the oft-stated problem of diagnostic stability, i.e. clinical diagnoses being not always stable over time (9). Neuroscientific inquiry can provide convergent evidence about whether this instability is due to the inadequacy of our diagnostic system to capture disease presentation over time, or whether there is genuine evolution of disease presentation. Why clinical presentations change in the same patient over time is one of the many unsolved questions in our field where the neuroscience-based approach can supplement the work that has been done to date.

The goals of clinical and neuroscience based approaches to classification of psychiatric disorders are convergent. As these silos get broken down, time becomes ripe for the two traditions to come together. The road from RDC (and DSM) toward RDoC may be long, but will have promise for the practice of psychiatry.

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The RDoC program: psychiatry without psyche?

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Cuthbert's dense synopsis of the National Institute of Mental Health (NIMH) Research Domain Criteria (RDoC) proposal (1) raises a lot of questions. I will restrict myself to a few, quite general, theoretical and psychopathological issues.

The RDoC proposes to develop "psychiatric nosologies based upon neuroscience and behavioral science rather than descriptive phenomenology", i.e. "based on dimensions of observable behavior and neurobiological measures". The RDoC's theoretical underpinning appears to be a neurocentric "type-type" reductionism: specific chunks (types) of mental life (e.g. hallucination, anhedonia) are identical with, or nothing else than, certain specific chunks (types) of neural activity (say, a certain configuration of interactions between dysfunctional neural networks). It is hard to follow the logic of Cuthbert's assertion that the RDoC is *non*-reductionistic when he repeatedly emphasizes a "mechanistic understanding" as the RDoC's ultimate goal. "Type-type" reductionism is, of course, a legitimate theoretical position, but one that is far from being universally shared and is perhaps even obsolete (2).

There is no concern in the RDoC that biological reductionism, so successful in somatic medicine, may be confronting in psychiatry the complications of what philosophers call the "explanatory gap" (3), "the hard problem of consciousness" (4) or the defiant distinctiveness of the ontology (nature of being) and epistemology of human consciousness (5). These issues cannot be adequately addressed by an outright denial of "human exceptionalism" because of the genetic continuity between fruit flies and humans. The RDoC is programmatically silent on the issues of consciousness and subjective experience. Although acknowledging, *in passim,* that "verbal report" is the patient's primary gesture in a clinical context, the RDoC does not offer any suggestion on the nature of psychopathological enterprise that is needed to decode the pathologies of subjectivity expressed through such "verbal report".

Cuthbert claims that conventional clinical concepts (e.g., post-traumatic stress disorder) are not "cohesive psychological constructs", but he fails to specify what a "cohesive" psychological (or biological) construct might be.

The etiological project in psychiatry presupposes a serious study of the *explanandum* itself, i.e., consciousness and its pathologies, because "without some idea... of what the subjective character of experience is, we cannot know what is required of... (reductive) theory" (6). The object of psychiatry is the patient's altered experience, expression and existence, associated with suffering in self and/or others. A psychiatrist treats a *person* and not a brain circuit. We will therefore continue to need a classification anchored in phenomenology, and into which the brain enters in so far that the neural pathology is diagnostically or therapeutically *relevant* to this suffering and not because

the brain *de jure* is of principal interest for psychiatry.

The RDoC's target constructs, believed to reflect simple, natural-kind like behavioral functions and instantiated in circumscribed neural networks (previously called "modules"), will in all likelihood fall short from becoming an exhaustive or even a relevant *explanans* of the disorders of rationality, worldview, symbolization, self-awareness, and personal identity, which are the hallmarks of the most serious psychiatric disorders. Would clinically typical schizophrenic and bipolar patients suffer from *the same mental disorder* (i.e. share *the same* future "precision diagnosis") if they exhibit identical profiles of neurobiological and neuropsychological dysfunctions?

The justification for launching the RDoC was a failure to translate the advances of basic neuroscience into actionable psychiatric knowledge. This failure has been ascribed to the (DSM-IV) phenotype-based classification: with the passage of time, the diagnostic categories became "reified", i.e., they came to be dogmatically considered as "true" and valid entities, monopolizing research, and preventing scientists to ask novel questions, outside the DSM prescribed space (7). Yet it is also quite possible, and in my view, even likely, that the lack of progress is less related to the existence of phenotype-based classifications as such but more importantly linked to the concrete nature of DSM-III+ operational classifications.

The "operational revolution" entailed a behaviorist, subjectivity-aversive stance and oversimplified psychopathology to a lay level, depriving it of any conceptual or phenomenological framework, and resulted in inadequate or deformed phenotypic distinctions. The "operational" criteria are in fact not "operational" in any theoretically significant sense (8). Rather, the diagnoses, based on "symptom counting" and neglecting the prototypical-gestaltic structures of mental disorders, *necessarily* resulted in meaningless comorbidity, arbitrary diagnostic thresholds and hindered dimensional considerations.

The effects of "operational" simplification may be easily illustrated. An essentially *experiential-felt* origin of the schizophrenic delusion has been systematically ignored by all successive DSM/ICD definitions; perhaps because delusion cannot be grasped through a commonsensical lay definition, but always requires an embededness in a more overarching phenomenological framework (8). Hallucination is another example: what is called auditory verbal hallucinations is phenomenologically (qualitatively) so markedly heterogeneous (9) that treating those hallucinations as a homogeneous phenotype is likely bound to undermine empirical research. In other words, empirical research is crucially dependent on the adequacy of the employed phenotypic distinctions, adequacy that cannot be achieved through a simplistic behaviorist checklist approach.

The RDoC is legitimate as a *neuroscientific research program*, but it is hazardous as a "grand design", a totalizingly *prescriptive paradigm* for psychiatry. Reification, i.e. confusing a *concept* or idea for a really existing *thing*, deplored in the context of DSM-IV (7), will in all likelihood repeat itself with the RDoC, yet this time with perhaps even more serious consequences. We risk what Jaspers anticipated as "psychiatry without psyche". Psychiatry will survive as a therapeutic activity because the patients will not vanish. However, psychiatry that neglects its psychopathological foundations, i.e. an interdisciplinary, theoretical and empirical study of subjectivity, risks disappearing as an academic medical discipline (10).

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RDoC is necessary, but very oversold

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The past half century has witnessed heroic advances in the basic sciences of brain research, genetics, and molecular biology. But there has also been a surprising and disappointing paradox: none of the exciting scientific findings has had any impact whatever on the everyday practice of clinical psychiatry. Fortunately, we have available effective treatments for most mental disorders, but there have been no real breakthroughs in our understanding of psychopathology and ways of treating it.

Why the gaping disconnect between a basic science enterprise that is remarkably dynamic and a clinical practice that is relatively static? In fact, psy-