There are three usual senses of the verb “to know”: knowledge of things (“I know Paris”), knowledge of propositions (“I know that Paris is a large city”) and ability knowledge (“I know how to drive in Paris”). In French and German the first and the second senses are expressed by different words (connaître/savoir; kennen/wissen); English has the distinction between knowledge of, knowledge that, and knowledge how. It is controversial whether one or two of these varieties of knowledge are definable in terms of the other. The present article, however, is restricted to the analysis of knowledge that, or propositional knowledge, which has been the philosophers’ primary subject of attention.

The classical definition of knowledge comes from PLATO’s Thaetetus, where knowledge (épistémè) is defined as true belief (doxa) with reason (logos). Contemporary philosophers have reformulated this definition as the “tripartite” necessary and sufficient condition: A subject
S knows that P if and only if a) S believes that p, b) P is true, c) S is justified in believing that P. As PLATO and RUSSELL (1910) have noted, conditions a) and b) are necessary, but they are not sufficient: someone may believe truly that P, but merely by chance (successful guesswork is not knowledge). Hence the importance of the third condition, about JUSTIFICATION. The whole history of the philosophical problem of knowledge since PLATO can be seen as a series of attempts to give a satisfactory account of the relation of justification and to answer a challenge which was first set by the sceptic Agrippa, but which is more well known today as “Münchhausen’s (or FRIES’) trilemma”. According to this argument, knowledge is impossible since the definition of justification either 1) it leads to an infinite regress of justifications, or 2) it stops arbitrarily at some point and thus leads to dogmatism, or 3) it is circular and uses the very notions that it is intended to define. Even stronger arguments are those of the sceptics, but these, it seems, cannot be properly evaluated unless one is able to define knowledge.

A large part of the contemporary work in the theory of knowledge takes its departure from some counterexamples to
the tripartite definition due to E. GETTIER (1963), which are of the following form. Suppose that a pickpocket is so clever that he robs your valet, inspects its contents and, finding no money and nothing of interest in it, puts it back a little later into your pocket, without your having the slightest notice of what happens. Suppose that, just after this episode, someone asks you whether you can produce your passport. You answer that your passport is in your pocket, where your valet usually is. You are perfectly justified in this claim, since you have no reason to believe otherwise. And indeed, your valet is in your pocket, since the thief has put it back into your pocket. But it is a mere accident that the valet is where you think it is, for a minute ago your belief would have been false. So you do not know that your valet is in your pocket, although it is true that your valet is in your pocket, and you are justified in believing that it is. In order, then, for the tripartite definition to be complete, we need to add that the conditions (a)-(c) above must not obtain simply by accident: some sort of appropriate relation must exist between the subject and his justified true beliefs. Theories of knowledge may be viewed as attempts at specifying the nature of this relation.
Such theories fall into two broad classes. On the one hand are the theories which consider that the appropriate feature which produces justification is *internal* to the knowing subject, in the sense that he must have a conscious access to the feature in question, and must be, in some sense, responsible for what he knows. Most of classical epistemology is INTERNALIST in this sense. How could one *know* that P without being, in some sense, aware that one knows that P? DESCARTES, LOCKE, KANT, RUSSELL and a number of contemporary epistemologists are clearly internalists in this sense. There are, however, on the other hand, theorists for whom conscious access to one’s justification is not a necessary condition for knowledge. For such theorists, a certain causal *external* condition, holding between the subject and his environment, is sufficient for his knowing that P, without it being necessary for him to have access to this condition. After all, some knowledge, for instance our knowledge of grammar, and much of our knowledge *how* (our skills, habits, etc.) is not directly accessible. AQUINAS, REID, and a number of contemporary philosophers inspired by cognitive science are EXTERNALISTS in this sense.
Internalist theories of justification, however, form the majority view in philosophy. The most current version is FOUNDATIONALISM, the view that in order for a true belief to be appropriately justified, it must bear a relationship to some other beliefs, which are, with respect to all other beliefs, foundational, because they cannot be inferred from other beliefs and have a special character. They are supposed to be “self-evident” or self-warranted, either because they involve the principles upon which all inferences rest (in particular the principles of logic) or because they are the objects of a faculty, intuition, which automatically warrants them. The usual argument in favour of the existence of such foundational beliefs is the Aristotelian one that one must “stop somewhere” in the infinite regress of justification. ARISTOTLE himself holds that we know the “first principles” through intuition. Other foundationalist views hold that some beliefs have this character in virtue of their infallibility: self reflexive beliefs, such as I think that I am thinking which is in some sense a priori or necessarily true (DESCARTES) or something appears to me to be red, which cannot be false (LOCKE and most empiricists). There are two main problems with such views. First, it is not clear that the
foundational beliefs are infallible or resistant to doubt: some things that appear to us intuitively true may turn out not to be true. Even our most basic beliefs seem to be defeasible. Second, on most views based on the notion of intuition, it is presupposed that intuition is its own criterion. But how can a subject tell his intuitive knowledge from a knowledge based on inferences from other beliefs? How can he be sure that it is intuition, but not inferential knowledge, which produces his feeling of intuition?

The very fact that our prima facie basic beliefs might not to be basic and depend upon other beliefs, and that they can be defeated by other beliefs suggests another sort of internalist view, COHERENTISM. According to a coherence theory of knowledge, all beliefs are justified through their relation to other beliefs. Hence there are no foundational beliefs. Justification, thus, is a form of coherence. Among the philosophers who defend such views are HEGEL, BRADLEY, and NEURATH, whose polemics against SCHLICK’s foundationalism introduced coherentism in its contemporary setting, where the views of QUINE and DAVIDSON have been the most discussed versions (BONJOUR 1985 is the most elaborate contemporary view).
It is not easy to distinguish a coherence theory of knowledge from a coherence theory of truth, since on most views of coherence, it is the coherentist justification of our beliefs which produces their truth. The main problem, for coherentism, is to define the appropriate coherence relation. Mere consistency is obviously too weak, since a set of beliefs might be coherent without containing any single true belief. Some sort of other condition, such as that coherence between beliefs has to be relevant or explanatory of their mutual support, is needed, but it is not obvious that these properties can be defined easily and without begging the question. Another main problem is this: if coherence is the criterion of justification, then it seems that it only some internal logical (or explanatory) relations between beliefs are necessary and sufficient for their truth and for knowledge. But a subject’s beliefs might be coherent in this sense without having any connection at all with experience and empirical evidence. So it seems that mere coherence is not enough for knowledge: some beliefs at least must take their experiential input outside the system, and thus be based on evidence. Hence a satisfactory coherence conception must combine the coherence relation with some relation, of a foundational sort,
between our beliefs and evidence. Pure foundationalism won’t work, and only a mixed theory seems to have chance to work (see HAACK 1993).

But from these difficulties with coherentism, one might as well infer that some sort of foundationalist view is after all correct. One might observe also that a common defect of the internalist theories is that they seem to define the relation of justification through notions which already presuppose some epistemic features: the very notions of self-warranting beliefs, of intuition, of evidence, or of explanatory coherence seem to imply the concept of knowledge itself. Thus we fall upon the third horn of Münchhausen’s trilemma, circularity. Can we escape it? The surest means to avoid using the very notion of knowledge to define justification is to adopt an EXTERNALIST view, and to grant that a subject’s access to his own justification is not necessary for knowledge. The best way to introduce such views is to reflect again on GETTIER’s counterexamples. As we saw above, for me to know that my passport is in my pocket there must be some appropriate relation between the state of affairs which make it the case that my beliefs are true, and my state of being justified. NOZICK (1984) has specified the necessary conditions:
things must be such that I believe that P, P is true, but also i) if P were not true, I wouldn’t believe that P, and ii) if in counterfactual circumstances, P were still true, I would still believe that P. It is natural to understand both conditions (i) and (ii) as ruling out the cases where, in counterfactual circumstances, there would not be an appropriate relation between the state of affairs that P and my believing that P. The natural suggestion is that the appropriate relation must be one of causation.

According to the causal theory of knowledge, a belief that P is justified and true if and only if there is an appropriate causal link between the believer and the state of affairs. But the causal relation can be quite loose and indirect. So most causal theorists of knowledge add that the beliefs are justified if and only if they are produced by a reliable process, and this view is called RELIABILISM in the contemporary literature. The process needs to be one to which the subject has himself access. It suffices that it produces a high rate of true beliefs, just as a mechanism, say a thermostat is reliable. Reliabilism harmonises well with what KANT (in the § B 27 of the First Critique) had identified as a “mittelweg” between the two others ways of conceiving a connection between our concepts.
and experience (either experience makes the objects possible, or these concept make experience possible): “eine Art von Präformationssystem der reinen Vernunft” whereby our knowledge is in agreement with nature because nature itself causes this knowledge. If our cognitive mechanisms have be selected by natural selection, and are for this very reason reliable and well adapted, then knowledge is the product of this causal-natural condition. Contemporary cognitive science and psychology might then help us in describing the relevant mechanisms which are reliable (GOLDMAN 1986). Reliabilism seems to be particularly fit for those kinds of knowledge which like perceptual knowledge or memory, are based on natural mechanisms. It, however, faces specific difficulties. The familiar thought experiment of DESCARTES’s evil genius, or its contemporary equivalent, of the evil scientist who plugs electrodes into your brain, puts it in vat, and mimicks what you would normally experience, seems to satisfy the conditions of a reliable mechanism producing true justified beliefs. Nevertheless a person in this condition could hardly be said to have knowledge, as this familiar sceptical argument purports to show. Hence it is dubious that reliability is necessary for justification. But is it
sufficient? Other thought experiments seem to show that it is not. A person, for instance, who knows that she is subject of an experiment devised by a neuroscientist who manipulates her memory will have strong (prima facie) reasons to doubt that here memory is reliable. But imagine that the neuroscientist in fact does not manipulate her memory brain mechanisms, so that she is in fact (let us suppose) perfectly reliable. She will have, on the reliabilist view, justified true beliefs about the past, but will she know that these beliefs are true? It is dubious, for he second-order beliefs about her first-order beliefs will threaten her confidence in those. But there does not seem to be any general way in which we might avoid the formation of these second-order doubts.

It seems, then, that most of the major theories of knowledge have difficulties of their own, and that each one of them clashes at some point with the intuitions which motivate the others. At this point, we might have two sorts of reactions. On the brighter side, we might conclude that the difficulties encountered by the various versions of the specific foundationalist and coherentist views, internalist or externalist do not show that they have, in the end, to fail. For it might be
that a particular version of one of these views, or a combination of them, could work, although it has still to be formulated satisfactorily. On the darker side, we might conclude that it shows that the very method and presuppositions of the contemporary analyses of knowledge are defective. For instance most of these views share a common prejudice with the classical Cartesian approach in epistemology: that knowledge is a matter of individual beliefs, which can be assessed through our common intuitions. Against this it might be argued that knowledge is, most of time, a collective enterprise of mankind, especially in the case of the most warranted species of knowledge, namely scientific knowledge. But the problems of the justification of hypotheses in the philosophy of science are the counterparts of the problems of natural knowledge: here too we find foundationalist, coherentist, and even reliabilist views (in the form of evolutionary epistemologies). So it is unlikely that these problems will be solved simply because scientific knowledge seems much more secure and successful than ordinary kinds of knowledge. On an even more pessimistic view, it may be argued that the respective failures of the various attempted definitions of knowledge show that the
sceptical predicament, that knowledge might be impossible, is still in place.

Philosophical theories of knowledge, in their classical and in their contemporary forms, can be understood as attempted answers to the challenge raised by radical scepticism. Against the most pressing sceptical arguments – Descartes’s evil genius argument, or the argument from error, to the effect that the fact that we are sometimes mistaken might induce us into believing that we might always be in error - the appeal to foundational self-evident beliefs (such as the cogito) have little force, once we grant FALLIBILISM, the view that most of our most secure beliefs might, after all, turn out to be false. Some philosophers, such as MOORE or WITTGENSTEIN, have argued that the problem with sceptical doubts of the radical kind is not that they are not justified, but that they are in some sense incoherent or nonsensical. WITTGENSTEIN, in particular, argues that it does not even make sense to doubt, out of context, that, say, I have two hands, or that the world has not been created a few minutes ago, since we do not even say that we know that we have two hands, or that the world has not been created a few minutes ago. The ancient sceptics, the Pyrrhonians, agreed in a
sense with such views, since they did not even try to produce arguments against the dogmatic philosophers, but intended to show the incoherence of their arguing for the existence of knowledge, and recommended the suspension of assent or belief.

Shall we rest content with the fact that we have knowledge, and that we have sometimes good reasons to know and to doubt in specific circumstances, although we never have perfect proofs that we do know and that radical doubts are out of order? It may well be that, contrary to the purposes of the philosophical definitions of knowledge, this notion is bound to remain to some extent vague, although it is likely that we shall never be satisfied with this conclusion.

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