



Discussion of Dr. Glen Gabbard's paper “A Neurobiological Perspective on Mentalizing and Internal Object Relations in Traumatized Borderline Patients”

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Abstract. This discussion first focuses on the danger of reductionism in relating biological structures to psychic structures, an important point made by Dr. Gabbard's paper. The discussion proposes a developmental interactionism between body and mind. The concept of the self-a psychological structure—serves to illustrate the complexity of relating this psychic structure to the underlying biological centers involved. The discussion then turns to the relationship between alternatives in the activation of the amygdala–prefrontal cortex–hippocampus circuit and the contextualization of negative affect. The effects of trauma on this circuit, in promoting pathological intensification of negative affect activation is relevant for the treatment of borderline personality disorder, as Dr. Gabbard pointed out. The question is raised to what extent psychodynamic psychotherapy may modify or bypass very early predisposing memory engrams of traumatic experiences. Both Dr. Gabbard and the discussant agree on the fundamental function of transference/countertransference analysis to modify the consequence of early trauma, but differ regarding the value of a constructivist as contrasted to an objectivist approach to transference analysis. © 2005 Published by Elsevier B.V.

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It was a great pleasure to have this opportunity for exchange of information with Dr. Gabbard, to learn from his outstanding presentation, and share with him our interests regarding the neurobiological functions and pathology in the development of severe personality disorders, particularly borderline personality disorders. Dr. Gabbard has presented an excellent summary of the concept of neurobiological networks, the fact that we have to conceive of the central nervous system not as centers per se but as networks that operate through an extraordinary number of synaptic connections that permit parallel processing of stimuli, with an increase of such parallel processing by means of the activation of a higher number of synaptic connections under conditions of higher intensity of perception and elaboration of psychic experience.

Dr. Gabbard also stressed the importance of avoiding a premature reductionism of psychic phenomena to neurobiological ones, and has proposed Kendler's "explanatory dualism", the understanding that the mind is the activity of the brain, but that there are two different ways of knowing or understanding the mind that require two levels of explanation. This is a very central issue in our present efforts to relate psychological phenomena to neurobiological ones. My own approach, in this regard, is one of a developmental interactionism, which proposes that basic neurobiological structures evolve into broader, more complex, and integrated supraordinate neurobiological structures, that, in turn, give rise to further organizational developments that now include psychological functions; such as, for example, the subjective experience of pleasure or pain at some level of activation of circuits and functions related to affect activation. Such basic psychic components, in turn, become organized and integrated into higher, supraordinate psychic functions, to the point where the manipulation of information at a purely symbolic level develops an entire new realm of psychic experience. Now primitive memory traces may be elaborated into complex organizational charts, within which affects acquire a motivational functions "toward" certain situations or experiences or "away from" them.

This may appear to be a rather abstract reflection on the relationship between biological and psychic phenomena, but it becomes very concrete in the context of intense affect activation that, as Dr. Gabbard has pointed out in great detail, involve the activation of representations of self and representations of significant others. Here the function of higher symbolic processes enters in the integration of the multiplicity of early representations of self and others, gradually leading to an integrated concept of self and an integrated concept of significant others. Undoubtedly, the activation of such integrated representations of self and others involves complex neurobiological processes, but these can no longer be "located" in particular brain areas or systems, but become global functions of the brain. The concept of the self, as Roth [1] has demonstrated, implies the simultaneous activation of different areas of the brain, relating to the concept of self as anatomical entity, the self's location in space and time, the memory of past experience of the self relevant to the present situation, a linguistic sense of self, and a sense of self in the context of a social surround. How these various aspects of self representations become simultaneously activated and integrated is, so far, an open question: various theories attempt to explain this development, involving a harmonious set of frequencies of neural activation or particular, integrative neural circuits still to be discovered.

Another example of the difficulty inherent in relating directly complex psychic phenomena to their neurobiological basis refers to the relationship of procedural memory and declarative memory, on the one hand, to the phenomenon of repression, on the other.

The phenomenon of repression cannot be reduced to procedural memory, because, under clinical conditions in which a memory that was completely repressed emerges into consciousness, this phenomena is clearly different from the never previously available procedural memory traces, processed by neural circuits that are different, as Dr. Gabbard has pointed out, from the declarative ones.

From this viewpoint, Dr. Gabbard has rightly insisted in warning against premature reductionism, in spite of the exciting discoveries that he reviewed and that provide fundamental knowledge regarding the neurobiology of borderline personality disorders. Research in the Cornell neuroimaging laboratories have resulted in findings that are commensurate with those reported in Dr. Gabbard's presentation. Silbersweig et al. [2], in a collaborative neuroimaging study with our Personality Disorders Institute, found that patients with borderline personality disorder presented decreased activity in dorsolateral, prefrontal, and orbital frontal cortex, in contrast to normal control subjects during presentation of inhibitory words; and an inappropriate increased amygdala activity in these patients in neutral word conditions. The hyperactivity of the amygdala is related to excessive activation of negative affect, and the reduction in prefrontal preorbital cortex function implies a reduced contextualization and cognitive control over affect: in short, the excessive negative affect activation and lack of impulse control typical of borderline patients. As Dr. Gabbard pointed out, such a predisposition may be powerfully amplified by abnormal attachment that consolidates a pathological, frightening, persecutory area of experience of relations between self and other. These conditions, in turn, I would stress, foster the development of permanent splitting of psychic experience of intense affective relations into an idealized and a persecutory segment, leading to the syndrome of identity diffusion that is central to severe personality disorders.

One fascinating question alluded to by Dr. Gabbard regarding the effects of early trauma on later psychic functioning, is to what extent the effects of traumatic experiences on procedural memory will produce such profound and indelible consequences that later changes in declarative experience cannot affect them? Gerhard Roth has proposed that such very early trauma may bring about dispositions to traumatic effects of later non-traumatic experiences because they reactivate the representational world related to early trauma profoundly ingrained in the amygdala. Can psychotherapy influence such deep procedural memory traits by means of its interactions at a declarative level? To what extent are early traumas bypassed or modified, and may traces of either of these processes eventually show up in the neuroimaging study of borderline patients?

Dr. Gabbard has pointed to the toxic effect of the activation of chronically excessive glucocorticoid levels as a response to trauma, that may reduce the volume of the hippocampus and thus erase early memories, thus producing "holes" in memory that foster splitting processes in borderline patients. The study of changes in the dynamic interaction between prefrontal cortex, amygdala, and hippocampus as the effect of psychodynamic treatment, and, particularly, of treatments that foster mentalization, is one of the important research tasks at this time.

Dr. Gabbard rightly has stressed the importance of transference/countertransference interactions and the analysis of these patterns as part of the analyst's technique, as the central element in the therapeutic effect of psychoanalytic treatment, which attempts to change the pathogenic patterns of internalized object relations from the past in the light of

the new experience in the transference. Here an important controversy has emerged in the psychoanalytic field, between the objectivist and the constructivist interpretation of the transference. Dr. Gabbard alluded to this issue, in the informal comments accompanying his present paper. The constructivist concept proposes that the transference, similarly to the countertransference, is a compromise formation between contributions of patient and therapist, that, therefore, has to be examined as part of the study of the intersubjective field developed in the psychoanalytic treatment. The objectivist view, in contrast, proposes that the transference is a specific product of the patient's past pathogenic, now reactivated conflicts, and that if the patient reacts realistically to particular idiosyncrasies of the analyst, this is an element of reality that has to be acknowledged by the analyst, and not be considered as a transference phenomenon.

This controversy is important because it relates to the problem of the mechanisms of change in psychotherapeutic treatment. Both Dr. Gabbard and myself believe that the achievement of mentalization, that is, of the capacity to realistically evaluate mental states in self and others is an essential mechanism for resolving the inhibition of mentalization characteristic of borderline patients. Here, however, I would add, from an objectivist perspective, that the clarification of the patient's mental states and of the patient's perception of the mental states of the analyst is best served by an objectivist view that brings together widely disparate perceptions of the patient of self and other under conditions of persecutory and idealized transference activation, and that the interpretation of splitting operations is an essential component of this analytic work. An intersubjective perspective derived from a constructivist perspective may be insufficient to reach such an advanced stage of mentalization, in which the patient has to recognize his significant internal contradictions: this is an open question, that requires much more discussion, and I believe that both Dr. Gabbard and myself are very interested in this issue as part of our efforts to study the mechanisms of change in psychotherapeutic and psychoanalytic treatment.

In any case, we both agree that transference activation involves both procedural and declarative memories of the patient, and that changes in procedural memory may occur beyond the conscious and preconscious awareness of the developments in the transference on the part of the patient. And, to some extent, such profound modification of procedural memory activated by transference analysis may not be apparent to the analyst either! Our French colleagues have pointed to the fact that, at the end, transference resolution involves an infinite regress.

I think that Dr. Gabbard's presentation has been a masterful summary and analysis of complex developments in neurobiology, that should permit this audience to find their way in the rapidly accumulating information in the neurobiological field that is bound to have profound influences on our conceptualization of body/mind relationships, and affect significantly aspects of psychoanalytic theory.

References

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