

Chapter IV

Goldman and Reliability Theory of Justified Belief

In his "What is Justified Belief?"¹ Goldman intends to give a theory of justified belief. In his earlier papers on knowing, viz., "A Causal Theory of Knowing", "Innate Knowledge" and "Discrimination and Perceptual Knowledge" Goldman denied that justification is necessary for knowledge. But in the present paper, he has second thoughts on the matter. He wants to preserve the relationship between knowledge and justification and says that "Justification is necessary for knowledge, and closely related to it".² However, despite this major difference between his earlier and later deliberations, we shall see that there are many points of contact between these two phases. This entitles us to say that the present development has its precursors in his earlier concerns with knowing.

In framing the criteria of an adequate theory of justification Goldman speaks of two constraints to place on a theory of justified belief:

- (A) The theory must provide a set of substantive conditions, expressed in non-epistemic terms that specify when a belief is justified.

Goldman is not interested in defining the term 'justified' with reference to terms which are themselves epistemic, for example, terms such as 'warranted', 'has (good) grounds', 'has (reason) to believe' and so on. Like some normative ethical practices of defining ethical terms by a set of substantive conditions, e.g., defining 'right' in non-evaluative terms, such as *productive of the highest balance of good over evil*, he

“prefers a theory of justified belief to specify in non-epistemic terms when a belief is justified.”³

(B) An adequate theory of justification must explain why beliefs that meet those conditions count as justified.

Goldman does not assume a position according to which “when a belief is justified there is something ‘possessed’ by the believer which can be called justification.”⁴ A theory of justified belief will specify the truth-conditions for the schema ‘*S*’s belief in *p* at *t* is justified,’ and the theory of justification includes (a) one or more base clauses, (b) a set of recursive clauses and (c) a closure clause.

Before presenting his own theory, Goldman pauses to survey some other possible approaches to justified belief in a manner, which concentrates on the attempt to formulate one or more base-clause principle. The first candidate states it as follows:

(1) If *S* believes that *p* at *t* and *p* is indubitable for *S* (at *t*), then *S*’s belief in *p* at *t* is justified.

Here, ‘*p* is indubitable for *S*’ means ‘*S* has no grounds for doubting *p*’. Since ‘grounds’ is an epistemic term, the above theory does not meet criterion (A). ‘*P* is indubitable for *S*’ may also mean ‘*S* is psychologically incapable of doubting *p*’. But such an interpretation is vitiated by the counterexample of the religious fanatic who may be psychologically incapable of doubting the tenets of his faith but that does not make his belief in them justified.⁵

(2) If *S* believes *p* at *t* and *p* is self-evident, then *S*’s belief in *p* at *t* is justified.

In the above base-clause principle the crucial term is ‘self-evident’. The expression may be interpreted differently. On one reading, ‘self-evident’ means ‘*p* is

directly justified' or '*p* is intuitively justified' or '*p* is non-derivatively justified. This, again, does not meet criterion (A), for 'justified' is an epistemic term. '*p* is self-evident' is also read as 'It is impossible to understand *p* without believing it'. On such an interpretation any belief in a trivial analytical truth or in a necessary truth will count as justified. Again, it's being *humanly* impossible to refrain from believing certain propositions that we understand is not enough to make those beliefs count as justified. Again, there are no propositions such that (a) we understand them and (b) it is *logically* impossible not to believe them. If we accept (2), then there will be no justified contingent beliefs. "... other base-clause principles will be needed to explain the justificational status of beliefs in contingent propositions."⁶

Goldman rightly points out that a base-clause principle is naturally associated with the notion of 'direct' justification, and contingent propositions of first person-current-mental state variety often function in this way. Goldman, in this connection, refers to Chisholm's notion of a '*self-presenting*' state or proposition, e.g., "I am thinking". When a self-presenting proposition is true for a person *S* at time *t*, *S* is justified in believing it at *t*. On this analysis, for a proposition to be 'self-evident' for *S* at *t* suggests the following base-clause principle.

(3) If *p* is a self-presenting proposition, and *p* is true for *S* at *t*, and *S* believes *p* at *t*, then *S*'s belief in *p* at *t* is justified.⁷

Now, what does 'self-presenting' mean? On Chisholm's definition in the *Theory of Knowledge*, "*h* is 'self-presenting' for *S* at *t* if *h* is true at *t*, and necessarily if *h* is true at *t*, then *h* is evident for *S* at *t*".

This, again, does not meet criterion (A), for 'evident' is an epistemic term.

There may be another definition of self-presenting. 'Self-presentation' is an approximate synonym of 'self-intimation' and the definition of a self-intimating proposition has been construed by Goldman in the following way:

(SP) Proposition p is self-presenting if and only if necessarily, for any S and any p if p is true for S at t , then S believes p at t .⁸

The above definition of 'self-presenting' seems to be promising for a theory of justified belief because it is not an epistemic predicate. So (3) would be admissible as a base-clause principle. We are justified in believing the first person-current-mental state propositions because their truth guarantees their being believed.

Goldman, however, is not yet convinced of the correctness of principle (3) and decides to further rescrutinize the notion of 'self-presenting' more precisely. He observes that as the modal operator 'necessarily' can be read in different ways, so there are different forms of self-presentation and hence, different versions of principle (3). Goldman concentrates on two such forms – nomological and logical, (3_N) and (3_L) respectively. According to (3_N) self-presentation has to do with *nomological* necessity. It is nomologically necessary, let us say, that anyone in brain-state, B will *ipso facto* believe that he is in B. And such a belief is justified. The reliabilist position of Goldman would appear to dictate that any such belief is justified for the process producing it could not be more reliable: it is a causal law about the kind of brain-state that it always produces in its subject a belief that he or she is in a brain-state of that kind. But as Goldman himself goes on to say, the claim that any such belief is justified "... is clearly false. We can readily imagine circumstances in which a person goes into brain-state B and therefore has the belief in question, though this belief is by no means justified."⁹

We can think of counterexamples. We can imagine cases, in which that belief is not justified, e.g., a case in which we have reliable evidence (from the super ECG) to the contrary. Or, we can imagine that a brain-surgeon operating on *S* artificially induces brain-state *B*. From all this, Goldman observes, “We would hardly say, in such a case, that *S*’s belief that he is in brain-state *B* is justified.”¹⁰

According to the logical version of (3) – (3_L) self-presentation has to do with *logical* necessity. ‘I am awake’ is such that logically necessarily, for any *S* and any *t*, if ‘I am awake’ is true for *S* at *t*, then *S* believes that she is awake at *t*. But since we (perhaps often) believe that we are awake even when we are sleeping or dreaming, my belief that I am awake need not be justified simply because its truth logically guarantees that it is held. Goldman’s objection is that the truth of a proposition logically guarantees that the belief is *held*, but the truth of the proposition does not guarantee that the belief is justified.

The above criticisms make Goldman to consider the matter afresh. The idea of self-presentation was introduced to ensure that truth guarantees justification. But there are cases of self-presenting beliefs without truth. So what is necessary or at least sufficient is that belief should guarantee truth. Such a notion is often labelled as ‘infallibility or incorrigibility’. And this brings us to another formulation in terms of the incorrigibility of a proposition. A proposition *p* is incorrigible if and only if “necessarily for any *S* and any *t*, if *S* believes *p* at *t*, then *p* is true for *S* at *t*”.¹¹ Basing on this definition of incorrigibility Goldman proposes principle (4).

(4) If *p* is an incorrigible proposition, and *S* believes *p* at *t*, then *S*’s belief in *p* at *t* is justified.¹²

As with self-presentation, there are two versions of incorrigibility corresponding to different interpretations of 'necessarily'. And from this, two versions of principle (4) can be constructed – nomological and logical, called (4_N) and (4_L) respectively.

According to (4_N) incorrigibility has to do with *nomological* necessity. It is nomologically necessary, let's say, that if anyone believes that he is in brain-state B, then he is in B. Thus, 'I am in brain-state B' is nomologically incorrigible. But we can think of a counterexample for (4_N) along the lines of refutation of (3_N) . We can imagine cases in which the belief considered is not justified, e.g., in the case in which we have reliable evidence (from the super-EEG) to the contrary. Apart from the above counterexample Goldman considers another possibility for (4_N) . It is that a person's mental structure might be such that the fact that S's believing that p guarantees the truth of p precisely at the time of belief. But does that imply that the belief is justified? Goldman discounts the intuitive possibility of such a supposition.

According to principle (4_L) incorrigibility has to do with logical necessity. Logical incorrigibility has a more honoured place in the history of conceptions of justification. Any true proposition of logic and mathematics is logically incorrigible. But not all such propositions are justified. Imagine, for example, that S comes to believe some complex logical truth on the basis of faulty mathematical reasoning or wishful thinking. But we may note that logical and mathematical truths are independent of any beliefs. Hence, the idea of beliefs logically guaranting truth is not applicable to them. The idea is restricted to contingent incorrigible propositions. But such restrictions are not immune to counterexamples as shown by Goldman's ingenious thought experiments with Humperdink and Elmer Fraud.¹³

Diagnosing the problems with the initial attempts Goldman notices that counterexamples arise, in each case above, because we can find a belief that meets the conditions (set by the theory of justification) but that is also *aberrantly* caused. To enumerate:

- a. Belief is casually sustained by an inability to doubt the tenets of one's faith.
- b. Belief is casually sustained by being blinded by the aura of the Presidency.
- c. Belief is causally initiated by its being humanly impossible to refrain from believing a certain proposition.
- d. Belief is causally initiated by the mere fact that the subject is in some brain-state.
- e. Belief is causally initiated by wishful thinking.
- f. Belief is causally initiated by reliance on a pseudo-logical principle.

Such beliefs are fair game as counterexamples because none of the above theories places restrictions on how beliefs are caused, that is, on what causally initiates the belief or sustains it.¹⁴ Each theory either fails to meet criterion (A) or criterion (B). Those that fail to meet criterion (B) do so because some causal requirement is needed in order to explain why beliefs count as justified. This brings us to Goldman's own theory of justified belief.

II

Goldman sets out to devise his theory of justified belief, dependent upon the reference to causes of beliefs. He says, "Thus, correct principles of justified belief must be principles that make causal requirements, where 'cause' is construed broadly to include sustainers as well as initiators of belief ..."¹⁵ The need for causal requirements covers both base-clause principles and recursive principles. Conditions that fail to

require appropriate causes of a belief do not guarantee justifiedness. Granted that principles of justified belief must make reference to causes of beliefs, the question arises, what kinds of causes confer justifiedness. Goldman makes a distinction between faulty processes of belief-formation and the belief-forming processes which are justification-conferring. The former include confused reasoning, wishful thinking, reliance on emotional attachment, mere hunch or guesswork, and hasty generalization, among others. They share the common feature of *unreliability* and their belief outputs would be unjustified. The latter processes of belief-formation include standard perceptual processes, remembering, good reasoning and introspection. They have the common feature of *reliability*. A belief arrived at through a reliable means is generally true. Goldman states his positive proposal as follows:

The justification status of a belief is a function of the reliability of the process or processes that cause it, where (as a first approximation) reliability consists in the tendency of a process to produce beliefs what are true rather than false.¹⁶

Goldman now clarifies and explains aspects of the initial statement. For him, certain beliefs are more justified than others, and accordingly certain belief-forming processes are more reliable than others. For example, some visual beliefs are justified and some are not. In fact, Goldman himself gives examples that demonstrate this. He says that a person's visual belief that he has seen a mountain goat may be more or less justified depending upon "whether he caught a brief glimpse of the creature at a great

distance, or whether he had a good look at the thing only 30 yards away".¹⁷ So, all our visual beliefs are not equally justified as they are caused by visual processes which are not equally reliable. Seeing a distant object turns out to be a different process from seeing a nearby object.

Goldman intends to regard the justifiedness of a belief as categorical in the interest of simplicity and apparently believes that 'categorical' is the antonym of 'relative'. As to how reliable a belief-forming process must be in order that the beliefs be justified, Goldman finds that there is no precise answer to the question, and characterizes the justification-conferring processes as ones that have a 'tendency' or 'propensity' to produce beliefs that are true rather than false. However, he did not develop in detail an account of propensities that can easily be applied to belief-forming processes. He thinks that our ordinary concept of justifiedness is vague and leaves it thus.¹⁸

Goldman, however, proposes a complex type-token distinction regarding belief-forming processes in a brief passage of his paper, a distinction which has raised much debate among his critics. The distinction has been clarified in the following way by Richard Feldman. "A belief-forming process *token* is a specific, dated sequence of events that results in a belief. A belief-forming process *type* is a kind of belief-forming process token".¹⁹ The belief-forming processes are types rather than tokens and Goldman recognizes "A critical problem ... concerning the degree of generality of the process types,"²⁰ so that it is the reliability of the process type responsible for a belief that determines its justification, the degree of generality will partly determine the degree of reliability. However, it may be observed that the specific process token that leads to any belief will always be an instance of many process types. For example, the

process token leading to my current belief that it is cloudy today is an instance of all the following types: the perceptual process, the visual process, processes that occur on Wednesday, processes that lead to true beliefs, etc. Of these, the reliability of the perceptual process may be important for the assessment of the belief but the reliability of the processes that occur on Wednesday or the processes that lead to true beliefs are not. If, however, the relevant type is characterized too narrowly then the relevant type for some or all process-tokens will have only one instance, (namely, the token itself). This point has been brought out by Goldman. When he says that “[a] process-type might be selected so narrowly that only one instance of it ever occurs, and hence the type is either completely reliable or completely unreliable.”²¹ This problem which is characterized as ‘The Single Case Problem’ is noted in his observation that “If such narrow process-types were selected, beliefs that are intuitively unjustified might be said to result from perfectly reliable processes; and beliefs that are intuitively justified might be said to result from perfectly unreliable processes”.²² A very broad account of the relevant types of belief-forming processes leads to what has been called the problem of ‘generality’. Goldman seems to think that the reliability theory is to provide an account of relevant types broad enough to avoid the single case problem but not too broad to encounter the problem of generality.²³ It may be noted here that Goldman does not dwell on these problems in any greater length than what he says in a brief passage of his paper. However, this was taken up for consideration by philosophers who have written on the reliability theory of justification in general and Goldman’s version of it in particular. We shall return to this at a later stage.

We have seen that the reliability theory appeals to the belief-forming processes that are reliable. The belief-forming processes must make reference to causes of

beliefs. We have already referred to Goldman's concern with the causal requirement when he says that the correct principles of justified belief must be principles that make causal requirements, their being involved in both the base-clause principles and recursive principles. He has also raised the question: What kinds of causes confer justifiedness? He now elaborates on that.

The causal ancestry of beliefs includes reasoning processes, desires, hopes or emotional states of various sorts, memory and perception, etc. The belief-forming processes concerned are restricted by Goldman "to cognitive events, i.e., events within the organism's nervous system."²⁴ But the belief-forming processes, which confer justifiedness, besides the 'cognitive' events, deals with the cognizer's environmental inputs, i.e., "with the goodness and badness of the operations that register and transform the stimulation that reaches him, ... A justified belief is, roughly speaking, one that results from cognitive operations that are, generally speaking good or successful. But '*cognitive*' operations are most plausibly construed as operations of the cognitive faculties, i.e., 'information processing' equipment *internal* to the organism."²⁵

In the light of the above Goldman formulates the base-clause principle, he was concerned with, for justified belief. He states it as follows:

(5) If *S*'s believing *p* at *t* results from a reliable cognitive belief-forming process (or set of processes), then *S*'s belief in *p* at *t* is justified.²⁶

The above, says Goldman, is an admissible base-clause principle because 'reliable belief-forming process' has been defined in terms of such notions as belief, truth, statistical frequency like producing true beliefs 80% of the time, etc. and as such it is not an epistemic term. The above principle is only a provisional one because there are

difficulties if it is taken as providing the necessary as well as sufficient condition of justifiedness. Consider some processes which we take to be reliable, e.g., deductive inference. Imagine, however, that for one reason or another, we tend to infer from beliefs that are false. Given this, deductive inference would tend to generate *false beliefs* even though we are performing inferences just as we should. Thus, deductive inference would not count as reliable (since it would tend to produce false beliefs). This result strikes Goldman as inappropriate, for it seems that a process's reliability is a function of something about the process itself, rather than a function of something about the process's inputs (for example). This leads Goldman to revise his notion of reliability by introducing that of 'conditional reliability' in this way. "A process is conditionally reliable when a sufficient proportion of its out-put beliefs are true *given that its input-beliefs are true.*"²⁷

At this point to understand the conditional reliability of a process Goldman introduces the distinction between two kinds of belief-producing process: belief-dependent and belief-independent processes. The belief-dependent processes are those *some* of whose inputs are belief-states. The belief-independent processes are processes *none* of whose inputs are belief states.²⁸ The former processes, such as inferring, are processes which take other beliefs as 'inputs' and yield new beliefs as outputs. The latter processes, such as introspection and perhaps, perception produce beliefs from states and events that are not beliefs. A belief-dependent process is *conditionally reliable* provided it generally produces true beliefs when its input-beliefs are true. A belief-independent process is *reliable* provided it generally produces true beliefs. Given these notions, Goldman reformulates his reliability theory this way:

(6A) If *S*'s belief in *p* at *t* results ('immediately') from a belief-independent process that is (unconditionally) reliable, then *S*'s belief in *p* at *t* is justified.

(6B) If *S*'s belief in *p* at *t* results ('immediately') from a belief-independent process that is (at least) conditionally reliable, and if the beliefs (if any) on which this process operates in producing *S*'s belief in *p* at *t* are themselves justified, then *S*'s belief in *p* at *t* is justified.²⁹

In note¹⁰ of his paper Goldman refers to an objection that might have been made to his principles stated above and offers a reply. To quote him:

It may be objected that principles (6A) and (6B) are jointly open to analogues of the lottery paradox. A series of processes composed of reliable but less-than-perfectly-reliable processes may be extremely unreliable. Yet applications of (6A) and (6B) would confer justifiedness on a belief that is caused by such a series. In reply to this objection, we might simply indicate that the theory is intended to capture our ordinary notion of justifiedness, and this ordinary notion has been formed without

recognition of this kind of problem. The theory is not wrong as a theory of the ordinary (naïve) conception of justifiedness. On the other hand, if we want a theory to do more than capture the ordinary conception of justifiedness, it might be possible to strengthen the principles to avoid lottery-paradox analogues.³⁰

Goldman adds a standard closure clause, to (6A) and (6B), to have a complete theory of justified belief, saying that beliefs can only be justified in accordance with (6A) and (6B), that is, if they have an ancestry of reliable and/or conditionally reliable cognitive operations. Although these two principles say nothing about the degrees of justification, we might say that the degree of justification of a belief corresponds to the degree of reliability of the process that produces it. Absolute or complete justification might then be characterized as justification to some suitably high degree, say for example, one beyond which justification in a given instance cannot be stretched.

Goldman, in keeping with the causal requirement of justifiedness of beliefs, calls the theory of justified belief of his as an Historical or Genetic theory and contrasts it with the 'Current Time-Slice' theories, borrowing the phrase from Robert Nozick. The 'Current Time-Slice' theories are instantiated by the Cartesian type Foundationalist theories which trace all justification status, at least of contingent propositions to the current mental states which are true of the cognizer at the time of having or entertaining the belief. He also puts the coherence theories under the same umbrella. In contrast to the Current Time-Slice theories, whether Foundationalist or Coherentist, the Historical/Genetic theory makes the justificational status of a belief

depend on the entire history of the process – both prior and final. Since the Historical theory emphasizes the reliability of the belief-generating processes, it is named Historical Reliabilism by Goldman.³¹

Goldman recognizes that he is not the first to discover the theory and finds the ancestors of the Historical/Genetic theory of knowledge or justification in Plato's theory of recollection; plausibly Locke and Hume had genetic theories of sorts in their accounts of origin of ideas; it might be argued that Hegel and Dewey had Genetic epistemologies; among contemporary writers W.V.O. Quine and Karl Popper have Historical epistemologies. We may also add to the list Putnam. Both Davidson and Putnam think that the object of a belief at least in a majority of cases is the cause of the belief.

Goldman notes that the theory articulated in (6A) and (6B) may be viewed as a kind of 'Foundationalism' because of its 'recursive structure,' but he is quick to distinguish his "Foundationalism' from the 'Cartesian' variety because the Historical theory makes no assumption that the justification status of a belief is something which the cognizer is able to know or determine at the time of belief. There are indeed many foundationalists who make the epistemic assumption of 'privileged access' as necessary.³² Goldman's reliabilist foundationalism is different in that there are many facts about a cognizer to which he lacks privileged access. It is not to say that a cognizer is necessarily ignorant of the justificational status of his current beliefs at a given time; it is only to deny that he necessarily has and can get, knowledge or true belief about this status. This can be shown by a characteristic case of a cognizer who no longer remembers how or why he came to believe something; he may not be able to justify his belief if asked to do so, because the original evidence of the belief has long

been forgotten. Yet, we cannot say that the belief is not justified. "The belief is justified, though the cognizer can't demonstrate or establish that".³³

It is clear that the Historical theory of justified belief as advocated by Goldman is related to the Causal theory of knowing presented in his other writings. We may go so far as to say that it is a blend of the causal and the reliabilist approaches found in them, even though he has refined his theory by introducing many new notions and sophistications. He says:

The historical theory of justified belief I advocate is connected in spirit with the causal theory of knowing I have presented elsewhere.^[13] I had this in mind when I remarked near the outset of the paper that my theory of justified belief makes justifiedness come closely related to knowledge. Justified belief, like pieces of knowledge, have appropriate histories; but they may fail to be knowledge either because they are false or because they founder on some other requirement for knowing of the kind discussed in the post-Gettier Knowledge-trade.³⁴

Goldman distinguishes a variant of the Historical theory and calls it Transitional Phase-Reliabilism. It is a theory which envisages that from a set of beliefs some of which are unjustified one may arrive at a belief *p* through an impeccable reasoning procedure. We can say that the person concerned is justified in believing *p*. But Goldman avers that such a kind of justifiedness is not so closely related to knowing as the one stated above. For, it is not enough that the final phase of the process that leads to his belief in *p* be sound. It is also necessary that the entire history of the process be sound (i.e., reliable or conditionally reliable).³⁵

Goldman now proceeds to consider two objections to his theory, namely, the Historical theory.

(1) The objection he considers here is this. It may be argued that there are some justified beliefs whose justifiedness is not derived from any causal ancestry, e.g., beliefs about one's current phenomenal states and intuitive beliefs about elementary logical and conceptual relations.

To this objection Goldman's reply is that our beliefs of our immediate experiences, such as of 'pain', which are said to be self-justified, have a causal history, however brief. Similarly, apprehensions of logical and conceptual relations are cognitive processes which are in time. When we speak of 'seeing' or 'intuiting' of logical truths, they may be very fast, but they too involve some mental operations that occupy time.

(2) The second objection focuses on the reliability aspect rather than the causal or historical aspect. Since the theory is intended to apply to all possible cases, the objection is that we can imagine a possible world W where the reliability of justifiedness of a belief does not hold. In that world, may be, wishful thinking is a reliable process; a benevolent demon so manipulates things that beliefs formed by wishful thinking usually come true. This would make wishful thinking in the possible world, the demon world, a reliable process. But according to the reliability theory no belief formed by wishful thinking is justified. Goldman's first response to this objection is not very satisfactory as it seems to swallow the objection. He says, "One possibility is to say that in the possible world imagined, beliefs that result from wishful thinking *are* justified. In other words, we reject the claim that wishful thinking could never, intuitively, confer justifiedness".³⁶ In note¹⁵ to his text he says, "... in the world

imagined, even pure wishful thinking could confer justifiedness.”³⁷ This response strikes us as surprising and not very sensible from Goldman’s reliabilist position. He seems to retrace his steps by allowing that wishful thinking is a reliable process to confer justifiedness.³⁸

However, there may be persons who feel that wishful thinking is not a reliable process. It is not epistemically rational to believe what is a result of wishful thinking, even in an imagined world. This objection has been sought to be encountered in two ways. First, it may be said that the proper criterion of justifiedness is not only the propensity of a process to generate true rather than false beliefs, but also to generate beliefs that are true *in a* non-manipulated world. The possible world, the demon world is not a ‘natural’ situation, but a ‘manipulated’ situation involving benevolent or malevolent demons. It is beliefs yielded by processes reliable in the absence of manipulative terms such as demons that are justified. Hence, the Historical theory can be suitably amended to include this condition.

Another way of encountering the objection is to suggest that a belief in possible world *W* is justified if and only if it results from a cognitive process that is reliable *in our world*. Let us explain if we are willing to grant that in our world some of the propositions *S* perceptually believes are epistemically rational because perception is a reliable cognitive process, then the same propositions would be epistemically rational for *S* to believe in *W* as well. But the same cannot be said of wishful thinking. For wishful thinking is not a justification-conferring process. So a belief formed in a possible world *W* by wishful thinking would not be deemed justified, even if wishful thinking is reliable in *W*. To put the matter in another way: a belief is justified in a

world *W* even if it is yielded by a process that is unreliable in *W* so long as that process is reliable in the *actual* world.

But that maneuver will not do perhaps if we consider the possibility that wishful thinking may turn out to be not irrational but reliable *in the actual* world. Indeed, its reliability may be a genuine possibility in the actual world if unbeknownst to us at present, there is a benevolent demon, who will arrange things in such a manner that our wishes come true. Goldman observes that such a future possibility of our wishful thinking rendering our beliefs justified goes against our intuitive judgments. According to him, such problems/counterexamples arise because we have adopted a standard schema of 'conceptual analysis'—in the present context, the analysis of "what is a justified belief?" What is really required is an explanatory theory of justifiedness of beliefs, why we do count or would count certain beliefs as justified and others as unjustified. Such an explanation must refer to our beliefs about reliability—what cognitive processes we believe to be reliable. The ones we believe to be reliable are then regarded as justification-conferring processes. So what counts with regard to the justifiedness of beliefs is what we *believe* as reliable. We believe wishful thinking as unreliable. Hence, we regard beliefs formed by wishful thinking as unjustified. What is important for us then is not what is actually the case or what is true about wishful thinking, but what we believe about it.

This emphasis on *what we believe* makes Goldman to consider a final objection and a final revision of his theory. The objection runs thus. It is possible that *S* has reason to believe that his belief is caused by an unreliable process although, in fact, its causal ancestry is fully reliable. Would not that make *S*'s belief unjustified? That shows that the present reformulation of his theory by Goldman is mistaken. Let

us state the example of such an objection mentioned by Goldman himself in his own words:

Suppose that Jones is told on fully reliable authority that a certain class of his memory beliefs is almost all mistaken. His parents fabricate a wholly false story that Jones suffered from amnesia when he was seven but later developed pseudo memories of that period. Though Jones listens to what his parents say and has excellent reasons to trust them, he persists in believing the ostensible memories from his seven-year-old past. Are these memory beliefs justified? Intuitively, they are not justified. But since these beliefs result from genuine memory and original perceptions, which are adequately reliable processes, our theory says that these beliefs are justified.³⁹

Here, reliabilism suggests that Jones' memory beliefs are justified, even though he tends to think that they are not. How can reliabilism account for this case? Goldman, in his reply, reiterates his earlier stance that the actual reliability of a belief's ancestry is not enough for justifiedness; the cognizer must be *justified in believing* that the ancestry of his belief is reliable. And after several tries/and testing with several formulations specified under (7), (8) and (9) which are supposed to replace (6A) and which are not trouble and objection-free, he claims finally, "The justification status of a belief is not only a function of the cognitive processes that could and should be employed in producing it, it is also a function of the process that could and should be employed."⁴⁰ And from this line of thinking springs a fundamental change in his theory:

(10)

If S 's belief in p at t results from a reliable cognitive process, and there is no reliable or conditionally reliable process available to S which, had it been used by S in addition to the process actually used, would have resulted in S 's not believing p at t , then S 's belief in p at t is justified.⁴¹

This formulation reminds us of the defeasibility theory for justification of beliefs. The defeasibility condition says, among other things that a person's body of evidence should not contain any true propositions which will defeat the justification of belief. In the same way there should be no reliable process in addition to the one already in use if its addition will jeopardize S 's believing p at t . The reliability theory is a refinement of the defeasibility view.

The question is: How does this component alluded to the reliability theory handle the proposed counterexample to the theory? Jones' beliefs result from a reliable cognitive process, namely, memory. Yet, in spite of what his parents tell him about his loss of memory when he was seven and development of pseudo-memory later, he continues to hold his memory beliefs. However, according to the above principle, his beliefs are not justified. For, in addition to memory, Jones has available to him *the testimony of his parents*, which, although misleading in this case, is generally reliable. His using this process - the one constituted by forming or adjusting beliefs on the basis of his

parent's testimony - would have resulted in his *not* holding his memory beliefs. Thus, Jones' memory beliefs are not justified.

We have given an exposition of Goldman's reliability theory as an account of justifiedness of beliefs. Towards the end of his paper he makes a distinction between *ex post* justifiedness and *ex ante* justifiedness. The *ex post* use occurs when there exists a belief, and we say of that belief that it is or is not justified. *Ex ante* use occurs when no such belief occurs and we say of a person independent of his doxastic state with regard to *p* that *p* is not suitable for him to believe. Goldman says that the bulk of his paper is about *ex post* justifiedness. For, in studying the connection between knowledge and justifiedness, what is crucial to whether a person *knows* a proposition is whether he has an actual *belief* in the proposition which is justified.

III

In this part of our exposition we shall attempt an assessment of Goldman's reliabilistic theory so far as justifiedness of beliefs is concerned. Generally speaking, the theory that a belief is justified if it results from a reliable process is vague about what might constitute this process. It seems that a feature of Goldman's reliability views is that they fail to spell out what might be thought to be their most important and distinguishing characteristic. Goldman, in trying to state the substantive conditions that specify when a belief is justified has gone through several modifications of his version of reliabilism. The vagueness of the theory is acknowledged by Goldman himself. He observes that no precise answer to the question as to how reliable a belief forming process must be in order that its resultant be justified, should be expected, and opines that "Our conception of justifiedness is vague in this respect."⁴² He also says, "Since the purpose of my present theorizing is to capture our ordinary conception of

justifiedness, and since our ordinary conception is vague on this matter, it is appropriate to leave the theory vague in the same respect.”⁴³ Further on, while giving the final shape to his theory, he points out that “Our ordinary notion of justifiedness is vague, so it is appropriate for our analysts to display the same sort of vagueness.”⁴⁴

Moreover, in his paper, Goldman says that he wants to “specify when a belief is justified.”⁴⁵ This seems to mean ‘give necessary and sufficient conditions.’ What he does, however, is to provide a putatively sufficient condition in the final formulation of his theory.⁴⁶ Reliability “consists in the tendency of a process to produce beliefs that are true rather than false” and “A process is conditionally reliable when a sufficient proportion of its output beliefs are true *given* that its input beliefs are true.”⁴⁷

The belief-forming processes concerned are restricted by Goldman “to *cognitive* events, i.e., events within the organism’s nervous system.”⁴⁸ They are types rather than tokens and Goldman recognizes “A critical problem concerning ... the degree of generality of the process type.”⁴⁹ The problem of generality is the problem of choosing the relevant process type which is reliable for the assessment of a belief.

Richard Feldman has formulated the type-token distinction, saying “... for each belief-forming process token there is some ‘relevant’ type such that it is the reliability of that type which determines the justifiability of the belief produced by that token”⁵⁰ and gives the following formulation of the reliability theory:

(RT)

S’s belief that *p* is justified if and only if the process leading to *S*’s belief that *p* is a process token whose relevant process type is reliable.⁵¹

An assessment of (RT), however, requires some account of what the relevant types of belief forming processes are. The problem with coming up with an account of relevant types is that relevant types may be characterized too narrowly leading to 'The Single Case Problem' or they may be given a very broad account leading to 'The No-Distinction Problem'. To provide an account of relevant types, the reliabilist must avoid both The Single Case Problem and The No-Distinction Problem. Finding such an account is called "The Problem of Generality." According to Feldman the seriousness of the problem of generality applies to a sophisticated version of the reliability theory proposed by Alvin Goldman. He complains that "Goldman does not say a great deal about what the relevant types of belief-forming processes are", ⁵² and is of little help in solving The Problem of Generality. It is true that in his examples of reliable processes he mentions standard perceptual processes, remembering, good reasoning and introspection. "It is not difficult to see," says Feldman, "... that the visual process is too broad a process and that Goldman's theory runs into The No-Distinction Problem."⁵³ and "The Problem of Generality is not solved."⁵⁴

Goldman seems to respond to this difficulty by bracketing his standard processes of relevant types. His example of seeing a mountain-goat amply demonstrates that. Hasty scanning or catching a brief glimpse of the creature at a great distance is a process of a different relevant type from the one of leisurely scanning "having a good look at the creature only 30 yards away." The different relevant types are of different degrees of reliability and hence the beliefs resulting from them are not equally well justified. Thus, we can avoid the consequence of the standard view that beliefs produced by the same relevant type (visual processes, e.g.,) are equally well-justified.

But how do we, by what means, differentiate between relevant type processes? Feldman points out that this "... requires distinguishing processes in terms of factors external to the believer. Seeing a distant object turns out to be a different process from seeing a nearby object. This appears to be incompatible with Goldman's remark that the processes that he is concerned with are purely cognitive processes, operations that are 'internal to the organism.'"⁵⁵ It seems that the Problem of Generality can be solved but only at the cost of an important basic tenet of reliabilism.

The Problem of No-Distinction persists even when we have relativised the same relevant process type to different observation conditions. Thus, S's belief that p results from a process token of the same process type – Visual belief-forming process—under observation conditions O. The belief is justified if the visual process type is reliable in O. However, such a device cannot save the situation. Whatever be the observation conditions, numerous beliefs can be formed in the same observation conditions. As such, these beliefs are either all justified or all unjustified. However, that cannot be the case. I may be justified in holding some of my beliefs and unjustified in holding some others. So the No-Distinction Problem persists even who have inducted the observation conditions and relativised the process types.⁵⁶ Feldman also shows that unless S's visual belief that p and beliefs of the same kind are produced many times in one set of observation conditions, there will be The Single Case Problem. For if a visual belief is an unusual one, never entertained before, or if a visual belief is formed in unique condition never to be repeated – then that belief will result from a process that leads only once to that kind of belief in those conditions. Consequently, the belief is justified if true and unjustified if false. The Single Case Problem remains.⁵⁷ In view of the above difficulties Feldman says:

Thus, the relativised relativity theory does not provide an acceptable solution to the Problem of Generality. It is difficult to be entirely sure what implications the theory has, since we don't know what counts as the same observation conditions or the same kind of belief. However, to the extent that its implications can be determined, they seem to render the theory open to both The Single Case Problem and the No-Distinction Problem.⁵⁸

Feldman further observes that Goldman's final formulation of his theory does not provide an adequate solution to The Problem of Generality. This can be shown with reference to the two different visual beliefs, one when I see a mountain-goat close at hand and one in which I only catch a glimpse of it at a distance. My belief that I see a mountain-goat is justified in the first case but not in the second. This result follows because in the second case there is available to me a reliable process that would have led me to withhold belief, but no available reliable process would have led to that result in the first case. Now what is that available reliable process which leads one to withdraw belief in the first case but either is not available or would not lead one to withdraw in the other? Feldman suggests that the only possible answer is a higher order cognitive process of reflection on the belief and the evidence for it, leading to the retention or rejection of the belief. Such reflection will reject the belief in case of the distant mountain-goat but not in the case of the nearby-mountain goat. Feldman concludes his observations saying "So Goldman's appeals to other available processes seem not to work in resolving the Generality problem".

Feldman makes another move. He tries to align reliabilism to foundationalism. According to this theory beliefs about one's current state of mind are results of belief-independent processes and from these beliefs one infers propositions about things external to one's current mental state. Foundational Reliabilism too does not avoid The Problem of Generality. It creates problems both for belief-dependent and belief-independent processes. We may take the example of introspection. Introspection is a belief-independent process. It is a relevant type for all its instances. Hence, all introspective beliefs are equally justified. But this is highly implausible. Introspective reports can be less well-justified when one is under the influence of drug, drunk or is attentive or otherwise preoccupied than when one is free from these conditions, resulting in different introspective reports. So it again becomes unclear what is to count as a single relevant type and whether any two token processes will be instances of the same relevant type. So The Single Case Problem arises.

One way to get around the problem is to refer back to the distinction Goldman introduces between two kinds of belief-forming processes: belief-dependent and belief-independent. The former processes are unconditionally reliable provided they generally produce true beliefs, the latter processes are conditionally reliable provided they generally produce true beliefs when their input beliefs are true. Perceptual process is evidently a belief-independent process, and reasoning is belief-dependent process, though Goldman does not mention that. We have already stated the problem with perception as a relevant type of belief-generating process. Feldman shows that The Problem of Generality seems to be extremely vexing in the case of belief-dependent processes such as reasoning. We may explain this contention in our own way. Let us assume that reasoning is a reliable process, i.e., reasoning results in more true beliefs

than false ones; let us assume that 'affirming the consequent' is a species of reasoning, and that it leads to more false beliefs than true ones. According to Goldman's principle (10), then, the belief resulting from a process of affirming the consequent is justified (assuming that there is no other reliable or conditionally reliable processes available to S, etc.) since it results from a reliable process, viz., reasoning; and also unjustified, since it results from an unreliable process, viz., affirming the consequent. Goldman is actually uncommitted to the result that a belief resulting from an unreliable process is unjustified, since he gives only a sufficient condition for justification. Feldman's own observation on this score is also instructive. He says that reasoning cannot be regarded as the single relevant type for all its instances, but there is also no acceptable way to slice it into several processes. In any piece of reasoning logical relations between propositions are crucial, and there are not distinct physical systems, as there are in the case of perception to which we might appeal. "Specifying relevant types in terms of forms of argument makes the theory susceptible to The No-Distinction and a problem similar to the Single Case Problem."⁵⁹

We have recounted Richard Feldman's criticism of the reliability theory of justification, focusing on The Problem of Generality in both its aspects – The No-Distinction Problem and The Single-Case Problem. He has also shown that the problem cannot be avoided even when we have considered the several ways in which the theory can be developed.

We may now turn to another difficulty of the reliability theory of Goldman pointed out by Steven Luper-Roy.⁶⁰ So long we were concerned with types and tokens of belief-forming processes and their reliability, conferring justifiedness on beliefs. We may also proceed from the belief themselves and ask: When is a source reliable for a

certain sort of belief? To be reliable in this respect, a source must be reliable for a given type of belief. We entertain beliefs about different states of affairs. If we are specifically interested in a belief about tables, the source must be reliable for that and not for a belief about books; the reliability of the source for a belief in mountain-goats is not the same as the reliability of a source for a belief in buffaloes. This is called specific reliability by Luper-Roy. But the question we started with may be understood in another way. When is a source reliable in respect of all the beliefs it is capable of yielding? For example, when is a source reliable in respect of all the perceptual beliefs it is capable of yielding? This is unspecified reliability. So there is a distinction between specific and unspecified reliability. A source can yield many beliefs of one type and these beliefs are true. It may tend to produce very few beliefs about tables or buffaloes. Such a source is reliable as an unspecified sort contrasted to source specifically reliable for tables. So sources are reliable relative to the type of belief at hand. Luper Roy claims that this distinction between specifically and unspecifically reliable sources of beliefs is overlooked by Alvin Goldman. For a source which is reliable in his sense—its being conditionally or unconditionally reliable—need not be reliable relative to a given type of belief. The reliability of a source for belief about animals is not a reliable way to arrive at a belief about tables. And the reliable method of arriving at beliefs about tables is not actually a reliable method to arrive at beliefs about one's pet dog. This is because of the fact that there is a distinction between specific and unspecified reliability.

Many more objections are brought against the reliability theory, particularly of Goldman's, which is the best-developed reliabilist account of justification.

We have seen above that Feldman is one of the most thorough critics of reliabilism. What he does is consider extant replies to the problem and restricts himself to criticizing these replies. Yet he has not attempted to show that reliabilists are in principle unable to offer a plausible solution to the generality problem. Indeed, even if his criticisms are all perfectly successful, the most that they have shown is that we, at present, have no good way of distinguishing from many candidates just which process actually do generate a particular belief. If we look to the critics, we find that no one has shown that there is not, as a matter of fact, some thing, that is *the* process by which a given belief is generated. So long as there is such a process, the generality problem poses no threat to the reliabilist's conception of positive epistemic belief. Secondly, beliefs are not usually causally overdetermined. Though the causal chains that lead to a belief, may be quite complex, it is not usually the case that there are two or more such chains, each of which could have generated the belief in the absence of the other. Such overdetermination rarely occurs in doxastic contexts. If it does occur, then it will create problems for the reliabilist.

Suppose again, as the critic of reliabilism maintains, if we have no principled way to single out, from many plausible candidate processes, just which one actually caused a given belief. What follows? Only this: reliabilists would be unable to defend their epistemic assessments of particular beliefs. This is not as damaging as it might appear. This is a failure in demonstrative justification, and not in agent justification. If we lack any general criterion enabling us to isolate or articulate the causally efficacious processes, it does not follow that we are unjustified in our epistemic evaluations. It will only cast doubt on our ability to demonstratively justify our evaluations of the epistemic status of our beliefs.

We can further diminish the threat of the generality problem by asking why this problem does not arise for every other case in which we are interested in making causal attributions. Doctors, chemists, and biologists are not handicapped by their lack of solution to the generality problem. Progress in their disciplines very often amounts to distinguishing genuinely efficacious processes from their more general likenesses. Thus, different chemical components in a medicine may be all causally efficacious for cure of an illness. Do they bother to distinguish the one which is genuinely causally relevant from mere likenesses? If this happens without the aid of theoretical solutions to the problems of causation, then there is no reason to suppose that it cannot be done in reliabilist enquiry. In other causal enquiries the methods are not perfectly precise. But that does not prevent the archaeologist's efforts to reconstruct the causes of the degeneration of an ancient civilization or the disappearance of a population. It does not incapacitate a sleuth from the crime detection from issuing a report on the cause of death – whether, accident, suicide or murder. It does not make an insurance officer from ascertaining the cause of a fire. In many such cases the ensuing reports are credible and justified, though their precision and accuracy do not exceed that associated with selecting a belief-forming process.

Goldman presents a refined version of reliabilism in his paper "The Internalist Conception of Justification".⁶¹ In this paper he allows that the conditions by which a person is justified in changing his or her beliefs should be immediately accessible to the person, a point that seems clearly right. He suggests further, however, that what makes a complete set of justification principles a correct complete set is just the fact that if one always followed those principles in forming one's beliefs then (given the way the world is) one's beliefs would be mostly correct. He argues that there are no

other ways that the principles of justification can be validated. It is clear Goldman is advocating a conception of justification which is not primarily interested in the appraisal of beliefs. He no longer advocates "Historical Reliabilism" and moves further on to a regulative conception of justification.

Notes and References:

1. In George S. Pappas, ed., *Justification and Knowledge*, Boston: D. Reidel, 1979, p.1.
2. *Ibid.*
3. *Ibid.*
4. *Ibid.*, p. 2.
5. *Ibid.*, p.3.
6. *Ibid.*, p.4.
7. *Ibid.*, p. 5.
8. *Ibid.*
9. *Ibid.*, p.6
10. *Ibid.*
11. *Ibid.*
12. *Ibid.*
13. *Ibid.*, p. 8.
14. *Ibid.*
15. *Ibid.* p. 9.
16. *Ibid.*, p. 10.
17. *Ibid.*
18. This sort of view has also been suggested by Frederick Schmitt, "Knowledge, Justification and Reliability", *Synthese*, 40, 1981, pp. 409-17.
19. "Reliability and Justification", *Monist*, Vol. 68, No. 2, 1985, p. 159.
20. "What is "Justified Belief", *op. cit.* p.12.
21. *Ibid.*

22. *Ibid.*
23. *Ibid.*
24. *Ibid.*
25. *Ibid.*, p. 13.
26. *Ibid.*
27. *Ibid.*
28. *Ibid.* Original emphasis.
29. *Ibid.*, pp. 13-14.
30. *Ibid.*, note¹⁰, p. 23.
31. *Ibid.*, p. 14.
32. See for example R. Chisholm, *The Foundations of Knowledge*, Minneapolis, MN: University of Minnesota Press, 1982, pp. 57-58.
33. "What is Justified Belief", *op. cit.*, p. 15.
34. *Ibid.*
35. *Ibid.*, p. 16.
36. *Ibid.*, p. 17.
37. *Ibid.*, p. 23.
38. Laurence Bonjour in *Externalist Theories of Empirical Justification*, in French, Uehling, Wettstein, eds., *Midwest Studies in Philosophy V*, University of Minnesota Press, 1980, pp. 27-51. Cited in Richard Feldman, "Reliability and Justification", *Monist*, ...*op.cit.*, p.160, has proposed as counter examples to the reliability theory cases in which a person believes things as a result of clairvoyance. In his examples, clairvoyance is a reliable process but the person has no reason to think that it is

reliable. Bonjour claims that the reliability theory has the incorrect consequence that the person's beliefs are justified.

39. "What is Justified Belief?" *op. cit.*, p. 18.

40. *Ibid.*, p. 20.

41. *Ibid.*

42. *Ibid.*, p. 11.

43. *Ibid.*

44. *Ibid.*, p. 20.

45. *Ibid.*, p.1.

46. *Ibid.*, p. 20.

47. *Ibid.*, p. 13, italics original.

48. *Ibid.*, p. 12, italics original.

49. *Ibid.*

50. Richard Feldman, "Reliability and Justification", *Monist*, *op. cit.*, p. 160.

51. *Ibid.*

52. *Ibid.*, p. 162.

53. *Ibid.*

54. *Ibid.*

55. *Ibid.*, p. 163.

56. *Ibid.*, pp. 163-164.

57. *Ibid.*, p. 164.

58. *Ibid.*, p. 165.

59. *Ibid.*, p.171.

60. Steven Luper-Roy, "The Reliability Theory of Rational Belief", *Monist*, Vol. 68, No.2, 1985, pp. 203-225.

61. French, Uehling, and Wettstein, eds., *Studies in Epistemology, Midwest Studies in Philosophy V*, Minneapolis, MN: University of Minnesota Press, 1980, pp. 27-52.