THREE LOGICS OF BELIEF

From the point of view of the practical logician, we start in the middle of things. We consider what it is we ought to believe in the context of some issue that concerns us. In this paper I shall distinguish several sorts of such issues and shall argue that the basic current logics of belief are each serviceable with regard to one of these sorts of issues only. My conclusion will be that these logics are not incompatible with one another, as is usually supposed, but rather mutually supplementary, that a comprehensive analysis of rational belief must incorporate them all.

In Sections I–III I shall formulate three logics I shall label subjectivism, empiricism and pragmatism. The logic I shall describe as subjectivist is a pruned and reshaped version of Kyburg's analysis. I shall take Hintikka's position as my point of departure for empiricism and focus upon Levi's analysis in connection with pragmatism. In Section IV I shall consider how these logics relate to one another. I shall wind up with a few comments on some very general principles most authors adopt.

I. SUBJECTIVISM

The subjectivist analysis holds that we may believe a proposition if and only if it fits in with those we already believe, and that we must believe it if and only if avoiding the belief would make for some imbalance in the set of all our beliefs. Suppose that \( q \) is the least well confirmed proposition, relative to my information, that I believe, or anyone of these propositions if there are several such. I suggest that the set of all my beliefs is balanced if and only if I believe all those propositions under consideration that are at least as well confirmed, relative to my information, as \( q \) is. (Analogously of course for your beliefs, your cousin's, your brother-in-law's, etc.) A subjectivist logic of belief can be phrased as follows:

\[
(S) \quad \text{A person believes} \ p \ \text{if and only if} \ c(p, i) \geq \omega ,
\]
where \( p \) is some proposition the person considers believing, \( i \) is his information, and \( \omega \) is the degree of confirmation of the least well confirmed proposition he believes.

This makes for a logic in the traditional, modest sense. Principle \( S \) – as also each of the others to be presented – sets forth a necessary condition of rational belief in the contexts in which it applies. It does not identify a sufficient condition. It provides a criterion of what a person is rationally committed to believing in the appropriate contexts, but not an exhaustive criterion.

The limits of the scope of applicability of \( S \) call for some attention. \( S \) imposes commitments with regard to live issues only. It does not require anyone to take a stand in connection with issues he is not raising with himself. More specifically, the applicability of \( S \) is restricted to situations in which a person considers believing some single, isolated proposition, to cases in which he is asking *ought I to believe this proposition or not*. Whether or not to believe a proposition is the characteristic form of a certain familiar sort of issues. I shall refer to issues of this sort as *questions*.\(^1\)

The alternative to believing a proposition is not disbelieving it (believing it to be false) but rather *not* believing it (either believing it to be false or suspending judgment). It may often be difficult to determine whether an issue is one of believing \( p \) or disbelieving it or one of believing \( p \) or *not* believing it. But the distinction can be made. We are involved in a situation of the latter sort – that is, we face a *question* – when we suppose that disbelieving \( p \) would be of no significance to us, would neither help us to explain nor to clarify nor to confirm nor to discredit anything that currently interests us. A case in point is Miller's discussion [13] of the hypothesis that \( 7 \pm 2 \) is the limit of the number of discriminations we are capable of making within any unidimensional category. He asks whether or not he ought to believe this hypothesis, not whether he ought to believe it or to disbelieve it. For though the hypothesis itself is startling and would explain a considerable amount of data, its contradictory is too broad to be of any service. (If \( 7 \pm 2 \) is not the limit, is it \( 8 \pm 2 \), or \( 37 \pm 6 \), or is there no limit at all?) Miller accepts the hypothesis, but had he not accepted it, he would probably not have bothered to believe it to be false. He would have suspended judgment on the matter.

The gist of \( S \) is that our commitments depend on our involvements. If we believe \( q \), and \( p \) is at least as well confirmed, relative to our informa-