1. Background

Commonsense ("folk") psychology: interpreting behavior in terms of propositional attitudes (e.g. belief, desire, fears, intentions, perceptions, etc.)

Some philosophers, non-naturalists, hold that folk psychology is not an empirical theory. Since neuroscience clearly is an empirical theory, it follows that folk psychology is not reducible to neuroscience. (Includes dualists and functionalists)

Naturalists, on the other hand, consider (at least) the following as two competing options:

"Smooth" Reductionism: As neuroscience progresses, propositional attitudes will be retained and explained in terms of physiological theories (mostly about the brain), as folk psychology is a limiting case of a more mature neuroscientific theory. (Includes identity-theorists)

Eliminative materialism: As neuroscience progresses, propositional attitudes will be eliminated/rejected, since folk psychology is a radically false theory.

Thus, only eliminative materialism does not see a future for folk psychology.

Churchland wants to argue for eliminative materialism. Hence he must first establish naturalism, and then argue against smooth reductionism.

2. Naturalism defended: folk psychology is an empirical theory

2.1. The 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 theories1.
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)

2.2. Some laws of folk psychology2

| (x) [p] ((x fears that p) → (x desires that ¬p)) | For all p, every person who fears that p desires that p is not the case. |
| (x) [p] ((x hopes that p) & (x discovers that p)) → (x is pleased that p) | For all p, every person who hopes that p and discovers that p is pleased that p. |
| (x) (q) ([((x believes that p) & (x believes that (if p then q))] → (barring confusion, distraction, etc., x believes that q)] | For all p and q, every person who believes that p and also believes that if p then q, believes that q, barring confusion, distraction, etc. |

3. Why might folk psychology be eliminated?

3.1. The Explanatory Narrowness Argument

1. All mental phenomena are within folk psychology’s domain.
2. Folk psychology does not explain many mental phenomena (mental illness, imagination, intelligence differences, sleep, hand-eye coordination, learning, etc.)
3. A theory that does not explain many phenomena within its domain is (probably) false.
4. ∴ Folk psychology is (probably) false. (From 1-3)

3.2. The Infertility Argument

1. If a theory is applied to a decreasing number of domains and has not made any substantial advances in the domains in which it still applies, then it is (probably) false.
2. Folk psychology is applied to a decreasing number of domains.
3. Folk psychology still applies to the explanation of human behavior.
4. Folk psychology has not made any advances in its explanations of human behavior since ancient times.
5. ∴ Folk psychology is (probably) false. (From 1-4)

1 §3 defends this premise in detail.
2 See the appendix to understand the logical notation.
3.3.  The Disconnection Argument

1. A theory that does not have any obvious/promising connections with other successful theories is (probably) false.
2. Folk psychology does not have any obvious/promising connections with particle physics, atomic and molecular theory, organic chemistry, evolutionary theory, biology, physiology, and neuroscience.
3. ∴ Folk psychology is (probably) false. (From 1, 2)

4. Objections elimination, with a reply

4.1. The normativity argument

1. Folk psychology describes how rational agents ought to function (look at §2.2).
2. If a theory describes how things ought to be, then it is not empirical.
3. ∴ Folk psychology is not an empirical theory. (From 1, 2)

4.2. The abstraction argument

1. Different physical systems/organisms can have the same mental states.
2. The best explanation for this is that mental states are defined by their functional role, not their intrinsic physical properties (= functionalism). [probably]
3. Functionalism is true. (From 1, 2)
4. If functionalism is true, then folk psychology is not an empirical theory.
5. ∴ Folk psychology is not an empirical theory (From 3, 4)

4.3. Churchland’s reply to these arguments

1. If a theory is empirically disconfirmed, then denying that it is empirical is ad hoc, i.e. done only to spare the theory from refutation.
2. Folk psychology has been empirically disconfirmed.
3. The normativity and abstraction arguments deny that folk psychology is empirical.
4. ∴ The normativity and abstraction arguments are ad hoc.

Appendix: Quick crash course in logical notation

Churchland uses some logical notation in the article. If you’re interested in the notation, here’s a very quick explanation. If you’re really interested, take PHIL0180, Introduction to Modern Logic.
Let $p$ and $q$ be any arbitrary declarative sentences.
(For illustration: Let $p = \text{“Khalifa is a professor”}$ and $q = \text{“Khalifa has a PhD.”}$)

Then here is how you interpret various logical expressions:

<table>
<thead>
<tr>
<th>Logical notation</th>
<th>General translation</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>$p &amp; q$</td>
<td>$p$ and $q$</td>
<td>Khalifa is a professor and has a PhD.</td>
</tr>
<tr>
<td>$p \rightarrow q^3$</td>
<td>If $p$ then $q$</td>
<td>If Khalifa is a professor, then he has a PhD.</td>
</tr>
<tr>
<td>$\neg p$</td>
<td>It is not the case that $p$.</td>
<td>Khalifa is not a professor.</td>
</tr>
</tbody>
</table>

However, we might also want to capture the logic of parts of sentences. To do this, let $x$ be a variable for an individual person, place, or thing, and let $F$ and $G$ be predicates. (Let $F = \text{“…is a professor,”}$ and $G = \text{“…has a PhD.”}$) We can then express things such as:

“Everyone is a professor” = $(\forall x)(Fx)$ = “For all $x$, $x$ is a professor.”

“Every professor has a PhD.” = $(\forall x)(Fx \rightarrow Gx)$ = “For all $x$, if $x$ is a professor, then $x$ has a PhD.”

Here $(\forall x)$ = “For all $x$,…” Sometimes, logicians use “$\forall x$” to express the same idea.

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3 Churchland uses slightly different notation: Instead of “$\rightarrow$,” he uses “$\supset$.” These mean exactly the same thing.