The Hierarchy of Empirical Defeasibility

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The last fifty years have seen an explosion in the depth of epistemological inquiry, and even a glance at the literature reveals an extensive variety of –isms. This flood of scholarship has come partly as a response to Gettier's 1963 salvo, which awoke epistemology from the "dogmatic slumber" of justified true belief. Gettier showed that the traditional justified true belief analysis of knowledge was not adequate in many common cases; since that time philosophers have expended immense effort in trying to assemble a tenable analysis of knowledge, but the resulting epicycles have made frustratingly little headway.

Symptomatic of this standstill is the brief lifespan of many epistemic analyses, which are meant to be comprehensive theories but most often devolve into general epistemological concepts. New theories of knowledge depending on causality, reliability, defeasibility, and other concepts attempted to answer Gettier, but none really proved sufficient.[1] While none of these theories won the day entirely, philosophers realized their utility and incorporated them into the body of generally accepted epistemological concepts. We can therefore speak of the causal ancestry of a belief without committing ourselves to a causal theory of knowledge, or of the reliability of a belief-producing process without professing reliabilism. While they did

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[1] While I realize that these theories still have adherents and defenders, my argument is that they are not sufficiently unproblematic as to convince the majority of philosophers to accept them as a final analysis.

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not fully analyze knowledge, these theories identified important, previously unnoticed epistemic concepts.

However, even these concepts require significant clarification before they can be marshaled in an argument. In this paper, I propose to discuss the relationship between perceptually justified beliefs and defeasibility. Before I do, however, I must clarify the senses in which I use the terms "defeasibility" and "perceptually justified," because the strength and importance of my argument depend on the way in which I use these concepts.

Though defeasibility is in fact a single concept, we can speak of it in two main ways. The first is as part of a theory of knowledge. Such theories usually analyze knowledge as a conjunction of justified true belief and some defeasibility condition. The second way is as a general concept, neutral toward competing analyses of knowledge. I intend to use defeasibility in the second sense. I thus construe defeasibility as the concept according to which one justified belief can be defeated by another justified belief. Defeaters are either *overriding* or *undermining*. An overriding defeater for a justified belief P is a justified belief that not-P. An undermining defeater for a belief P is a justified belief that the source of the justification for P is defective.[2] I take this definition and the claim that defeasibility can be a general epistemological concept to be relatively noncontroversial, and I make no move to argue that the correct analysis of knowledge involves defeasibility.

Explaining the relevant sense of "perceptually justified" is more difficult, however, because attempting to define epistemic justification is a notoriously thorny undertaking. Nevertheless, the concept does have a broad, intuitive sense, which I will employ here. I choose the broad sense for two reasons. The first is that I do not wish to face the minefield of providing my own definition. The second is that, by using the broad sense, I can ensure that the results of my argument are due to the force of my argument alone and not to some anomalous conception of justification. The same is true for defeasibility. By using noncontroversial notions of both concepts, I can be confident that any results will come solely from my own argument.

The broad sense of justification characterizes it as a reason or set of reasons that support a belief. We therefore say that the *justification* for a belief P is the evidence which we have for P, and that the evidence for P *justifies* P. We also say that a belief P is *justified* by source A just in case A is a set of reasons epistemically relevant to P (Casullo 106). Here, "epistemically relevant" means that the set of reasons in A actually give one a good reason to believe P. Of course, in merely clarifying the broad sense of justification,

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[2] For more on these distinctions, see Casullo 66. Philosophers have proposed other names for the two kinds of defeaters, but "overriding" and "undermining" are currently the most common.

I have introduced several potentially volatile concepts—philosophical rigor cries out for articulations of "support," "evidence," and "epistemically relevant to *P*." I will forego these articulations, however. The aim of my argument is not to analyze knowledge or even to enter that debate directly; I wish only to uncover several nonobvious aspects of empirical defeasibility. For this purpose our intuitive concepts will be sufficient. Note that perceptually justified beliefs are a subset of empirical beliefs. Nonperceptual empirical beliefs are those justified by testimony, memory, or other nonperceptual empirical sources.

The last term in need of clarification is "perceptual justification." Although it is certainly a form of empirical justification, we need to distinguish perceptual justification from other empirical justifications such as testimony and memory. Therefore, we say that a *perceptual justification* for a belief *P* is a reason or set of reasons which support *P* and whose supportive content consists of information acquired directly from one or more of the five basic sensory modalities. A source whose supportive content consists only of information thus acquired *perceptually justifies P*. We also say that a belief *P* is *perceptually justified* by a source just in case that source is a set of reasons that constitute a perceptual justification for *P*.[3]

The final preliminary question is whether perceptually justified beliefs are inferential—that is, whether they are inferred from some other proposition. I will here assume the *non-inferential thesis*, which states that perceptually justified beliefs are direct and not inferred from some other proposition. The non-inferential thesis claims, among other things, that the beliefs

(P1) I am appeared to in a chair-like way

(P2) I see a chair

are essentially equivalent. This thesis is also fairly noncontroversial. Later in my argument I will show that the inferential possibilities from (P2) are limited, which exposes similar beliefs to various empirical defeaters.

Thus settled in, I introduce my argument. I propose to discuss the relationship between perceptually justified beliefs and defeasibility. Happily, we already see at least one relationship between them—I defined defeasibility using the concept of justification. This is exactly the relationship I wish to explore. More specifically, I wish to examine several examples of perceptually justified beliefs and their interaction with empirical

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[3] In this definition of perceptual justification, I have left open the possibility that a belief *P* can be epistemically overdetermined—*P* may be justified both by perceptual and by nonperceptual sources. In this paper I am interested only in perceptually justified beliefs and so restrict the domain of possible beliefs to those which are only perceptually justified.

defeaters. Contemporary epistemology seems to have taken these relationships for granted by relying on apparently intuitive standards of justification when evaluating the strength of empirical defeaters. I hope to more thoroughly parse and explain these interactions. However, my argument should not be understood as offering a complete theory, which would provide a comprehensive list of information types with the experience kinds that produce them. It would also give a complete account of the defeasibility relationships between perceptually justified beliefs and other empirically justified beliefs. This paper, on the other hand, offers only an introduction to a more rigorous theory of defeasibility and a direction for future research.

In the course of my argument it will also become clear that epistemic categories such as "empirical defeaters" or even "perceptually justified beliefs" may be too broad to be useful. I will offer a new way to organize some of these beliefs. My arrangement is based on the unique sensory capacities of human beings and the types of information those capacities generate. This arrangement classifies perceptually justified beliefs by information type, and each information type will both produce and be subject to particular epistemic defeaters. The ultimate result is a greater understanding of the defeasibility relationships among empirically justified beliefs.

Visually Justified Beliefs and Defeasibility

My argument proceeds through three defeasibility cases. By isolating one sensory modality, these cases show what is unique about that modality and the epistemic ramifications of this uniqueness. The first case deals with vision, the second with hearing, and the third with touch.

To begin, suppose that S is a man with normally-functioning sensory capacities which he has no reason to believe are faulty. S stands with eyes closed facing an object ω in the center of a room from a particular viewpoint V_1. Upon opening his eyes, S looks at ω briefly without moving his head or making a saccade.[4] He seems to see a vase and forms belief (1): "I see a vase." S now moves with eyes closed from V_1 to a different viewpoint—V_2—and looks at ω again in the same manner. After seeming to see a birdbath S forms belief (2): "I see a birdbath." S moves with eyes closed again, this time to V_3, and looks at ω in the same way. S then forms belief (3): "I see a table."

Let us analyze this situation. S has formed three beliefs, all of which are non-inferential.[5] Since the supportive content of each is perceptual

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[4] A quick movement of the eye that occurs without moving the head.

[5] I will omit mention of the inferential status of these beliefs in following examples.

and S's sensory capacities are functioning normally, all three beliefs are perceptually justified according to the criteria I proposed. Now (2) is also an overriding defeater for (1) because it justifies a corollary belief that not-(1). But (3) is an overriding defeater for (2) since it justifies a similar belief that not-(2). S knows that ω cannot be a vase, a birdbath, and a table, so S retains (3), rejecting (1) and (2).[6] But what reason has S for selecting (3) above (1) or (2)?

Our intuition is that S ought to discard both (1) and (2) because they were justified using less information. Belief (3) has the advantage of information gained from V_1 and V_2 in addition to V_3, so it must somehow enjoy a more robust justification. Here we see, for the first time, an intuitive standard according to which we can measure justification. Justification seems to strengthen as its content expands. Since the justification for (3) incorporates the justifications for (1) and (2), belief (3) seems better justified for S, and so he ought to reject (1) and (2).

At least, that S must retain (3) while rejecting (1) and (2) is our intuition; however, I argue that the perceptual justifications for (1), (2), and (3) are of equal strength and that S has no greater reason to retain (3) than he does to retain (1) or (2). Suppose that S moved to a new viewpoint V_4 and looked at ω again. Depending on the visual information gained from V_4, S would have either a justification for a new belief (4) or a stronger justification for (1), (2), or (3). The same process would hold for V_5, V_6, V_7, etc. The information gained from each distinct viewpoint would justify a new belief or a previously defeated belief. This means that S would have no reason to choose (3) over (1) or (2), since the corresponding overriding defeaters are such that they can defeat both earlier and later beliefs in the series. The key is that, with added information, belief (4) *might* defeat (3), but S has no way of knowing this conclusively.

Obviously this process cannot continue forever. In the course of S's viewing ω from viewpoints V_1, V_2, V_3 . . . V_n, n would quickly get so large that S would see ω from nearly every possible viewpoint. At V_n S would form a terminal belief (N) which integrated all of the visual data from the series of viewpoints V_1–V_n. (N) would be an overriding defeater for all preceding beliefs not equivalent to (N), but no preceding belief could be an overriding defeater for (N). At this point, our intuition is that S would have a good reason to retain belief (N) and to reject all other beliefs justified by data from V_1 to V_n–1. S would indeed have a good reason to retain (N), but not because of the defeasibility relationships among beliefs (1)–(N). Rather, he has good reason because the visual experience S has of ω when looking

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[6] Utilitarian considerations about the possibility of using ω as a vase, a birdbath, and a table are not at issue here. S is trying to identify the object, not speculate on the variety of its uses.

from V_1 is different in kind from the visual experience S has of ω when looking from all points in the series V_1–V_n. Call the kind of visual experience which justified beliefs (1)–(N−1) *flash vision*. Further, call the kind of visual experience that justified (N) *spherical vision*.[7] (N) is not defeasible by any justified belief (1)–(N−1) because beliefs justified by spherical vision cannot be defeated by beliefs justified by flash vision. Defeasibility relationships of this variety cannot cross these particular boundaries.[8]

This leads to my first substantive theses. I propose the following:

> (T1) Each sensory modality produces distinct experience kinds.

We have seen that experience kinds are epistemically meaningful because of the defeasibility relationships among them. In fact, the defeasibility relationships are consequences of the different information types produced by experience kinds.

> (T2) Each experience kind produces distinct information types.

Information types form the content of perceptually justified beliefs. They can be weak or strong. Consider the information type produced by flash vision: one image of an object ω from a single viewpoint. While many objects are recognizable with this limited information, many are not. In contrast, spherical vision produces a complete visual profile of ω and can lead to one of two outcomes—S's correctly identifying ω or S's experiencing a new object ω. This correct identification would be part of a new belief or, what is more likely, it would confirm a previous belief. The information type produced by spherical vision is distinct from and stronger than the type produced by flash vision. We have already seen this in (N)'s being indefeasible by any preceding belief in the series. We can formalize this observation:

> (T3) Certain perceptually justified beliefs are indefeasible by certain others.

(T3) is noncontroversial and matches our intuition about perceptually justified beliefs—later, I will show the more interesting result of *which* perceptu-

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[7] Although these characterizations call to mind J. J. Gibson's distinction in his book *The Ecological Approach to Vision*, unlike Gibson, I am concerned not with biological capability or psychology, but with epistemic consequences.

[8] One might object that spherical vision and flash vision are not different *kinds* of experience in the way that cats and dogs are different *kinds* of animals. That they are different kinds should not be understood so strictly here; the crucial distinction is that the types of information provided by these two experiences are different. I use "kind" to refer to an experience that generates a unique information type.

ally justified beliefs are indefeasible by which others. The application of (T3) will be relative to the information types contained in the beliefs in question, and the two uses of "certain" guarantee this.

Auditorily Justified Beliefs and Defeasibility

Are these theses true of other sensory modalities as well? Consider hearing, a modality with only one clear experience kind. Auditory experiences are psychophysically distinct from visual experiences because of the interaction between the physical stimulus, the sensory receptors which transduce the stimulus, and the cognitive mechanisms which create a presentation of the external object.[9] These psychophysical distinctions limit the information types available from each sensory modality. Hearing therefore produces two information types.[10] The first is a general idea of an object's spatial location. The second is a clue about the identity of the object. As we will see, these information types create the defeasibility relationships for hearing.

To show that the above theses hold for hearing, suppose that S still possesses his normally functioning sensory capacities. He stands blindfolded at position V_1 in a large room. S seems to hear a dog barking and forms belief (1): "I hear a dog barking over there." He now moves to a new position V_2 in the same room and then V_3, forming the same belief in both locations: "I hear a dog barking over there."

Like beliefs justified by vision, beliefs justified by hearing have their own intrajustificational defeasibility relationships. These relationships are determined by the information types which hearing is capable of producing. However, unlike vision, hearing does not produce any information type that is indefeasible by other auditorily justified beliefs. Any belief in the series (1), (2), (3) . . . above is a potential overriding defeater for any other. This defeasibility relationship is unique to hearing. We often miss the subtleties of these relationships because of the weight normally given to visually justified beliefs.[11] However, by isolating each sensory modality, we

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[9] The experiences of sight and hearing are different because they provide different information. Again, while they may not be different "kinds" of experience in the most technical meaning of the term, the experiences are distinct enough to provide different information to the *sentiens*.

[10] Receiving information through an auditory experience of words spoken in a language which one understands is a mix of two experience kinds: hearing, which produces information of the two types I have described, and testimony, which produces information of another type.

[11] Most epistemological literature dealing with perceptually justified beliefs considers only visual justification.

see that they are unique in terms of experience kinds, information types, and defeasibility relationships. In other words, (T1), (T2), and (T3) hold for each sensory modality.[12]

Perceptually Justified Beliefs and Empirical Defeaters

How do defeasibility relationships among nonperceptual empirical defeaters work? Let us return to the case of vision. After having V_n beliefs about ω that are justified by flash vision, S now has a spherically justified belief: "I see a table." Call this belief Ω. Now suppose that S is still viewing the table when his friend X enters the room. S has been acquainted with X for many years and has never known him to lie or be dishonest in any way. Furthermore, S knows that X's sensory capacities function well. X tells S, "There is no table in this room." Call X's proposition ~T. ~T is a testimonial defeater for Ω and so is an empirical defeater for Ω. What is the defeasibility relationship between Ω and ~T? Since the perceptual content of Ω does not affirm material existence, and since S trusts X, ~T is an overriding defeater for Ω. The information type produced by spherical vision cannot affirm material existence, so it is susceptible to empirical defeaters that deny it. In this case, ~T defeats Ω.[13]

But the solution is obvious. S need only extend his hand to check whether the table has material existence or if it is an optical illusion.[14] Suppose that, upon extending his hand, S's finger meets a solid object at the point where the table's edge appears to be. In addition, S touches other areas of what he sees and feels that they are real parts of a table. S now has a new perceptually justified belief Ω': "There is a table in this room." Ω' affirms the material existence and the identity of the object. This content makes Ω' very strong, possibly indefeasible by other empirical defeaters.[15] This means that Ω' is an overriding defeater for ~T regardless of S's trust in X, and S would be irrational to accept ~T in the face of such undeniable

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[12] While I grant that the chemical senses (smelling, tasting) are quite different from sight and hearing, our results here can be generalized because the chemical senses will still only provide distinct types of information through their various experiences, and the schema for them will be identical to that for vision and hearing.

[13] See the concluding section for a discussion of the challenges of integrating testimonial beliefs into the system of one's other justified beliefs. Clearly, the situation will almost always be more complicated than the one I have presented above.

[14] We might say that, for a human being with normally functioning sensory modalities, tactile senses confirm material existence inasmuch as this is possible at all.

[15] It is hard to see what empirical defeaters could challenge Ω'. Given the circumstances described and barring global skepticism, I cannot conceive of an overriding defeater ~Ω', and an undermining defeater for the experience kinds which justify Ω' would be very unusual indeed.

perceptual information to the contrary. The standard against which we judge this rationality is the content of each belief, since it seems rational for S to affirm the material existence of something in cases where he can actually perceive it.

This example demonstrates two things. The first is that, like vision and hearing, touch has experience kinds that produce distinct information types. In S's experience with the table we find at least two experience kinds. The first kind is *swipe tactility*, which is the experience of moving a part of one's body quickly into an object. The information type generated by swipe tactility concerns the material existence of the object, and the two possible outcomes are confirmation or denial of material existence. The second kind is *stroke tactility*, which is the experience of moving a part of one's body slowly over the contours and edges of an object. The information type generated by stroke tactility concerns the physical form of the object and works in conjunction with other information types in object identification.

The Ω' example also demonstrates that we cannot evaluate the strength of any empirical defeater, perceptual or otherwise, without information about the belief that it purports to defeat. While ~T is a strong empirical defeater, it cannot defeat Ω' because of the perceptual content of Ω'.[16] Speaking more generally, concocting situations involving perceptually justified beliefs and empirical defeaters makes little sense unless one also names the source of the perceptual justifications. Without this information, we cannot know which defeasibility relationships will hold among the beliefs. By (T3) we know that certain perceptually justified beliefs cannot be defeated by certain others. We also saw earlier that certain perceptually justified beliefs cannot be defeated by certain empirical defeaters. This means that

> (T4) Certain perceptually justified beliefs are inde-
> feasible by certain empirical defeaters.

(T4) is a stronger claim than (T3), but by making one more distinction we can go even further. Call a belief *P* a *compound perceptually justified belief* if and only if the content of *P* consists of two or more discrete information types. Ω' is a compound perceptually justified belief. This distinction allows us to propose something even stronger:

> (T5) Certain compound perceptually justified be-
> liefs are indefeasible by certain empirical defeaters.

(T5) is strong, but it could be strengthened even more. Until now we have qualified our theses with "certain." In (T5), what are these "certain" beliefs?

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[16] Namely, a guarantee of material existence, inasmuch as this is possible.

We have seen one in Ω': "There is a table in this room." The content of Ω' consists of information types which (i) correctly identify the object in question and (ii) guarantee its material existence. Now call a belief whose content consists of information types that meet conditions (i) and (ii) a *conclusive empirical belief*. From (T5) and the definition of "conclusive empirical beliefs," we infer

> (T6) Conclusive empirical beliefs are empirically indefeasible.

In the final section I will explain and defend (T6).

Objections and Conclusions

(T6) is a strong claim, but it is perhaps not as strong as it seems. It enumerates a set of indefeasible empirical beliefs of the form "There is a . . ." or "There exists a . . ." However, (T6) is restricted to conclusive empirical beliefs, which are themselves bound by the criteria given above. In addition, (T6) does not cover beliefs justified by induction from multiple observed cases, as induction requires its own justification. This means that one can have a conclusive empirical belief about the existence and identity of an object ω but not about the properties of all such objects ω. If the set of beliefs it includes is so epistemically limited, why does (T6) matter?

The importance of (T6) is not in enumerating a set of beliefs but in recognizing the interplay of empirical defeasibility relationships. Our intuition is that some empirical beliefs are stronger than others. In this paper, I have given one argument for why this is the case. Empirical beliefs are justified by experience kinds and experience kinds yield information types. The content of some information types is stronger than others. A more complete articulation of this theory would provide a complete list of information types with the experience kinds that produce them. It would also give a complete account of the defeasibility relationships between perceptually justified beliefs and other empirically justified beliefs. While I do not give these here, it is clear that our intuition is correct, and that the relative strengths of empirical beliefs are organized into a hierarchy. Moreover, we are able to give the reasons why this is so. We also see that broad terms like "empirical defeater" and "perceptually justified belief" are difficult to make exact sense of. Their precise origin matters. Different origins mean different defeasibility relationships. Unless we know the sources of justification for a belief, we cannot adequately evaluate the strength of possible defeaters.

One might object that this account lacks a particular experience kind or information type, but this does not affect the substance of my analysis.

This objection also concerns a point only ancillary to the more important thesis. Though the specifics of their enumeration may vary, the more important point is that defeasibility relationships are what ground our intuitions about the strength of empirically justified beliefs.

Another difficulty is the challenge of integrating testimonial defeaters into a system that includes perceptually justified beliefs. But this is actually a psychological rather than a philosophical problem, since the only way to measure the relative strength of testimonial defeaters is through one's trust in the giver of the testimony. It seems impossible to assign an "objective" strength to defeaters of this kind, and this impossibility makes the integration of testimonial defeaters a complicated endeavor. The example I have given above should be understood as a basic case of how to integrate testimonial defeaters.

The broader conclusion concerns the sensory modalities as instruments for gathering information. While the senses excel at presenting reality with certainty, the range of beliefs upon which they bestow that certainty is quite small. Though this seems as obvious as the intuition that empirical beliefs are organized into a hierarchy, I have shown that these conclusions are not just intuitions. They follow from the characteristics of human perceptual organs and the types of information that these provide. Rather than relying on intuition in evaluating empirical defeasibility relationships, we can outline a system in which those relationships are thoroughly parsed and explained. By reflecting on human perceptual capacities, we arrive at the points where our intuitions meet justificatory grounds.

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