

# CONCEPTUALIZING CREDIBILITY OF TESTIMONY<sup>1</sup>

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## 0. Abstract

Two questions are focused below: (1) What is the character of credibility, i.e. justified belief based on testimony? and (2) What epistemological framework is needed to study the credibility of testimony? The questions are interdependent. A characterization of credibility is pointless unless we are clear about what we want to conceptualize and why. My aim in this article – “paper” is hardly the right word for it – is to steer between a rationalizing, epistemological Scylla that neglects all characteristic features of testimony and a relativizing, descriptive Charybdis that makes studies of testimony a subspecies of psychology or sociology. The standpoint advocated is related to Alvin Goldman’s epistemics.

## 1. The Pervasiveness of Socially Transmitted Information

Most of the things we know are based on what others tell us. More exactly, most knowledge that men share is, to some extent, based on information provided by others

We all know that grass is green. I know this partly from testimony. My knowledge of particulars, such as the present greenness of my lawn, is based on my own experience. The greenness of grass involves generalities that I would not know unless confirmed by others.

Much knowledge of particulars is also of the kind that I could not all by myself support by convincing evidence. Is it really vinegar in the little bottle labeled “Vinegar” in my refrigerator? I think I know because I bought it under that label. I can test my belief by verifying that the content of the bottle has the same smell and taste as other specimen that have been so labeled.

At first, it seems that I could all by myself have verified that vinegar was in that jar. I could refresh my knowledge of chemistry and I could trace the shipment of the jar from the factory. I could, presumably, verify at the factory which processes were used to produce that batch of fluid that filled the jar and I could, in principle, establish that this fluid was vinegar.

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However, if we look more closely, we realize that even such a simple case of verification depends on the testimony of others. The fluid in my jar was produced in the past. I need to rely on documents tracing the shipment and documents describing the production process.

The reliance on others becomes more pressing in other cases. I know that the United States is a democracy. This is a social fact, depending on social properties of social procedures. The extent of documents and interviews needed to establish this fact is overwhelming.

## 2. Overcoming individual limitations through testimony

Reliance on testimony and authority enables men to overcome their spatial and temporal limitations. Through testimony, it is possible to gain knowledge about events at distant times or distant places.

What is testimony? What are the criteria for classifying certain statements as statements of testimony? Coady (1992) who has devoted a study to this matter has accepted a speech act theory of testimony, giving the definition:

A speaker S testifies by making some statement p if and only if:

- (1) His stating that p is evidence that p and is offered as evidence that p.
- (2) S has the relevant competence, authority, or credentials to state truly that p.
- (3) S's statement that p is relevant to some disputed or unresolved question (which may, or may not be, p?) and is directed to those who are in need of evidence on the matter. (Coady 1992 p. 42)

In this way, Coady extends the formal concept of testimony beyond the realm of legal processes. Audi has proposed an even wider concept, speaking of "attesting" statements that "captures the idea of saying something to someone".<sup>2</sup> Testimony is defined as part of a social process or as statements satisfying social criteria.

Traditionally, however, it would seem that "testimony" has been understood from the recipient's point of view. Testimony is a particular way to inform oneself of facts. The statements one takes as testimony may have been accepted as such in a social process. On the other hand, they might not.

Here, we study testimony as part of the sources of knowledge man can use to extend beyond his own experience. Such a study needs a recipient notion of testimony. I intend to consider testimony from the recipient's point of view and define:

DEF: A statement p is taken as a piece of testimony by an actor A, if, and only if, p is presented to A via oral or written statements and A considers p as a piece of information, stated about something else that A wishes to gain knowledge about.

Suppose Robert participates in a conference and takes notes during this conference. To himself, these notes are just a help to refresh his memory. To Robert, the notes are not normally considered as testimony. Nevertheless, a non-participant may use his notes in an attempt to reconstruct what took place. Non-participants can use Robert's notes as testimony about the conference.

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<sup>2</sup> Audi 1998 p. 131.

Certain cognitive procedures and a certain stance are involved when one takes something as testimony. Suppose Evelyn, now in her 70's, finds her diary written 60 years earlier. She has forgotten most of what she then experienced and realizes that her memories must be influenced by later experience and maturity. She might, when reading her diary, take it as testimony about certain events that she took part in and certain emotional processes she has undergone. If she takes her diary as testimony, she sees it as a report about putative facts.

It is a very different matter if Evelyn considers her old diary not as evidence about facts but as expressive of her mood. If Evelyn has devoted her professional career to therapy, she might give a professional interpretation of her own diary, now as a piece of self-expression. She does not see it as testimony of facts.

Finally, the young Evelyn herself probably did not take her diary as testimony but rather as attempts to structure her emotions and experiences.

To classify a text as expressing a piece of testimony involves an ascription of some kind of cognitively privileged position to the author of the text. Any author of a statement we regard as testimony is ascribed cognitive authority in that of which he speaks. We might ground such ascription of authority on his being a participator, an eyewitness, a confidant, or an expert in relation to the putative facts spoken about.<sup>3</sup> Such authority is a matter of degrees.

When a text is taken as forgery, it is obviously not taken as a piece of testimony. For instance, when, in 1983, the eminent historian Hugh Trevor-Roper confirmed the authenticity of Hitler's diaries, the texts were, for a short period, taken as Hitler's testimony of certain events. However, when the forgery was exposed, the putative diaries could no longer be taken as testimony by those who think that it is a forgery.

Factual statements by experts count as testimony, according to my concept. This is not to say that all statements by those who claim authority, and are granted it, count as testimony. Testimony is typically given in the form of factual statements, not hypotheses, predictions, or explanations.

Testimony, and statements of authority, is presented to us clad in language. This implies two features. First, an enormous amount of information – and hence knowledge – becomes available to those who are in a position to receive it. A 10-year old schoolboy can come to know:

- (2.1) Weapons were made of bronze in Greece 1000 B.C.
- (2.2) Braddock is east of Pittsburgh.

If men were restricted to what they themselves can verify through observation or inference, they would know little. Frederick Schmitt has rightly remarked that “individuals in isolation can acquire only a very paltry set of true beliefs”.<sup>4</sup>

Second, the fact that information reaches us via language implies that it has been classified or coded elsewhere. To classify a piece of dirty metal found in the ground as bronze, as a fragment of an old weapon, and to date it implies procedures exercised by unknown persons or institutions. The cognitive relations between the schoolboy and the archeological findings are conveyed via persons or institutions unknown to the schoolboy.

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<sup>3</sup> Cf. Coady's illuminating discussion in ch: s 14-16.

<sup>4</sup> Schmitt 1987 p. 65.

Such indirect, cognitive relations are at the basis of testimony and reliance on authority. As in other fields of epistemology, it is important to distinguish between sound and unsound claims, based on such relations. Consider the following two statements:

- (2.3) The Greeks burned Troy.
- (2.4) The Israelis walked across the Red Sea.

The claim of the Greeks at Troy is probably true, known and hence possible to know. The second claim about the crossing of the Red Sea is, to my mind, a fable, impossible to know, claiming something that never took place.

The intriguing question for an epistemology of testimony is whether we do (or could) employ systematic means of distinguishing between claims of the first kind and of the second kind and, if so, how that system is constituted.

### 3. Hume's Principles of Coherence and of Correspondence

There are two ways of critically assessing the truth of a claim based on testimony, i.e. evaluating its credibility. One way involves us in coherence with certain of our deeply held beliefs, the other way has to do with correspondence between testimony and fact.

In his discussion of miracles, David Hume aims at clarifying the kind of evidence used for evaluating testimony. He intends to clarify the balance between the various types of evidence used by a wise man to weigh his beliefs. One such principle is as follows:

There must, therefore, be a uniform experience against every miraculous event, otherwise the event would not merit that appellation. And as a uniform experience amounts to a proof, there is here a direct and full proof, from the nature of the fact, against the existence of any miracle; nor can such a proof be destroyed, or the miracle rendered credible, but by an opposite proof, which is superior.

The plain consequence is (and it is a general maxim worthy of our attention), 'That no testimony is sufficient to establish a miracle, unless the testimony be of such a kind, that its falsehood would be more miraculous than the fact, which it endeavours to establish; and even, in that case there is a mutual destruction of arguments, and the superior only gives us an assurance suitable to that degree of force, which remains, after deducting the inferior.' (Hume Enquiries ch. X pp. 90-91)

I will call this *Hume's principle of coherence*. I interpret it as a general principle for evaluating evidence from testimony, not restricted merely to miracles. I take it to say:

(H 1) Let the statement p be presented in the form of a testimony. The likelihood that this testimony is true must be counterbalanced against the previous likelihood of p.

I have chosen to render the principle in terms of likelihood, the exact nature of which I leave open.

Hume's normative principle of coherence is here interpreted as a principle about the evaluation of all testimony. He applies the principle not only in the religious sphere but also to other extraordinary events.<sup>5</sup>

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<sup>5</sup> See the discussion about reports about the premature death of Queen Elisabeth, Enquiry ch. X.

By the name *Hume's principle of correspondence*, I will refer to another principle for assessing evidence. We can formulate a general version of the principle as below:

(H 2) Let the statement p make an assertion about matters of fact and let p be presented in the form of a testimony. The likelihood of p depends on the likelihood that it corresponds to facts.

Hume, of course, thinks that weighing two pieces of conflicting evidence is done by subtraction but this technicality need not bother us here. It is, to my mind, an open matter whether there are such logical principles for combining evidence. Bayesian probabilities offer no purely mathematical way of combining evidence of type (H 1) with evidence of type (H 2).<sup>6</sup> Either there is some, hitherto unknown, mathematical way of combining such pieces of evidence. Alternatively, the combination of evidence might involve substantial assumptions about the kind of world we live in and the kinds of reports we normally receive.

(H 2) is a presupposition behind Hume's well-known justification of belief in testimony:

...there is no species of reasoning more common, more useful, and even necessary to human life, than that which is derived from the testimony of men and the reports of eye-witnesses and spectators.... This species of reasoning, perhaps, one may deny to be founded on the relation of cause and effect. I shall not dispute about a word. It will be sufficient to observe that our assurance in any argument of this kind is derived from no other principle than our observation of the veracity of human testimony, and of the usual conformity of facts to the reports of witnesses. It being a general maxim, that no objects have any discoverable connexion together, and that all the inferences which we can draw from one to another, are founded merely on our experience of their constant and regular conjunction; it is evident that we ought not to make an exception to this maxim in favour of human testimony, whose connexion with any event seems, in itself, as little necessary as any other.....(Hume Enquiries ch. X p. 88)

Hume relies on correlations as a general evidential basis for testimony. We have a set of facts we have observed, E and a set of putative facts, reported by testimony, T. In the intersection between experienced facts and testified, putative facts, we observe a high correlation between putative fact and real fact. Consequently, we infer that T, the putative facts testified to, will also correlate with real facts.

A general presupposition is that the likelihood of belief based on testimony is partly founded on the likelihood of its correspondence to facts. The ways and means we have for establishing such correspondence is fundamental to the establishment of the likelihood of testimony.

In my view, both (H 1) and (H 2) are eminently reasonable. They describe what we actually do in our cognitively most fortunate moments. Therefore, they serve as norms to guide us in less clear-cut situations.

This is not to say that Hume's particular form of coherence and correspondence were correctly stated. His idea that one degree of likelihood is subtracted from another is untenable. Equally untenable is, as we shall see, his idea of that we can certify correspondence by correlation between testimony and fact.

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<sup>6</sup> See the analysis in Sahlin 1986.

#### 4. Humean epistemology. Its stance on testimony

Hume presents us with a theory of the rational assessment of testimonial evidence. This theory is part of Hume's grand epistemological project. Hume's project makes reasonable belief operate with impressions, ideas, and relations of ideas. Causal reasoning takes us beyond what can be supported by reason. It is a habit of the mind.

Our base for knowledge based on testimony is, Hume says, of the same kind as causal reasoning. Belief in testimony is a species of reasoning from effects to causes. Testimony, as I defined it, takes us beyond our own senses and memory. So does causal reasoning where we infer causes from their effects. Our belief in testimony should be no more controversial than other such inferences, if Hume were correct.

Such a stance on testimony, Coady calls "reductive".<sup>7</sup> It starts out by observing that we have two kinds of principles, or grounds, for believing in factual statements beyond our own observation or memory. One such principle is testimony. However, testimony turns out to be a subspecies of the second kind. For Hume, testimony is a subspecies of reasoning about cause and effect.

Hume assumed "cognitive autonomy" or "cognitive independence". The gist of cognitive autonomy is that each singular person can justify his knowledge by methods and materials that he himself can bring forth. In particular, he would not need to rely on any piece of testimony that does not satisfy *other* criteria of knowledge. So all knowledge acquired by testimony is also knowledge by other counts, if cognitive autonomy holds.

Cognitive autonomy implies some form of reduction with respect to testimony. Two ways of reduction is possible, wholesale reduction and piecemeal reduction. Wholesale reduction claims:

(WR) Let C be criteria of knowledge and T criteria of credible testimony. Then T can be justified from C.

Such wholesale reduction is Hume's strategy. All testimony that passes the criteria of testimonial knowledge will, he thinks, pass the criteria of causal reasoning. The very criteria T can be derived from the criteria C.

A more modest stance is piecemeal reduction:

(PR) Whenever a piece of testimony p counts as credible, according to some of the criteria of testimony, p counts as known according to some of the criteria C.

PR is a substantial weakening of WR. Suppose, for instance, that we adhere to the principle:

(C) Whenever two independent witnesses state that p, p counts as credible.

Clearly, C cannot be derived from any criteria of knowledge. Now, it may happen that, given that our world is the way it is, whenever we come across two independent witnesses stating that p, we can verify that their testimony that p is inexplicable unless we assume that they actually witnessed

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<sup>7</sup> Coady 1992 ch. 4.

p taking place. Thus, a piecemeal justification of testimonies, one by one, can rely on matters of facts and not merely the logical relation between the criteria C and the criteria T.

Hume's justification of testimony so far makes no substantial assumptions about what the world is like. Hume's justification is, if it works, a statistical or inductive principle. It starts from a premiss about correlation in one set and ends in a conclusion about correlation in another set. It adds no assumption about matters of fact, of the psychology of testifiers or the institutions in which testimony is recorded or produced. If effective, it vindicates testimony without any factual assumptions beyond the correlation stipulated.

## 5. Humean justification presupposes substantial causal assumptions

A first criticism launched against Hume's account is that it rests on a false premiss. Coady remarks that it is simply not true that we have witnessed much correspondence between given testimonies and facts. Very few of us have done the fieldwork necessary to compare reports and facts.<sup>8</sup>

Secondly, even if Hume's premiss were true, it is not in itself sufficient to prove that we can rely on testimony. For even if I could establish that most testimony I meet with is true, my beliefs concern particular pieces of testimony. Even if I did know 5.1 below, this would not establish 5.2:

5.1 Most reports I have met with are true.

5.2 Most reports about NATO bombings in Kosovo are very likely true.

In this case, there is an extra property about 5.2, namely that it is a war report. This extra property makes it special. Therefore, it would be unwise to conclude 5.2 from 5.1.

This comment generalizes as follows. Suppose we have made a sample S from the set of all pieces of testimony, T, that we have checked and that we have found that members of S in 95 cases of 100 correspond to facts. Now, any new report will belong to T. In addition, it will have other properties: it will be a war report, it will be printed in *The Economist*, or it will contain a strongly positive evaluation of the present government. Whether it is rational to lend belief to this new report depends not only on the frequency of truths in S. In order to put rational belief in a piece of testimony with the extra properties P, Q and R, we would at least have to know the frequency of truths over falsehoods in a set of reports sampled from all reports with P, Q and R.

In general, this cannot be done. For if we fill out P, Q and R to a complete description of the new piece of testimony, it would be uniquely determined. If P is "received by me between 8.30 and 8.35 on May 19, 1999" and Q, is "being about Kosovo" and R is "delivered by AP", this singles out a unique message and sampling is impossible.

The only way to implement Hume's idea would be to let P, Q and R range over general properties that can be relevant to correspondence. For instance, let P be "is a war report which favors a party who has influenced the production of the report", Q "delivered by a news agency that has no independent resources for verification" and R "reported through media taking pride in objectivity".

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<sup>8</sup> Coady 1992 p. 82.

Such a move would, however, take us into substantial theory about which factors might influence production, transfer, and delivery of reports. Hume's inductive justification of testimony has been supplied with a more substantial theory about which factors influence correspondence between testimony and fact.

Indeed, Hume himself is hardly consistent in his claim that assurance in testimony "is derived from no other principle than our observation of the veracity of human testimony, and of the usual conformity of facts to the reports of witnesses".<sup>9</sup> He immediately adds some substantial factors related to testimony:

Were not the memory tenacious to a certain degree; had not men commonly an inclination to truth and a principle of probity; were they not sensible to shame, when detected in a falsehood: Were not these, I say, discovered by *experience* to be qualities, inherent in human nature, we should never repose the least confidence in human testimony. A man delirious, or noted for falsehood and villany, has no manner of authority with us. (Hume Enquiries ch. X p. 88)

Here, Hume goes beyond the correlation and discusses causal factors relevant for bringing about a correlation.

A third kind of criticism is foreshadowed by Hume's own suggestion that correlation between reports and corresponding facts depends on *kinds*.

... the evidence, derived from witnesses and human testimony... varies with the experience, and is regarded either as a proof or a probability, according as the conjunction between any particular kind of report and any kind of object has been found to be constant or variable. (Hume Enquiries ch. X p. 88)

Consider a timetable. It is an example of a kind of correspondence where Hume's procedure seems to work well. Today, I wonder whether a train for Lund will depart from Stehag between 5 p.m. and 6 p.m. The timetable says a train will depart at 5.38. Is this information reliable? In the past, I have found that the trains from Stehag to Lund leave at the time indicated in the schedule. In my experience, the timetable information has a strong correlation to the actual departure time.

Therefore, it seems that in such a case, I am entitled to generalize from past correlations into future correlations between statements and facts. However, the matter is more complex. Can I generalize to a new train operator, employing a different system of management? Can I generalize it to other Swedish train operators? Can I generalize to European bus operators? Can I generalize to flight operators in Australia, India, or Nigeria? Such generalization presupposes that the inspected sample is of the same kind as the set to which I generalize.

## 6. Particular pieces of testimony. Informational chains

Hume's theory of causality has difficulties to account for particular chains of causation. The same problem faces his theory of testimony. We do not always evaluate the evidence for a testimonial report via a class of reports.

What is the likelihood that the Hossbach memorandum gives a correct representation of facts? Colonel Friedrich Hossbach wrote a memorandum of a conference between Hitler, his

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<sup>9</sup> Hume: Enquiry ch. X p. 88.



Foreign Minister von Neurath, and the military chiefs von Blomberg, von Fritsch, Raeder, and Göring. The conference took place on November 5, 1937. The memorandum ascribes to Hitler an intentional confrontational war policy of the same kind as stated in *Mein Kampf*. Hossbach was present at the conference and completed the memorandum five days after the conference. During the war, Hossbach's memorandum was copied by a count Kirchbach and the Americans in turn copied this copy during the preparations for the Nuremberg trial. The surviving copy of the copy of the memorandum has been questioned both as to its authenticity (it might have been edited or abbreviated), as to its representativity (the conference was probably more intended for practical purposes) and as to Hitler's intentions (Hitler's policy was a notorious opportunistic gamble.)

Such particular questions need to be addressed. However, we cannot do so by referring to a class of events, say dictatorial war planning as reported by officers where the original memorandum has disappeared. In assessing the veracity of the Hossbach memorandum, we must assess both its coherence with what we know of Hitler's war plans and the peculiar informational chains between the conference and the copy of the copy of the memorandum.

## 7. Two kinds of evidence combined

Let us return to Hume's two theories of testimonial evidence: reliable correspondence with facts and coherence with previously established beliefs. We can extract from Hacking (1995) two conflicting perspectives on testimony, memory, and facts of sexual abuse:

	<b>Skeptic</b>	<b>Fideist</b>
<b>Frequency</b>	Sexual abuse of children is very rare, also among mental patients.	Sexual abuse of children is rather common among mental patients (at least 5%).
<b>Memory</b>	Memories of abuse in childhood are generally caused by therapists and suggestive questioning.	Memories of abuse in childhood are imprints of actual abuse. However, they are often repressed due to their traumatic character. Therapy is often needed to bring up the memories.
<b>Testimony</b>	Testimonies of sexual abuse seldom correspond to facts.	Testimonies of sexual abuse generally correspond to facts.

Above, we have reconstructed two logically simplified positions. The reconstruction is intended to show the logical interdependence between beliefs about facts and assessment of evidence. Beliefs about the underlying frequency must be based on testimony about abuse. However, the credibility of such testimony depends on what we believe is the more likely cause of the memory reports – real sexual abuse or therapists meddling with the mechanisms of memory in mental patients.

Thus, according to the criteria in use for assessing evidence, there is logical interaction between belief in testimonies and belief in the facts they testify to. The first is evidence for the second that is used as evidence for the first. This is, of course, not to say that such evidential relations exhaust the matter of memory about abuse. Theories of abuse and abuse-memories are not, as we shall see below, logically immune from other pieces of evidence or other theories of memory.

The example also indicates how we should understand evidence relating to correspondence. It relates to a piece of testimony being “produced” by the facts it testifies of. Reliable testimony is intended to “track” the facts it testifies to. Suppose Abby has, in fact, been sexually abused but that a therapist has implanted her memories of sexual abuse. Even if her testimony is true, it does not “track” the facts. She would have reported the same memories, had those episodes of abuse not taken place.<sup>10</sup>

By a reliable report of p, we mean:

(R) This report of p could not have been given unless p took place; i.e. in every possible state of affairs where this report of p is given, p actually took place.

The report of p must be tied to the fact that p or else the report is not reliable. So considering the evidence that a report of p is correct, we have two criteria:

(H 1') The previous likelihood of p

(H 2') The likelihood that p is reliably reported, i.e. the evidence that this report of p could not have been given unless p took place.

## 8. Criteria of correspondence. Implications for reducibility

There are two basic kinds of evidence that a certain piece of testimony reliably corresponds to facts reported, evidence of particular pieces of information and of general kinds of information.

First, there is evidence, relating to this particular chain of events lying behind this piece of testimony. Reliability is based on particularities delivering this report.

Such procedures for scrutinizing particulars are (or ought to be) used to assess reliability of testimony in court or in history. Courts rely on specialists, or supposed specialists, to assess whether certain identifications or claims made by important witnesses reliably tracks the facts. An example would be the assessment of Mrs. Palme's identification of a suspect as the murderer of the Swedish premier Olof Palme. According to court assessments, leading comments by police officers could have brought about her identification. Such assessment of particular facts relating to testimony in court involves careful assessment of evidence about alternative explanations of how the report and the memories may have come about.

Another example of scrutiny of particulars would be the Hossbach memorandum. There seems to be basic consensus among professional historians that the memorandum gives a correct view of Hitler's long-term intentions. However, in the 1960's the eminent British historian A.J.P. Taylor rejected it.

A difference between the evaluation of eyewitness testimony and the evaluation of historical evidence such as the Hossbach memorandum is that the former type of evaluations are more dependent on general findings about human memory. Evaluations of Mrs. Palme's identification are largely dependent on seeing it as a *kind* of report, testifying to a *kind* of event. General research on reliability of such kinds is highly relevant. In contrast, the evaluation of the reliability of Hossbach's memorandum is hardly based on *kinds* of reports or kinds of events. There, the unique circumstances dominate over findings about general kinds.

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<sup>10</sup> The notion of tracking is inspired by Nozick 1982. Nozick's ideas were preceded by Halldén 1973.

A second type of evaluation of testimony is directed to the evaluation of types of testimony. What credibility should we attach to testimony of sexual abuse, given in such and such circumstances? Is it common that traumatic memories are suppressed? Empirical evidence suggests otherwise. How susceptible to suggestions are youngsters, giving testimony? Psychological studies indicate that they are highly susceptible to suggestion concerning events they claim to have witnessed but not concerning events they claim to have experienced themselves.<sup>11</sup>

There is relevant knowledge about the kinds of factors influencing kinds of testimony that could hardly exist without advanced research into the psychology of memory. Often, there is a wide discrepancy between folk belief about testimony and scientific findings. Folk psychology tends to see memory as storage for imprints whereas modern psychology emphasizes memory as formed by interactive cognitive processes. Consequently, eyewitness identification of a perpetrator is one of the factors that most deeply influences jury members. At the same time, it is a notoriously unreliable factor.<sup>12</sup>

On a social scale, we are often concerned about the veracity of news reports. In contrast to professional historians or courts that can hire experts on testimony, those of us who form our opinions on the basis of reports have little or no inklings about how the information have reached us. Is there strong evidence of successful NATO bombings in Kosovo? The chains of information leading from the NATO press conference to the morning paper is not generally known by the reader.

In such cases, there seems to be a reliance on general institutional facts. If my morning newspaper were seriously wrong about the bombings, some other paper would correct it. Alternatively, it would correct its own mistakes. Often, there is at bottom assumptions about the workings of a free press in a liberal society. Newspapers compete on a market where veracity and reliability give them an edge in competition.

Let us now steer towards conclusions for reducibility and cognitive autonomy. We have seen that the criteria actually in use for assessing testimonial evidence involve highly complex reasoning.

Reductionism with respect to testimonial evidence claims that testimony could be epistemically evaluated without the use of other testimony. Even the weaker form of reductionism – piecemeal reductionism - assumes that any piece of testimony could be so evaluated: If p counts as justified, given facts and epistemic criteria for testimony, p counts as justified given more general criteria for justification. Given all relevant facts, one would need no particular epistemic criteria for testimony if reductionism were true.

Let us pause to consider what is at stake. The very point of testimony is to help us overcome spatial and temporal limitations. I would spend much time on verification by checking the matter for myself, even in those cases where I could do so. Instead of going to the mall to check the prices on a new refrigerator, I call the shop and ask about it.

Testimony also helps us overcome cognitive limitations. Often, such checks involve theory construction or use of elaborate methods. Our examples of memories and suggestibility are of that kind. Therefore, if I want to do away with testimony from scientists, I would have to become my

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<sup>11</sup> See for instance the contributions in Pezdek & Banks 1996.

<sup>12</sup> Loftus 1979.

own cognitive psychologist, specialized in memory research. Similarly, I would have to become a historian in order to assess testimony and historical sources. All my evidence about the past would have to be based on my own research into the historical sources.

Given that we assess the credibility of testimony both via correspondence and via coherence, only a universal knower, cognizant both of men and matter, can verify the reliability of all testimony by other criteria. He would have to know of any fact that might influence memory in order to establish correspondence. He would have to know of any object of testimony in order to assess coherence.

Clearly, persons whose exercise of limited cognitive capacities is limited by space and time cannot do this. Even piecemeal reduction is impossible for such beings. A worldview of any modern human being will have to rely on testimony and, hence, assume the reliability of others.

Let me formulate this result in a way that makes it more perspicuous. We have shown that the proposition

8.1  $p$  is testimonially justified (i.e.  $p$  is a credible piece of testimony)

cannot be derived from:

8.2  $p$  is a piece of testimony and  $p$  is justified

together with a set of facts,  $F$ , justified to a person with limitations to cognitive capacities and spatio-temporal transports.

The criteria for assessing the credibility of testimony are special. They are not derivable from a general theory of justification, even with the addition of facts, justifiable to limited beings. This implies restrictions on what epistemology can be like.

## 9. Testimony and its Place in Epistemology

We can now turn from testimony to questions about its place in epistemology. Our idea of what epistemology is, or ought to be, will partly determine which questions are proper to ask and answer in a theory of testimony. Conversely, facts about how persons and social institutions deal with testimony will determine what a theory of knowledge can hope to achieve. This we have seen in Hume's discussion where testimony and general features of Humean epistemology interact.

I can see three possible stances on the relation between theories of testimony and theories of epistemology:

- Epistemological model building has primacy. Its aim is to analyze, characterize, or define central cognitive concepts like knowledge, justification, evidence, and reliability. These concepts can be outlined by logical, conceptual, or normative analysis of rationality. The aim for a study of testimony is to apply those general concepts to clarify the epistemic nature of testimony.
- Psychological, social, or historical descriptions have primacy over the construction of rational models. The primary aim is to describe and explain knowledge and other epistemic phenomena in the same way as other mental and social facts are explained. In particular, present epistemic norms should not play any role in description or explanation of the norms among persons or societies investigated.

- Epistemic and descriptive studies are logically interdependent. Norms will have to be formulated in ways that take account of what the facts are. Description and explanation are of greater interest if they relate to our present epistemic norms.

We will, in turn, discuss each of these three stances connected to theories of testimony.

## 10. The Primacy of Epistemic Model Building?

Given the pervasiveness of socially transmitted information, it is disappointingly little attention that philosophers specialized in epistemology have devoted the matter. Philosopher's epistemology has long been dominated by Platonist ideas of concept formation and method. If the Platonist model does not fit real epistemic behavior, criteria and processes in use among the multitude, too bad for reality. A charming assumption about the powers of armchair philosophy to reject established, entrenched, and well-tested cognitive practices is expressed below:

....a pragmatic defense of testimony is dubious, however, since the whole question before us is whether or not testimony provides knowledge, and if so how. To argue that it does so through our policy of accepting it, a policy justified in turn through its alleged yield of knowledge, is unacceptably circular.  
(Sosa 1991 p. 215)

A first characteristic of such Platonist epistemology is the assumption that there is one concept of knowledge or one model or formula that captures all kinds of knowledge. It has been assumed that some formula can be framed using variables of the kind: X knows that p if and only if a, b and c, where X is a knower and p is the proposition known. Typically, the clauses a, b and c are inspired by *Thaetetus*.

Second, the method for finding this concept, model, or formula has largely followed mathematical methods of concept formation. Such methods can be gathered from Lakatos' *Proofs and Refutations*. There, counterexamples are exhibited and analyzed in order to conceptualize general properties of knowledge. When, for instance, the Russell-Gettier examples hit modern epistemology in the 1960's, the cadre of epistemologists started the hunt for "the fourth condition of knowledge". This is a clear example of Lakatos' "monster-barring" method.

Third, when actually turning to a source of knowledge such as perception, memory, or testimony, the general framework is applied. The issues dealt with are selected without regard for the special features of testimony but rather in terms of internalist/externalist, justificationism/reliabilism etc.

The search for such unity behind our cognition is, it seems, neither convincing, nor likely to be useful. The fact that there is a word "knowledge" or we can say: "I know that..." is no very compelling argument in favor of such conceptual unity. A study of knowledge disregarding the various sources and types is like pronouncing on the anatomy, physiology, behavior, and ecological role of anteaters, bats, and dolphins by applying a general theory of mammality to them.

This method for searching conceptual unity might work in the field of mathematics where many, rightly or wrongly, assume that there is a domain of ready-made mathematical entities for us to discover. But when we turn to human cognition and social practices of classifications in the cognitive domain, it would be surprising if there were such unity as the Platonists assume.

Third, the outcome of such a search, even if successful, is not likely to be of much help to practitioners in the field of knowledge. Suppose that we told a university teacher of mathematics, a high school teacher of history and a first grade teacher of religion that they employ the same concept when they evaluate knowledge in their students. How illuminating is such information when the particular criteria are so different?

When Platonism turns to the study of testimony, it tends to neglect what is typical of testimony in general and the variations in the use of testimony. Vide, for instance, Keith Lehrer's discussion:

When Ms. Oblate tells me that the sun is not round, then I must evaluate this information. I must evaluate whether Ms. Oblate is trustworthy in what she thus conveys. As a result, I am completely justified in believing that the sun is not round only if I am completely justified in accepting that Ms. Oblate is trustworthy in what she conveyed. The latter is true only if Ms. Oblate is completely justified in accepting that the sun is not round. The knowledge we acquire by the transfer of information from others is, therefore, intrinsically dependent on the others being completely justified in accepting what they convey. (Lehrer 1987 pp. 96-97)

Lehrer's example is artificial, to say the least. By constructing artificial and simplified examples, philosophers are prone to miss the workings of our actual epistemic concepts and procedures.

However, such artificial examples distract us from the way testimony actually is used to build justified belief. Actual procedures are more sophisticated than Platonists assume. By interviewing five poor witnesses, the police can put together information that will give justified belief. Actual procedures for dealing with texts permit professional actors to "amplify" weak sources and gain justified beliefs through weak links. If we choose to call such belief "knowledge" or not is a question of terminology.

## 11. The Primacy of Socialized Testimony?

"To believe, to trust, to rely on another, is to Honour him; signe of opinion of his vertue and power. To distrust, or not believe, is to Dishonour."<sup>13</sup> These words from Hobbes' *Leviathan* could have been the motto of Shapin's *A Social History of Truth*. The aim of the book is to connect truthfulness to social virtues and to honor.

Shapin studies the role of testimony and credibility for science in the 17<sup>th</sup> century. Then as now, science depended on testimony and authority of others. Since the level of theorizing was low, measurement and experiments cumbersome or uncertain, scientists had to rely on observational reports. Arctic ice reports and testimony from pearl divers formed part of the observations relevant to science.

The evaluation of such reports was influenced by civil conceptions of honor. It turned out that credibility could mainly be assigned to such testimony that emanated from gentlemen. In Shapin's words:

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<sup>13</sup> Hobbes, *Leviathan* ch. X.

...an honor culture stressed the significance of gentlemanly truthfulness and identified the imputation of lying as incompatible with membership in civil society. Lying was understood to proceed from constrained circumstances; hence he who lied revealed himself to be base, ignoble, and unfree. The same culture which explained why one might rely upon a gentleman's word and build one's sense of the world upon that word also provided a picture of the social order and its distinctions of rank. Practical epistemology was embedded within practical social theory. (Shapin 1994 p. xxvii)

Testimony could be trusted when coming from men, characterized by a middle position in society, below the princes but above the lower strata. These beliefs had ancient roots and crystallized around certain themes in early modernity.

First, gentlemen were ascribed perceptual competence. Perception was based on sensation, interspersed by reasoning employing higher faculties. Common people from the lower classes were gullible and open to fraud from fortunetellers and jugglers in the market. They were dominated by animal nature, not by the nobler parts of a gentleman's cognitive endowment. Obviously, women with weak powers of reason and much fancy were not reliable sources.

Second, gentlemen were men of independent means with a secure and stable reputation. They had nothing to gain and everything to lose by presenting a lie. In contrast, servants, merchants, and paupers were dependent on others and hence open to influence and interests that diminished the credibility of their testimony.

Third, testimony was seen in the light of intellectual tradition that blended pagan and Christian elements. A fear of God was combined with a sense of honor that ultimately relied on a gentleman's capacity for defending his honor. Accusations of lying were ritual elements on the way to a duel.

Finally, the gentleman was free, unconstrained to tell the truth without fear. To lie was to exhibit fear or dependency on the gifts of others. The liar was a base, ignoble nature.

From his exposition of the norms of credibility in the 17<sup>th</sup> century, Shapin concludes:

- Science was dependent on civic culture, especially on extra-scientific assumptions, norms, and values.
- Such norms are historically and socially contingent; they have a history and vary from one society to another.
- Procedures for establishing facts in science depend on social and historically contingent judgments about persons, groups, or classes of persons.

All these conclusions are, I think, proven by Shapin's account. However, Shapin's way of formulating his conclusion is that he has argued "the adequacy and legitimacy of a thoroughgoing social conception of truth".<sup>14</sup> This conclusion is a bit peculiar to make in a context where Shapin before has declared that:

For historians, cultural anthropologists, and sociologists of knowledge, the treatment of truth as accepted belief counts as a maxim of method, and rightly so. If one means to interpret variation in belief, then it seems prudent to ask how it is that truth speaks in different voices, how it is that what 'they' account to be true comes to be so accounted, and to approach those inquiries with a methodological disposition towards charity. (Shapin 1994 p. 4)

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<sup>14</sup> Shapin 1994 p. 5.

Shapin's claim amounts to nothing more than that "accepted belief" – misleadingly called "truth" – depends on norms that are socially, culturally and historically contingent.<sup>15</sup> This has never been in dispute.

Aside from such contentious re-labeling of his results, Shapin presents us with a deep and insightful view on the role of trust in persons for belief in the putative facts of science. It may seem surprising but in my view, they lend some support to a less relativistic stance with respect to testimony.

We may safely admit that the social categories and norms for evaluating credibility in the 17<sup>th</sup> century differed from our present criteria. That is, at a basic level, they differed but the motivation for the criteria is very much the same as those we presently have for testimony. Perceptual competence is clearly a criterion that is relevant for judging testimony as credible. The differences between the 17<sup>th</sup> century and the 20<sup>th</sup> consist in assumptions about who have perceptual competence. When we turn to the basis for their selection of gentlemen, we see that they actually grappled for cognitive criteria such as capacities for differentiating between erroneous and veridical sensations. They were, of course, influenced by extra-cognitive prejudices – as we probably are – but this is not to say that they would have been completely unreceptive to contrary evidence about who had such competence.

Another 17<sup>th</sup> century criterion for credibility was independence, lack of interest and motivation to speak the truth. Again, we admit the same criteria but we differ as to whom we ascribe such motivation.

Much of Shapin's account centers on the concept of "reliability".<sup>16</sup> Then, as now, the assessment of credibility for testimonies was centered on ideas of the reception of reports that reliably tracked the events testified to.

In Shapin's account, the norms for assessing credibility have a social basis. They are based on trust and this notion involves a perpetuation of the present social order. In believing testimonies from gentlemen, one exhibits a general trust towards them and thus towards the social order assigning them social positions and ascribing them qualities proper for those positions.

Probably – though I am not a competent historian – Shapin is right about this claim. But this need not worry anyone but the most extreme rationalists who claim that cognitive criteria are all that ever mattered to assessment of credibility. There was considerable debate about which testimonies to believe and why. So we may assume that 17<sup>th</sup> and 18<sup>th</sup> century scientists and philosophers held epistemological views that not merely reproduced the dominant social distinctions. Shapin, of course, is too good a historian to make such a claim, but there are not a few who put forth a theory of cultural dopes.<sup>17</sup>

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<sup>15</sup> The distinction between truth and accepted belief is part of Philosophy 101. From "It was true in the 17<sup>th</sup> century that there were witches" follows that there were witches in the 17<sup>th</sup> century. From "It was generally accepted in the 17<sup>th</sup> century that there were witches" does not follow that there were witches then. Shapin expresses full awareness of this distinction.

<sup>16</sup> Shapin 1994 pp. 74-101 connects believability to reliability.

<sup>17</sup> Those who think I'm building a straw man might want to consult Mary Douglas: "Any institution then starts to control the memory of its members; it causes them to forget experiences incompatible with its righteous image, and it brings to their minds events which sustain the view of nature that is complementary to itself. It provides the categories of their thought, sets the terms for self-knowledge, and fixes identities." (Douglas 1986 ss. 112-113)



Shapin claims to connect epistemic criteria for judging putative facts and criteria for judging people. Perhaps there is a convergence between theories of knowledge in normative philosophy and in sociology or history.

In a recent book, Keith Lehrer strikes the very same chords in the opening passages. He admits a “capacity for metamental ascent, the capacity to consider and evaluate first-order mental states that arise naturally within us”. The evaluation is rooted in a system committed to “reason and love, knowledge and wisdom, autonomy and consensus.” By moving from the level of factual assumptions to a metamental level, we can resolve “personal and interpersonal conflict”.<sup>18</sup>

There is in philosophical theory of knowledge nothing peculiar about men evaluating facts through evaluation of themselves. While Shapin strongly emphasizes historical and social contingency, Lehrer speaks within a strongly Platonic tradition of model building. There is, Lehrer, claims, a loop that keeps “together the states within the system and structure of evaluation” with rather peculiar properties:

You might be inclined to ask what the loop is. Is it preference or acceptance? Is it individual or social? Is it mind or body? Is it abstract or concrete? The answer, of course, is that it is an actualized mathematical structure that realizes quantity and quality, individual and society, mind and body. Reality is mathematical as the Pythagoreans affirmed and many a physicist will insist when asked whether reality is made of waves or corpuscles. You can only understand this answer from within the loop. The fundamental answer is the mathematical loop. If you do not understand, return to the beginning, read, evaluate and aggregate. You will find the answer within the loop. (Lehrer 1997 p. 185)

Not everyone would feel convinced about this Pythagorean turn. As often in radically conflicting perspectives, the matter and the perspectives are more complex than they might seem. Fortunately, there is a third standpoint.

## 12. The Interdependence of Epistemic Criteria and Social History

Recent attempts to weld together epistemic assessment and social theory were anticipated by Michael Polanyi in the 1950's. In contrast to Kuhn, whose theory relied on social pressure and irrational Gestalt switch, Polanyi (1958) pointed to the subtle criteria that scientists actually used. His conclusions are both normative and descriptive.<sup>19</sup> Polanyi advocated a general theory, or perspective, on social and cultural processes in the sciences and in the professions.

We may question Polanyi's assumption that the social, cultural and cognitive processes are the same in all fields of science and in all professions.<sup>20</sup> But there can be little doubt that traditions will play an essential role. The importance of others in the construction of a scientific worldview has been emphasized even in the field of mathematics:<sup>21</sup>

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<sup>18</sup> Lehrer 1997 p. 1.

<sup>19</sup> For a comparison between Polanyi's theory and Kuhn's, see Agassi 1988.

<sup>20</sup> See, for instance, Becher (1990) who has studied disciplinary differences on the basis of interviews. An attempt to lay bare the facets of professional development of knowledge is my own study (Rolf 1998) of cognitive and social processes in higher military thinking.

<sup>21</sup> The same point is made, in extenso, in Coady 1992 ch. 14.

The theory of mathematical knowledge which I shall propose breaks with tradition not only by rejecting mathematical apriorism. I shall also abandon a tacit assumption which pervades much thinking about knowledge in general and mathematical knowledge in particular. We are inclined to forget that knowers form a community, painting a picture of a person as having built up by herself the entire body of her knowledge of (for example) mathematics. Yet it is a commonplace that we learn, and that we learn mathematics, from others. Traditional views of mathematical knowledge would probably not deny the commonplace, but would question its epistemological relevance..... To understand the epistemological order of mathematics one must understand the historical order. (Kitcher 1984 pp. 4-5)

A general epistemology that would connect normative philosophical epistemology with empirical studies in psychology, sociology, and history has been given the name “epistemics” by Alvin Goldman. He sees epistemics as a multidisciplinary study, evaluating knowledge procedures through various criteria partly based on empirical properties.

Epistemic evaluation would especially be directed at cognitive processes in a certain environment.<sup>22</sup> A process that operates reliably in its typical environment might go astray in a different environment. Reliability, therefore, is not a property of cognitive processes per se but is relative to other factors as well.

An epistemic procedure of evaluation would study such situated cognitive processes in the light of epistemic virtues and vices. Several evaluative criteria are involved in the selection of such virtues and vices, truth and reliability not being the only ones. The aim is not merely to make an assessment in relation to the optimal cognitive processes but in relation to all cognitive options possible.<sup>23</sup>

In such an approach, the plea for epistemic values and the search for factual description and explanatory analysis support one another. Epistemics aims, in part, at an improvement of our cognitive criteria for appraising beliefs, or knowledge. Any argument for such improvement will have to take account of present processes, criteria or standards. Epistemic reforms will have to consider the present state of that which is to be reformed.

Description and explanation of man’s cognitive processes are not always directly subservient to normative purposes. Unless they are indirectly guided by insight of epistemic norms, they will not shed light on matters of great importance to us now. Consider, for instance, Shapin's account of the roots of early science in a civil conception of gentlemen in an honor society. Such considerations strike us as deep, because they question present norms about science as a universal culture with norms independent of the surrounding society.

Again, such questions were central to Michael Polanyi, who believed science possible only in a liberal society. There are, presumably, cultural, social and political conditions that would make it impossible to exercise the norms and values of science. In this sense, therefore, description and explanation can contribute to an understanding of the present set of epistemic values and their conditions.

Finally, considerations of testimony enable us to reject a claim commonly made in the sociology of science. The claim says that truth has no part to play in explanations of belief and

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<sup>22</sup> Goldman 1992 p. 166 speaks of cognitive processes “with specified parameter value”.

<sup>23</sup> Goldman 1987 p. 133.

acceptance. Most radically, it has been pronounced as the postulate of symmetry in the strong program of the Edinburgh school:

Truth is a very prominent concept in our thinking but so far little has been said about it. The strong programme enjoins sociologists to disregard it in the sense of treating both true and false beliefs alike for the purposes of explanation. (Bloor 1991 p. 37)

This is hardly tenable. Once we introduce reliability into the theory of beliefs and knowledge, this impartiality with respect to truth or falsity will have to go by the board. Abby's belief that she has been a victim of sexual abuse will have to be explained in different ways, depending on whether her belief is true or not. If the belief is false, then the whole explanation depends on factors of psychology and sociology. If the belief is true, and the events she believes in actually took place, then these facts – the objects of her belief, so to speak - is part of the explanation of her belief.

With these general remarks, we can turn to testimony, seen in a general epistemic perspective.<sup>24</sup> A general conclusion is that the epistemic evaluation of testimony is geared towards "veritism" in the sense of Goldman (1987). This set of criteria is focused on true belief as the ultimate aim of evaluation. Other epistemic values such as fecundity or fruitfulness are played down in the case of testimony.

The evaluation will consider the competence and motivation of the persons or institutions producing the testimony. An obscure research institute, sponsored by the tobacco industry, will have low credibility if it reports findings that demonstrate that there is no connection between smoking and lung cancer.

The competence of testifiers and of evaluators is connected to certain topics, procedures, or methods. The mere fact that an expert has been correct 9 times out of 10 does not show that his truth record will keep up. There might have been 100 experts in the field, wildly guessing, and this one happened to make the right guesses. We would need to know whether he applied a method for reaching his previous verdicts. We would want to know whether he will stick to this method and if the future conditions will be similar to those conditions where he made his previous verdicts.

Competence in evaluators of testimony is not general. A historian competent at evaluating the veracity of the Hossbach memorandum is not thereby competent in evaluating testimony about sexual abuse. An evaluator's competence depends on criteria both of coherence and of correspondence, both on his knowledge about the topic testified to and the cognitive and social processes transferring coded information.

Such plural standards may, of course, bring evaluators into conflicts. For instance, Hume's analysis of testimony is an attempt to show that our normal criteria for assessing testimony would nullify all testimony about miracles. There was a conflict between this normal standard for testimony and the lax standard usually applied to testimony of miracles.

The typical feature of testimony is that men can overcome their cognitive limitations by relying on others. Man is an ingenious, social animal, able to invent new cognitive relations and to polish inherited, old ones. Some of the criteria he actually uses have come about through historical accident. While they are, to some extent, a product of the society he lives in, epistemic criteria and epistemic procedures seldom presents actors with unique and consistent norms.

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<sup>24</sup> At the time of writing, Goldman 1999 was not available to me.

Conceptual multitude, incoherence and incompleteness will be inspirations for framing alternatives and evaluating them.

There are viable tasks for normative, descriptive and explanatory tasks within an epistemics that rejects both monolithic platonic rationalism and social relativism. The inspiration for such epistemological principles lie, I think, both in the empirical social sciences of late 20<sup>th</sup> century and epistemology before the 1850's. The history of epistemology involves us in epistemics or criteriology, an empirical and normative study of held and actually exercised epistemic criteria. Hume's study of testimony, Locke's critique of innate ideas or Bacon's theory of idols are, to my mind, eminent examples of what can be done in an epistemology, inspired by concepts and methods from history and social science.

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