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IS EPISTEMIC LOGIC POSSIBLE?

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1. *The Problem of Epistemic Logic** Can there be such a thing as epistemic logic? The question is important. It is also unclear. What is meant by 'epistemic logic'?

Unfortunately, in this matter it is easier to find examples than definitions. Notable examples of "epistemic logic" have been proposed by von Wright [1], Lemmon [2], and Hintikka [3], among others. In order to get an example, one needs, apparently, only to take one or the other of the available systems of "alethic modal logic" and to substitute an epistemic operator such as 'it is known that' for the alethic operator 'necessarily'. Thus the theorem "If necessarily p then p" ("$Np \supset p$"), which is common to all the known systems of alethic modal logic, is supplanted in all the proposed systems of epistemic modal logic by "If p is known then p" ("$Kp \supset p$"). We shall call this the Epistemic Theorem, or ET. A Reiteration Theorem such as "If necessarily p, then necessarily necessarily p" ("$Np \supset NpNp$"), which distinguishes Lewis's system S4 from some others also, in the form "If a knows that p, then a knows that a knows that p" ("$Kap \supset KaKap$"), distinguishes Hintikka's system from the others. The trouble, as we shall see, is that it is not at all clear in what sense of 'logic' such examples are *logic* or in what sense of 'know' they are logics of knowing. Indeed, we shall see that every example faces the following dilemma: either it does not have anything especially to do with knowledge and is therefore epistemic in name only, or it does and is, in consequence, logic in name only.

Lacking any clear definition of epistemic logic we shall have to proffer our own. One relatively clear definition would be that epistemic logic consists of *logical truths in which epistemic terms* (such as 'know' and terms

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