1. **Background**

**Eliminative materialism.** As neuroscience progresses, propositional attitudes will be eliminated/rejected, since folk psychology is a radically false theory. Thus, eliminative materialists are *antirealists* about propositional attitudes.

Pre-Churchland, eliminative materialists (Rorty, Feyerabend) were antirealists about *all theoretical entities.*

- As a result, they tended to think that it is okay to *use* folk psychology, even if one should not *believe* in propositional attitudes.

However, Churchland is a *scientific realist,* just not about propositional attitudes. (Compare: scientific realists are not realists about phlogiston, caloric, or ether.) This is because he thinks that our best scientific theories imply the falsity of folk psychology. As he writes, “excellence in theory is the measure of ontology.”

*Intertheoretic relations* are just what you think they are: relationships between theories, e.g. the relationship between folk psychology and neuroscientific theory.

Two theories are *incommensurable* when the terms of one theory cannot be translated into the terms of another.

- Churchland (as well as Rorty and Feyerabend) take *translation* as the paradigmatic intertheoretic relation. McCauley challenges this idea.

1.1. **Churchland’s Master Argument**

1. If folk psychology explains other people’s observable behavior, then folk psychology is an empirical theory.
2. Folk psychology explains other people’s observable behavior.
3. ∴ Folk psychology is an empirical theory. (From 1,2)
4. Folk psychology lacks the features of all other successful empirical theories (explanatory breadth, fertility, connection with other successful theories).
5. If a theory is empirical, and lacks the features of all other successful empirical theories, then that theory is (probably) false.
6. ∴ Folk psychology is (probably) false. (From 3-5)

• McCauley agrees with Churchland that folk psychology is an empirical theory.

1.2. **McCauley’s take on Churchland’s Argument**

1. Some intertheoretic contexts involve the comparison of substantially incommensurable theories.
2. In intertheoretic contexts involving the comparison of substantially incommensurable theories, the theory with the greatest empirical success should be retained, and theories with substantial empirical failures should be eliminated. (Call this the *Elimination Assumption*)
3. The intertheoretic context involving folk psychology and neuroscience involves the comparison of substantially incommensurable theories. (Call this the *Competition Assumption*)
4. Neuroscience has the greatest empirical success.
5. Folk psychology has substantial empirical failures.
6. ∴ Neuroscientific theories should be retained, and folk-psychological theories should be eliminated. (From 1-5)

• McCauley challenges the Elimination Assumption and (to a lesser extent) the Competition Assumption.

2. **Against the Elimination Assumption**

2.1. **Core idea**

McCauley rejects the Elimination Assumption in the following way:

There are *some* intertheoretic contexts involving the comparison of substantially incommensurable theories, but theories with substantial empirical failure *are not* eliminated.

To make this point, he notes that Churchland (and many philosophers of science before him) have oversimplified the inventory of intertheoretic relations. In particular McCauley uses the following set of distinctions:
Many intertheoretic relations occur at different levels of analysis.

- Lower levels deal with increasingly smaller units of analysis (at the lowest level are subatomic particles, then atoms, molecules, cells, organs, organisms, ... all the way up to populations, etc.)
- Generally, if Level $x$ is “lower” than Level $y$, then the entities in $y$ are composed of the entities in $x$.
- Additionally, higher-level systems are more complex, and the (higher-level) functions of different (lower-level) parts are essential for seeing the kinds of connections between different physical systems.

An intertheoretic relation is synchronous if the theories being compared are accepted at the same time; diachronic if they are accepted at different times, i.e. if one theory is a successor to another.

A heuristic is essentially a “mental tool.”

- Thus, when McCauley claims that older theories are used as calculating heuristics, he means that sometimes the older theories are easier to use because they have fewer parameters, simpler math, etc. However, we shouldn’t be realists simply because something has heuristic value.
- Similarly, when McCauley claims that interlevel excursions are heuristics of discovery, he means that by looking at the consequences of hypothesis designed for one level bear on a different level are likely to lead to results that prompt further research. Once again, this does not say anything about the truth/eliminability of the theories being compared.

2.2. Implications of McCauley’s Distinctions for Eliminativism

1. Interlevel contexts involve the comparison of substantially incommensurable theories, but theories with substantial empirical failure are not eliminated; rather, these “failures” are heuristics of discovery.

2. Therefore, there are some intertheoretic contexts involving the comparison of substantially incommensurable theories, but theories with substantial empirical failure are not eliminated, i.e. the Elimination Assumption is false. (From 1)

2.3. Brief Observation

If the Divide et Impera Argument is sound, then note that McCauley (and Churchland) are being too pessimistic about retention in intralevel cases, as some parts of past theories are retained.

3. Against the Competition Assumption

McCauley then notes that neuroscience and psychology are at different levels. Hence, if they are incommensurable, then according to the table above, we should be pluralists, not eliminativists about folk-psychological theories.

However, he notes that an intralevel elimination of folk psychology is possible, but the successor theory is not likely to be neuroscience. Rather, it is likely to be cognitive psychology, since that is at (roughly) the same level as folk psychology.