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## INTERACTION OF SOCIAL AND NEUROBIOLOGICAL FACTORS IN DEPRESSION

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*Abstract:* A multifaceted approach to treating depression may be optimal. Use of antidepressant medication in the United States is very high. While medication has saved lives, in some instances it paradoxically extends depression, if it leads patients to avoid changing life situations and personality patterns that are destructive. Involvement of the community in treating depression may be helpful, too, as in the rituals of the Ndup and of “sitting Shiv’a.” The link between depression and a lack of social connectedness may have a specific neurological underpinning, as demonstrated dramatically by Mayberg. Changes in neurobiology can significantly alter experience, but changes in experience can also significantly alter neurobiology.

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*Hope is the thing with feathers  
That perches in the soul . . .  
And sore must be the storm  
That could abash the little bird  
That kept so many warm.*

—Emily Dickinson

WE ARE LIVING IN THE AGE OF PROZAC. An estimated 14 million Americans suffer from depression (Kessler et al., 1994); 11% of women and 5% of men in the noninstitutionalized population take antidepressant medication (Stagnitti, 2005). These days, you do not need to consult a psychiatrist to get antidepressants; nonpsychiatrists issue approximately two-thirds of anti-depressant prescriptions in the United States (Foote and Etheredge, 2000). If you tell your general practitioner that you are very sad, there is a good chance that he or she will prescribe some Prozac, Effexor, or one of the newer antidepressants. It may work—you may feel

less sad; but will you be better? Or can the medication make your life worse in the long term?

Solomon (this issue) describes his “incompetent psychoanalyst,” who encouraged him to avoid medication while he headed into a downward spiral. Although it is certainly possible to harm some patients by discouraging needed medication, it is also possible to make the reverse error: to tell patients that their depression is purely biological and discourage them from getting much-needed psychotherapy.

Medications have saved the lives of some patients I have treated, but medications have damaged the lives of other patients. Some long-term users of antidepressants want to become free of the medication. They find that it dulls their emotions in general, and some wonder if it has anesthetized them from feelings that might be useful. But they also find that getting off the medication is a tricky business. They suffer troublesome side effects when they taper off the SSRIs. If the medication is an SNRI like Effexor (venlafaxine), which affects the levels of two neurotransmitters, the withdrawal effects can be especially severe and disorienting (Fava et al., 1997).

What is depression good for? All the human emotions evolved to serve useful purposes, as guideposts of our experience and motivators of our behavior. Sadness and anxiety are signals that there is something troubling that may require a change of behavior. Sadness can signal that we have suffered a loss and will need to lay low for a while until we readjust. Anxiety can signal that there is something dangerous that we must address. While there are some situations in which biological factors make our emotions go awry, usually emotions have a purpose and should not be ignored or suppressed. Modern psychiatrists tend to see sadness and anxiety as symptoms to be eliminated. The result is overprescription of medications that dampen unpleasant emotions without also helping people to use their emotions productively as signals of a life situation or a personality pattern that is problematic.

As a psychoanalyst, I see more and more people in my practice who have been on antidepressants for decades. Some have a depression with no discernible cause, what used to be called “endogenous depression,” and are significantly helped by medication. Others, however, have experienced a traumatic event or a serious loss and were prescribed medication to give them symptom relief, with no attempt to improve their psychological situation with effective psychotherapy. They came to believe that they could not survive without medication. This conclusion was buttressed

when they tried to stop the medication and experienced serious withdrawal symptoms, which were identified by their psychiatrists as “a depressive relapse” that required continued medication.

### **Destructive Effects of Antidepressant Medication: A Case Study**

This is a case in which the destructive and limiting effects of antidepressants stood out. When I began psychotherapy with Lois, a 50-year-old woman, she had been taking antidepressant medication for 18 years. In her 20s she felt extreme anxiety and began psychotherapy with a college counselor. Two years later, she started having sex with that therapist, who was married. After years of assignments in motels and parked cars, he suddenly dropped her. She became extremely depressed. Her physician prescribed Prozac (fluoxetine), which she took for 16 years. When the Prozac no longer seemed effective, she was switched to Effexor (venlafaxine), which she took for four years. She worried that the medication was dulling her emotions and might be otherwise interfering with her life experiences. She had tried once to get off the medication by herself but experienced severe withdrawal symptoms, including dizziness, rage, and suicidal thoughts, and resumed taking the medication.

When Lois started psychotherapy with me, she was extremely anxious. Her long-term relationship was falling apart, and she was at sea about her career. After two years of treatment, she stabilized her life and decided that she wanted to stop the medications. She tapered off the Effexor gradually but nevertheless experienced extremes of rage and tearfulness. Although these emotions were intense and may have been amplified by the medication withdrawal, they were appropriate, in kind if not always in magnitude, to the situation. Things were happening to her that *should* have made her angry or sad.

She talked about getting on the subway in New York and getting furious at a man who was taking up room on the bench with his bags when the car was full and many passengers were standing. She reprimanded him, but then thought her anger was too strong and that she came across as crazy. This was one of those critical points in a psychotherapeutic treatment: should she be given medication to keep her emotions from becoming too intense, or should she be helped to live with those intense emotions, understand their source, and come to discriminate if and how to act on her emotions? She was suppressing anger in all areas of her life, even those more central to her well-being than subway etiquette, so it

was not surprising to me that her anger, when she did release it, seemed excessive.

She would come into session and go into a litany of things that had enraged her. And they all were things that one could easily imagine making one angry. Perhaps, I wondered, if she learned to use her anger as a signal that something was really wrong, she might not feel so depressed. She also might not feel that her anger was crazy and out of control. Eventually, she started to tell me about things I did that infuriated her. Any time I commented on her appearance, she felt rage inside, but for a year she hid that reaction. Finally, it “leaked” out, and I inquired about other things I did that angered her. I told her I much preferred knowing about my effect on her than for her to try to contain her anger privately. We looked into the genetic roots of why my actions brought out such rage in her, but it was probably more significant that she could learn that her anger was not simply destructive but could also be used to better our relationship.

Lois tried to be a nice person. She often went too far, getting herself into abusive situations that would have made anyone angry. She lent money to friends and then discovered that they were living more luxuriously than she but took their time to repay the debt. She could barely allow herself to become aware of her anger, let alone express it. We found several such situations in which her anger was an important signal that she was being abused. Once she was off the medications, she could no longer “manage” her anger as easily by suppressing it; instead, she learned to feel entitled to express her anger and curtail the abuse. The more we clarified these situations and alleviated them, the less she seemed to get angry at things that had little bearing on her well-being, like the rude people who put their bags on subway seats.

Lois came from a family in which the expression of any aggression was forbidden. She was raised to believe that ladies should not show their anger, except to domestic help or other employees. When she first started the medication, she was enraged and bereft after her therapist ended the affair with her abruptly. The medication softened those emotions. Was that necessarily for the best? How would her life have turned out if she had experienced the full depths of her anger and pain at the time, without medication but with competent psychotherapeutic help? I did not know her when she first started the medication, and there was no second-guessing the past. I could deal only with the intensity of her emotion during the current withdrawal from medication.

### Intense Emotions: A Problem or a Signal?

Are intense emotions a troublesome symptom that should be alleviated, or are they an important signal that should receive attention and lead to changes in a person's life? There is no simple formula for this determination, and good clinical judgment is essential—but *judgment must be exercised*. Often, today, medications are quickly prescribed, and serious problems in a person's life are glossed over.

I have described a similar choice between medication and psychotherapy in the resolution of panic attacks (Blechner, 2007). There are patients whose panic attacks are smoothed over by anxiolytic medications but do not fully disappear. An in-depth psychoanalytic interview frequently reveals a situation in the person's life which *should* make him or her afraid. The problem is not an irrational fear, but a situation that should cause fear but is being dissociated. When the fear-causing situation is brought fully into awareness, the erratic panic attacks that seem meaningless are replaced with continuous, intense fear that has a clear cause. When the fear-causing situation is resolved in the person's real life, the panic attacks cease. While the predominant psychiatric approach to panic attacks is to treat the outburst of fear as the problem, in many cases, the *lack* of experienced fear is the problem.

A similar pattern may operate in depression. A patient may be facing circumstances that would make most people depressed—loss, pain, hopelessness, social isolation, and a sense of being ineffective. Medications may change or mask these emotions, but they may paradoxically lead the patient not to make the significant life changes that might head off such pain in the long run.

The current trend in clinical work is to use psychotropic medications to lessen depressive symptoms. Medication requires less time of the clinician than does psychotherapy, at least initially. Over the long term, however, medications are not necessarily more cost effective than a psychodynamic resolution of a clinical problem. For Lois, the trade-off was obvious. Once she had identified and modified the character issues that were getting her into rage-inducing, masochistic situations, she found herself less depressed. Twenty years of medication had cost a lot of money, but the cost was even greater when she considered the interpersonal losses she had sustained over those twenty years because she had suppressed rather than used her emotions.

### Social Treatments for Mourning and Depression: The Wisdom of "Sitting Shiv'a"

Besides psychotherapy, would it be helpful for some depressed people to have constructive community involvement in their treatment? Would it make sense to have a family or community "intervention" for depression, as there often is in the treatment of substance use? There can be great healing power in experiencing the concern of others about a troubled life.

There is a tradition of mourning in the Jewish religion called "Sitting Shiv'a." After a close relative dies, you do not work; for seven days, you spend the entire day sitting at home. People come to visit and offer condolences. Although I no longer observe most Jewish rituals, after my parents died, I sat Shiv'a and was surprised by the ritual's power. It allowed me to focus on my grief, but there was also enormous solace in having my friends and relatives take time off work or their regular lives to be with me and offer comfort. It makes one aware of one's social network and how supportive it can be. While sitting Shiv'a, I kept thinking, "You care about me, too?" I realized how much this ritual works to resolve sadness and prevent it from becoming depression.

Andrew Solomon's experience of the African Ndup ritual for depression reminded me of sitting Shiv'a. Solomon writes: "There is a power in the fact that these people who could ill afford a day away from the fields, had all taken all this time for me and devoted all this close attention to my mental state." There are important differences, of course, between the Ndup and Shiv'a. In the Ndup, there is loud drumming and a celebratory air, which are not the custom in Shiv'a. In this respect, the Ndup is more like an Irish wake, which brings friends and relatives together in a more festive atmosphere. Solomon, in the Ndup, was bathed in the blood of a freshly-killed ram. Whether that has any parallels in Western religious practice is debatable, although there are parallels at least symbolically. After all, there is the Christian hymn, "Are you washed in the blood of the lamb?" (Revelations 7:14) To be washed in the blood of the lamb is to be washed of sin by virtue of the blood of Jesus.

In the various rituals for mourners, we see the elements of social treatment of grief and depression. If we have effective Western rituals for mourning a death, why are they not adapted for depression triggered by other losses, such as divorce or financial crises? We can find one significant difference between attitudes toward widowhood and attitudes toward other losses. In Western culture, being widowed carries no shame.

No one will blame you for your husband's death (unless you have killed him). You are the object of total sympathy and support. But, unfortunately, many other kinds of losses carry the taint of shame—divorce, losing a job or a lover, experiencing great financial loss—these all are perceived with mixed emotions, sometimes with pejorative judgments and blaming of the victim. What did you do to cause your divorce? What mistakes caused such enormous financial losses? There are no comparable rituals of community support like Shiv'a or Ndup in Western culture for those losses, or even for unspecified losses that may show up as depression, but perhaps there should be.

It may be helpful to have a community of friends and relatives be involved in helping the depressed person, just as it is also healing to be helpful to others when they are in trouble. This proposal is related to O'Leary's observation (this issue) that both involvement in a spiritual community and being helpful to others with a community spirit can relieve depression. I noted something similar with my patient Lois: A friend of hers was dying of cancer and asked her friends to surround her hospital bed and sing to her. Lois spent an entire day in this community sing and found that her depression lifted during the experience.

### Reciprocal Relation Between Neurobiology and Experience

The brain changes experience, and experience changes the brain. Depression is not only a disorder of neurotransmitters, it is an illness of loss of social support and the loss of hope that such support will ever be available again (Watt and Panksepp, in press). Scientists studying depression are beginning to understand the relationship between hope ("the thing with feathers") and brain changes. For example, we know that depression can be correlated with lower hippocampal volume (Vildebek and Ravnkilde, 2004) and higher cortisol levels (Pruessner et al., 2003). We also know that high self-esteem and internal locus of control are both positively correlated with higher hippocampal volume (Pruessner et al., 2005) and negatively correlated with cortisol levels in stressful situations (Pruessner, Hellhammer, and Kirschbaum, 1999). The implication, which is not conclusively proven, is that high self-esteem and a sense that you control the events in your life may insulate you from depression and that there is a biological basis for this. However, to what degree the brain state leads to the feeling or the feeling leads to the brain state is still open to question.

There is also a correlation between an increased feeling of social connectedness and decreased depression, both of which may be influenced by the same area of the brain. This has been dramatically illustrated by Helen Mayberg, who is well known for her work with patients who do not respond to any of the traditional treatments for depression. Mayberg inserts microelectrodes that inhibit Brodmann Area 25 in the brain and thus relieve depression in some people (Mayberg et al., 2005). One of the most surprising findings is that electrical stimulation, while relieving depression, can also dramatically enhance the patient's sense of social connection. This was revealed during the operation, when, unbeknown to the patient, Mayberg switched the stimulation on and off. She described the phenomenon vividly to journalist David Dobbs (2006):

Mayberg had told her patient, Deanna, that if anything felt different, she should say so. Mayberg wasn't going to tell her when the device was activated. "Don't try to decide what's important," Mayberg told her. "If your nose itches, I want to know." . . . "So we turn it on," Mayberg told me later, "And all of a sudden she says to me, 'It's very strange,' she says, 'I know you've been with me in the operating room this whole time. I know you care about me. But it's not that. I don't know what you just did. But I'm looking at you, and it's like I just feel suddenly more connected to you.'" Mayberg, stunned, signaled with her hand to the others, out of Deanna's view, to turn the stimulator off. "And they turn it off," Mayberg said, "and she goes: 'God, it's just so odd. You just went away again. I guess it wasn't really anything'" [p. 54].

The patient did not know that the deep brain stimulation had been turned on and off, but with the stimulation on (which would relieve the depression), she also felt interpersonally connected to her doctor. With the stimulation off (which would have left her depressed), she felt distant from her doctor. This observation demonstrates the link between the feelings of depression and of interpersonal isolation, and suggests that this link may have a neurobiological basis.

Mayberg's research shows how a change in the brain can drastically alter experience. However, the reverse is also true: intense experiences, like psychotherapy, can change the biology of the brain.<sup>1</sup> Such findings suggest

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<sup>1</sup> See Linden (2006) and Beutel and Huber (2008) for summaries of the data; also see Schnell and Herpertz (2007) and Doidge (2008).

a basic principle for researchers and clinicians: *Changes in neurobiology can significantly alter experience, but changes in experience can also significantly alter neurobiology*. There is a bidirectional influence, and the depressive system can be altered through neurobiological or experiential interventions. While we can value the changes in affect that are achieved by medication and other biological interventions, we must also value the way psychotherapy, community intervention, and other intense interpersonal experiences can change the brain. A multifaceted treatment approach may offer the best hope for those who are depressed.

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