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TESTIMONY AS A NATURAL KIND

ABSTRACT

I argue, first, that testimony is likely a natural kind (where natural kinds are accurately described by the homoeostatic property cluster theory) and that if it is indeed a natural kind, it is likely necessarily reliable. I argue, second, that the view of testimony as a natural kind and as necessarily reliable grounds a novel, naturalist global reductionism about testimonial justification and that this new reductionism is immune to a powerful objection to orthodox Humean global reductionism, the objection from the too-narrow induction base.

Disregarding the pessimistic Lockean view on which testimonial beliefs (beliefs formed entirely in virtue of grasping the content of testimonial utterances) are never justified (Locke 1690/1975), approaches to the epistemology of testimonial justification fall naturally into two broad categories: non-reductionism about testimonial justification (associated with Reid (1764/1970)) and reductionism about testimonial justification (associated with Hume (1748/1975)).[1] Non-reductionists (e.g., Coady (1992)) claim (roughly) that (in the absence of undefeated defeaters) the receipt of testimony that *P* by itself confers (some degree of) justification on a resulting testimonial belief that *P*; on this view, an individual cognizer need have (available) no special reason for accepting testimony. Reductionists, on the other hand, require the individual cognizer to have special reasons for accepting testimony; on this view, no "default" level of justification is conferred by testimony. For local reductionists (e.g., Fricker (2006)) in particular, the justification of testimonial beliefs proceeds piecemeal: the audience *A* of a given testimonial utterance by a speaker *S* must have positive reason for thinking *S* reliable (on the occasion in question, with respect to the topic in question, …) if she is justifiedly to form a belief in virtue of grasping the content of *S*'s utterance. For global reductionists, in contrast, the justification of testimonial beliefs proceeds wholesale: *A* must justifiedly (or be in a position justifiedly to) believe a principle asserting the general reliability of testimony in order justifiedly to form a belief in virtue of grasping the content of a given testimonial utterance. On the orthodox Humean variant of global reductionism in particular, an audience *A*'s testimonial beliefs are justification-apt, if they are, because *A* has performed (or is able to perform) an enumerative inductive inference from a base of observed correlations between

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the contents of testimonial utterances and facts to the conclusion that testimony is generally reliable (Hume 1748/1975). On this strategy, the justification of an audience's testimonial beliefs reduces, via "Hume's induction", to the justification of her perceptual beliefs, her memory beliefs, and her use of the principle of enumerative induction.

Coady points out that Hume ignores, in the course of his defence of global reductionism, the distinction between a subject's personal observations and our collective observations (1992, 80–1); by means of this equivocation, the base for Hume's induction is made to seem vastly larger than it is in fact. And when, as we must, we narrow the base for the induction to be performed by an audience *A* to that consisting of the correlations between testimonial utterances and facts observed by *A* herself, it is immediately evident that the base is far too narrow to support the induction: the number of observed correlations is so small that an enumerative induction based on those observations will not confer justification on the conclusion that testimony is generally reliable, so that that conclusion cannot in turn justify *A*'s testimonial beliefs. None of us has verified (and none of us could verify) more than a comparatively minuscule number of testimonial utterances against personally observed facts; and so no individual cognizer is (or could be) in a position successfully to perform Hume's induction. I take this "objection from the too-narrow induction base" to be sufficient, if successful, on its own to render Humean global reductionism untenable; and I know of no way of challenging the objection. Given the desirability of a reduction of testimonial justification and in particular of a global reduction of testimonial justification, then, an alternative to the Humean strategy is needed. This paper therefore develops an updated global reductionism designed to preserve the spirit of Humean global reductionism while avoiding the objection from the too-narrow induction base;[2] this new, naturalist global reductionism depends on the thesis that testimony is a natural kind (given that natural kinds are accurately described by the homoeostatic property cluster theory)[3] and, in particular, that testimony is necessarily reliable.

Both the thesis that testimony is a necessarily reliable natural kind and the naturalist global reductionist strategy which depends on it are suggested by some brief remarks of Schmitt's; these remarks are worth quoting at length. Schmitt begins by suggesting that a reductionism in the spirit of Hume's (that is, an inductive reductionism) might be able to avoid the objection from the too-narrow induction base if testimony is necessarily reliable; the proponent of an inductive version of reductionism might respond to that objection

> by appeal to a non-enumerative view of induction. Some inductions – e.g., to the color of birds of a species, or the melting temperature of a metal – justify their generalizations on the basis of very few instances. This may happen because there is a necessary relation between the properties observed (color and belonging to the species). If there is such a relation between a testimonial utterance and its probable truth, then the objection to the inductive version [of reductionism] will fail. (1994, 12)

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The suggestion seems to be that if testimony is necessarily reliable, then a legitimate induction to the general reliability of testimony from a very small base of observed matches between testimonial utterances and facts might be possible. A relation of this sort between testimonial utterances and probable truth might obtain if testimony is a natural kind (though the thesis that testimony is a natural kind does not by itself entail that testimonial utterances are probably true); Schmitt's examples of a species of bird and a kind of metal (both paradigmatic natural kinds) also call this possibility to mind. Schmitt goes on to point out that it is impossible to evaluate the suggested update of Hume's strategy until we have a developed version of it in hand:

> judging the merits of [the updated strategy] turns on the question whether human beings are constituted socially so as to believe and speak the truth, and on how the matter of constitution relates to inductive justification. These are vexed questions, and on the latter there is less philosophical work than one might suppose. (12)

In order to determine how the proposed naturalist global reductionism fares against the objection from the too-narrow induction base, then, we must accomplish two tasks: first, that of making a case for the view of testimony as a necessarily reliable natural kind; second, that of providing an account of a variety of non-enumerative induction which (therefore) licenses an inductive inference to the general reliability of testimony from a narrow base of observed matches between testimonial utterances and facts.

The naturalist global reductionist strategy is available only to the externalist, since it assumes that the reliability of non-enumerative inductions of the relevant type suffices to confer justification on their results. Now, for a standard reliabilism, it is sufficient for the justification of a testimonial belief that the process of accepting testimony which produces it is reliable, and so the reliabilist will not need to be convinced of the truth of a view like naturalist global reductionism before she will be willing to say that our testimonial beliefs are justified. But nonetheless the reductionist strategy will be of interest to at least those reliabilists who think that there is something to be said in favour of the traditional ideal of cognitive autonomy: if the naturalist global reductionist strategy is successful, then, according to reliabilism, subjects can have a limited sort of cognitive autonomy even in the face of their extensive dependence on testimony, for if the strategy is successful, then reliabilism implies that it is possible for an individual cognizer autonomously to come justifiedly to believe that her testimonial beliefs are justified.

1. A NATURALIST ACCOUNT OF TESTIMONY

There is no simple, definitive test for natural kindhood. And this is as it should be, for even given that *t* is a natural kind term, it is an empirical question whether it succeeds in referring, whether there is a unique natural kind *k* successfully picked out by *t*.[4] Given a putative kind *k*, it is always initially an open question whether *k*

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will turn out in the end not to have the sort of unity and stability required for it to qualify as a kind. Nevertheless, if we are able successfully to project the properties of *k*s, then we have some reason to suppose that they are members of a natural kind, for it is a defining feature of kinds that they support this sort of projection (Quine 1969). I suggest that testimony passes this test, that we successfully can project the properties of testimonial utterances. It is tempting to suppose that we have no very firm grasp of the nature of the phenomenon of testimony, so that we cannot successfully project those properties, but in fact I think that we can do so; our inclination to suppose that we cannot is perhaps even explained by the familiarity of the projections. For consider the properties of testimonial utterances about which we are confident. At minimum, we confidently can say: testimony is about communication – if no information is (potentially) conveyed by an utterance, then that utterance is not testimonial; testimony always involves more than one party – it is (roughly) about the transmission of information from speaker to audience; testimonial utterances report (alleged) observations – *S* cannot testify to *A* about a matter too far removed from observation; testimony is a kind of telling – if an utterance is not assertoric, then it is not testimonial; testimony is largely honest – we relatively rarely try to deceive each other by means of testimonial utterances; and so on. Our knowledge of testimony is fairly extensive, and it is plausible to attribute this knowledge (in part) to successful projection of the properties of testimonial utterances.[5]

But what, precisely, does it mean to say that testimony is a natural kind? What, in particular, does it mean to say that it is a homoeostatic property cluster kind? On any theory of natural kinds, kind membership is a function of an object's relation to the essence of the kind. It is necessary to distinguish (with Locke (1690/1975)) between nominal and real essences of kinds and hence between nominal and real kinds themselves. The nominal essence of a kind *k* referred to by a term *t* is (approximately) a set of properties associated with *t* by speakers of the language of which *t* is a part, instantiation of all of which by an object *o* is necessary and sufficient for *o*'s being a member of *k*. Nominal kind terms, in other words, are descriptional. Note that if *k* (referred to by *t*) is a nominal kind, then its essence (and hence also its membership) is in an important sense determined by the ideas of the speakers of the language of which *t* is a part; hence it is in principle possible (if one is a speaker of the relevant language) to discover the essence of a nominal kind a priori. On the other hand, on any theory of natural kinds, if *k* (referred to by *t*) is a real kind, then its essence (and hence also its membership) is in an important sense independent of the ideas of the speakers of the language of which *t* is a part; hence it is possible to discover the essence of a real kind only a posteriori. Real kind terms, in other words, are non-descriptional. If the causal theory of reference is correct with respect to natural kind terms, then the real essence of *k* is determined by certain causal relations between uses of *t* and things in the world.

Whereas for Locke, real essences are underlying, internal constitutions, for the homoeostatic property cluster theorist, the real essence of a kind need be in

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no sense underlying or internal. On Boyd's homoeostatic property cluster theory (1988, 1999, 2003a, 2003b), on the contrary, the real essence of a kind consists of a homoeostatic cluster of properties, together with the mechanisms causally responsible for sustaining the homoeostasis of the cluster. If the causal theory of reference is correct with respect to natural kind terms, then the cluster-mechanism pair constituting the real essence of a kind k referred to by a term t is that pair which causally regulates our uses of t. Boyd's criterion for the causal homoeostasis of a family F of properties is the following: "[e]ither the presence of some of the properties in F tends (under appropriate conditions) to favor the presence of the others, or there are underlying mechanisms or properties that tend to maintain the presence of the properties in F, or both" (1999, 43). As Rubin notes (2008), Boyd's reference to "underlying" mechanisms here is puzzling, since the examples of mechanisms causally responsible for homoeostasis he gives make it evident that he does not hold that such mechanisms need be (in any interesting sense) underlying; I therefore treat the theory as saying that the relevant mechanisms need not be underlying. On the homoeostatic property cluster theory, an object o is a member of a kind k (referred to by t) just in case o stands in the appropriate relations to the cluster and mechanism causally regulating uses of t. There are two relations in play here: first, o must have enough of the important properties in the cluster; second, o must have the properties in question either in virtue of instantiating the mechanism partly constituting the essence of k (if the mechanism is internal) or as a result of the workings of that mechanism (if the mechanism is external).

Mallon points out that the homoeostatic property cluster theory can for two distinct reasons be thought of as "a principled liberalization of the idea of natural kinds" (2003, 225). First, the theory implies that kind membership is not an "all or nothing" matter: there will be cases in which an object reasonably can be taken to be a member of a kind, even though it lacks many of the properties in the relevant homoeostatic cluster. Second, the theory allows a broad range of properties and mechanisms jointly to constitute the essence of a kind: the mechanism can be external to members of the kind, and the properties can be relational. Boyd's liberalization of the idea of natural kinds thus has two features which are vital to the plausibility of the suggestion that testimony is a natural kind. It matters, first, that the mechanisms involved in its real essence need not be internal to members of a kind, because even if testimony is a homoeostatic property cluster, there is clearly no mechanism internal to testimonial utterances which might sustain the homoeostasis of the relevant cluster.[6] It matters, second, that objects can be members of a given kind even if they lack some of the (important) properties involved in the real essence of the kind, because even if the property probable truth plausibly belongs in the homoeostatic cluster partly constituting the essence of testimony, there likely will be apparently testimonial utterances which do not seem to instantiate that property.

My hypothesis is that the properties in the homoeostatic cluster partly constituting the essence of the natural kind testimony are approximately those

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that we seem to be able to project: testimonial utterances have informational content about (alleged) observations, testimonial utterances (at least potentially) convey information from speaker to audience, testimonial utterances are assertions, testimonial utterances are honest, and testimonial utterances are usually accurate. I cannot here make a detailed case for the inclusion of each of these properties. Instead, I will describe a mechanism which might causally sustain their homoeostasis, a mechanism the operation of which would explain, in particular, why utterances which convey allegedly observational information to audiences should tend to be both honest and accurate. This does not amount to an attempt to "smuggle" probable truth into the cluster. I describe a mechanism such that if it operates, it will tend to bring about the presence of the property probable truth given the presence of the other properties in the proposed cluster; if there is reason to take that mechanism to be operative, then there is reason to suppose that probable truth is part of the real essence of testimony.[7]

The mechanism that I have in mind is more or less that suggested by Reid's (now) famous claim that we have natural dispositions to behave in ways that guarantee that most testimony will be honest (and hence accurate):

> The wise and beneficent Author of nature, who intended that we should be social creatures, and that we should receive the greatest and most important part of our knowledge by the information of others, hath, for these purposes implanted in our natures two principles that tally with each other. . . . [We have] a propensity to speak the truth, and to use the signs of language, so as to convey our real sentiments. . . . [We have] a disposition to confide in the veracity of others, and to believe what they tell us. (1764/1970, 238–40)

My proposal is that the first of these Reidian dispositions is the mechanism causally responsible for the homoeostasis of testimony: that disposition operates so as to make it likely that given that a speaker issues an utterance meant to convey allegedly observational information to an audience, her utterance is honest (and hence probably true).[8] I should emphasize, first, that (however Reid himself understood them) I take the Reidian dispositions to concern natural testimony only: clearly, we are not disposed to communicate honestly on every topic and in every circumstance; equally clearly, we are not disposed to accept the information provided by others no matter what it concerns or under what conditions it is provided. I should emphasize, second, that I take the first of the dispositions to be a disposition to honesty rather than truth: speakers do not directly choose between conveying accurate and inaccurate information but only between conveying information they take to be accurate and information they take to be inaccurate; but such a disposition to honesty, given that we are reasonably good at acquiring information about our surroundings (at least when it comes to the topics at issue in most testimony), will tend to result in the production of accurate testimony.[9] I should emphasize, finally, that where Reid was inclined to see the hand of an Author, we should be inclined to see the hand of natural selection: if we

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have the Reidian dispositions, then there should be an evolutionary story to be told about how we acquired them.

In what follows, I sketch such a story, taking it to be evidence in favour of the claim that the mechanism consisting of the disposition to honesty is instantiated by us. It might be objected that the mere fact that there is an evolutionary story to be told about how a certain trait might have been selected for does not by itself provide evidence that the trait exists. But the form of my argument here is familiar: we exhibit certain patterns of behaviour; the existence of dispositions to behave in certain ways would explain why those patterns obtain; a plausible story about how they might have been selected for provides at least some evidence that the dispositions really underlie the patterns; direct access of some sort to the mechanisms would provide better evidence yet, but that is not to say that the indirect evidence provided by the evolutionary story carries no weight at all. Now, we do tend to give honest testimony, and we do tend to accept testimony; the existence of the Reidian dispositions would explain why that pattern obtains; and thus a plausible story about how such dispositions might have been selected for provides some evidence for the existence of the dispositions; direct access would be better, but the evolutionary story at least provides some indirect evidence for the hypothesis.

In a stimulating recent article, Sperber brings to light the relevance of work by ethologists and behavioural ecologists on the evolution of animal signalling to the study of human testimony (2001).[10] Animal signalling appears to differ from testimony largely in that only human testimony is intentional: since (most) animal "speakers" do not represent the mental states of their "audiences", the former cannot properly be said to signal in order to inform the latter; humans, on the other hand, clearly do produce testimonial utterances in order to inform others.[11] Thinking of testimony as being analogous to animal signalling at first seems to threaten the suggestion that we have the Reidian disposition to honesty, for there is a familiar and natural "pessimistic" view about the evolution of animal signalling: on the view in question, we should not in general expect animals to be disposed to give honest signals (and so we should not expect animal signals to be generally reliable); if something like this view holds for the evolution of human testimony, then we should not in general expect speakers to give honest testimony (and so should not expect testimony to be generally reliable); we will thus, if the pessimistic view is correct, be unable to tell an evolutionary story in support of the hypothesis that a Reidian disposition to honesty is the mechanism sustaining the homoeostasis of testimony.

The pessimistic view emerged against the background of the "classical ethological" view (Smith 1977), on which animal communication is an exchange of information designed to benefit both senders and recipients of signals. In an important article, Dawkins and Krebs dismissed the classical ethological view as overly optimistic, arguing that signalling is not to be conceived of as a mutually beneficial exchange of information, for senders are "selected to manipulate the

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behaviour" of recipients: "as an inevitable by-product of the fact that animals are selected to respond to their environment in ways that are on average beneficial to themselves, other animals can be selected to subvert this responsiveness for their own benefit. This is communication" (1978). Dawkins and Krebs' view has the implication that there is little reason to expect signalling to be generally reliable, because there will in general be no selection for honesty; indeed, on the pessimistic view, there is positive reason to expect signalling to be generally unreliable, since manipulation often (though not always) will best be accomplished by means of inaccurate signalling. Presumably, pressures of the sort determining the reliability of animal signalling have been at work in our own evolutionary history. And so, the manifest fact of the general reliability of testimony notwithstanding, the pessimistic view of the evolution of animal signalling suggests that we cannot tell an evolutionary story in support of the existence of the Reidian dispositions.

Fortunately for my hypothesis, the pessimistic view has proved to be untenable. As Hauser points out, it fails to acknowledge both that the genetic interests of recipients need to be taken into account in order to explain the evolutionary stability of signalling and that in some cases there will be selection for honesty in signalling (1996, 29). In response to criticisms along these lines, Dawkins and Krebs themselves modified their view: in Krebs and Dawkins (1984), they argue that attempts by a sender to manipulate a recipient are met by attempts by the recipient to "read the mind" of the sender (that is, to predict the sender's behaviour). We can for heuristic purposes think of mind-reading as developing in response to manipulation, which in turn develops further in response to mind-reading; senders and recipients thus are locked into an "evolutionary arms race". Recognizing the significance for the evolution of signalling of the interests of organisms qua recipients of signals should alter our expectations about the honesty of signals (and their consequent (un)reliability) dramatically. It now becomes reasonable to expect to find a significant proportion of honest signals even in competitive interactions, for signalling will not be evolutionarily stable unless it is beneficial to both senders and recipients, and in order for signalling to be beneficial to recipients, it needs fairly often to be accurate. Behaviour resulting from acceptance of inaccurate signals will (exceptional cases aside) tend to be contrary to the genetic interests of recipients, for recipients who accept too many inaccurate signals will tend not to survive to reproduce.[12] There will, of course, be cases in which some benefit can be derived from acceptance of inaccurate signals, but granted the assumption that in the normal course of things it is necessary to send accurate signals in order to benefit the recipient, we have here an argument to the effect that communication within a species could not stabilize unless most signals were accurate – in short, signalling must be reliable in order to be evolutionarily stable. The evolutionary arms race between senders and recipients can continue only if recipients continue to receive, and creatures who very frequently accept inaccurate signals have a "pathetic but praiseworthy" tendency to die out.[13]

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If this "less pessimistic" view of the evolution of signalling is right, then, granted the broad analogy between the evolution of signalling and that of testimony, there is reason to expect the Reidian disposition to have been selected for. And hence there is reason to suppose that the disposition to honesty could be the mechanism by means of which the homoeostasis of testimony is maintained.

Now, though Sperber points out that the evolutionary stability of testimony means that it must on the whole be beneficial to audiences, he argues against taking this to support the existence of a disposition to honesty, for since that stability also means that testimony must on the whole be beneficial to speakers, "[c]ommunication produces a certain amount of disinformation in the performance of its function" (2001, 406). The details of Sperber's line are difficult to make out; since I want to make precisely the sort of "Reidian" argument he attacks, however, I will do my best to respond to it. Sperber seems to begin by treating the Reidian dispositions to honesty and trust as unconditional strategies, saying that the Reidian might argue that "the iteration of acts of communication might stabilize a strategy of truthfulness on the part of communicators and of trust on the part of addressees" (406). He then points to a variety of circumstances in which dishonesty will be rational, cases, that is, in which the tactical benefits of dishonesty outweigh the strategic costs of dishonesty. But the Reidian dispositions are not well-modelled by unconditional strategies, since they might, in particular circumstances, be overridden by other factors; the occasional rationality of dishonesty thus does not tell against their existence. Presumably recognizing this, Sperber goes on to treat the dispositions as being modelled by something like the tit-for-tat strategy which famously fares well in the iterated prisoner's dilemma (Axelrod and Hamilton 1981). He argues that a tit-for-tat-like strategy will not be evolutionarily stable in the iterated communication game, due to a twofold disanalogy between the two games: first, whereas it is always rational to defect in the former, given that there will be no retaliation, it is sometimes rational to be honest in the latter; second, whereas it is always rational to punish defectors in the former game, it is sometimes rational not to punish dishonesty in the latter game (407). The appeal to the first disanalogy is puzzling, for it is plausible to assume that honesty is usually rational in the communication game precisely because dishonesty is rendered strategically bad by the threat of punishment. Nor does the appeal to the second disanalogy tend to count against selection for a disposition to honesty, for while it will sometimes not be rational to punish dishonesty in the communication game, it will in general be rational to do so, since trust that is too unconditional is easily exploited. Finally, Sperber suggests that the Reidian argument fails because speakers have information not available to others; this, in combination with the fact that audiences are often involved in ongoing relationships with certain speakers, means that it will sometimes be very costly to an audience to refuse to accept a speaker's testimony (408). This final suggestion, too, is unconvincing, simply because information available from one speaker will in most cases be available from others as well.[14]

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I conclude that even the current "less pessimistic" view of the evolution of signalling gives us reason to expect the Reidian dispositions to have been selected for. Just as signalling had to be beneficial to both sender and recipient in order to achieve evolutionary stability, the practice of testimony had to be beneficial to both speaker and audience in order to achieve such stability. It is thus plausible to suppose that the Reidian dispositions exist. And the operation of the Reidian disposition to honesty, in particular, would explain why, given that an utterance is intended to convey allegedly observational information, it is likely that the utterance is honest (and hence probably true).

So much for the positive case for the view that testimony is a natural kind; on now to objections. 'Testimony' is a philosophical term of art. Thus one might doubt that it is a natural kind term. And thus one might doubt that there is a natural kind to which it refers. The thought here, of course, is not that we can never begin to refer to kinds of which previously we were ignorant – obviously, we can do so – but rather that 'testimony', because of the manner in which it was introduced into the language, is likely to have a stipulated meaning and so to be descriptional (i.e., to be only a nominal kind term). The problem with this objection is that there is little evidence for the view that the term is in fact descriptional and at least some evidence for the view that it is non-descriptional. In a recent article, Lackey surveys a range of proposed analyses of testimony, including Coady's "narrow view" (Coady 1992), Fricker's "broad view" (Fricker 1995), and a moderate view (Graham 1997), before going on to propose her own analysis; she points out early in the article that "there is substantive disagreement about what testimony even is" (2006). The mere fact that we cannot readily agree on a set of conditions necessary and sufficient for the correct application of a term *t* (which we nevertheless manage to use to talk to each other) does not by itself establish that such a set is not semantically associated with *t*: there are many philosophical terms of art about the precise meaning of which there is no consensus and yet about which it is rather far-fetched to suppose that they are non-descriptional. But philosophers' inability to settle on an analysis of testimony provides at least some evidence for the claim that 'testimony' is non-descriptional and none at all for the claim that it has an associated reference-determining description.

My positive proposal is the following. 'Testimony' is a philosophical term of art, but it does not have a stipulated meaning; instead, it was introduced to refer to a phenomenon with which we have long been familiar, the phenomenon of natural testimony. We have been unable to agree on a set of conditions necessary and sufficient for the correct application of the term simply because such conditions cannot be discovered a priori. Instead, the term was introduced in such a way that it refers, if my hypothesis is right, to something like the kind described above. 'Testimony' now has a status much like that of any other term recently introduced into scientific discourse: our uses of the term (if it refers) are causally regulated by a phenomenon about which we so far know little.[15] This proposal accounts for why we might have introduced the term in the first place; it accounts for how we can

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communicate with each other by using the term despite our inability to agree on an associated reference-determining description; and it explains why we cannot agree on such a description.[16]

There is an obvious second line of argument for the view that 'testimony' is descriptional, a line according to which the term fails a standard test for non-descriptionality. If the term does indeed fail that test, then there is good reason to take its referent to be determined by an associated description. In order to run the standard "epistemic" test for non-descriptionality (Kripke 1980) on testimony,[17] we must suppose that we have hitherto been wrong about the nature of testimony and then consider what we would say about the phenomenon that we have been misdescribing: if we are prepared to say that 'testimony' nevertheless applies to the phenomenon, then there is reason to suppose that the reference of the term is not fixed by a description associated by us with it. It is difficult to run this test for non-descriptionality on 'testimony', for in order to run the test, it is necessary that we already have a reasonably firm idea about the nature of testimony. But suppose that we had been convinced that testimony is held together by a Reidian disposition to honesty. And suppose that we were now empirically to discover that testimony is in fact held together by, for example, some game-theoretic mechanism, that is, that we have no disposition to honesty but instead tend to give honest testimony as a result of having performed calculations about our tactical and strategic self-interest. What, then, would we say about what we had hitherto been calling testimony? I submit that we would say, without hesitation, that testimony had turned out to have a different nature than we had thought.

Now, since we do not at present have a very firm idea about the mechanism sustaining the homoeostatic unity of testimony, this positive result perhaps does not provide much evidence for the non-descriptionality of 'testimony'. And some might argue on highly general grounds that 'testimony' will not in fact pass the epistemic test. Consider the following argument for that conclusion.[18]

> Associated with the term 'testimony' are the criteria conveying observational information, being probably true, and so on. It should be clear that these criteria are semantically associated with the word, that they constitute its reference-determining sense. For we could not discover that testimony actually conveys no information, is usually false, and so on. Therefore, 'testimony' fails the epistemic test for non-descriptionality. Therefore, 'testimony' is descriptional.

The argument is superficially plausible, but, I think, ultimately confused. To see this, consider an analogous argument for the non-descriptionality of 'water':

> Associated with 'water' are the criteria freezing at 0°, boiling at 100°, and so on. It should be clear that these criteria are semantically associated with the word, that they constitute its reference-determining sense. For we could not discover that water actually does not freeze at 0°, that it actually does not boil at 100°, and so on. Therefore, 'water' fails the epistemic test for non-descriptionality. Therefore, 'water' is descriptional.

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Since 'water' is a paradigmatically non-descriptional term, the latter argument clearly goes wrong somewhere. And since the two arguments are strictly analogous, locating the flaw in the latter should enable us to locate the flaw in the former. Nor is the flaw in the second argument difficult to locate: the reason for which we could not find out that water does not freeze at 0° is simply that we already know that water does freeze at 0°; that we could not discover that water does not freeze at 0° is irrelevant to whether 'water' passes the epistemic test for non-descriptionality; for in order for the term to pass the test, it is enough that we could find out (or could have found out) that water is not H_2O and that we then would say (or would have said) that nevertheless our past applications of 'water' had not been mistaken. The argument for the non-descriptionality of 'testimony' is similarly flawed: the reason for which we could not find out that testimony conveys no information is simply that we already know that testimony does convey information; that we could not discover that testimony conveys no information is irrelevant to whether 'testimony' passes the epistemic test for non-descriptionality; for in order for the term to pass the test, it is enough that we could find out that testimony is not sustained by the mechanism by which we now take it to be sustained and that we would then say that nevertheless our past applications of 'testimony' had not been mistaken. Some of the criteria associated by speakers with a kind term *t* will concern the superficial, observable properties of the referent *k* of *t*. If speakers have any epistemic purchase on *k* at all – and presumably they must have such purchase in order to be able to refer to it in the first place – then many of those criteria will in fact be satisfied by *k*. And hence if an object fails to satisfy enough of those criteria, speakers rightly will refuse to apply *t* to it. But the criteria associated with a kind term *t* in general will also concern unobservable (putative) features of its referent *k*. If speakers can successfully refer to *k* even if it fails to satisfy these criteria, then there is evidence that *t* is non-descriptional, that the properties semantically associated with *t* do not constitute the reference-determining sense of *t*. The epistemic test (a test passed by 'water') concerns the role of criteria of the latter sort. For reasons indicated above, it is perhaps less than clear that 'testimony' ultimately will pass the test; but the general argument for the conclusion that 'testimony' will not pass the test is flawed.

2. A NATURALIST REDUCTION OF TESTIMONIAL JUSTIFICATION

Recall that the Humean global reductionist says that in order for her testimonial beliefs to be justification-apt, an individual cognizer must, first, verify received testimonial utterances against her own observations, and second, given that she discovers a sufficient correlation between the content of those utterances and the observed facts, perform an enumerative induction to the general reliability of testimony. And recall that the objection from the too-narrow induction base simply points out that it is practically impossible for an individual cognizer to

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verify enough testimonial utterances against her own observations to establish a base sufficiently large for an enumerative induction, with the consequence that it is practically impossible for Hume's induction to be performed. Since the induction cannot be performed, testimonial justification cannot be reduced by means of Hume's induction to the justification of perception, memory, and inference. Strict enumerative induction might anyway be dismissed on the ground that it does not do justice to our actual inductive practices. If some other, better account of induction can be provided, then perhaps global reductionism successfully can be defended against the objection from the too-narrow induction base – more precisely, perhaps there is a form of global reductionism which requires no more than a very small induction base. In his (1993), Kornblith argues for a certain relationship between natural kinds and a "law of small numbers". If this relationship holds, it grounds the sort of induction required by naturalist global reductionism about testimonial justification.[19]

Kornblith reviews some early results obtained by psychologists, results which seemed to suggest that we are naturally (and all but incurably) bad at inductive inference. One apparent implication of this work is nicely summarized by Tversky and Kahneman:

> The law of large numbers guarantees that very large samples will indeed be highly representative of the population from which they are drawn. . . . People's intuitions about random sampling appear to satisfy the law of small numbers, which asserts that the law of large numbers applies to small numbers as well. (1971)[20]

As Kornblith points out, the law of large numbers does not strictly guarantee that a very large sample will be highly representative of the population from which it is drawn; instead, the law guarantees that the larger the sample, the more likely it is to reflect the actual frequency of traits in the population from which it is drawn (1993, 114). Hence the potential value of enumerative induction: given a large enough induction base, a generalization produced by an inference about the population from which the sample is drawn is very likely to be true; enumerative induction is highly reliable and hence confers epistemic justification on its result. The problem apparently pointed out by Tversky and Kahneman is that we tend naturally, instead of reasoning inductively in accord with the law of large numbers, to reason inductively in accord with the law of small numbers, a law according to which even a small sample is likely to reflect the actual frequency of traits in the population from which it is drawn. Kornblith argues that though inductive inferences performed in accord with the law of small numbers violate the canons of good statistical inference, nevertheless our propensity to perform such inferences is defensible: the world, he argues, is made up of natural kinds, kinds which are such as to support inductive inferences performed in accord with the law of small numbers; and we are able to detect natural kinds and so to perform such inferences more or less when they are supported. The upshot is that we tend to perform inductive inferences in accord with the law of small numbers precisely when such

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inferences reliably will produce true generalizations: the "preestablished harmony between the causal structure of the world and the conceptual and inferential structure of our minds produces reliable inductive inference" (94).

I cannot here review Kornblith's argument for his view of our native inferential tendencies; nor can I review in any detail his argument for the ability of natural kinds to support non-enumerative inductions. Instead, I will simply proceed as if the later conclusion is true. If it is, then something like the following "qualified law of small numbers" is correct: where an essential trait of a member of a kind is a property in the homoeostatic cluster partly constituting the essence of the kind, even a small sample, if it is a sample consisting of members of a natural kind, is likely to reflect the actual frequency of essential traits in the total population of members of the kind. The reason for this becomes clear if we recall the details of the homoeostatic property cluster theory of natural kinds: on that theory, kind membership is determined in part by instantiation of a sufficient number of the properties in the homoeostatic cluster partly constituting the essence of the kind; so on that theory, most (but perhaps not all) of the members of a given kind will share the properties in the cluster; hence essential traits are projectible; and hence a rule that says that we may project them is a reliable rule of inference. Just as the law of large numbers grounds the epistemic legitimacy of enumerative induction, the qualified law of small numbers grounds the legitimacy of a certain variety of non-enumerative ("naturalistic") induction: if one has even a small induction base, then an inference to a generalization about the properties of members of the population from which the sample is drawn, if the population consists of members of a natural kind, is extremely likely to give you the truth about that population. Naturalistic induction, in short, is highly reliable, and hence confers epistemic justification on its result.

Given that testimony is a natural kind, an individual cognizer can, from a very small base of observations about testimony, perform a naturalistic induction to a generalization about testimony. Given, in particular, that probable truth is one of the properties in the homoeostatic cluster partly constituting the essence of testimony, an individual cognizer can, from a very small base of observed correlations between the contents of testimonial utterances and the facts, perform a naturalistic induction to the general reliability of testimony. That we are able to perform naturalistic inductions to generalizations about testimony would explain our (limited) knowledge of testimony. And that we are able to perform a naturalistic induction to the general reliability of testimony perhaps means that a naturalist global reduction of testimonial justification is feasible: testimonial justification reduces to the justification of perception, memory, and inference.[21]

So much for my positive case for the reduction of testimonial justification; on now to objections. Coady infamously argues for the a priori necessity of the reliability of testimony. He asks us to imagine a community of Martians with a language we can translate and to suppose that "we find . . . to our astonishment, that whenever they construct sentences addressed to each other in the absence

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(from their vicinity) of the things designated by the names, but when they are, as we should think, in a position to *report*, then they seem to say what we (more synoptically placed) can observe to be false" (1992, 85). Coady contends that we would conclude that these Martians are not giving testimony. His broadly Davidsonian argument is supposed to establish that it is an a priori necessity that testimony is reliable (Davidson 1984). Naturalist global reductionism, like Humean global reductionism, assumes that it is coherent to suppose that testimony is not reliable; hence Coady's conclusion is incompatible with both strategies. I will neither review the details of the Davidsonian argument nor attempt to discover exactly how it goes wrong. I simply take it as given that one cannot establish from one's armchair that necessarily, testimony is reliable – sceptical scenarios about the reliability of testimony cannot be ruled out a priori. But I want to point out that given the thesis that testimony is a natural kind and given my rough characterization of that kind, we can readily explain away the appeal of the Davidsonian argument for the a priori necessity of the reliability of testimony.

I take the view that natural kinds are involved in a posteriori necessities for granted (Kripke 1980). If testimony is a natural kind, and if my rough characterization of the kind is on track, then it will be necessary but a posteriori that testimony is reliable. My proposal is that we can account for the appeal of the Davidsonian argument for the a priori necessity of the reliability of testimony by means of the result that testimony is a posteriori necessarily reliable. There is always a temptation to confuse necessity and a prioricity (or at least to suppose that when you have the one, you also have the other); perhaps this general temptation underlies our particular inclination to suppose that we can determine a priori that testimony is necessarily reliable. Testimony, if I am right, is indeed necessarily reliable; hence the temptation to think that we could not have found out that it is unreliable; hence the temptation to accept Coady's Davidsonian argument. But there is of course a sense in which we could have found out that testimony is unreliable – that it is unreliable was an epistemic possibility – and the thesis that testimony is a natural kind accommodates this, even while giving us the result that testimony is necessarily reliable.

While I disagree with Coady simply over the epistemic status of the thesis that it is necessary that testimony is reliable, one might also dispute the truth of the thesis itself. The thought that testimony is only contingently reliable is a natural one, for, intuitively, it seems that the unreliability of testimony is a possibility, and not even a remote one: not much would seem to be required to transform our world into a world in which testimony is unreliable – simply increasing the fraction of the total population consisting of inveterate liars by some degree, for example, should do the trick. If an argument along these lines succeeds, then it can be neither an a priori nor an a posteriori necessity that testimony is reliable – it cannot be any kind of necessity that testimony is reliable, for there is a simple argument that establishes that it is possible that testimony is unreliable. A theorist sympathetic to Coady's approach would no doubt respond to this challenge by arguing on

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a priori grounds that the possibility in question is neither nearby nor even genuine; for obvious reasons, such an a priori strategy is unavailable to me. I want, instead, first to argue that those who find the thought that testimony is only contingently reliable intuitively compelling should have little confidence in the intuition; I want, further, to argue that the intuition can readily be explained away.

My suggestion is that considerations raised in §1 above give us empirical reason to doubt that there are any nearby worlds containing a phenomenon which is testimony-like but unreliable. The section, recall, makes an evolutionary case for the claim that humans have a "Reidian" disposition to communicate honestly (in the relevant class of circumstances) and that this disposition to honesty, in tandem with our basic information-gathering capacities, undergirds the homoeostatic unity of testimony – the claim, in particular, is that the Reidian disposition grounds the reliability of testimony. If the claim is right, then a world containing a testimony-like but unreliable phenomenon is a world in which humans lack this disposition. And a world in which humans lack the disposition is a world rather remote from our own: at best, it is a world in which the history of species has gone rather differently than it has actually; at worst, it is a world in which the evolution of species is subject to different laws. In general, intuitions about phenomena occurring in worlds far from actuality are not to be given much weight; and so the remoteness of the worlds containing a testimony-like but unreliable phenomenon suggests that one who is drawn to the thought that the salient phenomenon in those worlds is the same phenomenon as our phenomenon of testimony should have little confidence in her intuition.

But still some might insist that it is clear, on a priori grounds, that it is nevertheless possible for testimony to be unreliable. Consider a world which includes a phenomenon which is like testimony save for its unreliability. Grant that the world is remote: suppose that its testimony-like phenomenon is unreliable because an evil demon perpetually interferes so as to ensure that it is so. Some will have the firm intuition that the testimony-like utterances of the inhabitants of the demon-world are bona fide instances of testimony, instances which simply happen mostly to be false; the intuition, in other words, is that the unreliable but otherwise testimony-like phenomenon of the demon-world is nothing other than our phenomenon of testimony. And some will be prepared to conclude on the basis of this intuition that testimony is only contingently reliable. A theorist sympathetic to Coady's approach will, naturally, respond to such an opponent by arguing that the demon-world has been underdescribed, that, once we describe it more fully, we will see either that it is not a really possible world or that it is a world devoid of testimony; again, this sort of a priori response is unavailable to me. My response, instead, will parallel that which I made to Coady.

I begin by pointing out that given the general methodological orientation of this paper, I am entitled simply to take it as given that one cannot establish from one's armchair that it is contingent that testimony is reliable – the coherence of a sceptical scenario about the reliability of testimony can no more be established

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a priori than can be its incoherence. I continue by pointing out that given the thesis that testimony is a natural kind and given the view that natural kinds are involved in merely a posteriori necessities, we can straightforwardly explain away the pull of the claim that it is a priori contingent that testimony is reliable. There is (as noted above) always a general temptation to confuse metaphysical and epistemic modality; my suggestion is simply that whereas one drawn to Coady's view mistakes metaphysical necessity for epistemic necessity, one drawn to the view now in question mistakes epistemic possibility for metaphysical possibility, that the general temptation accounts for any specific inclination to suppose that we can determine a priori that testimony is only contingently reliable. There is, if I am right, a sense in which testimony could have been unreliable – that it is unreliable was an epistemic possibility; hence the temptation to think that there is a possible world in which testimony is unreliable; hence the temptation to accept the opponent's a priori argument. Thus the intuition that testimony is only contingently reliable can be explained away.[22]

A final set of objections. Lackey has recently argued against including the property being probably true in the analysis of testimony (as Coady does (1992, 42)).[23,24] I suspect that her arguments work against an analysis of testimony on which probable truth is necessary for testimony; but though one might expect otherwise, they have no force if directed against an account of testimony as a natural kind which makes probable truth essential to testimony. Coady, according to Lackey, confuses the metaphysics of testimony with the epistemology of testimony, since "it is impossible to have an unreliable testifier on Coady's model: a speaker would simply fail to testify if there weren't an objective connection between the statement that *P* and that for which it is evidence" (2006). Since testifiers can of course be unreliable, she concludes, we should not build reliability into testimony.

I take no stand here as to whether Lackey's argument succeeds against Coady's analysis of testimony but simply point out that it fails if directed against a view on which reliability is essential to the kind testimony. On the homoeostatic property cluster theory, a putative member of a kind need not instantiate all the properties in the cluster partly constituting the essence of the kind of which it is a putative member in order for it to count as a genuine member of that kind, but need only instantiate enough of the relevant properties. Thus even if the property being probably true is in the cluster partly constituting the essence of testimony, a putative testimonial utterance could be a genuine instance of the kind even while failing to be probably true. And thus there might be a speaker most of whose testimony is unreliable.

Lackey also objects that building reliability into testimony means that "the work for epistemology is no longer to show that testimony is an epistemically acceptable source of justified belief but, rather, to *inquire as to whether we do in fact have an institution of testimony*" (180). The thesis that testimony is a natural kind, if testimony is essentially reliable, has a more severe consequence yet: whereas on Coady's approach, the question about testimony is whether we have such an

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institution, on my approach, we have already answered that question as well, for by doing empirical research into the nature of testimony, we discover that accepting testimony reliably produces true beliefs and, indeed, that it does so necessarily. Hence there is little room left at this point for a special epistemology of testimony, which presumably is what Lackey is after.

But it is precisely the severity of its consequences for the special epistemology of testimony that allows the approach advocated here to circumvent Lackey's objection. There is, once we have completed our empirical investigation of testimony, no more work to be done to show that testimony is an epistemically acceptable source of belief, if my hypothesis is right, because, in the course of that investigation, we will have discovered that that source is epistemically acceptable (because reliable). It is not that we begin by intuiting that testimony is necessarily reliable, and then ask whether we have any testimony; instead, it is that we begin by investigating the institution of testimony, and then discover that it is necessarily reliable.

This concludes my defence of the thesis that testimony is a necessarily reliable natural kind and my argument for the claim that this view of testimony grounds a new naturalist global reductionism capable of avoiding the objection from the too-narrow induction base that defeats orthodox Humean global reductionism. The objection from the too-narrow induction base is, of course, only one of the standard objections to global reductionism; also central here are objections concerning the epistemic status of the testimonial beliefs of small children (Schmitt 1994, 11) and concerning the extent of the "infection" of non-testimonial by testimonial beliefs (Coady 1992, ch. 9). It remains to be seen whether naturalist global reductionism fares any better against these objections than does orthodox Humean global reductionism.[25]

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NOTES

1 'Testimony' will, in the context of this paper, refer to the phenomenon of "natural testimony", which, as Coady puts it, "is to be encountered in such everyday contexts as exhibit the 'social operations of mind': giving someone directions to the post office, reporting what happened in an accident, saying that, yes, you have seen a child answering to that description, telling someone the result of the last race or the latest cricket score" (1992, 38).

2 On the impact of some other standard objections to global reductionism on my strategy, see the conclusion of the paper.

3 I have nothing novel to say in defence of the homoeostatic property cluster theory of natural kinds; but note that it is among the leading accounts of natural kinds, so that whether or not one is partial to the theory, its implications for the epistemology of testimony are not without interest.

4 Note that I assume without argument that the causal theory of reference (Kripke 1980, Putnam 1975) is correct with respect to natural kind terms. This means that the thesis that testimony is a natural kind can be thought of as the conjunction of two claims: first, that 'testimony' is a natural kind term; second, that 'testimony' successfully refers. The question of the nature of testimony, if this is right, is to be answered by means of empirical investigation, is a matter of determining what, if anything, causally regulates our use of the term 'testimony'.

5 Since a successful projection just is (or is closely bound up with) a legitimate induction, it might be worried that I am putting the cart before the horse here, since the thesis to be defended is precisely that testimony is a natural kind (and so can support inductions). But this worry is based on a misapprehension of the dialectical situation: I am out to argue that testimony is a natural kind; that the properties of testimonial utterances are projectible is (inconclusive) evidence that testimony is such a kind; thus it is in order for me to adduce the apparent projectibility of those properties as evidence for the thesis that testimony is a natural kind. More will be said below to support the thesis, and the way in which an induction to the general reliability of testimony might work is not described until §2.

6 My focus throughout is on the possibility that testimonial utterances are members of a natural kind. Should the cognitive process of accepting testimony itself turn out to be

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a kind, then perhaps – this will depend on how the process is individuated – there will turn out to be a mechanism internal to members of the kind (individual process-tokens) responsible for the homoeostasis of the kind. I do not pursue this possibility here.

7 There is an important worry here, namely, that testimonial utterances are not, after all, typically probably true. In an important critical discussion of Coady (1992), Fricker argues that "as regards the likelihood of their being true, tellings-in-general are a rag-bag category. Intuitively, some people or some types of people on some topics are reliable, others on others aren't" (1995, 407). But note that Fricker is here discussing "tellings-in-general"; and however we decide ultimately to delimit testimony, clearly the category tellings-in-general is broader than the category testimony. (Lackey points out that if we equate the two categories, then even an actor delivering lines might count as giving testimony (2006).) That tellings-in-general are a rag-bag category, then, by itself tells us nothing about the general reliability of testimony. But still, one might insist, it is not clear that testimony in particular is generally reliable. I have no decisive argument to offer in response to this worry. But I can point out, first, that the claim fits well with our ordinary thinking about testimony and, second, that it receives additional support from its incorporation into a coherent theoretical view of testimony.

8 The second Reidian disposition is not directly responsible for the homoeostasis of testimony, but since they are part of the same evolutionary package – see below – they are best treated as a pair.

9 Some will be reluctant to accept this inference, arguing that though we might indeed be reasonably good at acquiring information about our surroundings, the disposition to honesty need not tend to result in the production of accurate testimony, since testimony often conveys information that goes far beyond the sort of mundane, broadly observable matters with respect to which all normal speakers are competent. Fricker, for example, argues that testimony on certain topics is unreliable in virtue not of the dishonesty of speakers but rather of their incompetence: there are, in other words, topics testimony about which is unreliable precisely because few speakers are in a position to acquire much information about them (1994). But the objection only serves to highlight the importance of the restriction of my treatment to natural testimony: if, with Fricker, we take the category of testimony to be equivalent to that of "tellings-in-general", then we will have to admit the existence of topics testimony about which is unreliable in virtue of speakers' incompetence with respect to them, and the inference will not go through; if, with Coady, we restrict testimony to the category of natural testimony, the problem does not arise (for then we are interested in a type of testimony that concerns the right sort of mundane, observable matters), and the inference goes through.

10 For recent overviews of relevant work, see Bradbury and Vehrencamp (2000) and Seyfarth and Cheney (2003).

11 The ability to represent the mental states of others certainly gives rise to a greater number of opportunities to manipulate those others, but since the ability to represent the mental states of others also gives rise to a greater number of opportunities to defeat attempts at manipulation, this difference between human testimony and animal signalling does not seem to tell against the working on human testimony of evolutionary pressures much like those which account for the reliability of animal signalling.

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12 As Sperber puts the point: "[i]f communication were on the whole beneficial to [senders] at the expense of [recipients]…or beneficial to [recipients] at the expense of [senders], one of the two behaviors would be likely to have been selected out, and the other would have collapsed by the same token.…[F]or communication to evolve, it must be a positive-sum game where, in the long run at least, both [senders] and [recipients] stand to gain" (2001, 403). One might worry that the inference from the fact that testimony must be beneficial to audiences in order for it to be evolutionarily stable to the conclusion that it must be generally reliable is too quick. One might point out, for example, that on one going story about the evolution of gossip, the benefits in virtue of which gossip achieves stability have to do with preserving or modifying social bonds (Dunbar 2004) and wonder whether a similar story might not be told about the evolution of testimony. Perhaps such a story can be told about testimony, but (as far as I am aware) no such story has been proposed. And (granted the testimony/signalling analogy) a story about the evolution of testimony on which the benefits in virtue of which it achieves stability have to do with providing accurate information has been proposed. Thus while the inference is admittedly quick, I think that it is not too quick. (Thanks to an anonymous referee for pointing out the relevance of Dunbar's work on gossip.)

13 See Johnstone (1997). Note that much current research on signalling focuses precisely on understanding how dishonest signalling is made costly to signallers (Lachman, Számadó, and Bergstrom 2001); see, e.g., Zahavi and Zahavi (1997).

14 The importance of a disanalogy between animal signalling and human testimony comes to light here: animal signals are very often about states of the signaller, but the bulk of human testimony concerns more "public" matters.

15 I have defended a particular hypothesis about the nature of the phenomenon regulating our uses of the term, but the hypothesis is just that – it is subject to revision in the light of the results of empirical investigations of the phenomenon.

16 Why, then, have we thought that we can make progress in the study of testimony without conducting empirical investigations of the phenomenon itself? My diagnosis of the source of this mistake is a special case of Kornblith's general line in his (1998): there is a limited role for "a priori" techniques in the investigation of the phenomenon of testimony, since we fruitfully can consult our intuitions in the early stages of such an investigation in order to collect sample testimonial utterances and to propose hypotheses about what features the samples might have in common; but the investigation is not truly a priori even at this early stage, for our intuitions themselves merely reflect (superficial) empirical knowledge of testimony.

17 There is a related "metaphysical" test for non-descriptionality as well. In order to run this on 'testimony', it would be necessary to hold fixed our beliefs about the nature of testimony and then to consider what we would say about superficially similar phenomena in other possible worlds. Think here of Putnam's Twin Earth thought experiment, in which we take it as given that water is H_2O, consult our intuitions about the superficially similar substance XYZ that fills the lakes and rivers on Twin Earth, and conclude that XYZ, though it satisfies any description we might associate with 'water', is not water (because it is not H_2O) (Putnam 1975). I do not here attempt to run such a metaphysical test for non-descriptionality on 'testimony', simply because to do so would require us to hold fixed our beliefs about the mechanism causally responsible

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for the homoeostasis of testimony – since we are not very confident in those beliefs, intuitions about whether something superficially like testimony falls under 'testimony', even though it is held together by a different mechanism, are not to be trusted.

18 The argument is very similar to one given by Abbott (1989, 277) for the non-descriptionality of 'economic depression'.

19 I have nothing novel to say in favour of Kornblith's account, but adopting it provisionally at least enables us to see what a fully developed naturalist global reduction of testimonial justification might look like.

20 Quoted by Kornblith (1993, 88).

21 As noted at the outset, the argument assumes externalism: for the reliabilist, it suffices that naturalistic induction be a reliable process, that testimony be a natural kind, that testimony be essentially reliable, and that the relevant induction begin from observations of testimonial utterances; an internalist, on the other hand, will presumably require that the cognizer performing the induction know all this.

22 My responses to the objections that it is a priori necessary that testimony is reliable and that it is a priori contingent that testimony is reliable depend on the a posteriori character of my case for the claim that testimony is necessarily reliable. One might wonder whether that case is not itself a piece of a priori reasoning – it is, after all, not observational in character. But the argument is connected to empirical research in a way that, for example, Coady's is not: the argument is suggested by certain themes in straightforwardly empirical research (e.g., the general honesty of signalling), and it is also constrained by the results of that research (e.g., concerning the role of the interests of recipients).

23 More precisely, she argues against Coady's inclusion of the property being "potential evidence" (in the sense of the term given in Achinstein 1978); this distinction safely can be ignored here, since her arguments apply just as well to the inclusion of probable truth.

24 Lackey is indebted on this point to Fricker (1995); I follow Lackey simply because her arguments are presented especially clearly.

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