Molecules, Mechanisms, and (Aspects of) P-Consciousness

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Pretty much everybody in Consciousness Studies assumes that any "neuroscience of phenomenal consciousness" will be found at higher reaches of the discipline—cognitive or systems neuroscience, if at all. But remarkable progress has been made for more than a decade now on uncovering mechanisms of various aspects of phenomenal consciousness at the molecular level, that is, the level that is the mainstream of current neuroscience. Genetic manipulations of single amino acid residues on the "fast" GABA ($GABA_A$) receptor protein in vivo have yielded exciting behavioral results in a variety of experimental protocols for such features of phenomenal consciousness as "on-off" awareness, arousal state, and mood. My first goal in this talk is to bring this work to the attention of the Consciousness Studies crowd, where it remains woefully ignored or underappreciated. My second goal is to use this research to articulate a new account of causal-mechanistic explanation in science, as an alternative to James Woodward's dominant "interventionist" model. This new model is derived directly from landmark experimental results in molecular neuroscience. I'll point out the key ways this new account differs from Woodward's, and argue that these differences exactly reflect the kinds of experimental work we find in the current molecular biology of consciousness.