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«Naturalized Epistemology and Degrees of Knowledge»

**Paper delivered at the I Conference
of the Ibero-American Philosophical Society**

Tepoztlan (Mexico), august 1988

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§0.— Introductory Remarks

The epistemological approach I'm going to offer in this paper owes much of its prompting motivation to Quine's ideas, esp. holism and naturalism, as well as to Ferdinand Gonseth's **idoneism**.

Still, it is but fair for me to point out that several of the mainstays of the present proposal owe very little to the influence of the philosophers whose epistemological views have attracted me most — or for that matter to that of other analytical philosophers. I am referring to my acknowledging degrees of truth and existence and, consequently, degrees of knowledge, too.

In order to make it easier to follow my reflections below through their sometimes winding course, I now proceed to list the 13 main components of my proposal.

- (1) There are infinitely many degrees of truth of propositions, or — what amounts to the same — of existence of the states of affairs (facts) those propositions would correspond to. The structure of those degrees is an atomic one (in an algebraic sense, to be explained later on).
- (2) Accordingly, there may be infinitely many degrees of existence of [the state of affairs consisting in] someone's believing something.
- (3) Both as it is ordinarily understood in most contexts and as it concerns the epistemological enterprise, knowledge is nothing else but true belief.
- (4) However, that does not mean that justification — or, as I'll prefer to say, warrant — is of no concern to the epistemologist; quite the contrary, since maximizing warrant is our only way of maximizing true belief.
- (5) Warrant is relative, which means that a belief is warranted whenever it is warranted by something or other. Mutually incompatible beliefs may be both warranted by different warrantors.
- (6) A belief can be warranted by nothing but other beliefs of the same subject: nothing external to the subject's doxastic system may be either a sufficient condition or a necessary one for bestowing a warrant upon one of his beliefs.
- (7) Every belief, up to a point at least, is to be warranted by **other** beliefs. However, some beliefs are (in a way) self-warranting to a higher degree than others.

- (8) Every warranting relation is inferential in character. For some beliefs to warrant another belief is for them to be either premises or assumptions of an inference whose conclusion is the latter belief. But the notion of inference involved is: local rather than global; naturalistic rather than normative; in most cases conditional rather than unconditional; and truth-tracking rather than (always) truth-preserving.
- (9) A chain of warranting relations may go on indefinitely. What is required for a belief to be a warrantor is not that it has already been warranted but that it will in turn receive warrant in due course, provided enough time is available.
- (10) In order for a belief to become warranted it is necessary not only that the warranting beliefs will, in due course and provided enough time is available, be in turn warranted, but that the same holds for the (belief in the correctness, or truth-trackingness, of the) inference-rules involved in the warranting process, and so on.
- (11) An inference rule can be warranted by beliefs which may in turn be warranted through a process involving the operation of the rule at issue.
- (12) Some (duly qualified) “justification canons” or “criteria” proposed by negative- or positive-coherence epistemologists may usefully be held to be just some of the inference rules to be laid down in the articulation of the holistic strategy I am sketching out.
- (13) One of the main ideas operative in the implementation of the just suggested epistemological strategy is asserting that the world is epistemically optimal.

Most of the time I will refrain from drawing comparisons between my own proposal and those of people like Bonjour, Rescher, Davidson, Lehrer, Harman, Pollock, or P. Klein, Chisholm, Nozick, P.K. Moser, A. Goldman, Sosa, Alston, St. Luper-Foy, J. Post, R. Foley, and so on. I feel bound to say, though, that without their influence my own thoughts would have been rougher and cruder. In order not to incur the paradox of the preface I’ll conclude this Introduction by saying, not that my remaining errors are not to be blamed on them or on any other people, but that I am confident the above 13 theses are quite true. But, owing to editorial considerations, I shall feel bound to confine myself in the present paper to pleading for theses (1) through (10), grudgingly putting off my defense of the 3 other theses.

Searching for a label fitting my approach, I have come across this one: **gradualistic progressive internalism**.



§1.— Degrees of Truth

Since the claim that there are degrees of truth is a metaphysical one, I am not going to dwell here either on its explanation or on backing it up with warranting arguments. (I’ve tried to discharge both tasks elsewhere.) Let me briefly sketch the idea as well as some of the main grounds for it.

For there to be degrees of truth is not for us to have degrees of nearness to truth in our beliefs, or anything of that ilk. Degrees of truth are not degrees of likelihood, or of plausibility, or of anything subjective. Degrees of truth are not to be reduced to degrees of anything else. Whenever we have a true sentence to the effect that x is less so-and-so than y , that sentence is to be understood as saying that for x to be so-and-so is less true (i.e. a less existent state of affairs) than for y to be so-and-so.

We may “define” the (sentential) truth of an utterance of type ‘ p ’ like this: $\exists x(\ulcorner p \urcorner$ denotes x & x). Which is to be understood in this way: there is something such that, while that something is denoted by any utterance of type ‘ p ’, that something exists. The existence of a state of affairs is nothing else but that very same state of affairs. States of affairs are denoted by sentences. The connective ‘While’ (‘&’) is a particular kind of conjunction, viz. one such that ‘While p , q ’ ($\ulcorner p \& q \urcorner$) is to be: wholly false when ‘ p ’ is; and else as true, or false, as ‘ q ’ is. As for the (non-semantic) truth of “propositions”, well, I had better dispense with such entities altogether except inasmuch as they are identified either with “sentences” (types of utterances) or with states of affairs.

Degrees of truth are thus reduced to degrees of existence. Now, some people find the very idea of degrees of existence nonsensical: if something exists — they contend — it is wholly existent, it cannot be just up to a point real — that is what they allege. And that is what I am challenging. I precisely claim that some things are less existent than others. For my present purposes I confine myself to degrees of existence of states of affairs. Since the truth of ‘ p ’ is nothing else but (the existence of) the fact that p , and that of ‘ q ’ is (the existence of) the fact that q , for ‘ p ’ to be truer than q is nothing else but for the former fact to be more real, or existent, than the latter. Now, for Ted to be less clever than Brian is for ‘Ted is clever’ to be less true than ‘Brian is clever’ is.

Suppose Hugh loves Robin less than he does Jean, or less than Mat loves Tracy. Upon being aware of that fact we’ll be entitled to say that Hugh’s love for Robin is less existent than his love for Jean, or than Mat’s love for Tracy. That seems to me the most natural way of understanding comparative constructions. And doubtless, other things being equal, the most natural understanding or explanation is the best one — and thus the most likely to be true.

But isn’t it circular? Not necessarily. For, ‘It is less true that p than that q ’ may be formally represented as ‘The fact that p implies that q and it is wholly false that the fact that q implies that p ’, with implication being held to be a primitive connective such that ‘ p implies q ’ is true when ‘ p ’ is at most as true as ‘ q ’.

I contend that resorting to an infinite-valued logic articulating that idea of degrees of truth offers the best solution to all difficulties surrounding fuzzy predicates, sorites (like those uncovered by Unger’s well-known arguments) and related matters.

According to that proposal degrees of likelihood or probability are nothing else but degrees of existence of a sentence’s (or fact’s) likelihood, in such a way that for p to be less likely than q needn’t be the same as p ’s being less existent than q , but amounts to p ’s likelihood being less real than q ’s.

Let me sketch a semantic presentation of the logical system which seems to me most appropriate to articulate these ideas. Let \mathbb{R} be the set of non negative reals and $\mathcal{D} = \mathbb{R} + \{\infty\}$. Now $\mathcal{D} = \{x : \exists y \in \mathcal{D} : x=y; \text{ or } x=y \oplus \alpha \text{ and } y \in \mathbb{R}; \text{ or } x=y - \alpha \text{ and } y > 0\}$, where ‘ \oplus ’ stands for addition and ‘ α ’ stands for some (arbitrarily chosen) infinitesimal. Now we define these operations:

$n x =: y \oplus \alpha$, if $y \in \mathbb{R}$ is such that $y=x$ or $x=y - \alpha$; x , else.

$mx =: y - \alpha$, if $y \in \mathcal{D}' - \{0\}$ is such that $y = x$ or $y \oplus \alpha = x$; x , else.

$Nx =: 0$, if $x = \infty$; ∞ , if $x = 0$; $1/x$, if $x \in \mathbb{R} - \{0\}$; mNy , if $x = ny$; nNy , if $x = my$.

$x \downarrow y = \max(Nx, Ny)$; $x \bullet y = x \oplus y$, if both $x, y \in \mathbb{R}$; $x \bullet \infty = \infty \bullet x = \infty$; $mx \bullet y = y \bullet mx = m(x \bullet y)$ if $y \neq ny$; $nx \bullet y = y \bullet nx = n(x \bullet y)$.

$Hx =: 0$, if $x = 0$; ∞ , else.

$x \rightarrow y =: 1$, if $x \geq y$; ∞ else.

Our language will contain these connectives or functors: ‘m’ (read as ‘It’s next to true that’), ‘n’ (read as ‘It’s overtrue that’), ‘ \downarrow ’ (‘neither... nor’), ‘H’ (‘It is entirely true that’), ‘ \rightarrow ’ (implication), ‘ \bullet ’ (“overconjunction”: ‘not only... but also’). A valuation is a mapping v carrying formulas into members of \mathcal{D} such that for any p, q : $v(p \bullet q) = v(p) \bullet v(q)$, and so on (with the former ‘ \bullet ’ standing for a symbol of the language of our logical theory, while the latter stands for the two-place operation defined over the algebra whose carrier is \mathcal{D}). All elements of \mathcal{D} are **designated** except ∞ . Accordingly, some tautologies are less true than others. Simple negation ($\lceil \neg p \rceil$ abbr. $\lceil p \downarrow p \rceil$) is not absolutely incompatible with assertion, while strong negation ($\lceil \neg p \rceil$ abbr. $\lceil H \neg p \rceil$ and read ‘by no means’ or ‘not... at all’) turns out to be classical negation and complies with Scotus rule ($p, \neg p \vdash q$). The logical system just sketched out is a conservative extension of classical logic, with all deduction rules of that logic, too (when ‘ \neg ’ translates classical negation). The simple conditional ‘ \supset ’ (defined in this way: $\lceil p \supset q \rceil$ abbr. $\lceil N(\neg p \downarrow q) \rceil$) is completely classical.

An alternative way of presenting the system would replace every member of \mathcal{D} , x , with 2^{-x} , with $2^{-\infty} = 0$ and $2^{-(\infty - \alpha)} = \alpha$, while $2^{-\alpha} = 1 - \alpha$. Nonstandard analysis affords all those notions.

Notice that the probability of p plus the improbability of p may fail to add up to 1 (i.e. up to 0, in our former presentation). If the improbability of p is the same as the probability of not- p , as seems plausible, the result will be a probability calculus deviating from the classical one, at least in some points.

One last remark: the proposed structure is **atomic** in this sense: for any element x there are two elements y, z such that $y \leq x \leq z$ and y is covered by z , where an element is covered by another iff no third element lies between them. Accordingly there is one minimal degree of truth; which is important in order to handle sorites and yet avoid ω -overinconsistencies. (An overinconsistency is the presence of two formulas of the forms $\lceil p \rceil$ and $\lceil \neg p \rceil$.)



§2.— Degrees of Belief

Regardless of how $\lceil x$ believes that $p \rceil$ is to be analyzed, it purports to denote a state of affairs, and so it will be true inasmuch, and inasmuch only, as that state of affairs exists. This is why we say things like that Emily’s belief in Peter’s good faith does not exist, which means the same as ‘Emily does not believe that Peter is of good faith’.

The notion of **belief** involved in the present discussion is that of (mental) judgment, opinion, view, (mental) claim or contention, conviction. A belief is something which is held, espoused, accepted, relied upon; something one is confident about. Thus, belief, as conceived of here, is not different from acceptance. Lehrer has developed his later epistemological approach by, among other things, taking acceptance, as against belief, as the most important notion. He regards acceptance as something which directly depends on the will and as something meant by a performative verb (so that when someone says 'I accept that p' his utterance is bound to be true). I have misgivings about Lehrer's notion of acceptance, since I doubt that there really is something of that sort. I agree that common use of the verbs 'believe', 'accept', 'be convinced' and so on is wavering and not always enlightening enough. Any philosophical use of those verbs is bound to resort to regimentation. Anyway, I don't think belief or acceptance depends on the will — not directly, that is. I cannot just decide to believe, or accept, that Iran is in America. Are there **other** sentences such that, lacking concluding evidence either for or against them, I can choose to believe them to be true? I don't think so. I may of course say to myself that it would be good to believe they are true, for whatever reason. And so little by little I may in the end become persuaded by my self. But when I say 'No, I don't accept your view, I cannot accept it', what I am meaning is that, whatever I might choose to do, my present doxastic situation de bars me from believing in that view's truth. Of course, our doxastic situation can be indirectly modified, not at will (i.e. not necessarily always as we might wish, with just those modifications being brought about that we wanted), but, at least, under the effects of our decisions (which nevertheless may give rise to doxastic situations different from those we may have intended to cause ourselves to be in). So, e.g., I may say to an interlocutor: 'Well, incredible as your story sounds, I decide to believe it'. By saying that I may possibly persuade myself in the end that in fact I believe that I believe the story; which may — but needn't — lead me to believe the story.

(By the way, the mere fact that acceptance or belief is not a voluntary action is a sufficient reason for epistemic or doxastic justification to be of a non-deontic, non-normative character. Doxastic reasonableness or rationality is not an ethical issue. More on this later, in Sect. 6.)

So belief is an involuntary mental state or "action". But it is by no means the same thing as inclination to believe. Someone may feel a more or less strong inclination to believe something and yet (almost) utterly fail to believe it. Even if I am mistaken about that and there is some correlation between degrees of inclination to believe and degrees of belief, what anyway seems to me pretty clear is that those degrees may be different. Being inclined to believe something is being attracted by it, finding that view engaging, winsome, enticing or whatever — to the extent one feels its attraction. That attraction may have different causes: its degree of probability, or its beauty, elegance or, for a pessimistic person, its very bleakness or luridness. But even when someone is strongly attracted by some view he may fail to accept it owing to reasons of coherence with his belief system.

Likewise, degrees of belief are not degrees of (subjective) probability. It is one thing to believe that a ticket has a $1/n$ probability of being the winner; it is quite another to be convinced to an extent of $1/n$ that the ticket will win. In another paper, wherein I shall go into the grounds supporting thesis (12), I will have several things to say about the relation between degrees of likelihood and degrees of belief. What alone interests me here is to avoid the confusion between believing to degree r that p and ascribing to the fact that p the probability r .

But now, isn't my explanation stalemated or stymied? For the wonted routes to understanding something like degrees of belief is to analyze them either as degrees of inclination to believe, or as degrees of subjective probability, or something of that sort. If those routes are

blocked, if resort to those two notions, which everyone agrees come in degrees, is ruled out, then what way is left? I reply, first, that those two paths are not completely blocked. They provide us with a first cue. Other things being equal, our degree of belief in something is greater or higher the higher is our inclination to believe it or the likelihood we grant it. But correlation and identity are different relations, of course. And most of the time other things are not equal, far from it. However, it is enough for us to realize that our final doxastic attitude towards a believable content or state of affairs (i.e. our acceptance thereof) varies according to some parameters which, as is the case with probability, come in degrees; and such variance gives us a hint, if nothing else, that belief comes in degrees, too.

My second reply will be that our usual ways of speaking countenance degrees of belief. Thus, e.g., people say things like this: ‘Well, I believe it, but less than I believe that...’; or ‘Well, yes, up to a point I believe it, but not completely’. (Yes, you may construe those utterances as involving inclinations to believe rather than beliefs proper; but that seems to me an unwarranted move.) Or take one of Unger’s paradoxes: for any contingent proposition you may be certain of, there is another one of which you must be more certain. Unger thinks that situation to be paradoxical, for he regards certainty as something which cannot come in degrees. But to myself certainty is nothing but conviction, opinion, acceptance, belief; thus, it is something which does come in degrees.

Therefore, a belief system comprises beliefs which a person holds to be true to different extents. (Notice that here the sentence ‘ x holds the opinion that p to extent e ’ means that it is (true) in degree e that x holds the opinion that p , not that x holds the opinion that p is true in degree e .) If only beliefs which are held to a degree of one hundred percent are taken into account, we may be forced to give up our epistemological enterprise. Speaking for myself, I doubt that I have any belief at all to so high a degree. (If that is scepticism, notice, please, that it is scepticism not about true belief but about belief *tout court*. But why is it to be considered a sceptical position? Only, I submit, due to a maximalistic prejudice.)

Another way of realizing that there are degrees of belief is to acknowledge that people may have different, even incompatible beliefs, about one and the same thing. (Let me quote from Alberto Moravia’s *The Woman of Rome*, ch. 2: ‘experience has taught me that the most contradictory things may be thought and felt at one and the same moment, without your noticing the contradiction or choosing one in preference to the other’.) You have left your pencil on the table and to your knowledge it has neither been removed nor fallen to the floor; so it must still be there, you are sure; yet, you’re unable to find it; so (you also believe) it is not there after all; while being in that doxastic perplexity, you hold on to both beliefs, since they are both warranted. Now, do you hold them to the same extent, say $\frac{1}{2}$? Perhaps so. But most probably not. Esp. if the perplexity lingers, but little by little you wind up rejecting the view that the pencil is on the table — by and by convincing yourself that either your memory is defective on that point or an unknown cause has brought it about for the pencil to be no longer there — surely there are moments during the process when you are still keeping your former belief but to a lesser extent than you hold your new one.

Now three final points will bring this section to a close. First, degrees of belief are not inversely proportional to degrees of doubt. When someone holds a belief in a degree of $\frac{1}{2}$, he needn’t be having doubts about the belief’s truth. No, simply what is happening is for him to be accepting the belief in a degree which is equidistant from the extremes of completely *yes* and completely *no*; in other words, his belief under consideration is as existent as nonexistent. That’s all. He may in addition have doubts. But then he also may fail to have them, just half clinging to the view at issue, with no enquiring attitude, whereas having doubts seems to me

to entail wondering, asking oneself whether what is being doubted is true or not. On the other hand, someone may fail to hold a belief and also fail to believe that it is false and yet refrain from any doubting. It is not that I am doubting whether our galaxy currently contains an odd number of stars; simply I have no opinion about it, I am of no mind on that issue. In order for you to doubt something you need a (probably not cogent enough) reason for being inclined either to believe it is true or that it is false. And that also shows that you can have doubts about something which you neither believe nor disbelieve, something you at most feel somewhat or other inclined either to believe, or to disbelieve, or both.

My foregoing considerations don't rule out that *ceteris paribus* the degree of doubt about something is lesser the higher is the degree of either belief (=certainty, acceptance) or disbelief about it. Disbelief is going to be the last notion analyzed in this section. **Disbelief** (or **rejection**) is not just failure to believe but such failure when it constitutes a conscious doxastic state, something the disbeliever is aware of and for which he thinks he has good (warranting) reasons. Since belief is not a voluntary action, neither is disbelief. It is not that I may simply choose to disbelieve something. But disbelieving is doing something mentally, viz. keeping clear of some opinion owing to what one considers warranting reasons for withholding one's assent to that opinion. (So, for instance, what is involved in the debate on the contradictoriness of the world is not whether the principle of noncontradiction is true, but whether every contradiction is to be rejected (disbelieved) or not.)

Here is my 3d. and final point: degrees of belief are not necessarily identical to respective degrees of practical reliance; but of course there are correlations between both series of degrees, although it may turn out to be a difficult task to find out what exactly those correlations are, and under which circumstances they obtain. There may be lurking feelings which hinder us from strongly relying on some of the beliefs we hold to highest degrees or conversely, hidden emotions may prompt us to sometimes behave as if we wholeheartedly adhered to an opinion of ours, whereas in fact our holding that opinion may be less existent than nonexistent. To sum up: degrees of belief are just degrees of belief, even if they are, under appropriate circumstances, correlated with degrees of other doxastic or nondoxastic attitudes.



§3.— **Knowledge = True Belief**

When we remember the debates which followed Gettier's arguments to the effect that a justified true belief may fail to be knowledge we realize that the use of 'to know' which was involved was a particularity strong one. I do not completely deny that there is some such use, chiefly when 'know' occurs as a performative of sorts. The so-called indexical concept of knowledge, with variations of it proposed by Castañeda and Sosa, is likely to involve that notion of knowing. But whether there is such a notion or not is not my own concern. I deny that most uses of 'to know' involve any strong justification. And most of all I contend that for philosophical purposes the notion of true belief is quite sufficient; so, knowledge can advantageously be identified with true belief.

Let me recall an argument of G. Harman which I discussed in my Ph.D. diss., ten years ago. The aim of our epistemological enterprise is to give knowledge. Hence, if knowledge involves a particularly strong kind of justification, we can be content with a true belief endowed with that kind of justification, and with nothing less than that. Most debates about scepticism hinge upon whether we are entitled to claim such a justification or not, i.e. to claim a justification which is indefeasible, or overrider-proof, or whatever. It is one advantage of some externalist nonfoundationalist accounts (esp. reliabilist accounts, like Nozick's **tracking** concept) that, by weakening the kind of warrant required in order for a true belief to qualify as knowledge, they both are truer to most common uses of 'know' and propose an epistemic goal which at least can be attained, thus bringing our philosophical concerns closer to earth. Yet, by doing so they certainly sacrifice or at least blunt the epistemological task of offering an account of reasonable warrant (justification). While discussing Armstrong's externalist view of justification, Bonjour has conceded that many everyday uses of 'to know' fail to entail any internalistically acceptable justification (acceptable, that is, as a kind of warrant that should be reasonably strong enough). So, many uses of 'knowing' in ordinary speech denote something that is not (internalistically) sufficiently justified. Since, as will become clear later, I disregard any justification which is not purely internalistic, what emerges is that many uses of 'know' in ordinary speech denote something which is not (rationally sufficiently) justified.

Thus, we say that a student who believes something because he has been told so by his teachers knows that something, provided it is true, although the teacher may say many things which are untrue. We know that there is a Palestinian uprising because radio news have said so, even if many things radio news say are not just inaccurate but downright false, as we ascertain in a number of cases when we have first-hand information about the events concerned. Of course the case for the above-mentioned uprising's existence is stronger, since it is not just once or twice that newscasts have spoken about it, but I submit (and I think most people would claim) that even the first time we heard about it we knew it was true, provided in fact it was.

Quite another thing is taking place when a person, in order to answer a question, just gambles and utters a sentence which happens to be true. She is not even guessing, no. She is just gambling. In that case she neither believes in the sentence's truth nor consequently knows it to be true.

But then what is the point of taking our ordinary ascriptions of knowledge at face value? For either that acceptance means for us to waive the search for rational justification, which course is to be spurned on count of obscurantism. Or it means nothing of the sort, and then all the debate may be taken to amount to an idle and futile logomachy. I reply that what we gain is clarity about what is the end and what are the means. The end is true belief. Justification — or warrant as I now prefer to put it — is just the way towards reaching that end. Justification matters only inasmuch as it helps us to secure true beliefs. It is not to be made an end in itself. Hence, each time an established standard or canon of rational acceptance or justification can be dispensed with, or sidestepped — or overridden, or superseded — with true belief being enhanced as a result thereof, I think the sidestepping would all in all be a good thing, since thus an **epistemic** net gain would be secured. Think about Feyerabend's remarks on the controversy between Galileo and the Aristotelians; or of Columbus's mistaken calculations about the Earth's size, which were contradicted by such people as opposed his bold enterprise. Nevertheless, it is us, after the facts have emerged, who deem the sidestepping under consideration to be all in all a good thing. We thereby do not ascribe or bestow justification upon the sidestepper (otherwise his belief would have been epistemically justified according to us). I think that however weak, or faulty, or unreliable Galileo's methods may have been he knew that the Earth revolves round the Sun;

however misguided, ungrounded, untrustworthy, or the like Columbus's evidence for his calculations may have been, he knew that there was land not too far from the Atlantic European coast westwards — he knew that even before embarking on his first voyage. He knew it, since he was sure it was true, and in fact it was.

But isn't this concept of knowledge going to leave us stranded on irrationalism and on irresponsible wantonness? For henceforth any frivolous or unwise guess may count as knowledge, however frail, shallow or even nonexistent the evidence for it may be, provided it is true after all; so all serious methodological considerations may be given up. By no means! Arguing that way bears likeness to the 'lazy reason' fallacy against determinism. First, I must admit that to the best of my knowledge there is no guess, no belief, absolutely lacking any support at all. On the contrary, each opinion is in fact backed up by some warranting evidence, however weak or scanty. Do you know someone who out of the blue, with no reason at all (just because!) comes up with a belief which has no roots either in his perceptions or in his previous body of beliefs? Discussions about clairvoyance leave one with the feeling that we are owed an explanation of what the difference would consist in between a mere series of always successful guesses carrying conviction and a parallel series of clairvoyance-warranted beliefs. It is hard to figure out what on earth the clairvoyant person's doxastic attitude would be. I think that each time a person holds an opinion, she is convinced she has some warranting evidence for it. No guess is ever advanced, even to oneself, unless the guesser is more or less aware of there being ever so faint or flimsy evidence supporting the guess. So, the epistemologist's task is not one of forwarding resort to warranted opinions rather than completely unwarranted ones, since the latter do not exist at all, but one of advising improvements of our warranting methods and assessing those methods.

Now, if every opinion is — to some extent or other, however small — warranted (by some evidence or other, however thin or however weakly supportive), then after all knowledge is (somehow or other) warranted true belief, isn't it? No. For, a mental act is one of knowledge to the extent that it (i) is a belief and (ii) is true. Even if it is warranted, as it cannot fail to be to however small an extent, this factor does not enter the conjunction defining its epistemic status. But what about defining knowledge as such true belief as is at least to some extent warranted? My only objection to such a definition would be that so weakly worded the warrant requirement becomes redundant and idle.

Since our business as epistemologists lies in finding out the best ways to acquire knowledge, i.e. true beliefs (rather than ways conducive to discovering ways of searching the truth, e.g., which is what I am afraid most epistemologies are offering us, flaunting as they do the flag of strongly justified true belief and nothing less as the only desirable goal of any epistemic enterprise), and since any such ways are just warranting procedures, and since every belief somehow or other relies on some warranting procedure, all we are faced with is the task of improving the ways of thinking actually existent and operative, without breaking off with our prephilosophical run of thought. F. Gonsseth pointed out a difference between continuity- and sudden-break clean-start epistemologies. A naturalized epistemology belongs with the former. Now, by defining **knowledge** as **true belief** we ensure that, whatever the means we are going to promote, not only does their adoption have to bring about no disruption of the prephilosophical course of thinking and inquiring, but furthermore our whole task amounts to refining as well as carrying forward and upward that very same course, and nothing else.

Indeed most objections levelled at non-foundationalist epistemologies are grounded in the concept of knowledge as (strongly) justified true belief. If that is what knowledge consists in, and if — as everyone grants — we aim at securing knowledge, then knowledge needs foundations, since both reliabilist and coherentist criteriologicals land us on justifying warrants

which are not ultimately justified themselves, at least not in a sufficiently strong sense. But then, since nothing can give something which it lacks (call that the principle of giving-without-lacking), the beliefs such non-foundationalist epistemologies are offering us may well happen to be true and relatively warranted, but not ultimately justified. I doubt that the (unqualified) giving-without-lacking principle is correct, but, even if it is, our current definition of 'knowledge' allows us to foil that foundationalist objection. Since our aim is (that of attaining, keeping and enhancing) true belief, we can remain content with non ultimate justification, i.e. with merely relative warrant. Otherwise our rejection of foundationalism would entail giving ourselves over to scepticism; witness, the failure of non-foundationalist epistemologies to ensure ultimately unassailable justification.

One last point. Nozick has pointed out that what renders justified true belief momentous is that evolution could not have endowed us with just true beliefs without endowing us with justifying procedures. I agree. Justification is good for us, because of our epistemic and otherwise weakness. An omniscient person (one, that is, such that each state of affairs would be true inasmuch, and inasmuch only, as she believed it) would make nothing of justification. If you like, she would possess every (internalistic) justification one could possibly hanker after. But then she would have no use for it, would she? Granted, any true warranting evidence would be such that that person would believe it was true; and inasmuch as it buttressed the conclusion at issue, she would believe it, too, and so on. But the truth of each belief of hers would be guaranteed by the mere fact that she believed it, and of course she would be aware of that fact and of its guaranteeing status. However she would gain nothing by such considerations, since her degree of acceptance of the truth would not be altered, her beliefs would not thus become more existent. But if justification would thus be useless and superfluous for her beliefs, even such a person would be unable to have internalistic foundations. Even for her any justification would be relative, non ultimate, the only relevant difference between her and us being that her infinite chains would actually contain all their links, but of course in a nonterminating way. So, if that kind of (non ultimate) justification chain is objectionable in principle, it would be likewise objectionable as regards an all-wise person. (Recall Wittgenstein's considerations about related matters in his *Remarks on the Foundations of Mathematics*.)



§4.— **Warrant**

My thesis (4) — as set forth above, in Sect. 0 — has already been argued for in the preceding section, wherein I tried to dispel a source of confusion by stressing that identifying knowledge with true belief does not mean for us to jettison the epistemological task of searching for justification, or warrant. But some other considerations are yet to be put forward which buttress that thesis.

Since we are not all-knowing beings, since we are both fallible and ignorant about many things, we need evidential support causing us to attach credence to an idea (mental sentence). Without any evidential support or warrant we would believe nothing at all. Thus we need warrant for two things. First, for engendering belief, whether true or false. Second for tracking the truth.

Now, if the warrant provided by our epistemological account fails to be ultimate, what is going to give us a definite, unshakable guarantee to the effect that our body of beliefs contains only, or at least mostly, truths? My reply is simple: nothing. We lack any unassailable grounds for any belief of ours.

But then, if we possess no ultimately unshakable evidence, what is going to warrant the credence we attach to such evidence as we take to warrant some belief or other of ours, as well as that which we attach to its warranting power and so on? As a coherentist I shall reply that for each of those queries we can afford an apposite answer, but we cannot afford one (single) answer for them all. Moreover, there are cogent transcendental arguments — which I'll refrain from advancing here — which bestow plausibility on the hypothesis that our whole doxastic enterprise is heading towards higher and higher acquaintance with truth. (My arguments are akin to those put forward to that effect by philosophers like Quine and esp. Davidson, as well as — outside the analytical movement — by others, like Nicolai Hartmann.)

Be it as it may, though, whether our whole human doxastic adventure is right-headed or wrong-headed, our only means to acquire new (hopefully true) beliefs, to keep or stabilize our confidence in our (supposedly true) current beliefs, or to reassess some of our beliefs discarding some of them (suspectedly false ones) consist in displaying warranting methods. Thus, by increasing the degrees of reality of some of our beliefs (i.e. our adherence to them) we also raise their firmness, which is nothing else but our clinging to them. (I incline to look upon those degrees as identical, i.e. to regard the firmness of a belief of ours as the extent to which we are accepting or espousing that belief, which however is not the same as the degree in which we are going to keep it in the future, which depends on other factors besides the belief's firmness.) The epistemic (or doxastic, if you like) warranting enterprise affords no ultimate guarantee of truth; but if our doxastic adventure is not basically flawed and wrong-headed, our refined epistemological criteriology may hopefully give us both reasons for persevering in that enterprise and ways of improving our truth-conducive methods. That's why warrant matters.

So much for thesis (4). Let's come to thesis (5), the relativity of warrant. As I remarked above (in Sect. 2) a person may hold two mutually incompatible beliefs at the same time, even in the strong sense (two beliefs of the forms $\lceil p \rceil$ and $\lceil \neg p \rceil$, i.e. $\lceil \text{It's not the case that } p \text{ at all} \rceil$). Since every belief is backed up by some warrant or other — however frail, however weakly supportive of the belief — it follows that for the same person both $\lceil p \rceil$ and $\lceil \neg p \rceil$ may be warranted. That's what reveals the relativity of warrant.

That warrant, or justification, is relational everyone, I think, admits. That's where justification is conspicuously unlike truth. No belief is justified, period, unless it is justified by something or other (at least by itself, as foundationalists claim for a number of basic beliefs). So, everybody seems to agree that justification-by-something is a necessary condition for justification *tout court*. Is it a sufficient condition, too? I feel almost alone in answering positively, since most epistemologists are justification-absolutists in that they posit a nonrelational property of being warranted such that a belief's being warranted is not entailed at all by its being warranted (in the relational sense) by something or other. Thus, e.g., even if almost everyone would grant that our (being aware that we're) listening to a newscast — under certain circumstances which need not be specified here — warrants a number of beliefs about the news, still (so those absolutists argue) that does not necessarily mean that those beliefs are warranted for us, or that we are warranted in holding them; for the warrant given by our listening to the newscast is (claimed to be) just conditional: insomuch as some further conditions are satisfied, we are warranted in holding those opinions. Another way of putting the same thing is to claim that justification is not just warrant, but something else, in such a way that even if some of a

person's beliefs warrant another belief of hers, yet the latter may for all that fail to be justified — to any extent at all — by the former beliefs, since these former beliefs may fail to possess justification themselves, i.e. may fail to be justified either by themselves or by anything else.

As against all such positions I am contending that **warranting** is the same as **justifying** (in the only sense I find useful), and is the same as inferentially yielding. When I say that a belief of a person, that-*p*, is warranted (or, more bombastically put, justified) by some other beliefs of hers, I only mean that there is a “correct” inference wherein the latter beliefs are the premises and the former belief is the conclusion. (On the correctness of inferences, see below, towards the end of Sect. 7.) Therefore, whenever a person infers some belief from other beliefs she also holds — whether the inference is (quite) consciously accomplished or not — the former belief gets “justified” regardless of any other circumstances obtaining or not. That's why if she holds beliefs from which ‘*p*’ can be inferred and also beliefs from which ‘ $\neg p$ ’ can be inferred, both beliefs, mutually wholly incompatible as they are, can be warranted for her. (That would be denied by most justification-absolutists — but not all, one exception being P. Klein — since, according to them, justification is not inference, but calls for something else, which they may — and usually do — spell out in such a way that at most one of the two beliefs in question can be justified.)

The foregoing considerations also lend support to thesis (6). Other things I'd have to advance in behalf of (6) would be variations on arguments offered by other coherentists, esp. Bonjour and Davidson. Nevertheless, I shall have several things to say in behalf of (6) below, in Sect. 6, when I go about backing up thesis (8).



§5.— Degrees of Self-Warrant

Let us now try to assess thesis (7): no belief is entirely self-warranting, each belief needs to be warranted by others, none can just fend for itself; and yet some beliefs are less self-warranting than others. The first conjunction is obvious once the inferential nature of warrant is granted; for a sheer begging of the question of the form $p \vdash p$ (or, more accurately, $\{p\} \vdash p$) is surely useless. Such an inference would hardly enhance our degree of belief in the truth of *p*. So, the warranting relation seems to be irreflexive. Yet, if that relation is transitive, a belief may be involved in its own warranting after all.

A number of epistemologists maintain that the warranting relation had better be thought to be nontransitive, since — as we're going to ascertain below, in Sect. 7 — a chain of inferences may well comprise inferences of different kinds, and it may sound odd to say that the relative product of them is still an inference. Still, that is a minor point. I have no strong feeling against identifying the warranting relation with its **proper** ancestral (proper, in order to exclude the identity relation, of course).

What is for a belief to be involved in its own warranting? When does such an involvement take place to a greater, or to a smaller, degree?

The two kinds of beliefs most plainly involved in their own warranting are those which have been taken to be straightforwardly self-warranting by foundationalists, namely observational beliefs and so-called analytic ones. According to my lights, neither of those two classes of beliefs is crisp or clear-cut. And foundationalists are wrong in claiming those beliefs to be directly self-warranting. In fact they are only partially and indirectly self-warranting.

A belief is self-warranting to the extent that its contribution to its own warrant is existent and direct. A contribution to warranting a belief is more existent than another when the former plays a greater role, i.e. when it is more indispensable for the warranting process to come off. (An inductive inference, e.g., may be more or less successfully warranting, i.e. more or less cogent, according as the number and variety of premises are larger or smaller; it is not always a question of a warranting inference or series of inferences either being completely cogent or else lacking any cogency at all.) As for directness, that notion is pretty clear; a premise or assumption in a warranting inference concluding that p , when p is a premise or an assumption in another inference concluding that q , is less directly involved in warranting q than p is. And so on.

Now, in which way are observational beliefs involved in their own warrant? A belief is observational inasmuch as acceptance thereof is thought (by the believer) to belong to a class of similar beliefs, each of which is directly caused by the existence of facts in the believer's near surroundings possessing features which are perceivable, i.e. which impinge on the believer's surface thus prompting its brain or mind to be in a state of acquaintance with those facts. All those notions come in degrees, of course: directness, causation, nearness, surroundingness, perceivability, etc. How do people go about warranting their observational beliefs? By alleging that they themselves are perceiving, or observing, the facts whose existence is asserted by the belief at issue (the belief e.g. that there are plums over there) and that such a perception or observation is bound to be true to the facts — which can be amenable to different construals according as whether direct or indirect realism about perception is espoused. But how do people warrant their claim that they are perceiving, or that they have just perceived, something? By claiming that they “feel” — through an introspective awareness — that such is the case, and, circumstances being normal as they seem to be, such feelings are — failing strong or compelling evidence to the contrary — bound to be true to the fact of the believer's having indeed such perceptions. Then the believer is challenged to warrant the three warranting beliefs: that the circumstances are normal, that there is no strong evidence against that feeling's truthfulness and that in fact he himself feels he is having the particular perception at issue. The last conjunct of this latter claim will be warranted by adducing that he himself is feeling that he is feeling that he is having the perception, which in normal circumstances, as those which currently obtain apparently are and failing strong evidence to the contrary, is bound to entail that in fact he is feeling his perception. And so on. Now, the normality of circumstances adduced in those different branches may fail to be exactly the same but doubtless there needs to be some non-empty intersection; so, justifying one of the contributing warrantors is not independent of justifying (some of) the other(s). Thus an obvious partial circularity emerges: the believer justifies his claim that p by adducing that q and that r ; he justifies that r by adducing that $q' \& q'$, where $q = q' \& s$; and so on; hence, justifying that q is not independent of justifying that r . That alone makes the warranting process circular. Still, the belief that p has not as yet emerged as self-warranting. But now notice that the belief in such a normality of circumstances, too, is to a considerable degree an observational belief; and it can be warranted only through a quite similar process; in such a process the initially considered observational belief may fail to crop up either as a premise or as an assumption, but many other observational beliefs closely related to that one are bound to figure and play a role as premises. So, take a large set of observational beliefs corresponding

to many of a believer's purported observations throughout a certain time interval. Each of those beliefs can be warranted only through a process wherein some, or even most, of those other beliefs are to count either as premises or as assumptions. So pursuing all those warranting processes further up is bound to have most of the initially considered observational beliefs reappear as each contributing to its own warranting process sooner or later.

So much for observation beliefs. The kind of circularity which emerges in their being or becoming warranted seems by now to be pretty obvious. (Yet they are not purely and straightforwardly selfwarranting as (some) foundationalists would have it.) A belief which is warranted in that way may be called a **basic** belief. (But do not forget that basicness comes in (infinitely many) degrees, the issue most often being not whether or not a belief is basic but to what extent it is so. Still, according to the logical system semantically sketched above, in Sect. 1, the following rule — call it the **endorsement rule** — is valid: from 'Up to a point, p', to conclude 'p'. Thus whenever a belief is somewhat or other basic, it is basic, period.) Let me now stretch the notion of basicness. I shall be calling **basic** any belief which is involved in its own warrant (to the extent that it is, and to the extent that the kind of involvement in question is circular). Since most often, if not always, several warranting processes or ways are available for the same belief, let's say that a belief is basic inasmuch as every warranting process thereof is circular. Circularity comes in degrees. One of the factors on which it depends is the closeness or remoteness of the same belief's popping up in its own warranting inference chain. (A sensible rationality injunction would lay down that the less beliefs are taken to be basic, or the less basic they are taken to be, the better.) Thus, it may be true that all sentences are, to some extent, basic. But of course to wildly different degrees! Many theoretical beliefs are not quite so involved in their own warranting processes as observational beliefs are, since the observational beliefs which warrant those theoretical claims can be warranted without precisely these claims being adduced as premises, at least up to a point.

So-called analytic beliefs lie near the opposite extreme to that of observations. They too are, up to a point, basic. But not quite. Many considerations may warrant the rejection, or even the (whether weak or strong) denial, of at least some such beliefs (in fact I contend that such is the case for every logical truth: each tautology has been either rejected or denied or both by some rationally justifiable system of logic or other, even the identity law). Thus, warranting a so-called analytic belief — a tautological one for instance — may involve alleging that such considerations fail to be true, or that other considerations to the same effect, which might cross one's mind and enjoy some kind of apparent plausibility or other, would be equally faulty. Granted, for each such reasoning some logical beliefs and rules are to be clung to, as classicists are adamantly bent on stressing. But that does not entail that a whole, complete, corpus of such beliefs and rules is essentially and directly involved in each argument or reasoning. Take any deduction you want, carried out within a theory whose underlying logic is a system S — be it classical logic or anything else. The same deduction (at least under suitable translations) is countenanced by other systems of logic, too, i.e. it is countenanced as well by some systems of logic which essentially differ from S. Thus, each deduction "presupposes" at most a proper part of the whole body of theorems and deduction rules making up a logical system; let's say it presupposes the "disjunction" — in an obviously stretched sense of the word — of all the logical systems countenancing the deduction at issue. (That is so at least in a straightforward sense of **presupposing**, if that alone is presupposed by an argument without which the argument **could not** be carried out. There are other useful senses of "presupposing", of course.) However, what is to be conceded is that sooner or later a logical belief is likely to reappear up any process of its becoming warranted. That's what makes it basic, up to a point at least. The coherentist advice is that not only are warranting processes wherein that reappearance does not occur — or occurs

higher up, or less often — preferable to ones wherein it occurs in a more direct or frequent way, but, moreover, beliefs which need such circular kind of warrant to a higher extent are less warranted than those which need it to a smaller extent if at all.



§6.— The Inferential Nature of Warrant

It is quite plain by now that I wholeheartedly adhere to **the coherentistic contention** making up the first part, or conjunct, of thesis (8), namely that every warrant is inferential; (CC) for short. An inference involves only two things: a set of premises and inference rules. Thus, at most those two kinds of things can count as warrantors: a person is warranted in holding a belief — or, what amounts to the same, that belief is warranted by something-or-other for her — insomuch as: either (i) she infers that belief from others in accordance with rules that she — in a suitable sense to be analyzed below — also “holds”; or else (ii) she has everything needed for carrying out such an inference, viz. the beliefs bound to feature as premises and the belief in the “correctness” or “appropriateness” or “legitimacy” of the rules authorizing the inference. A difficulty is going to emerge very shortly (Sect. 7 will be given over to discussing it) when we realize that the rules at issue include metarules and so on. But before that I shall have to go into a previous issue, which concerns thesis (6) too, viz. which of the alternatives just set forth, (i) or (ii), obtains. Broaching that issue, though, seems to me to call for a preparation by way of succinctly arguing for (CC) in general.

(CC) is ensuant upon a consequent internalistic approach. Some authors (esp. Alston) argue that internalism is a kind of epistemological approach which hinges on viewing the epistemologist’s task as that of affording some sort of deontic code for purported knowers. Some coherentists seem implicitly to agree. I for one strongly disagree. Doxastic or epistemic justification, or warrant, has nothing to do with any deontic or ethical justification. The rationality investigated when we are doing epistemology is theoretical rationality, and does not call for any moral notion such as duty, blameworthiness and so on. Whether value judgments are cognitive or not, anyway, epistemology needn’t busy itself with such judgments, since it inquires into what are straightforward matters of fact, viz. the truth-conduciveness of different ways of thinking. (As I shall point out below, though, truth-conduciveness is unlikely to be a purely extensionalistic quality.) However the authors just alluded to (Alston and others) allege that a naturalistic view which looks upon the epistemologist’s task as one rid of value concerns is bound to be externalistic. I want to challenge that claim. My challenge is quite simple: I contend that internalistic approaches are in the long run more truth conducive than externalistic ones. Of course some externalists can try to thwart my argument by insisting that, since they define justification in a way allowing for no justification without truth, nothing can possibly be more truth-conducive than that. They are — I submit — wrong. For — as Lehrer among many others has rightly pointed out — truth-conduciveness is a two-face determination namely: leading to the acceptance of as many truths as possible, and to that of as few falsities as possible. (Let me put it in a way tallying with my own positing degrees of truth: the epistemologist’s double task is to find out the ways of both securing as many true beliefs as possible, preferably those which

are truer, and avoiding as far as possible acceptance of utterly false beliefs.) By raising their justifiedness standards externalists may of course ensure the second half of the epistemologist's task. But what about the first half? It seems to me very clear that externalistic guarantees are unhelpful on that score. By laying down requirements such that satisfying oneself that they are met may well be ruled out, externalists seem to aim at nothing but reliable criteria for adjudicating ascriptions of knowingness to other people, without looking for ways of garnering up **as much truth as possible**. (By the way, the last phrase has been a coherentist shibboleth ever since Bradley.)

Were both halves of the epistemologist's task of equal worth, neither externalism nor internalism would be sufficiently justified, since either position favours one half of the task at the expense of the other. However, middle courses and third ways, such as value perspectivism, seem at this stage to me in need of further elaboration. Furthermore, I think that maximizing truth is much, much worthier than minimizing errors or falsities. For one thing, our paramount epistemological target is that of having knowledge, i.e. true belief. Holding untrue beliefs we are closer to that target than failing to hold any beliefs at all, i.e. simply withholding false beliefs. For another, since no justification is ultimate or complete or unassailable or beyond any reasonable doubt — since, that is, knowledge is nothing but true belief — we are bound to gamble: either a certain net loss if we refrain from accepting beliefs which lack any ultimate justification or any guarantee to the effect that they comply with externalistic requirements such as reliability (in a sense strong enough to rule out an internalistic implementation of reliability criteria); or else an uncertain net gain, if, by espousing internalism, and more particularly coherentism, we increase our chances of securing true beliefs by paying the price of also making more likely our acceptance of false beliefs.

It may sound odd that externalists, who criticize internalism for entailing that most true beliefs people have are not justified, should be criticized for raising justification standards to the point of thwarting the quest for truths. There is in fact no inconsistency here. Externalists say that, if the world is as we think it to be, many or most true beliefs people have actually are justified. But that ascription, lavish as it is, is just conditional. Categorically no justification claims can be claimed to be warranted, since whether they are or not is not an issue for us to settle by simply looking into our mind. But then we cannot settle it in any other way either, since, if I justify a justification claim by alleging that the world is so and so, the question arises as to whether my assertion that the world is so and so is justified in turn to which no non-circular answer is possible (within an externalistic account); but externalism of course rejects circular justification; otherwise the difference between externalism and coherentism would cave in — what would award warrant would then be our belief that the world is so and so instead of being the fact that the world actually is so and so. Therefore, our body of beliefs may in fact be warranted or justified, the justification claims that body comprises (including those to the effect that our justification claims are justified) may be justified. All depends on how the world is. But how can we pass or move from those “may be” claims to “are” claims? Should externalism allow such a move entitling us to draw from our belief that the world is so and so the conclusion that our beliefs are justified, it would not be externalism any longer, but a coarse version of uncritical coherentism, claiming that, since the world is as I believe it to be, I am justified in my beliefs — which would in fact mean for me to be justified by my own beliefs about the world, with no sifting machinery being set up. Thus, the move is blocked, from an externalistic viewpoint. Hence, externalism fails to forward or encourage our epistemic adventure, since in fact it authorizes no categorical justification claim. (I am aware my criticism is unlikely to impress externalists, since they have rejected the philosophical problem which, in Ayer's words, can be

expressed as ‘Have I the right to be sure?’ And of course my foregoing discussion hinges on the legitimacy of that very same question.)

Therefore, internalism seems to me most likely to be the correct path. Since, as I tried to make abundantly clear in the previous section, no beliefs are entirely self-warranting, strong versions of internalistic foundationalism seem to be ruled out. Weak versions are harder to assess — some of them are not easily classified as foundationalistic; when they claim that all they are contending, over and above considerations coherentists may be glad to accept, is that some beliefs (basic beliefs, let us say) enjoy some non inferential warrant, I incline to think that, in a number of cases at least, such purportedly non-inferential warrant can be construed in a coherentist-ly admissible fashion, such as a particular kind of nondeductive inferential warrant, which can thus be accommodated within the coherentist’s account.

That much for (CC). Now about the choice between (i) and (ii) above, i.e. whether warrant requires an effective inference, or merely such beliefs as would be needed for justifying the inference, or both. In support of (i) it can be argued that it is not enough for someone to be aware of anything he needs in order to carry out a warranting inference: he must carry it out in order for his belief to count as warranted and not merely warrantable; for otherwise someone would be warranted in believing that p who was aware of the truth of some premises and of the “correctness” of the inference rules involved in what **would be** a correct inference of p from those premises, but who for all that was led to believe that p — and even to keep that belief afterwards — through a mental process having nothing to do with the inference in question, which, as a mental process, in fact never took place in his mind. In behalf of (ii) it can be pointed out that to espouse (i) would mean to go in for a backslide into externalism; for externalism may be explained as a view which demands in order for a belief to be warranted or justified that, besides believing some things, the believer at issue should meet a further requirement, that of being in certain suitable states or bearing certain relations to the objects his belief is about; to which the natural internalistic reply is that whatever that further requirement may consist in, if laying it down is to help towards the search for truth, what in fact will be required is for the believer to be aware that the requirement is actually met; but then, let us suppose two believers which are alike except that one of them is (truthfully) aware of the requirement being met, while the other merely believes that it is met: as regards their doxastic states, they are indistinguishable; therefore it seems an arbitrary stipulation to decree that the former alone is justified in his belief. But then exactly the same can be advanced against alternative (i). However that argument is not entirely cogent, since that whose existence is laid down by an upholder of (i) is not something external to the believer’s mind, something beyond his ken, but something which is part and parcel of his overall doxastic activity or state, namely some mental processes, inferences. The trouble with that argument is that it is not clear what counts as an inference: whether a mere fact of passing from having only some antecedent beliefs to also having the consequent belief while also believing in the correctness of some rule(s) of inference of which the passage under consideration is an application; or something stronger, involving causal or intensional (subjunctive-conditional) relations. Should the latter be the case, the impression is hard to resist that externalism would indeed be backslidden into after all, since without a boldest stretching of what a believer’s mind normally encompasses those relations could hardly be taken to lie within the believer’s ken. On the other hand, though, not any passage of the just described sort seems likely to be a real inference. A person, x , may know that rule inference R is correct and that premises p^1, \dots, p^n are true; R may be a rule one of whose applications is $p^1, \dots, p^n \vdash q$; x may pass from believing p^1, \dots, p^n to believing q , in a mental process consisting of a sequence of thoughts; and yet all that may happen in such a way that the passage would hardly qualify as an inferring q from $p^1 \dots p^n$; for instance, the believer’s mind is manipulated or rigged so that he would anyway

reach conclusion q , even without the other beliefs, or a sheer coincidence is taking place. From an externalistic viewpoint of course such a case would not amount to a real inference; but notice that by hypothesis nothing would in such a case be different from what happens in a true inference from the viewpoint of the believer, i.e. nothing to which the believer had introspective access would be different.

Hence, internalism consequently espoused seems to me to make alternative (ii) all in all more likely to be the right one. And, if it is, thesis (6) is vindicated.

Nevertheless, in view of difficulties fated to crop up below, in the next section, some thinning down of alternative (ii) may turn out to be most promising and reasonable. Recall that (ii) was phrased as the requirement for a person to have everything needed for carrying out the warranting inference, viz.: (a) belief in the truth of the premises (and indeed of the assumptions of the inference, too — see below); as well as (b) belief in the correctness of the inference rule involved. But are both elements, (a) and (b), equally weighty or needed? Is not there a straightforward sense in which all you want for concluding that p -and- q is just to believe that p and to believe that q ? Is your belief in the correctness of the adjunction rule equally needful? Well, admittedly not everybody accepts such a rule (connexivists, for instance, reject it). But cannot most people be said to accept it at least in an implicit way? Now is that way sufficient for awarding warrant? Or perhaps the (mere existence of the) evidential relation between the set of beliefs {that- p , that- q } and the belief that- p & q can up to a point be taken to contribute towards the wanted warrant, owing to its being a relation among beliefs of the person at issue, rather than something really outside that person's mind. I strongly incline to accept this latter restriction of internalism, but only to some extent. Thesis (6) seems to me quite true at bottom: its second conjunct I take to be unqualifiedly true; its first conjunct will in due course (the last two paragraphs but four of the next section) undergo a very minor, harmless abatement, when I'll contend that, although only belief in the correctness of all the rules, including metarules etc., needed for an inference — i.e. of the evidential relation between the premises and the conclusion — along with belief in the premises, can afford a sufficient warrant, still a just sufficient, or almost sufficient, (degree of) warrant may be bestowed upon the consequent belief by the antecedent beliefs alone, at least in certain cases. (See also the final remarks of my reply to the 1st Objection in Sect. 8, below.)



§7.— Rules and Metarules

I shall now go into the problem raised at the beginning of Sect. 6 viz. that an inference involves the operation not only of inference rules proper, but also of metarules and so on. Let us suppose that person x is inferring conclusion q from premises p^1, \dots, p^n — whatever inferring may require in addition to a mere passing from some antecedent beliefs to a consequent belief while somehow or other believing that the passage is an application of an inference rule R , which one also believes to be “correct”. Person x is by hypothesis holding the belief that R is correct, and so is able or entitled to apply R to the premises, thus reaching conclusion q . But what exactly is R ? What does an inference rule consist in? Most often inference rules are thought of as

deduction rules, which of course is not always the case. A deduction rule may be conceived of, or represented, as an ordered pair whose 1st. member is a n -place sentential relation r (i.e. a relation r which can hold among n utterances taken in a certain order) while its 2d. member is a sentential determination d (or, if you want, a sentential type); an application of an inference rule will be a sequence of two things: the former one a set of beliefs each of which beliefs is expressible through at least an utterance, such that all those utterances are in fact joined by r ; the latter thing will be an utterance exemplifying d (d is any characteristic or property able to be exemplified by utterances; notice that utterances are speech acts and so events of some sort).

But what about nondeductive inference rules? A nondeductive inference rule can be represented as an ordered pair whose 1st member is a set of states of affairs while its 2d member is a deduction rule; the obtaining of those states of affairs will be called the **assumption** of the rule, or if you want some provisos. There are deduction rules which are worded with provisos, and so they can be thought of as nondeductive; however most often that limitation can be overcome and the rule, if it is genuinely deductive, can be formulated as an assumptionless one.

But now it is quite clear that, even if R is a deduction rule, when x is applying R and so concluding q from his antecedent beliefs $p^1 \dots p^n$, x is also applying at the very least a metarule to the effect that whenever one has a rule $R = \langle r, s \rangle$ and has n antecedent beliefs expressible through utterances joined by relation r , one is “allowed” to add to one’s body of beliefs a further belief expressible through an utterance exemplifying s . That sounds obvious enough, doesn’t it? Whether obvious or not, suppose what would happen should that metarule, M for short, be waived or junked, or even qualified so as to become lame or ineffectual. Well, then R could not be applied, at least not in the same straightforward way. Suppose M is replaced by another metarule M' which allows applications of rules like R only under certain circumstances, C . Suppose that x ’s mind is in a blank concerning M or M' , but in fact M' is the correct rule, while M would spell epistemic disaster were C lacking. Yet, unbeknownst to x , C obtains, and so, by sheer coincidence, x ’s application of R happens to be a correct one. In case we had chosen the view of inferential warrant articulated in alternative (i) among the two discussed above, in the foregoing section, would we say that x is still warranted in attaining belief q from his antecedent beliefs $p^1 \dots p^n$ by applying R in the just described way? In support of a negative answer it can be claimed that not everything relevant to the inference and accessible through introspection to the inferrer is in order, or above-board, for x in the case under consideration. But then, the same holds if we instead choose alternative (ii), since that alternative requires that the person whose belief is to be warranted should have whatever beliefs would give warrant to an effective inference of that belief from other (antecedent) beliefs he has. And allegedly x would lack some of those beliefs, namely he would lack the belief in the correct way of applying R , since he would be ignorant of M' . But change the hypothesis and suppose that x wrongly believes in the correctness of M . Then x is warranted in reaching or in keeping belief q , but at the expense of being prone to encountering disappointments, i.e. to embracing (perhaps utterly) false beliefs, even if his antecedent beliefs were true. So the desirable state is that of believing the true antecedent beliefs, believing in the correctness of the correct inference rule, and also in the correctness of the correct metarule; then warrant will be truth-conducive — as it is expected to be at least for the most part or in the long run.

Now, it is plain that R combined with M' amounts to the same as another rule R' combined with a metarule almost identical to M , viz. M' , where R' is the nondeductive inference rule $\langle C, R \rangle$ and M' lays down that one is justified in applying R' in the same way as one is in applying R in accordance with M provided one’s doxastic attitude toward C is one among several specified either in a clear-cut way or in a fuzzy one, whether all in a lump, helter-skelter, or

in an established ranking; such attitudes may be those of warranted belief, belief *tout court*, rejectionlessness, inclination to believe due to some inkling, surmising, etc.; all of which in turn can come in different degrees, of course.

What has been put forward in the last paragraphs is only a coarse, oversimplified approximation. In fact a fuller account would need to take notice of some further factors and complications. For instance, when defining, or representing, a deduction rule, rather than speaking about an n -place relation r among premises, for some fixed natural number n , it would in many cases — esp. as the definition is to be then extended to nondeductive rules — be preferable to speak about a relation r with no fixed adicity; in such a way, moreover, that the greater the number of the premises, the stronger, or more existent, becomes the warrant the conclusion is thereby awarded. (That factor is, needless to say, momentous for inductions.) More generally, whether a rule allows to draw a certain conclusion from premises of certain sorts is most often not a question of all-or-nothing, but is again something which comes in degrees; and diverse applications of one and the same rule may have different warranting power, according to their greater, or lesser, exemplification of some determinations. The same also holds for metarules and so on.

Far-reaching results follow from the foregoing considerations. First, in accordance with our option for alternative (ii) among the two discussed above, in Sect. 6, we seem entitled to say, as a rough tentative formulation, that a person is warranted in either reaching or holding a belief, b , inasmuch as she believes in the truth of some antecedent beliefs and in the correctness of an inference rule R , when in fact the relation between b and those antecedent beliefs is as prescribed by R (i.e. that relation is an application of R), and in the correctness of a metarule M such that the relation between R and that particular application thereof is as prescribed by M , and so on and so forth *ad infinitum*; which in turn may entail that she is in one among several more or less explicitly specified doxastic states as regards the obtaining of certain circumstances. Second, the former is just a provisional wording, whose major defect is that it is blind to important degree differences: so, for instance, a person who believes $\lceil p \rceil$ and $\lceil p \supset q \rceil$ and who also believes in the correctness of MP is more warranted in coming to believe that q than another person who is blissfully ignorant about MP. But is the latter utterly unwarranted in that attainment? Perhaps everybody (barring relevantist logicians or the like) has some degree of belief in MP's correctness, something of the same may hold for metarules: the contribution awareness of (the correctness of) metarules makes to the warrant of a belief may be less existent than the one made by belief in the correctness of the inference rule; awareness of meta-metarules may contribute still less; and so on; thus people whose relevant chain of beliefs — in (the correctness of) a rule, a metarule for applying it, and so forth — turns out to be truncated instead of stretching indefinitely upwards, may still be thought to be somewhat sufficiently warranted in their beliefs.

The qualification just brought in may be blamed on count of being a relapse into externalism. After all, if a person is (somewhat sufficiently) warranted in believing something merely on the ground of her believing in the truth of antecedent beliefs which in fact entail that something, then her warrant is not purely internalistic. That I concede. My view of warrant is internalistic, but not absolutely so. Smaller degrees of warrant may be awarded even by such evidential relations among a person's beliefs as she is unaware of. But, as goes without saying, that point is just a minor concession to externalism — and to an internalistic externalism at that, so to speak, since nothing outside the believing person's mind is considered a warrantor. (See above, the end of the last section; and also below, the final remarks in my reply to the 1st Objection, in the next section.)

Third, since each of the conditions contributing towards warrant is liable to occur in wildly different degrees, warrant cannot but come in degrees, too. So, even if every warranting doxastic situation encompasses, in an ever so dim, embryonic or less than half-conscious way, the occurrence of infinitely many beliefs, the more warranted the warrantors become, the higher the degree in which they award other beliefs warrant. Fourth, the foregoing account may well be liable to some qualifications or attenuations, as e.g. replacing the requirement that there is a metarule whose correctness the believer accepts by a weaker one to the effect that the believer is to accept that there is some such metarule; I won't go into such complications here. Fifth, rules and metarules etc. can be (in fact are) hierarchically arranged, with such rules as outrank others awarding their respective conclusions greater degrees of warrant; those rankings, too, suggest interesting if difficult developments of the present account.

One last point about rules and metarules. What exactly is the correctness, or legitimacy, or appropriateness of a rule? Of course not its truth-preservingness, since nondeductive inference rules cannot generally be expected to be always truth-preserving. I think that such correctness as epistemically useful rules in general are possessed of is nothing else but truth-trackingness, or truth-conduciveness. And, whereas my approach as a whole is — needless to say — of a pointedly extensionalistic cast, I feel bound not to set my hopes on an extensional explanation of truth-trackingness. (By the way, though, as I conceive it, that notion seems to bear only a distant relatedness to Nozick's pivotal idea, if that.) Probability considerations might well turn out to constitute an alternative tack for truth-trackingness to be articulated in an extensionalistic way; only, probability is a notion which labours under so huge difficulties of its own, that, although it is likely to be indispensable, the less store we lay by it, the better.

The foregoing elucidations, besides shedding light on thesis (10) and providing it with a measure of plausibility, also help towards spelling out the meaning of and grounds for the remaining part of thesis (8), except what refers to the local rather than global character of warrant, which will be brought up in the next section.

A final remark about the notion of warrant articulated here: although in its most straightforward acceptance "warrant" applies to beliefs (or sentences, utterances), in lightly metaphorical, but quite obviously clear, senses it applies to other kinds of mental acts involved in the doxastic state of a person: to inferences and inference-rules, to rejections or withholdings, judgment-suspensions, doubts, questions; and also to the person whose doxastic attitudes are thus warranted. (Explaining those stretched senses is a tedious task for a paper like the present one.)



§8.— Infinite Progressions of Warrant

Coherentists have often been (mis)taken to uphold a global, rather than local, view of epistemic justification, esp. when they favour holism. Holistic positions may well be hard to word in such terms as rule out global justification. On the other hand, even non-holistic coherentists, like Bonjour, combine both views of justification, the global and the local one, into

an assorted, layering approach which has stages of local justification alternate with others of global warrant and also of global assessment of the chosen system as against available alternatives.

Now, global justification would mean: either (i) that a belief (some beliefs of certain kinds, perhaps) would get justified by an inference wherein the set of premises would be the whole system or body of beliefs one holds, or something like that; or maybe (ii) that a belief can be justified through a nondeductive inference which would comply with a rule whose assumption stipulation would refer to some characteristics or features of the whole system of beliefs. The former kind of global warrant seems to me unavailable for more reasons than one. It is hard to see how it could be of any use. Such “inferences” would be hard to carry out, assess, or subject to any controls. In fact I think no one has espoused construal (i) in any thoroughgoing way, although what some coherentists mean by justifying a belief on the basis of the whole system of beliefs may turn out to be unclear.

Construal (ii) though, may be regarded as allowing for a reasonable sort of nondeductive inferential warrant, provided the features of the belief system to be specified as assumptions of the inference are well chosen. Thus for instance the ω -rule is — in the sense articulated by construal (ii) — a kind of global warrant: it allows to draw the conclusion ‘Everything, x, is such that p’ from a premise ‘p’ (which results from replacing in ‘p’ free occurrences of ‘x’ with respective free occurrences of some individual constant or other), provided there is no available premise of the form ‘¬q’, where ‘q’ can be described in the same way as ‘p’.

What matters for the different epistemological status of (i) and (ii) is that, as we saw above (in Sect. 7) the assumptions attached to a nondeductive inference rule are not to count among the premises, and the inferrer’s doxastic attitude towards them needn’t be one of belief; it may be one of having failed to find out reasons for rejecting them, or whatever.

Therefore, allowing for global warrants in the way articulated by (ii) is no radical departure from cleaving to the local-warrants-alone principle, or even to a stronger principle to the effect that in any inference whatever the number of premises is to remain finite. (The local-warrants-alone principle would permit infinite sets of premises provided there was some way or other of sorting them out from the remaining beliefs belonging to the same body.)

Having thus spelled out the inferential notion of warrant the present approach hinges upon, we have already blazed the trail towards canvassing thesis (9), i.e. that which legitimizes infinitely long warranting chains. As a matter of fact I do not look upon such chains as regressions but as progressions. For one thing. Were knowledge (strongly) justified true belief, a warranting or justifying set of beliefs would not count as justifying knowledge until it produced its justifiedness credentials, since doubtless (pace Lehrer) only such beliefs as the believer considers to be knowledge can sufficiently justify a belief in order for the latter to qualify as knowledge, too. Now, once we have abandoned the justifiedness requirement for knowledge, I can see no compelling reason for what seems to me a prejudice, viz. the claim that only (previously or simultaneously) justified beliefs can award justification.

However, abandoning such a claim does not commit us to relinquish the search for warrant. Far from it. Since warranting our beliefs both increases our degree of acceptance thereof and gives us the opportunity to correct them (hopefully) thus coming nearer to the truth (recall our considerations above, in Sect. 4), it is quite natural for us to adhere to the maxim of maximizing warrant to the utmost we are able to. In fact a weakened version of the no-unjustified-justifier principle can be laid down and I will for one gladly accept it; it constitutes the second conjunct of thesis (9): to the extent that a belief is to count as a sufficiently good

partial warrantor, it needs either to have been awarded warrant, or to be currently in the process of being awarded warrant, or, provided there is sufficient time available, be going to be awarded warrant. Thus, we can say: either that we recognize the no-unwarranted-warrantor principle, only we construe ‘warranted’ as ‘warranted either by now or later on, provided there is sufficient time available’; or else that we replace it with a qualified version, viz. the **non-unwarrantable-warrantor principle**, NUWP for short.

NUWP is a most reasonable principle. In fact any true belief is warrantable. What would an unwarrantable truth be like? Moreover, warranting a belief by adducing unwarrantable ones would be a dubious move, unlikely to enhance our degree of acceptance of the thus purportedly warranted belief. We should have good reasons for letting our suspicions be aroused, since, upon looking for something warranting the belief at issue, we should have found nothing better than an unwarrantable set of beliefs. So the belief initially considered would come out of the attempted warrant worse off than it was before.

What is reasonable to expect from a rational believer is for him to be ready to continue searching for warrants and remain open-mindedly prepared to revise his body of beliefs in accordance to the results of such a search.

A difficulty can be raised, though. Since it was claimed in a foregoing section that every belief is to some extent or other warranted, why refrain from upholding the unqualified no-unwarranted-warrantor principle? The reason is that, in the version in which it can be accepted within the present approach, this principle is uninteresting; what a useful principle concerning warrant has to give us is some correlation between the degrees of warrant one and the same belief is possessed of and is able to lend.

Thus I now set out to argue for the first conjunct of thesis (9), viz. the legitimacy of **warranting chains stretching infinitely upwards** (WCIUs, hereinbelow, for short). I’ll do it by refuting three objections levelled against them.

1st. objection: if you countenance WCIUs, you are committed to holding beliefs which cannot be expressed through finitely long utterances; for, if a belief b^1 is to be warranted by a belief b^2 which in turn is to be warranted by b^3 , the believer must be aware not only of b^1 being warranted by b^2 but also of b^2 being warranted by b^3 ; and so on; but if the warranting chain is infinite, no finite amount of finitely long sentences may capture or convey all that information about warranting relations present in the chain.

Reply: no, no finite set of finitely long utterances can do it. But an infinitely large set of finitely long utterances can. Hence, no need for infinitely long utterances here has been proved by the objector. (Moreover, important differences of degree are ignored by the objector. A person is up to a point justified in reaching a conclusion from antecedent evidence even if she is not — or only just — aware of the evidential relation. Acknowledging that is no mere backslide into externalism, but only articulating the doctrine of degrees of warrant, with only a minor concession to what can be termed internalistic externalism; see above, the end of Sect. 6 and the last paragraph but four of Sect. 7.)

2d. objection (Moser’s): in a WCIU no link can award warrant; for in such a chain in fact no categorical warrant is present, just hypothetical warrantings; if $\dots b^3 W b^2 W b^1 W b$ (with ‘W’ meaning ‘warrants’), then all we are entitled to say until so to speak the whole chain lies bare before us is that, if b^2 is warranted by b^3 , it warrants b^1 , which, if such is the case, warrants the final belief b .

Reply: the objection is question-begging. It assumes without proof what it is supposed to argue for, namely that no belief can lend warrant to others until it has in turn been warranted. Such an unqualified requirement has already been discussed and rejected hereinabove. Were the objection correct, parallel arguments would wreck any infinitely stretching chain. Someone may argue: ‘Take the successorhood relation among natural numbers, $S: \dots 4S3S2S1S0$; if such is the case, then, until we are presented with the whole infinitely long list, we can only know that, if 4 succeeds 3, 3 succeeds 2, and in that case 2 succeeds 1, in which case 1 succeeds 0; which would happen if 5 succeeds 4; which ... etc.’ What is wrong with such an argument is ignoring that, although every natural number is a successor only if it has one, it is not the case that no number has a successor until it has been shown to have one, or that its having a successor must so to speak come before its being one. Thus the argument fails. And so does the objection.

3d objection: If WCIUs are to be allowed, every sentence, or at least every contingent sentence, can be warranted; for we can provide any sentence ‘ p ’ with a warrantor of the form ‘ $q \& (q \supset p)$ ’, which in turn can be warranted by a sentence of the form ‘ $r \& (r \supset (q \& (q \supset p)))$ ’ etc.

Reply: yes, every sentence can be warranted in that way; but not for everybody, since nothing can warrant a belief for someone unless it is a set of beliefs he holds or accepts. If someone holds or accepts ‘ $q \& (q \supset p)$ ’ and he believes that the rules of simplification and MP are truth-tracking (and that some appropriate metarule is also correct and so on and so forth), he is actually warranted in also accepting belief p . Thus, supposing someone believes every sentence in the chain imagined by the objector, as well as suitable logical principles and meta-principles etc., he will be warranted in believing that p . But of course that by no means shows that any utterance can be categorically or unconditionally warranted for everybody.

Therefore, the possibility of WCIUs comes out of that trial unscathed. Although such a resilience as WCIUs evince by withstanding the objections levelled against them does not prove they are good warranting processes, it betokens a greater strength than is ordinarily conceded to **progressivism** — i.e. to the epistemological tenet to the effect that warrant can legitimately be articulated through endless chains. But my main reason for upholding progressivism is that other solutions fail. Both externalism and foundationalism are fraught with serious difficulties, as we saw above in sections 5 and 7. Circularism cannot provide a generally satisfactory and, on its own, sufficient account of true belief (as I shall try to prove in another paper). Middle courses and 3d. way approaches may be promising; but besides — I feel bound to confess — having misgivings about them, I at this stage look upon them as research programs worthy of careful consideration. Accordingly, I choose progressivism as the best available approach.



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