

The middle way: Schrader-Frechette and Mayo

1 Scharede-Frechette's argument in RR ch. 3

1-1 Arguments against the five (supposed) claims of cultural relativism

(1) Increased knowledge and additional reasoning about risks do not make people more rational about hazards

→ This is a version of "all- or -nothing" argument. Knowledge do change our risk behavior. (X ray case) p.32 (総てか無か型の議論になってしまっている。実際問題として知識を得た為にリスク行動が変わることはある)

(2) Risk assessments are like judgments in aesthetics.

→ This is also a "all-or -nothing" argument. Even if something is social construct, we can often still reason about it. (promise case) Risk judgments unlike involve life-and death consequences. pp. 33-34 (約束は社会的構成物だが、約束についてはちゃんと推論がなりたつ。)

(3) "Any form of life" including risk behavior and attitudes "can be justified" since all people are biased in their perception of danger.

→ fails for the same reasons

→ D&W claim that they are merely describing, but they are making value judgments when they say any form of life can be justified. (D & Wは単に事実を記述しているだけだというのが、正当化できるというのは価値判断)

(4) Modern persons are no different from "primitives" in that social structure dictate their views on , and responses to, alleged hazards.

→ the types of social organizations dictating the same risk aversion are quite diverse. Many risk judgments may be a function of both personal psychology and ethical beliefs. p. 37 (いろいろな社会が同じリスク嫌悪を示す。同じ社会の中でも個人的な心理や倫理的信念によってリスク判断が変わる)

(5) Environmentalists' views on risk are a result of their "sectarian problems"

→ many environmentalists are scientists; Sierra club is hierarchical; the risk itself

(rather than the sectarianism) can be the cause of their attitudes; D&W does not establish their claims [using statistical evidence?]. pp.37-38 (要するに環境保護論者が党派主義的だと一概にはいえないということ)

1-2 criticisms of naive positivism

There are three types of values

(1) bias values (2) context values (3) constitutive values

-Bias value can be and should be avoided; context value is hard to avoid; Constitutive value is necessary for science (いわゆるバイアスや個人的、社会的、文化的価値は避ける必要がある。しかし構成的価値は科学にとって必要)

-Whenever scientists follow one methodological rule rather than another, they make constitutive value judgment. (方法論的規則を選ぶ時に構成的価値判断をしている)

-When beta decay was observed, it was not regarded as counterevidence. "Facts" or "problem" p.41 (高エネルギー物理学の例。一見反例に見えるものが、反例ではなく「問題」として扱われていた)

-theory choices rely partly on categorical judgment of value. p.43 (理論選択も価値判断の要素がある)

- if scientists avoid value judgment, they serve status quo as a result.p.44 (中立であろうとすると、結局現状維持という価値判断をしていることになる)

1-3 Scientific proceduralism

Three propositions (p.47)

(1) there is one general criterion for theory and paradigm choice: explanatory power as tested by hypothesis (説明力という一般的な基準はある)

(2) other criteria are situation specific or determined largely by practice (他の基準は場面場面で違う)

(3) we can guarantee "scientific objectivity" by testing the predictive and explanatory power of our risk theories and by subjecting risk evaluations to intelligent debate, criticism, and amendment by the scientific community and laypeople likely to be affected by the risk. (科学的客観性は、リスクに関する理論の予測力・説明力を確かめることと、科学者共同体と影響を受ける一般市民による理性的な議論、批判、修正にさらすことで保証される。)

As long as we can agree on general principles, we can have objectivity. (p.50)

(細かいところで食い違いがあっても一般的原理で同意できるなら、客観性は保証される)

2 Mayo's view in "Sociological vs metascientific views of risk assessment" and M& S "philosophical scrutiny of evidence of risks"

2-1 Mayo's terminology (p.260)

Separationism (≡naive positivism)分離主義

NAS-NRC report of 1983 アメリカ学術協議会の報告書

EPA's position under Gorsuch ゴーサック長官の下でのアメリカ環境保護局

→risk estimation is totally scientific and separated from policy decision

New separationism 新分離主義 (ゴーサック体制への修正)

→risk assessment policy(RAP) is separated from the rest of risk estimation process and regarded as a policy issue.

Non-separationism

Sociological view (≡cultural relativism) 社会学的見解

Metascientific view (scientific proceduralism is a version of metascientific view) ×
科学的見解

Risk Assessment Policy (RAP)pp.257-258

questions such as:

what weight should be given to studies with different results?

what dose-response models should be used to extrapolate from observed dose to relevant dose?

2-2 premise P

What distinguishes two non-separationist views is the attitude toward premise P (p.255):

If strict separability is unattainable, then empirical, technical, and scientific methods cannot provide unbiased risk assessment or adjudicate objectivity between conflicting assessment (厳格な分離性が成り立たないなら経験的・技術的・科学的方法はバイアスのかからないリスク評価を提供できない)

2-3 Metascientific view

A metascientific view denies P. Even if the goal is politically determined, whether a

method is appropriate for that goal is an objective question.

-analogy of weight (p.268)

-in the case of Gorsuch EPA, they misunderstood the logic behind Neyman-Pearson statistical testing, and their rejection of prior EPA decision was scientifically incorrect. N-P test control type I error but not type II error, so failing to reject the null hypothesis (formaldehyde is not harmful to human) does not constitute an acceptable evidence for the null.(ネイマン-ピアソンテストは第一種の過誤は統制するが第二種の過誤は統制していない。したがってホルムアルデヒドは人間に害はないという帰無仮説を棄却することに失敗したからといって、このテストで帰無仮説が支持されたと考えるのはあやまり)

[however, we can have statistical evidence for null, if null is interpreted as “the effect size is smaller than δ ” M&S p.810] (ただし、帰無仮説が「効果の大きさはある一定の値 δ 以下」という形だとすると、それへの証拠とはなりうる)

-similar analyses can be done on evidential support for the safety of GM crops or effectiveness of hormesis (M&S)