give comprehended elements such a role. According to Burge, an element forms part of an entitlement only if it plays an essential role in constituting or enhancing the justificatory force of that entitlement. But, in that case, to suppose that comprehension supplies for a subject elements that constitute or enhance the force of their entitlement—in any sense except the trivial one involved in thinking of epistemic role as a feature of propositional contents in the abstract—is to suppose either of two things. It is to suppose either, first, that in the absence of the comprehension, the entitlement was incomplete or, second, that the comprehension enhanced the force of the entitlement. The first supposition is incompatible with one's interlocutor possessing an adequate entitlement—i.e., knowledge; the second is incompatible with comprehension putting one in an equal, or lesser, epistemic position than one's interlocutor. Since neither consequence is acceptable, I hazard that comprehension may sometimes have a solely preservative function.[29]

## Notes

1. This is a common theme in the work of modern philosophers. See e.g. Berkeley, 1993: IV; Reid, 1997: passim. See also Locke, 1979: bk. II, ch.ix, sect. 9. For an excellent recent discussion of Descartes' view on the role of the sensorium and intellect in perceptual cognition, see Simmons, 2003. For discussion of empirical aspects of the phenomenon to which Descartes draws attention see Coltheart, 1999.
2. See Longworth, 2008, where I assume that ordinary understanding must involve awareness of such associations.
3. For useful discussion of Burge's view, see Bezuidenhout, 1998; Christensen & Kornblith, 1997.
4. I shall use 'speech' and its analogues as a cover term for the expression of thoughts, etc., by articulate action, including signing and facial contact, so that sensorily perceiving here may be a matter of hearing, seeing, or feeling.
5. I follow Burge in distinguishing between entitlement and justification. Both an entitlement and a justification consist of elements essential to the epistemic status of a piece of cognition. But elements of an entitlement, unlike a justification, need not be available to the subject in order that they possess the status it constitutes.
6. I should emphasize that Burge hopes to secure only the possibility of this sort of comprehension consistently with knowledge transmission. He does not hold that entitlements to all instances of comprehension are free from sense-perceptual elements.
7. See especially Burge, 2003a: 532–37, 2003b: 307. For discussion, and defence, of this approach to a restrained Externalism, see, e.g., Dretske, 2000; Peacocke, 1999, 2002; Plantinga, 1993a, 1993b; Sosa, 1991; Williams, 2000.
8. In addition to earlier references to Burge, see his 2003a for extended discussion of subjects' entitlement to presume upon the proper function of their faculties.
9. Or, perhaps, some*thing* if Burge is right about knowledge acquired from certain types of computer. See his 1998a.
10. For discussion, see Edwards, 2000; Faulkner, 2000.
11. I follow Burge in distinguishing between a subject's full entitlement for a piece of cognition, including contributions made by their own past, or other subjects—what Burge calls the subject's *extended* entitlement—and the subject's own *proprietary* contribution to their possession of that entitlement. See e.g. Burge, 1998a: 5–6.
12. Edwards, 2000: 130.
13. For discussion, see Burge, 2003b; Wiggins, 1992, 2001: 198–244; Martin, 2001.
14. As Burge points out, we need not view what I have labelled transitions as genuine psychological acts: '[engaging]. . .commitment involved in. . .belief is not necessarily an act, but rather the absence of a withholding of belief.' (Burge, 2003a: 542)
15. For additional arguments against inferentialist views, see McDowell 1980, 1998a, 1998b; Recanati, 2002. For some defensive discussion, see Dummett, 1986, 1987.
16. For empirical discussion of some cases of putative comprehension without conscious awareness of signal, see Potter, 1999; Saffran & Martin, 1999.

17. Burge attempts to account for the availability to the subject of this distinction through their capacity, through intellection, to tell whether they are the agent of a particular presentation. See Burge, 1998a: 18; 1998b: 262–70 and O'Brien, 2005.
18. For discussion of whether knowing how should be thought of as a form of cognition, see Stanley & Williamson, 2001; Rumfitt, 2003; Snowdon, 2004.
19. For discussion of this sort of experience, and the indissolubility of its aspects, see Wollheim on seeing-in, in his 1980, 1987, 2003, and also Walton, 1990.
20. Such effects appear to play a crucial role in ordinary speech perception. See Massaro, 1998.
21. Burge, 1993a: 478.
22. See Williamson, 1998, 2000, 2006.
23. As Burge puts it,

> The point and function of the perceptual system is to put the perceiver in touch with particular situations, particular objects or events, or particular instances of properties or relations. (Burge, 2003a: 523)

For discussion of this function of perception, see Burge, 1986, 1993b, 2005; Brewer, 1999; Martin, 2002; McDowell, 1986; Soteriou, 2000.

24. It would, of course, be possible to add purely Externalist—e.g. reliabilist—elements to the system in order to shore up the division between internal and external components. In the present context, the move would be inefficacious: absent reason to think that sensorily based belief is subject to different requirements, we would lose the ability to distinguish it from comprehension. And, anyway, for three reasons such a manoeuvre should be made only as a last resort. First—a *prima facie* ad hominem point—, Burge's deployment of the Acceptance Principle, in order to underpin rational dependence upon proper function, forms part of an attempt to domesticate such Externalist requirements, to bring them within the purview of norms fixed by the natures of psychological and epistemological kinds. See especially Burge, 2003a: 532–37; 2003b: 307. So allowing purely Externalist factors to play a fundamental role in the system would be in serious tension with Burge's basic project. Second, the recent history of epistemology supports the view that Burge's project is, to that extent, well motivated. It is far from obvious that epistemic goods can be reconstructed solely on the basis of independent, Externalist notions of reliability, safety, and their ilk. Philosophers have thus far been unable even to provide clearly acceptable reconstructions of the relevant external standards. And even partial success on that score has been marred by widespread concerns about the capacity of those external standards to reconstruct, without some form of Internalist supplementation, the genuinely epistemic goods that they condition. Third, the availability of a more Internalist account of the integration of internal and external elements based around materials made available in our ordinary comprehension of content renders the manoeuvre otiose.
25. For discussion of some complexities on the sound side, see Nudds, 2001.
26. See Christensen & Kornblith, 1997.
27. Cp. Burge, 1997.
28. Cp. Burge, 1997.

29. Thanks to Thomas Crowther, Ken Gemes, Susan James, Mark Eli Kalderon, Tony Marcel, Christian Nimtz, Milena Nuti, David Papineau, Sarah Patterson, Greg Scherkoske, Gabriel Segal, Scott Sturgeon, Barry C. Smith, Neil Smith, and Mark Textor for discussion. Thanks also to audiences at a joint session of the SPP and ESPP, Barcelona, including Francois Recanati and David Owens, and a Departmental Seminar at Bristol University, including Alexander Bird, Jessica Brown, James Ladyman, Finn Spicer, and Andrew Woodfield. Special thanks to Jennifer Hornsby, Hemdat Lerman, and Matthew Soteriou for extended discussion.

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