

error (e.g. in an epidemic). But this would not show that R' is a better justified methodological rule than Q' . Q' is better justified because it controls for a possible source of error for which R' does not control. The greater control afforded by double-blind experimentation provides greater warrant for the results of such experimentation; the fact that double-blind methodology yields more highly warranted research conclusions establishes the methodological superiority and justifiedness of Q' . We should not confuse the (true) claim that we are pragmatically justified in some circumstances in utilizing an epistemically less well justified methodological rule, with the (false) claim that in such circumstances the less well justified rule becomes or is more justified. So long as R' 's epistemic credentials are inferior to Q' 's credentials, Q' will be a better justified methodological rule than R' , whatever our pragmatic circumstances happen to be. This is a familiar point which extends far beyond the context of methodology: as a hostage or prisoner of war I may be pragmatically justified in the extreme in believing that my government will do everything in its power to rescue me; that belief, nevertheless, may be epistemically unjustified in light of the total relevant evidence.

Notice that I am not challenging Laudan's naturalism here. He is correct that it is an empirical matter that double-blind experimentation controls for a source of possible error that single-blind experimentation does not. This should not be a surprise; evidence is typically empirical and 'natural'. The present challenge is rather to Laudan's instrumentalism. It is not the instrumental relationship of means to ends which justifies methodological rules; it is rather the epistemic features of methodological rules which affords them whatever justification they enjoy.

Laudan's instrumentalist account of methodological rules and the rational resolution of disputes concerning them constitutes an instrumentalist view of scientific rationality; it presupposes an instrumentalist view of rationality more generally. This aspect of Laudan's instrumentalism is also problematic.

IV. Instrumentalism and Rationality

Laudan models his instrumentalist account of scientific rationality on that of goal-directed rational action. He claims that a necessary condition of the rationality of purposive action is the actor's belief that her action furthers her aims, and simply applies that model of rational action to the scientist. So applied, scientific rationality is measured by the degree to which it is believed that scientific research, as guided by its methodological rules, realizes its aims:

When we say that an agent acted rationally, we are asserting minimally that he acted in ways which he believed would promote his ends. Determining that an agent acted in a manner that he believed would promote his ends may or may not be sufficient to show the rationality of his actions; philosophers will quarrel about that matter. But