

Roush, Sherrilyn. *Tracking Truth: Knowledge, Evidence, and Science*. Oxford: Oxford University Press. 2005. xi + 235 pp. Hardback, \$74.00 – This book is a comprehensive defence of a modified Nozickian tracking account of knowledge. The account is presented as an analysis of knowledge, rather than justification. Roush allows that a tracking analysis of justification may be possible. But she denies that justification is required for knowledge. Her view is externalist, but not reliabilist.

On Nozick's tracking account, knowledge involves two conditions in addition to the traditional requirements of belief and truth. The first is the variation condition: if p were false, then a subject S would not believe that p . The second is the adherence condition: if p were true, then subject S would believe that p . This analysis employs subjunctive conditionals to express the tracking conditions, and was, for that reason, found to be objectionable by some critics. The first key modification that Roush introduces of the Nozick account is to replace subjunctive conditionals with conditional probabilities. So the tracking conditions become: $P(\neg b(p)/\neg p)$ is high, while $P(b(p)/p)$ is high and $P(b(\neg p)/p)$ is low (p. 75). Roush argues in chapters two and three that the modified tracking view resolves a wide range of problems that arose for the Nozick version of the view.

Nozick held that knowledge is not closed under known logical implication. Roush's second key modification of the Nozick account is to include instead the requirement that one may know implications that are known to follow from a proposition that is known. She calls this view the "recursive tracking view of knowledge" (p. 47). Thus, Roush counts a subject as knowing p either if the subject tracks the truth of p , or if the subject tracks $q_1 \dots q_n$ such that $q_1 \dots q_n$ imply p and the subject knows that this is so. (This is a simplification. For the full statement of the recursion clause, see p. 47.)

Roush takes tracking, rather than justification, to be what is needed for true belief to be knowledge. She allows that there may be cases in which one has knowledge without justification (e.g., clairvoyance). No account of justification is presented. But Roush does suggest that the ability to justify beliefs is “one of our species’ many tools for trying to track the truth ... justification is thus a means to the end of knowledge, but not the only means” (p. 24). This seems to mean that the specific form that justification may take in a given instance is not itself constitutive of tracking. It is what enables one to track the truth in that instance.

Roush argues in the fourth chapter that the recursive tracking view resolves problems that confront other externalist accounts of knowledge. The problem of generality which arises with respect to the level of description of facts relating to knowledge is resolved by formulating rules governing probability in the tracking conditions. Roush also shows how the recursive tracking view avoids problems that arise for reliabilism due to the possibility of reflective knowledge. And she presents an account of knowledge of logical and necessary truths based on her treatment of knowledge of implication in relation to the closure of knowledge under known implication.

In the final two chapters Roush turns to issues in the philosophy of science. In chapter five, she develops a probabilistic analysis based on likelihood ratios of the notion of evidence on which the relation between evidence and hypothesis is a tracking relation, though independent of the tracking analysis of knowledge. The basic idea is that, if belief tracks evidence and evidence tracks the truth of a hypothesis, the chance of a belief being true is thereby increased. Roush employs her ideas about evidence in chapter six to develop an interesting take on the issue of scientific realism. She argues not only that constructive empiricism is unsustainable, but that neither is a full-blown realist position. Considerations

from confirmation theory militate against both positions, though the position Roush adopts in the end is a moderate form of anti-realism.

In recent years, there has been a *rapprochement* between analytic epistemology and philosophy of science. *Tracking Truth* falls into this tradition. It also falls into the tradition of formal epistemology, bringing technical sophistication to bear on the analysis of knowledge. The book is enmeshed in the dialectic of closely argued analytic philosophy. Considerable effort is devoted to addressing objections laid against Nozick's tracking view, as well as to showing the recursive tracking view to be superior to opposing views. The book is not for beginners. It is aimed at the specialist. But, for both the graduate student and non-specialist professional alike, it will repay careful study. This is an important book, rigorous, detailed, and challenging on a number of fronts.

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