Neuroscience(s): What is in the name?

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For years I have been trying to figure out what the term “neuroscience” or “neurosciences” represents, why we invented/introduced it, and why we are so enthusiastic, captivated, and fascinated by it. The department I belong to at Wayne State University is called the Department of Psychiatry and Behavioral Neurosciences. I have to admit that I am still not clear about it, and whether it is due to lack of explanation from the field or my own cognitive deficit. Why not just psychiatry?

Other medical disciplines do not seem to embrace such terminology. There is no hepatoscience, cardioscience, or nephroscience. These are called hepatology, cardiology and nephrology, because the suffix “-logy” or “-ology” means “science” or “body of knowledge” in a particular subject. We have a discipline using the combination of neuro and...neurology. True, it is not psychiatry. We all agree that psychiatry and neurology are 2 different specialties.

Therefore, I looked up the definition of “neuroscience,” which is defined as the scientific study of the nervous system. Does it mean that only neuroscientists study the nervous system in a scientific way? Psychiatry usually is defined as a medical specialty devoted to the study, diagnosis, treatment, and prevention of mental illness. Does this mean that its approach is not scientific? Or does it mean that studying the nervous system and studying mental illness are 2 different things? Aren’t these 2 intertwined, aren’t they studied together? It seems to me there is some semantic confusion here.

While looking for the definition, I found that there are more branches of neuroscience than I had realized. Here are examples of a number of neurosciences: affective, behavioral, cellular, clinical, cognitive, computational, cultural, developmental, evolutionary, molecular, social, system, and integrative neuroscience. Not to mention neuroengineering, neuroimaging, neuroinformatics, neurolinguistics, neurophysiology, and paleoneurology, which some include among the neurosciences. This list clearly contributes to the confusion, at least mine. It suggests, at least to
me, 2 things: that neuroscience is interdisciplinary and that almost anything could be called “neuroscience.” Interestingly, clinical neuroscience supposedly consists of neurology, psychiatry, and many allied health professions. And I thought that clinical neuroscience was part of psychiatry and neurology!

Fine, it is not clear what neuroscience is, or what is part of what. So, why are we—I mean psychiatrists, but also medical schools—so fascinated and enchanted with neuroscience(s)? Is calling psychiatry by its own name too stigmatizing? Not good enough? Does the “science” suffix give us more clout and a better appearance at medical schools and funding agencies? Why? Are we trying to legitimize and codify psychiatry as a science this way? These are interesting questions that we need to answer for ourselves. However, we also should realize that the progress of neuroscience(s) has been modest at best and its contribution to our clinical work has been even less so. If advances in neurosciences become truly relevant to our patients and to our work, their methods, goals, and focus need to be reappraised with attention to the clinical aspects of patient care. That might be the day when we are more clear what the term “neuroscience(s)” means.

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