

Can it ever be said that Scientific realism takes off from the springboard of commonsense or naive realism?

<https://www.quora.com/Naive-Realism/Can-it-ever-be-said-that-Scientific-realism-takes-off-from-the-springboard-of-commonsense-or-naive-realism/answer/John-Ringland>

<http://anandavala.info/article/Can-it-ever-be-said-that-Scientific-realism-takes-off-from-the-springboard-of-commonsense-or-naive-realism.pdf>

Most scientific realism is also naive realist however not all. I will explain.

Naive realism ignores the role of experience in the apprehension of that which is experienced, and assumes objective existence for the objects that are portrayed by experience. See [What is naive realism?](#)

Hence naive realism directly underlies empiricism, because:

“Empiricists claim that sense experience is the ultimate source of all our concepts and knowledge” ([Rationalism vs. Empiricism](#))

Thus any scientific realism that derives from empirical science is naive realist. This is a core characteristic of the entire empirical science paradigm. See [Do we have a collective paradigm? Else, is it fragmented?](#)

However not all sciences are empiricist. An important example is quantum mechanics, which is a rationalist science, although most physicists still try to only use it and think about it within the context of empirical science.

“Rationalists claim that there are significant ways in which our concepts and knowledge are gained independently of sense experience.” ([Rationalism vs. Empiricism](#))

Quantum mechanics doesn't originate from sense experience, it originates from mathematical intuition, which then led to plausible mathematical formalisms that postulated entities such as wavefunctions that are inherently unobservable. The predictions derived from these mathematical formalisms were then tested against experimental observations that eventually had to correspond with sense experience however the science did not start from the sense experiences themselves.

This is the reason why quantum mechanics has been able to go beyond naive realism and provide concrete proof that naive realism is a flawed epistemological position. Also see [The Big Philosophical Questions: Now that naive realism has been disproven by quantum mechanics, how will this impact our collective paradigm?](#)

Note that most physicists, chemists and so on avoid facing these issues by maintaining an instrumentalist attitude towards quantum mechanics which is epitomised by the phrase "shut up and

calculate". This allows them to use quantum mechanics as a tool within an otherwise empiricist and naive realist paradigm.

However a realist interpretation of quantum mechanics proposes a form of scientific realism where quantum systems are considered real (although inherently unobservable) and these give rise to observables during the act of observation. Thus the observables themselves have no objective existence. This is in direct contradiction to naive realism which claims that only observables have objective existence.

Thus, for example, in a realist interpretation light is neither a wave or a particle, it is a real quantum system that is itself inherently unobservable, which when interacted with can give rise to a wave-like or a particle-like observable depending on how it is interacted with. See [Is light a wave or a particle?](#)

“The realist interpretation [of quantum mechanics]... challenges the empiricist claim that quantum objects are simply empirical tools to describe observables. Thus, contrary to what we might at first think, the wave-particle duality of quantum objects provides support for the realists. We now know that quantum objects behave differently from everyday objects, and we can make an experimentally supported epistemological claim about the quantum world, a very realist claim.” ([A Critique of the Empiricist Interpretation of Modern Physics](#))

Recall that naive realism ignores the role of experience in the apprehension of that which is experienced, and assumes objective existence for the objects that are portrayed by experience. Because quantum mechanics avoids succumbing to naive realism it finds that the role of the observer is central to the theory, whereas in all empirical sciences the observer has no role. For this reason quantum mechanics is favoured by some as a science that can provide pathways towards an understanding of consciousness whereas empirical science cannot.