

means; (b) an instrumentalist conception of (scientific) rationality; (c) a naturalistic, instrumentalist treatment of the axiology of science; and (d) a commitment to a thoroughgoing naturalism in philosophy of science. Each of these aspects of Laudan's position is, I believe, problematic.

III. Methodology and Instrumentality

As we have seen, Laudan treats methodological rules as hypothetical imperatives which relate cognitive ends with means which are efficacious for the realization of those ends. Such methodological rules are justified instrumentally and empirically: a methodological rule is justified to the extent that we have reason to believe that the means it recommends really are the most efficient way we know of bringing about the end;³ and empirical, scientific inquiry provides us with whatever reason to believe this that we have.

Consider the methodological rule (discussed in Laudan, 1984, pp. 38–39) which might ordinarily be stated:

Q': Prefer double-blind to single-blind experiments.

On Laudan's view, this rule is stated elliptically, for the aims which the rule is alleged to further are not mentioned. In full hypothetical form, the rule should be formulated as follows:

Q: If one wants to learn whether a drug or therapy is genuinely effective, prefer double-blind to single-blind experiments.

According to Laudan, *Q* is justified by empirical considerations which demonstrate the efficacy of double-blind experiments in realizing its stated end. If we want to know whether some particular drug or therapy is genuinely effective, we are instrumentally well-advised to conduct double-blind rather than single-blind experiments.

Why are we so well-advised? It is because we have learned that single-blind experiments, in which the researcher but not the subject knows whether the subject is receiving the experimental drug/therapy or a control, are not reliable indicators of drug/therapy efficacy. This is because researchers in single-blind experiments can and do convey to subjects their own therapeutic expectations, which render experimental results unreliable because they fail to control for subject expectation (the placebo effect). So, if we want to know whether the drug/therapy under test is efficacious, and we want to rule out the possibility that positive test results are the result not of the drug's efficacy but rather of the subject's expectations of improvement, we had better rule out subject expectations which result from unconscious transmission of the researcher's expectations to the subject. We do this by utilizing double-blind methodology,

³This is not quite right, for it neglects Laudan's account of the naturalistic justification of ends. We will consider Laudan's discussion of axiology below.