

LISTENING TO PROZAC, WITH THE THIRD EAR: A PSYCHOANALYTIC THEORY OF PSYCHOPHARMACOLOGY

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Abstract: A model of the mind, utilizing constructs from object relations theory, is developed that bridges the conceptual gap between brain functions, influenced by the chemical milieu interior, and the psychodynamic construction of states of mind. A theory of self-regulation and regulation of the self is derived from the archaic mutual psychophysiological regulation between infant and mother that permits the actualization of a metapsychological structure, the internalized "environmental" mother that interpenetrates with chemically alterable brain physiology. This structure forms the background mental matrix of all experience and is maintained/ altered either by meaningful (selfobject) relationships or by chemical agents and/or self initiated behavior, which modify the psychophysiological matrix directly via physiology. Linking this construct with a theory of internal object relations derived from Kernberg, and, a body of research documenting state-dependent learning, a clinically applicable theory of the direct (not symbolic) effect of physical events on the construction of experience is realized.

The future may teach us how to exercise a direct influence, by means of particular chemical substances, upon the . . . apparatus of the mind. It may be there are other still undreamt-of possibilities of therapy.

—Sigmund Freud,
Outline of Psychoanalysis, 1940

Why have so many psychoanalysts become enamored with the recent strides in neurobiology but have virtually ignored what could arguably be the most pressing mind-body problem facing psychoanalysis today, that is, to psychoanalytically describe how drugs and other physical agents so radically alter subjective experience and presumably, the underlying psychodynamics? My hyperbolic assertion is supported by a survey of 277 analysts, published in 1995. Of 277 training analysts who responded, 20% had prescribed psychotropic drugs to their analytic patients (Roose & Stern, 1995). No doubt this number would be higher to

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day. This somato–psychic up–link¹ side of the mind–body problem is the subject of this article.

In 1950, Alan Turing, the British mathematician and cryptographer who cracked the Nazi code machine, Enigma, during World War II, published a paper proposing a test whereby one could determine if a computer could think like a human being (Hodges, 2006). A current day version of the test would go like this: an examiner could communicate with a real person (a) and a computer simulating a person (b) only by e-mail. If after suitable time and exchange of e-mails, the examiner could not correctly determine which e-mail correspondence was from the computer and which from the person, then, one would have to conclude that the computer (b) generating e-mails has intelligence indistinguishable from human intelligence.

Similarly, let us suppose that a psychoanalyst has an analysand in treatment that is stalled and at some point during that treatment, unknown to the analyst and the analysand, the analysand's wife begins to add a little fluoxetine in her husband's orange juice every day. Then let us suppose that the fluoxetine is effective. The analysand improves. While we are supposing, let's imagine that the analyst is in training and prepares a write-up of the case describing the dynamic and structural changes observed during the analysis. Since the analyst does not know that the patient has been taking fluoxetine, he/she will not be tempted to attribute the changes to the drug, but will attribute the changes to the analysis and accordingly will use psychoanalytic constructs and dynamics to describe/explain the changes in the analysand's internal object relationships and of course the transference and/or intersubjective field. According to the Turing test, if the analyst can describe the changes he/she perceives in the analysand using psychoanalytic terms and constructs, then the effects of the fluoxetine and the analysis are operationally indistinguishable as viewed through the prism of psychoanalytic theory.

Based on my experience with patients in analytic treatment, this article is an attempt to describe psychoanalytically the changes I have seen in my patients when they are given medication.

SELECTION OF THEORETICAL CONSTRUCTS

Casting about the psychoanalytic warehouse of theoretical constructs that over 100 years of psychoanalytic publications provides to us, one

1. This term is taken from communication technology in which information/data are transmitted from the earth to a satellite via an "up-link" transmitter and retrieved from the satellite via a "down-link" transmission to the earth. According to this analogy the psychosomatic connection between mind and body would be called a "down-link" and body to mind an "up-link."

may describe three categories according to the degree of mechanistic or concrete flavor of the construct:

1. Constructs with clearly biological elements like drives, instincts, psychic energy, and affects.
2. Constructs utilizing structural and mechanistic metaphors with three-dimensional referents that lend themselves to being metaphorically manipulated by physicochemical agencies, that is, self and object representations, intra-psychoic relational units, active splitting, affects, the dissociative barrier, and the mental matrix.
3. Abstract concepts with very little structural and metaphorical flavors, that is, inter subjective field or principles regulating the emergence or prohibition of specific affects states into consciousness (Stolorow, Brandchaft, and Atwood, 1987), and therefore do not lend themselves as useful constructs around which a beginning psychoanalytic theory of somato-psychoic integration might be built.

Clearly, concepts in category 1 and 2 could provide tools for a somato-psychoic theory. Category 1 constructs: instincts, psychic energy, and drives, were used by Ostow (1962), Mandel (1968), Sarwer-Foner (1983), and others in the 1960s and 1970s when they tried to theorize about antidepressants and antipsychotic medications that had emerged during the late 1950s. To my knowledge, this literature has not been found clinically useful and is not consulted for guidance in clinical decisions regarding the use of medication in psychoanalysis or any other therapeutic situation, for that matter.

Accordingly, this article will utilize the more metaphorically concrete object relations constructs to design a mechanism by which drugs and other physical agents modify construction of subjective experience utilizing the constructs of splitting, internal object representations, relational units, affect, and mental matrix. By means of this approach, I hope to show how biochemical changes in the body and brain might affect meaning-encapsulating experience by mechanisms other than the meaning assigned to the experience.² Briefly, I propose that medication

2. I do not propose to have solved the mind body problem, thought by some to be insolvable. (See Nicholas Humphrey, 2000, for a detailed treatment of the logical dilemma resulting from attempts to relate entities from entirely different categories such as subjective mental experience and the physical world of the body.) Only an attempt to create a psychoanalytically satisfying link between psychodynamic explanations of subjective experience and the observed effects of psychotropic drugs on behavior and experience is intended. Addressing the broader philosophical implications of my approach to this ancient problem is beyond the scope of this article and the author.

or any other alteration of the neurobiology of the brain can be described psychoanalytically by changes in:

1. The increase/decrease utilization of defensive splitting and/or dissociation.
2. Modulating the activation of primitive relational units used to defensively construct experience.
3. Modify the matrix of the mind.

In addition, the extensively researched phenomena of state-dependent learning will be utilized to differentiate psychotropic medication from chemicals associated with addiction and drug abuse.

I shall begin by deriving an outline of the epigenetic development of regulation of self states by means of either dependent relationships or on one's own. In this outline, the data of psychophysiology and subjective experience are brought into conjunction by expanding on Winnicott's developmental concepts including primary maternal preoccupation, the environmental mother, the capacity to be alone, and transitional objects and phenomena. Then, subjective experience will be interpreted as constructed from metapsychological self and object representations, which invariably includes a self experience (S) interacting affectively (A) with a perceived or experienced object/other (O). This is the SAO (Self representation –Affectively connected with an –Object representation) described by Kernberg (1976) as the *basic, indivisible unit of psychic experience*. By postulating a relationship between a vulnerable psychophysiological matrix of the mind (Ogden, 1985, 1986; Winnicott, 1956, 1958) and selfobject functions regulating the construction of self and object experience, psychophysiology can be shown to interact with metapsychologically determined experience via the SAO and its vicissitudes instead of by modulating psychic energy or instincts as Ostow (1962) and others theorized (Mandell, 1968). With this chain of psychoanalytic concepts linking psychophysiology to internal object relationships regulating subjective experience (including the affective perception of self and object), we can develop hypotheses describing how agents that alter psychophysiology may influence experience—regulating structures. Consequently, the beginnings of a psychoanalytic metapsychology is made available to describe what is observed in the psychoanalytic setting when the subjective experience of an analysand is impacted by meaningless, physical changes such as drugs, both street and medical, hormonal tides, fatigue, illness, or any physically mediated, alteration of brain function.

LITERATURE REVIEW: PSYCHOTROPIC MEDICATION AND PSYCHOANALYTIC THEORY

Beginning with the introduction of chlorpromazine and the first generation of psychotropic agents in 1953 (Healy, 1997; Mandel, 1968), psychoanalytically informed writers have attempted to clarify the influence that prescribing these agents might exert on treatment issues having to do with transference, countertransference, and the therapeutic frame (Kubie, 1958). A small number of papers have attempted to define drug effects in psychoanalytic terms. (Ostow, 1962; Sarwer-Foner, 1982; Schachter, 1993). These contributions have spoken of drugs modifying amounts and distribution of psychic/instinctual energy or enhancing ego strength (Ostow, 1987, 1983; Perry and Viglione, 1991). Presumably these ideas derived from Freud's observation that the depressed mood in melancholia often improves toward evening and his interpretation of this clinical fact as being due to a "somatic factor" (Freud, 1917, 1957, p. 253). Freud went on to speculate as to "... whether an impoverishment of ego-libido directly due to toxins may not be able to produce certain forms of the disease" (p. 253). Later, in the same paper, he speculated that the euphorogenic effects of alcohol intoxication is probably due to "... a suspension, produced by toxins, of expenditures of energy in repression" (p. 254). More recently, Grotstein (1990a) examined the contribution of meaningless (psychoanalytically) neurobiological influence on psychotic experience as a deficiency in the stimulus barrier. He also suggests that the biologically determined affective disorders that "represent psychopathological disorders without psychodynamic meaning" are secondarily attributed meaning by the patient in accordance with the "universal human tendency from infancy onward to ascribe meaning to all experiences" (p. 32). Elsewhere Grotstein opines that "psychopharmacological treatment of depression results in an amelioration of the severity of the superego" (1987, p. 274). In a paper concerning psychotherapy and pharmacotherapy of the Borderline Syndrome, Ostow (1987) considered object relations as described by Kernberg (and elaborated below) as too "complex" (p. 308) and returned to his concept of fluctuations in psychic energy as an adequate explanation of borderline symptoms and their amelioration by medication. In my experience these efforts to link neurobiologic and psychopharmacologic effects on metapsychological entities seem to have had little or no impact on either psychoanalytic practice or the increasing interface of psychoanalytic therapy with psychopharmacology.

The interaction of psychoanalytic psychotherapy and drug prescribing has been conceptualized in terms of transitional phenomena and placebo effects (Hausner, 1985, 1986), as well as other effects on the psy-

choanalytic situation (Drescher, 1995; Normand & Bluestone, 1986). My literature search and review of a recent anthology of papers relating psychopharmacology and psychotherapy have revealed little progress in psychoanalytic theory conceptualizing the effects of medication on the psychoanalytic mind (Cooper, 1985; Klerman, 1983; Kantor, 1993; Green, 2001; Schachter, 1993).

An Outline of the Development of Self-Regulation and Regulation of the Self

In 1987, as part of a two-volume compendium of papers on the Borderline Patient, Grotstein presented a concept of the borderline as a disorder of self-regulation. In this well-researched paper he reviews the history of the self-regulation concept in the psychoanalytic literature. He posits the borderline syndrome as a "pathological self-regulation" in which borderline patients seek to avoid the experience of "a deficit or 'hole' in their personality" and concomitant dysphoric experiences associated with the deficit (p. 373). He incorporates the theory of self-regulation, or more properly, regulation of the self functions via significant dependent relationships. Such relationships have been termed self-selfobject relationships by Kohut (Kohut & Wolf, 1978). Grotstein (1987) differentiates this type of relational self-regulation from self regulation of the autonomous and meaningless type, *not* dependent on relationships.

This article attempts to show how *both* types of self-regulation can be conceptualized as arising out of the early psychophysiological infant-mother relationship and thereby forming a link between therapeutic agents of all kinds and their effects via meaningful *and* meaningless avenues.

A Developmental Line of Psychophysiological Self-Regulation and Regulation of The Self

Infant observation research has defined physiological/behavioral, sleep/wake states with different types of signaling "crying" sub-states discernable even in the immediately postnatal infant (Demos, 1988; Sander, 1985). Additionally, Tomkins (1962, 1963, 1988; Demos, 1995) has developed an extensive observational, data-based psychophysiology theory linking nine affective responses to behaviors observable in infants and continuing into adulthood as blends and blends of blends, of the basic affects. (Tomkins names these original affective behaviors Interest, Joy, Surprise, Fear, Disgust, Anger, Shame, Dismissal,

and Distress.) Viewed together, these bodies of work provide a data-supported, theoretical foundation linking the earliest primitive, physiology-embedded behaviors of the infant with the extensive experimental psychophysiology literature concerning mutual interaction of infant's and mother's physiology (Beebe, Jaffee, & Lachmann, 1992; Condon & Sander, 1974; Mahler, Pine, & Bergman, 1975; Stern, 1985).

These and other behaviors elicit responses from the caretaker to soothe, stabilize, and nurture sleep/waking/crying states and regulate, modulate, extinguish and elicit the primitive affect precursor behaviors (Beebe & Lachmann, 1988; Demos, 1988). Beginning with the work of Winnicott's (1965) calling our attention to primary maternal preoccupation of the new-born's mother with her baby and the near psychotic blurring of boundaries of the mother in this state, we have come to realize that the caretaker and baby form a mutually stabilizing system which fuse the budding self experience of baby and the temporarily highly elastic self experience of the mother (Beebe & Lachmann, 1988). This primitive, fused, self-other system of the psyches and physiologies of the mother and baby is characterized by blurred boundaries of self and other as well as a limited, diminished autonomy and capacity for physical separation (Beebe, Jaffe, & Lachmann, 1992). The mother's preoccupation with the baby greatly diminishes her emotional availability for others, further actualizing this encapsulating state of mind. The mother and baby construct a self-other system, which is strongly interlocked and a mutually defining psychophysiological Self/Mother = Mother/Self "center of experience" (Kohut, 1984) and "going on being" (Winnicott, 1965).

For the baby, this psychophysiological baby-mother exists in two states of psychophysiological being: one with an emotionally and physically present mother to regulate the emerging baby self; the other is an emerging baby self with an absent mother with which to *self* regulate.³ "Present" or "absent" usually is meant to signify the physical experience, but of course the psychic experience is the psychoanalytically relevant dimension.⁴

In a paper on the "setting up" of the infant's mind or the beginning of a personal reality, Winnicott noted that the "imago of the inner world is

3. Of course, the mother also experiences powerful self state changes when she is with the present baby or the absent baby, but her state of mind is not immediately germane to this paper.

4. I have elected to use this somewhat peculiar syntax introduced by Bion (1967) with his concept of "being in the presence of the absence" of the object to be consistent with the point that an absent mother experience, like all others, is structured according to Kernberg as the basic unit of experience: a self representation in an affectively dynamic relationship with an object representation.

kept alive, by the reinforcement given through the availability of the external separated-off and actual mother" and semi-quantified the time factor of the absent mother (1967, p. 114). He wrote:

The feeling of the mother's existence lasts x minutes. If the mother is away more than x minutes, then the imago fades, and along with this the baby's capacity to use the symbol of the union ceases. The baby is distressed, but this distress is soon *mended* because the mother returns in $x+y$ minutes. In $x+y$ minutes the baby has not become altered, but in $x+y+z$ minutes the baby has become *traumatized*. In $x+y+z$ minutes the mother's return does not mend the baby's altered state. Trauma implies that the baby has experienced a break in life's continuity, so that *primitive defenses now become organized to defend against a repetition of "unthinkable anxiety"* or a return of the acute confusional state that belongs to disintegration of nascent ego structure. (pp. 114-115)

Accordingly, we may recognize two lines of development of self-regulation during the times when the baby is "on his own" so to speak. A defensive self-regulation derived from being "on his own" too long, too soon ($x+y+z$), and a nondefensive self-regulation evolving out of experiences that are $x+y$ long. Again, Winnicott conceptualizes this paradox in his paper on the capacity to be alone (1958). Here Winnicott draws our attention to the toddler who may play "on his own" as long as the mother is present and can be ignored until the $x+y$ experience develops, but then can return to the mother *out of his own initiative* for a "dose" of mother. Out of this experience of "being alone in the presence of another" the undifferentiated, psychophysiological "environmental mother" becomes internalized and transformed into an inner "ground" (or background) environment of safety within which one can be alone without the "being alone" experience signaling an impending disaster (Heide & Barkovec, 1984). With the development of this "matrix of experience" (Ogden, 1985, 1986) the sense of a safe, reliable, nonhostile inner/outer world permeates the baby's construction of experience. Ogden (1985, p.355) reminds us that matrix is derived from the Latin word for womb and was used by Winnicott (1958) when he spoke of a "matrix of the transference," and considers that matrix is a particularly apt word to describe the silently active containing space in which psychological and bodily experience occurs. I believe that Grotstein is describing this phenomena with his term "the background object (mother) of primary experience" (1990b) as well as Fairbairn when he postulates his original object (Rinsley, 1987). With the establishment of this internal "matrix mom," the baby can go on to

further consolidate his or her relative independence from the mother by creating a transitional object (Winnicott, 1951) to extend the duration of the "x" experience of "going on being" without mother's participation. Accordingly the baby becomes more emancipated and may further develop the capacity for self soothing and self-regulation of distressing experience by means of transitional phenomena (Horton, 1981). The transitional object as well as transitional phenomena can be activated by the child for play, and later the adult, for purposes of healing or self re-creation (for example, meditation, reading, hobbies, watching television/movies/plays or listening to music, practicing a sport, etc.). The individual him- or herself can activate all of these experiences, *alone*. They depend on self induced psychophysiological alteration for their effects on psychic experience. In this state, the experienced presence of an object vanishes and the individual experiences aloneness in the presence only of his or her inner ground of experience; the environmental mother who was absorbed into the woodwork of the individual's psyche during babyhood and thereafter can be taken for granted as a benignly formatted inner world upon which experience may be experienced and memories written.

I propose that,

the fundamental function underlying attachment objects or selfobject relationships, and their power to sooth dysphoric affects and/or restore a coherent self, operates by means of influencing this "matrix background of psychic experience" which is essential for the adequate operation of all subsequently developed metapsychological structures and functions, both integrative and defensive.

If the emerging infant/toddler is required to be "on his own" beyond the "x" time he can maintain an experience of the matrix mother, then the distressing experience of being alone, too long, too soon (x+y) occurs. Return of mother before the baby has become altered by overwhelming panic/distress reduces normal splitting, and maintains the continuity of experience necessary for the development of integrated self experience and development of more mature mechanisms of defense/adaptation derived from repressive psychophysiological mechanisms (Kernberg, 1976).

If the mother returns some time after x+y+z time has elapsed, then she finds an altered baby who has experienced a gap in "going on being." This gap may be thought of as the basis for pathological splitting. Supporting this assertion is the experimental research demonstrating that infant's record experience differently in the presence of strong emotion

than with moderate or lower levels of arousal/emotion (Singer & Fagen, 1992; also see, Kernberg, 1987). Stimuli are not perceived as familiar unless presented during the same type of emotional state as when the stimulus was first perceptually encountered by the baby. The conjunction of this stimulus with high arousal/emotion has "split" the memory tracing of the stimulus object from that of the stimulus presented with low arousal.

I propose that,

one mechanism of differentially coding experience depends upon the *intensity* of affect/arousal and is psychophysiologicaly subsumed by or is identical to the well-studied paradigm of state dependent learning.

State-dependent learning has been found to be associated with states of psychophysiological arousal, type and intensity of emotion, and drugs of abuse. (Bower, 1998; Overton, 1984; Putnam, 1989; van der Kolk, 1993). I will elaborate on state-dependent learning later in the article.

KERNBERG'S THEORY OF PATHOLOGICAL PERSONALITY DEVELOPMENT

Kernberg begins his theory of pathological personality development with the vicissitudes of early infantile internalization of experiences of the self in affectively meaningful experiences with the care-taking object. As noted earlier, he posits a basic unit of all psychic experience: the self representation (S) in an affective relationship (A), with an object representation (O). This "*unit of experience*" may be abbreviated as: SAO. Horowitz (1987) terms these units, *role-relationship models* since they define the respective roles of the S and O and the affective relationship, A, existing between them. Similarly, Stern (1985) speaks of infants as having the capacity to build up mental representations of self and other from repeated social experiences that become (R) representations of (I) interactions (G) generalized (RIG).

According to Kernberg (1976), the excessive use of splitting, an otherwise normal infantile defense mechanism, underlies severe personality disorders because excessive activation of splitting as a primitive defense, interferes with the incremental consolidation of experiential units (SAOs) into an integrated personality structure capable of utilizing mature defenses based on repression. He called this structure an *ego identity*. In the absence of sufficiently well-developed psychic structures maintaining the sense and functions of an integrated identity, strong

emotion cannot be contained. Consequently, these affectively intense, un-integrated relational units are used to organize or construct experience that the ego identity structure is too weak to contain. These are the primitive, un-integrated and un-integrate-able relational units of experience that have been structuralized and dissociated as SAO prototypes of relationships governing the construction of idealized and/or dreaded, traumatic infantile relational experiences. A powerful dissociative barrier ordinarily prevents these primitive, affectively compelling templates from participating in construction of subjective experience. This barrier allows the integrated identity (Kernberg, 1976) part of the personality to function according to more realistic, affectively toned down, de-personified self and object representations.

I propose that,

maintenance of the dissociative barrier is dependent upon the integrity of the background matrix of the mind and any perturbation of the matrix may permit these more affectively compelling SAOs to color or interpret subjective experience.

According to this formulation, I have found it illustrative to visualize the healthy and pathological or defensively organized inner world using the metaphor (Wurmser, 1976; Burgoyne, 2000) of the mind as a balloon (see Figure 1). Let us start with a metaphorical, pristine, unstructured mind balloon. we can think of the mind balloon as a potentiality of the human brain for the evocation of a mind. Let us suppose that this potentiality begins to be actualized, or inflated, if you will, by the interaction of the baby with a care-taking mother. The fragile, nascent mind balloon is inflated and supported by gradual intake of the maternal environment, both psychological and physical.

As the mind balloon develops, the following structures evolve:

1. The inflation of the mind balloon provides a background matrix or format of the mind upon which all experience and structure is written.⁵ This matrix has its origins in the psychophysiological mother/baby experience and may be thought of as an internalization of the environmental mother as described by Winnicott and elaborated by Ogden (Winnicott, 1956, 1965; Ogden, 1985, 1986).⁶ This matrix is dependent upon,

6. Rinsley's (1987) in-depth paper relating various of Fairbairn's and others' concepts regarding this primordial matrix of mind/body out of which all primary self and object representations and linking experiences arise and Grotstein's (1980, pp. 513-515) elaboration of his concept of the "background object/subject of primary identification" should be consulted for other ways of elaborating this concept.

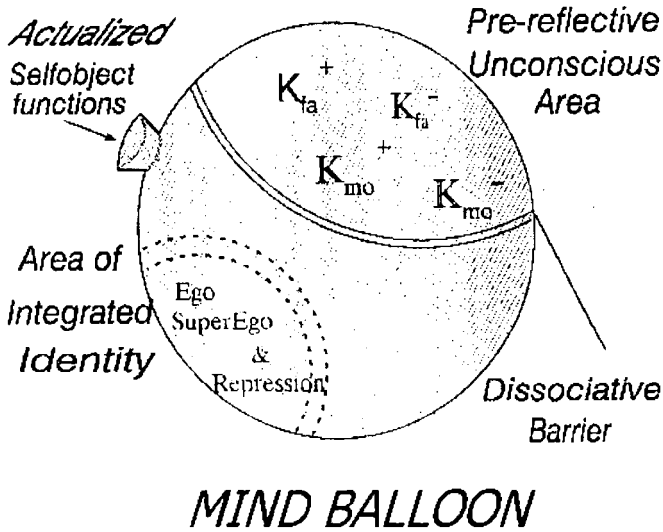


FIGURE 1.

- A. Maintenance of a good-enough attachment or selfobject actualized environment, and
- B. Maintenance of a properly functioning brain, which of course is dependent on the biochemical milieu of the body.

In other words, the matrix of the mind may be thought of as a fragile psychophysiological entity that lies directly at the interface of the mind and body and is acutely sensitive to both the external, psychic milieu and the physio-chemical *milieu interior*.

2. A portion of this mind balloon and its contents may be thought of as being partitioned or split off by a *dissociative barrier* which, when operating properly, keeps unintegrated relational units (SAO), both idealized or dreaded, from participating in the ongoing organization of experience (Krystal, 1985, 1990) I have symbolized the relational units as (K^+) and (K^-) respectively to denote idealized and dreaded relational units.

3. A separate portion of the mind balloon is structuralized into an *integrated ego identity* (Kernberg, 1976). This structure supports the experience of an integrated, separated, individuated self that constructs expe-

rience without fragmenting and resorting to dissociated relational unit templates when stressed or when attachment objects or selfobject functions are not available. Instead, the well known neurotic defenses described by Anna Freud (1950) are used.

According to this model, provision of "good enough" selfobject functions via attachment relationships maintains the matrix and allows the integrated ego identity portion of the mind to construct experience based on a relatively firm sense of self. Anything that either overwhelms the capacity of the integrated ego identity to structure experience or weakens the matrix maintaining a sense of basic environmental safety will weaken the dissociative barrier and allow the idealized (K^+) or dreaded (K^-) role relationship units to invade consciousness and structure experience of the self and object according to a primitive relational unit (SAO), either idealized (K^+) or dreaded (K^-).

Construction of experience and regulation of affect can be modulated by significant attachment relationships that still retain the vestiges of the original relational mother and thereby restore a faltering matrix of the mind (MOM).

Accordingly, the psychophysiological matrix may be weakened by loss of either an attachment relationship or selfobject function or altered by means of some physiological change in the milieu of the brain.

Alternately, construction of experience and regulation of affect can be modulated by *non-relational* methods which operate through psychophysiology or biochemical mechanisms that restore the physiological milieu necessary for optimal maintenance of the environmental, matrix of the mind (MOM) and optimum integrated identity function. These mechanisms include:

- A. *mindless activity* such as arranging, cleaning, knitting, etc.
- B. *meditation* (Kutz, Borysenko, & Benson, 1985; Lichstein, 1988; Straetz, 1976), and a myriad of other behaviors that modify physiology by intentional sharply focused attention (Lichstein, 1988; Rickles, 1986, 1999; Jacobson, 1977, 1978; Davis and Wallbridge, 1981; Csikszentmihalyi, 1990).
- C. *intrinsic or extrinsically derived chemical agents* such as hormonal tides, medication, street drugs, herbs, toxins, and of course, food.

Using this perspective, we may postulate that psychopharmacological agents, street drugs, PMS, illness, that is, brain physiology altering mechanisms, exert their influence by one or more of the following physiologically altered, psychodynamic mechanisms:

1. Decreasing or Increasing State-Dependent Effects, That Is, Splitting and Dissociation, Either Globally or Selectively

Extensive research exploring state-dependent learning has been found to be associated with states of psychophysiological arousal, type and intensity of emotion, and a variety of drugs. Most, if not all, drugs of abuse fall into this category (Bower, 1998; Putnam, 1989; Overton, 1984; Van der Kolk, 1993). In intoxicating doses, they have strong state-dependent properties that effectively split off experience constructed and coded under the effects of the drug. Perhaps other properties of the drug may determine the particular affective or motivationally tinged relational unit, idealized (K^+) or dreaded (K^-) that is activated to construct the drugged experience. Benzodiazepines such as diazepam, alprazolam, or lorazepam also have state-dependent effects but seem to strengthen the dissociative barrier, usually without activating un-integrated relational units, *except* in high, intoxicating doses or in vulnerable individuals (Overton, 1984, p. 79). Perhaps at therapeutic doses, the drug effect relieves anxiety by diminishing a threatening leak of un-integrated relational units (SAOs) constructed under relational states of self fragmentation and dysphoric affects (Wurmser, 1978). Marijuana, well known clinically for its powerful ability to dissociate affective and temporal experience has been shown to have significant state-dependent properties which vanish in subjects who drug themselves with marijuana chronically (Cohen & Rickles, 1974; Rickles, Cohen, Whitaker, & Mc Intyre, 1973).

Drugs acting through these mechanisms alter the meaning (construction) of experience *directly*.

Clinical Case:

A 32-year-old woman becomes acutely anxious when told by her supervisor that her job performance is not up to par. Analytic exploration of her agitation, anxiety, and confusion reveals that the experience reactivated a dreaded relational unit (K^-) in which she was upbraided by her mother in front of her sisters. Her subjective experience, constructed by this previously dissociated relational unit, led her to anticipate with considerable dread and anxiety that she would soon be publicly humiliated in front of her coworkers just as she had been humiliated and shamed as a child. Making this connection in her analytic session was helpful in relieving her apprehension and dread, but she could not sustain the benefit of her insight and the anxiety returned later in the day. That afternoon she took 0.5mg of alprazolam and found that her anxiety was relieved and her anticipation of a public humiliation seemed much less compel-

ling. Consequently, she was able to consider approaching her boss for a constructive discussion of her shortcomings and how she would go about making the necessary self-improvements. At the end of the day she approached her boss and confirmed that the boss was not about to reenact her mother's ridiculing role but was delighted to work with the patient toward improving her performance.

2. Stabilizing the Background Matrix of Experience

Stabilization or strengthening of the mental matrix of the mind (MOM), or the internalized background object/environmental mother enhances the experience of existing in a safe inner and outer world. In more maturely developed people, provision of this function may be enough to transform their self experience and restore an integrated identity state of self experience and function. The personality transformations sometimes associated with specific serotonin reuptake inhibitors (SSRIs) such as fluoxetine, sertraline, citalopram, etc. and illuminated by Peter Kramer in his book, *Listening to Prozac*, (1993), seem to be describing this mechanism. For example, here is what some of my psychotherapy patients say about their subjective experience *after medication* with an SSRI:

- I think more clearly.
- I can stop the what ifs.
- My depression and fatigue are gone.
- I don't fall apart when I am frustrated.
- I have more energy and motivation.
- I am not afraid of people.
- I am not afraid of my feelings.
- I feel entitled to set boundaries.
- I don't feel as precarious in my environment, that is, claustrophobia, acrophobia, agoraphobia, etc., are reduced.
- I can complete uninteresting tasks that I used to put off or not finish

3. Facilitate/Increase Integrative Repression

In Kernberg's formulation (1980), normal early childhood splitting defenses give way to defenses based on repression to allow ego/self/personality development via integrative mechanisms.

The distinction between splitting, dissociation, and repression, al-

though commonly blurred in the literature (Singer, 1989), is an extremely useful one. The capacity to stay on track in life by forgetting about painful experience allows psychological development to proceed with the accumulation of personal and social skills (Kernberg, 1976). If one finds a relational environment that can contain reconfrontation of the repressed experience, then more integration can be accomplished, as in a psychoanalysis of resistance and transference. Under stress, relatively mature individuals may lose the ability to use repressive defenses and regress to more primitive splitting defenses (Kernberg, 1976). In such a situation, medications that facilitate repressive mechanisms of functioning in more mature character structures would reestablish better levels of functioning and availability for analytic work. In my experience, most antidepressants seem to alter construction of experience by more mature individuals in this way.

Clinical example:

A 35-year-old man had been in psychoanalytic psychotherapy for several years with moderate progress had frequent blank sessions that did not respond to interpretation. He was unable to recall dreams either immediately after awakening or during treatment sessions. Addition of 50mg of Zoloft per day to his treatment soon resulted in increased animation and a rich dream life that could be brought into the therapeutic hours, and allowed resumption and enhancement of his therapeutic progress.

DISCUSSION

Only recently have analysts began writing about their experience with psychoanalytic therapy concomitant with analysands who are medicated with modern psychotropics. The first such report I have found was published in 2000 (Green, 2001). In this well-written article, the analysis of a classical case of a neurotic personality progressed well, but could not penetrate a resistance consisting of prolonged silences which the patient called "falling into a black hole" (p.610). The patient could not describe what happens during these experiences, and "insisted that she simply had no thoughts during the silences and had no idea what brought them on" (p. 610). After 2 to 3 years of progress, the analysis floundered with long periods of silence when they began to analyze the determinants of her obesity. At the patient's request, the analyst prescribed fluoxetine to assist her unsuccessful efforts to lose weight. The author very adequately analyzed the transference enactment aspects of his prescribing medication during an analysis utilizing classical technique and interpretations. Ultimately, the very positive results of improved mood and weight loss associated with taking the medication failed, but, while medicated, the

patient was able to analyze and talk even when she had no energy and felt depressed, as opposed to being stuck in her "black hole" experience, before the medication. The author reported that "she then realized that thoughts previously forbidden could now become conscious and be spoken aloud" (p. 617) and that "though she still could become deeply depressed, she would snap back much faster than in the past and no longer feared being lost in a black hole" (p. 617). According to the object relations theory proposed here, we would understand the medication to be "shoring up" her deficient mental matrix which began to fail when she had negative feelings toward her brother or analyst. At these times, the failing mental matrix could not maintain the barrier preventing highly negative, primitive, split off, relational units (SAOs) from being used to construct the primitive, pre-verbal experience of her "black hole." Within the safety of this psychopharmacological "floor" she was able to use the analysis to approach the triggering antecedents without fear of falling through the metaphorical thin ice of her deficient matrix into the dreaded "black hole" experience constructed according to the long ago dissociated internal object relationship that could be avoided so long as the faulty psychophysiological matrix underlying all of her mental functioning was not compromised by linked associations or hormonal tides associated with her menstrual cycle. Although the author concludes that the medication played no role other than serving as a vehicle for reenacting a childhood trauma in the transference, the patient disagreed, stating "when I'm on fluoxetine I laugh at the thoughts of being guilty for things I can't control; when I'm off it I feel guilty, get irritated and then get rid of it" (p. 622). In other words, fluoxetine allowed her to maintain her sense of self and integrated identity as a rational adult without the need of activating all-bad self and other relational units that are split off ("got rid of") from consciousness. The author's conclusion that medication does not "distort the analytic process" but *did not assist* other than to serve as a vehicle for a necessary enactment, might be seen as evidence supporting the assertion made at the beginning of this article. That is to say, similar to the "Turing Test," the action of medication on the function of psychoanalytic mind cannot be distinguished from the actions of any other means of psychological healing including psychoanalysis. This conclusion is consistent with that of Fonagy and his colleagues (Fonagy et al., 1993) who argue that internal object and self "representations are the common pathway through which all therapeutic agents of change act" (p. 11, footnote). Gabbard (2005) has articulated essentially the same conclusion.

In a paper exploring changes in defense mechanisms during treatment of patients with panic disorder by sertraline, Manfro and Gonzaga (2005) found a reduction of primitive defense in patients with successful treatment. Since splitting is considered to underlie primitive defenses

(Kernberg, 1975, 1976, 1980), this finding is consistent with the suggestion that the therapeutic action of SSRIs operates through reduction of the dynamic mechanism of splitting

CONCLUSION

Before the development of modern antipsychotics and antidepressants, psychopharmacological therapy could do little else than sedate and calm agitated or anxious souls. Psychoanalysts inveighed against use of medication during psychoanalysis because the drugs of that era interfered with the pure experience of dysphoric affects and therefore hobbled development of the capacity to bear depression and anxiety and the resultant emotional growth documented as emerging from bearing such adversity. In 1970, Zetzel wrote convincingly about the necessity of the psychoanalytic patient having the capacity to bear anxiety and depression as prerequisite for emotional growth. By implication, any medication that would interfere with the experience of anxiety and depression would interfere with psychoanalytic treatment. She also considered this capacity to act as a "... limitation of analysis as a therapeutic process" (p. 50) and quoted Ernest Jones:

There may well be an innate factor akin to the General Intelligence G, the nature of which it still remains to elucidate, but which may be of cardinal importance in the final endeavor to master the deepest infantile anxieties, to tolerate painful ego-dystonic impulses or affects, and so to attain the balanced mentality that is our ideal. It has occurred to me further that if such a factor can ever be isolated it may prove to have a *physiological basis*. (Jones, 1946, p. 10; italics added)

Unfortunately, over 35 years later, many currently influential writers are continuing to advocate avoiding psychotropic medication during psychotherapy for similar reasons, even though we are in the sixth decade of modern psychopharmacological therapy that has transformed treatment of all mental illness. Kramer has reviewed these criticisms of psychopharmacology and notes that they are more ethical in nature than based on current clinical experience (1993, pp. 250–300). Conversely, Schwartz (1991) thinks mood brighteners will interfere with one's capacity for emotional growth and finds it more "appealing" for a person to grow by taking something from another *person* than from a *pill*. Neese (1990) and McGuire, Marks, & Neese (1992) believe that mood brighteners are bad because they (a) interfere with reality and achievement of affect tolerance (b) act to reinforce dehumanizing social expectations (c) interfere with adaptive mechanisms developed

over eons of evolution, and (d) encourage people to understand as illness, aspects of the self that are normal. More philosophical writers believe that mood brighteners might decrease true autonomy by distancing man from an aspect of his humanity, his legitimate despair, and thereby reinforce dehumanizing cultural expectations, such as the requirement always to be happy and productive (Aranow, Schwartz, Sullivan, 1992).

These several concerns, which are only magnified in the psychoanalytic setting, seem to be appropriate for the sedating drugs of the 1940s and before, as well as most, if not all, drugs of abuse. The effects we see in clinical settings where modern medications are used in conjunction with psychoanalysis are quite a different picture. Instead of mood deadening, isolating, dehumanizing experiences, our patients tell us they can think more clearly, remember dreams better, carry their therapeutic insights into daily life better and in general, participate in the psychoanalytic endeavor *better*. Kramer concludes that much of the ethicist's criticism might be described as "psychopharmacological Calvinism" (Klerman, 1972) because modern antidepressants can improve mood without leading inexorably to a later deterioration in mood! He notes that the usual experience intensifying, mood altering drugs, such as marijuana or LSD encourage self-absorption, that is, splitting. These criticisms are valid because excessive use of the splitting defenses are antithetical to integration, reliance on repressive defenses, and growth of an integrated identity (Kernberg, 1975, 1976, 1980). Because antidepressants give pleasure indirectly by *lowering* barriers to ordinary social intercourse and thereby *enhancing* hedonic capacity, they generally *increase* personal autonomy. This article asserts that these effects can be understood psychoanalytically, and do not have to be dismissed and maligned as anti-analytic or anti-emotional growth.

Application of these concepts to one of Kramer's (1993) clinical examples helps to illustrate. He writes of a woman who was relieved of hair pulling and compulsive spouse-pursuit when medicated by fluoxetine:

for the first time in her memory she felt perfectly relaxed and happy sitting at home reading books or listening to music and felt less of the free-floating anxiety that was previously quelled by going out. (p. 266)

Could it be that fluoxetine restored her defective capacity to be alone (Winnicott, 1958) which she had tried to regulate by searching for an addictive object or selfobject substitute? If so, we could describe the situation as an example of an antidepressant buttressing the mental matrix (MOM) in a woman who was inordinately dependent upon human contact for the

selfobject function to maintenance her intrapsychic environmental matrix or MOM (Ogden, 1985, 1986).

The Cartesian duality of mind and body has never been more reified than in the prevalent practice of dichotomizing psychological treatment and drug treatment of human suffering. If we can understand the ways in which the soma alters the basic psychoanalytic metapsychological functions of the psychoanalytic mind, then psychoanalysts will be better able to carry out their therapeutic goals using all the appropriate tools at hand without being handicapped by archaic dogma left over from a different era. This article endeavors to offer a beginning in this direction.

the concept of mood brightener just will not do—it arises from the limited idea of an “antidepressant,” when what we are dealing with is a thymoleptic, a drug that acts on personality. Instead of looking at mood and being surprised to discover that fluoxetine affects other areas, why not begin with the understanding that fluoxetine can induce the sort of widespread change ordinarily brought about by psychotherapy? There really is no way to access fluoxetine without confronting transformation.

Listening To Prozac
Kramer (1993, pp. 267–268)

SUMMARY

The analytic literature concerning the metapsychology of psychotropic drug action is over 35 years old and is not presently consulted when trying to understand how the new “antidepressants” modify experience. This article asserts that medication alters mental experience in ways that can be described using psychoanalytic constructs and outlines some possibilities in using contemporary psychoanalytic concepts to describe the powerful effect of these and other modern medications. First, a theory of self regulation and regulation of the self is outlined which begins with the archaic, mutual, psychophysiological regulation of infant and mother and connects physiology to a metapsychological structure, the internalized environmental mother. This internalized mother/environment, described first by Winnicott (1968), forms the background mental matrix of all experience. This internal environmental matrix is maintained either by appropriate meaningful (selfobject) relationships or by means of behaviors or chemical agents that modify the psychophysiological based matrix directly via physiology. Next, a theory of internal object relationships, after Kernberg (1976), is outlined. He proposes a basic unit of experience consisting of internal self representations linked in affectively meaningful relation-

ships with object representations. These units are created by introjection of repeated experiences with the early caretaker, and are used to build up an integrated, cohesive identity/self and object world. Excessive early traumatic stimulation promotes over-reliance on the splitting defense and produces dissociated all-good and all-bad basic units which are used to construct experience and preclude development of a well-integrated ego identity predominantly defended by repressive defenses. After relating splitting to pharmacological research demonstrating state-dependent learning, hypotheses are advanced suggesting that: 1. Some medications modify meaning and therefore experience directly by restoring or shoring-up the background matrix of experience; 2. Other medications alter construction of experience by increasing or decreasing splitting or permeability of the dissociative barrier; 3. Another avenue of direct influence some drugs may have on the mind is to *facilitate* the integrative effects of repression; and finally, 4. Some agents slow switching between different primitively internalized, relational units used to construct experience defensively.

Clinical material illustrates how these concepts may be applied in timing and selection of psychotherapeutic agents in conjunction with psychotherapy or psychoanalysis to facilitate better results and reduce the prevalence of Cartesian dualism in analytic thinking.

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