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Is It Me or My Brain? Depression and Neuroscientific Facts

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This article considers the roles played by brain images (e.g., from PET scans) in mass media as experienced by people suffering from mental illness, and as used by scientists and activist groups in demonstrating a biological basis for mental illness. Examining the rhetorical presentation of images in magazines and books, the article describes the persuasive power that brain images have in altering the understanding people have of their own body—their "objective self." Analyzing first-person accounts of encounters with brain images, it argues that people come to understand themselves as having neurotransmitter imbalances that are the cause of their illnesses via received facts and images of the brain, but that this understanding is incomplete and in tension with the sense that they are their brain. The article concludes by querying the emergence of a "pharmaceutical self," in which one experiences one's brain as if on drugs, as a new form of objective self-fashioning.

KEY WORDS: depression; experience; brain images; cultural anthropology; rhetoric; PET scans.

PERSUASIVE IMAGES

> There is a beauty and an intuitive appeal to the brain-scanning methods, especially the high-resolution MRI pictures and the gorgeous multicolored scans from the PET studies. With PET, for example, a depressed brain will show up in cold, brain-inactive deep blues, dark purples, and hunter greens. . . . I was, in spite of myself, caught up by the science, wondering whether these hyperintensities were the cause or the effect of illness.. The clinical side of my mind began to mull about the visual advantages of these and other imaging findings in convincing some of my more literary and skeptical patients that (a) there *is* a brain, (b) their moods are related to their brains, and (c) there may be specific brain-damaging effects of going off their medications. (Jamison, 1995, p. 196)

How have we, as readers who encounter scientific images on a daily basis, come to see brain images as compelling facts about who we are? How have our

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notions of self, health, illness and human nature been shaped by our encounters with facts like these? In the 1990s, the Decade of the Brain, PET scan brain images attained a brand-like status, symbolizing science, progress, biological selves, digital imaging, and the technological powers of progress, all at once. But they also often signal human differences as well, dividing us and measuring our deviation from "normal."[3]

In 1983, *Vogue* published its first brain images in an article entitled "High-Tech Breakthrough in Medicine: New seeing-eye machines . . . look inside your body, can save your life" with a simple graphic accompaniment: three similar, oval-like blobs filled with dissimilar patterns of bright colors (Hixon, 1983). Underneath each shape is a white word in bold font standing out from the black background: NORMAL, SCHIZO, DEPRESSED. The article does not need to be read to be understood. The juxtaposition of words and images brings home quite forcefully that the three colored ovals are brain scans, and that the three scanned brains are different. Presumably, these brains belong to different people, three different *kinds* of *persons* because their brains are not the same. As an anthropologist, I am interested in the cultural and visual logics by which these images persuade viewers to equate person with brain, brain with scan, and scan with diagnosis.[4]

The brain-images that we encounter in magazines and newspapers, on TV, in a doctor's office, or in a scientific journal make claims on us because they portray *kinds* of brains. As people with, obviously, one *or* the other kind of brain, we are placed among the categories that the presentation offers. To which category do I belong? What brain type do I have? Or more starkly: am I normal? Addressing such questions requires an ability to critically analyze how facts, like the notion that there are different kinds of brains, and presentations of facts, like this magazine article, come to be; an understanding also, of how presentations and facts might be related.

Turning from the individual images, we can also notice how *together* they argue that there are three different kinds of brains that correspond to the three kinds of brain images. Because the images are so clearly different from each other, they make the additional argument that each brain kind is easily distinguishable thus diagnosable through a PET scan—a diagnosis of schizophrenia, depression, and even normalcy.

Many researchers have pondered how risks, danger, and stereotypes are best explained in cultural terms. How to rank uncertain dangers, how to act in the face of contradictory facts, and how to imagine human kinds and attributes and situate ourselves within them are culturally and historically variable practices (Douglas & Wildavsky, 1982; Gilman, 1988). Borrowing a term from psychology and semiotics, we can characterize our relationship to culture as *identification.* In Kenneth

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[3] On the Decade of the Brain, see Pechura & Martin, 1991.

[4] In other parts of my work, I study how these images are produced and put together as "normal" (Dumit, 1995, 2000).

Burke's definition, identification includes the "ways in which we spontaneously, intuitively, even unconsciously persuade ourselves" (Burke, 1966, p. 301).[5] As in analyses of ideology, the rightness of facts seems to emerge from our own experience.[6] This notion of self-persuasion helps us keep in mind both the persuasive action of received facts (e.g. from a magazine), and the *form* in which we often (but not always) incorporate them *as facts.*

Facing the brain images in *Vogue*, for instance, there appears to be something intuitively right about a brain-imaging machine being able to show us the difference between schizophrenic brains and normal ones. This persuasive, Burkean force suggests that the category question be ignored: are there two kinds of brains, two kinds of people? How could there not be a difference in these two kinds of brain if there is such a difference in the two kinds of people, schizophrenics and normals? And after seeing the different brain images, how could there not be a difference in kind between schizophrenics and normals? The images with their labels are part of the process of normalizing the assumption of difference, even though rationally we may still remember that this is a category mistake, a substitution of some differences seen in difficult-to-interpret scans for the categorical assumption of differences in kind. Notwithstanding the fact that most of us have never met or spent time with people diagnosed with schizophrenia, the effect of such presentation of images is to produce an identification with the idea at least of a categorical difference between two kinds of humans that corresponds naturally to the two kinds of brains. In discussing brain images we come face-to-face with an uncertainty regarding our own normality, and regarding the "kinds" of humans that we and others are. How does cultural identification and intuition coincide with these representations of reality so that we are persuaded to take them as true? Here we will draw upon the insights of interpretive, medical and feminist anthropology. Like scientists, as scientists, we supplement our knowledge with facts knowing full well that the facts almost always have qualifications. This does not stop us from incorporating these facts, however, and from assuming them and acting upon them (Dumit, 1997; Martin, 1994).

Consider this first relationship to brain images as what Sander Gilman describes as the desire to have madness be markedly different from us, who are thereby normals (National Commission on the Insanity Defense, 1983). A second relationship I will consider reads the difference between the brains of mental illness and normality as biological and therefore positive. Depression and schizophrenia are thus real, objective diseases and normal problems. Finally, I will sketch out how some people who suffer from mental illness symptoms come to see their symptoms as the expression of an illness, and as a brain disease. But while they

[5] Burke introduces the concept of identification in order to add the non-explicit designs of speaker to traditional Aristotelian notion of rhetoric.

[6] Unlike explicit ideologies [of blame], hegemonic ones are difficult to trace to human agents. Instead they seem to emerge from each person's own experience, out of their mouths. This notion of ideology is similar to Althusser (1984), especially as extended by Pêcheux (1982).

find this biological presentation exciting, it is not ultimately helpful for living with illness.

But first a small diversion into Ludwig Wittgenstein's brain.

OBJECTIVE-SELF FASHIONING

Intrigued with brains and the meaning of machines that might be able to record thought processes in the brain, the philosopher Ludwig Wittgenstein considered the problem of whether, and how, we can *objectively* tell when someone is truly reading. He surmised that perhaps there is no way to tell:

> But isn't that only because of our too slight acquaintance with what goes on in the brain and the nervous system? If we had a more accurate knowledge of these things we should see what connexions were established by the training, and then we should be able to say when we looked into his brain: "Now he has *read* this word, now the reading connexion has been set up."—And it presumably *must* be like that, for otherwise how could we be so sure that there was such a connexion? That it is so is presumably a priori—or is it only probable? And how probable is it? Now ask yourself: what do you *know* about these things?—But if it is a priori, that means that it is a form of account which is very convincing to us. (Wittgenstein, 1958, section 158)

Wittgenstein's exploration of the boundaries of the meaning of a priori brings him to culture: we know these things because we have read them in textbooks and heard them from adults who we trust. "How do we know," he was fond of asking, "that we have a brain, if we have never seen it?" We have, he suggests, a kind of certainty that seems a priori, intuitively self-evident, "of course, it must be like that."[7] This kind of certainty would be learned (because we aren't born knowing about our brains), and yet logical. In order to further explore the limits of our certainty, consider a variation on Wittgenstein's thought experiment. What if a research team published an article demonstrating that a specific, reliable change in the blood-flow of the big toe was correlated with a person's learning to read? This would be greeted skeptically at best, and if it were repeated in person after person we would not say, "Okay, reading *is* a function of the toe." Instead we would ask, "Well, what *causes* the bloodflow in the toe?" And if we eventually located a correspondence between an area of the brain and the big toe, even if the brain "signal" were weaker and less reliable than the toe signal, this would then nevertheless confirm to us that reading was in the brain and that the toe flow was a "symptom" of the brain process. But why is it, that when we find a reading

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[7] In addition to *Philosophical Investigations*, see especially *On Certainty*: "As children we learn facts; e.g., that every human being has a brain, and we take them on trust" (section 159). "'I know that I am a human being.' In order to see how unclear the sense of it his proposition is, consider its negation. At most it might be taken to mean 'I know I have the organs of a human.' (e.g., a brain which, after all, no one has ever yet seen.) But what about such a proposition as 'I know I have a brain.'? Can I doubt it? Grounds for doubt are lacking! Everything speaks in its favour, nothing against it. Nevertheless it is imaginable that my skull should turn out empty when it was operated on" (*OC*, section 4).

correspondence in the brain we are satisfied that we are in the right place? Because, suggests Wittgenstein, that is our form of life, our local culture. At certain points (and not others) we no longer ask for an explanation or a test of its truth, and explanations come to an end: "Giving grounds, however justifying the evidence, comes to an end; —but the end is not certain propositions' striking us immediately as true, i.e. it is not a kind of seeing on our part; it is our *acting*, which lies at the bottom of the language game" (*On Certainty*, p. 204).[8]

We might call the set of acts that concerns our brains and our bodies deriving from received-facts of science and medicine the *objective-self.*[9] The objective-self consists of our taken-for-granted notions, theories, and tendencies regarding human bodies, brains, and kinds considered as objective, referential, extrinsic, and objects of science and medicine. That we "know" we have a brain and that the brain is necessary for our self is one aspect of our objective-self. We can immediately see that each of our objective-selves is, in general, dependent upon how we came to know them. Furthermore, objective-selves are not finished but incomplete and in process. With received-facts we fashion and refashion our objective-selves. Thus it is we come to know our bodies as endangered by poisons like saccharine, our brains as having a "reading circuit," and humans as being either mentally ill or sane or borderline.

I call this "objective-self fashioning" to highlight our own activity in encountering "received-facts." I emphasize "received-facts" rather than just "facts" to highlight the activity of translation that has taken place in order for the results of a scientific or medical project to reach us. Each of these movements of facts from one media to another is also necessarily a transformation of the fact. Science studies scholars Bruno Latour and Michel Callon call this process "translation," a term connoting both movement and change in meaning. We all know that a fact established in a lab is not known immediately by everyone, everywhere. It must travel through specific channels.

As readers, all of these processes of translation of facts from one form of presentation to another should be imagined when we critically assess a received-fact. We should try to become as aware as possible of the people who interpret, rephrase and reframe the facts for us (the mediators), and around them, the structural constraints of each form of representation—peer review, newsworthiness, doctor-patient relationships (the media). Mediators translate received-facts into new media where they are re-presented as facts to be received in turn. Each of

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[8] Wittgenstein spends much time trying to specify the nature of our practice of coming to an end, somewhere between grounds and logic. Explanations come to an end (*PI, I,* section 87); "Doesn't testing come to an end?" (*OC*, section 4). For another take on this process, see Dumit, 1999.

[9] We keep a dash in objective-self because we need to highlight that it refers to how we are to ourselves and to society an object of science and medicine, not how we "objectively" are to science and medicine. Our concern thus centers around the *object* of science and medicine, not their *methods.* Not what justifies mental illness, but how it is specified by a set of practices, documents, institutions that enable it to be objective." On the study of the object of science and medicine in this manner, see John Rajchman, 1985.

the aspects of our objective-selves has this personal history (of coming-to-know via received-facts) and also a social history. In the case of the brain, the social history includes how it came to be an object of study in the first place, and what factors—conceptually, institutionally, and technically—were part of its emergence as a fact. When did it first become possible to think of the brain as having distinct areas that can break or malfunction? How and when did the brain come to have "circuits"? What techniques and technological metaphors (like telegraphs and electricity) were needed to make the problem poseable? What disciplinary and institutional funding mechanisms were available to make the poseable questions answerable?[10] Some human kinds that we are starting to take for granted, e.g., depressives, require attending to broader social and institutional forces in order to understand how it is that we look to the brain for an answer.

These social histories enable and constrain science at every level of fact conception, experimentation, publication, and dissemination and reception, but this does not imply that science *is* culture. Science produces facts in spite of and because of these constraints—laboriously, continuously, and creatively. And we fashion our objective-selves with the fruit of this labor in the form of received-facts in our own continuous and often creative manner, no matter how skeptical we are. This way of living with and through scientific facts is our form of life.[11]

BRAIN IMAGES AS ARGUMENTS AND AS FACTS

> We cannot yet say what, exactly, is going on when the brain is depressed or manic, although PET scans illustrate that these are different states with graphically different metabolic rates. (Jamison, 1999, p.73 in Conlan).

This quotation comes from neuroscientist Kay Redfield Jamison, co-author of the standard psychiatric textbook on manic-depression, speaking on behalf of the Dana Foundation, to a literate, general public. Reading Jamison's statement carefully reveals a complex rhetorical stance regarding brain imaging. As images, PET scans illustrate that depression and mania are brain states and are different brain states. PET scans show this graphically by showing the regional metabolic differences in brain areas while at the same time not revealing what exactly is going on. On one hand it seems fine that PET is able to show that depression and mania are different states; eventually we will get to what those states mean. On the other hand, Jamison's entire speech is about how different the two states are

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[10] The new history of the brain as object of neuroscience is just beginning. Classics include Harrington (1987), Star (1989), Jeannerod (1985), and Smith (1992).

[11] On the historical development of our modern notions of the fact, see Shapin & Schaffer (1985), Porter (1995), and Poovey (1998). See also Whitehead (1957) for a critical view of how we live with facts that nevertheless acknowledge precisely this notion of objective fashioning. "A single fact in isolation is the primary myth required for finite thought. . . . This mythological character arises because there is no such fact. . . . It follows that in every consideration of a single fact there is the suppressed presupposition of the environmental coordination requisite for its existence" (p. 9).

behaviorally and experientially. What is gained by the revelation that manic and depressive states are also different in the brain? Isn't this exactly the sort of thing, following Wittgenstein, we should be responding with, "Of course, how could it be otherwise than that any two different behavioral states would have different brain states. Surprise us by showing two different behaviors that have exactly the same brain state!" (Of course, then we would question the equipment).

Jamison's appropriation of the PET images emphasizes how side-by-side it is clear that there are very big differences in brain metabolism between manic and depressed states. We do not have to suspect the accuracy of the underlying experiments in order to recognize that the visual appearance of "graphically" different brain-type images is produced in part by a choice to visualize the data as *very* different in color. Comparative images are one of the most powerful, persuasive presentations of brain-type data. If nothing else, they visually convey clear-cut graphical difference that can be easily read in some situations as referring to clear-cut statistical difference or even absolute difference in populations and brain-types. Thus they can help produce, in some situations, the identification of groups as brain-types.

Jamison's argument is explicitly aligned with such popular, activist groups as the National Alliance for the Mentally Ill (NAMI), which are dedicated to lobbying for increased research into mental illness, improving the care of the mentally ill, and combating stereotypes and the stigma of madness. In order to do this, NAMI constantly deploys brain images and genetic tests in an effort first to argue that mental illness is biological and second to argue that because it is biological, it is not anyone's fault and therefore should have no stigma.

A National Institute for Mental Health website states this clearly: "Identifying brain activity associated with depression and the changes that result from treatment and the patient's improved mood will help to destigmatize the illness, a disease of the brain" (NIMH). One foundation for the sensibility of this biological argument is the experience of many families in the 1970s and 80s with mental illness who went to doctors and were told that poor mothering caused their children's mental illness. Mother-blame combined with an anti-eugenic stance helps explain how passing a gene for schizophrenia to your child involves no blame but instead is an anti-stigma claim in which a malevolent biology inflicts mental illness upon an innocent and otherwise normal human being.

EMBODIMENT: FACING FACTS

> It is, after all, one thing to believe intellectually that this disease is in your brain. It is quite another thing to actually see it. (Jamison, 1995, p. 197)

Having taken this analysis in the direction of situated context and objective-self fashioning, let us return to the situation of facing an image of one's own brain. Consider the following remarkable passage from *The Beast: A Reckoning* *with Depression,* written by journalist Tracy Thompson. Extremely depressed, suicidal, and in a mental institution, she reacted as follows to a book on the history of depression:

> The idea of depression as a definable illness, documented for millennia, was new [to me.]. . . . Depression then, was a kind of disease, an illness. I'd even said that myself on occasion. But even that had not clarified the confusion; illness was another concept that had layers of meaning. [The first was a real disease with visible effects.]. . . . Then there was another kind of illness, as in, "God, she's a sick person," "How sick," "This is a really sick idea." The second kind carried the weight of moral blame . . . But what if depression was an illness of the first kind? Then it would be an incorrect functioning of my brain. I could say, *There is something wrong with my brain.* That was a different thing from saying, *There is something wrong with me.* The second was self-pitying; the first was a simple, factual statement. It was a subtle nuance, easy to miss. But as I grasped that difference—and it was slippery, I kept losing it at first—other doors began to open in my mind: *Depression is an illness. I am sick. I need to be here [in this mental institution] because I'm defective, not because I'm a moral leper, not because I've fallen from grace or turned my back on God, but for one simple reason: because I am sick.* But there my thinking stalled. So I was sick. But this was my *brain* I was talking about, not my gallbladder or my kidneys. It had some mysterious property called "consciousness." It produced behavior, the sum total of which was somehow *me.* If I wanted to say simply that my brain was sick, I could stop there and disavow responsibility for that sickness—but if I did that, I would be giving up my idea of autonomy in the world. I would be simply a product of some chemical abnormality in a lumpy gray organ between my ears . . . it seemed to me that if the first approach was too simplistic, its opposite might be as well. (Thompson, 1995, pp. 189–190)

Faced with the fact of her brain being sick, Thompson is caught. In some very real sense, she knows too much about her brain. Like Witttgenstein, if a connection was seen in her brain while reading, it would make sense to her. But this also means that if her brain is sick, she must be sick too. How can she disavow her depression then, without disavowing her self?

The solution Thompson eventually discovers is not to disavow either alternative, but to create a new type of human, a depressed human, who is also a type of brain, a depressed brain. The invention in this case is carried out against her slippery notion of an ill but also morally sick, disgusting person. Out of this purely negative notion of sick (as not healthy and not good), she forges a positive identification with her own brain-illness. She *is* a depressed person because she *has* a depressed brain. The too-simple cultural alternatives of either being responsible for her sickness or not being her brain are complicated. She is her brain against her brain: she is now a person with depression fighting that depression. In her own metaphor, she is forever more wary of the Beast who travels with her. In this manner, given the stark choices of responsibility and autonomy, she enacts a powerful form of self-invention: identity politics. She comes to see herself, and she becomes, a particular kind of person, a kind she shares with others who also *have* depression and who *are* people with depression. Beyond a shared affliction, all of these people share a brain-type which is a necessary response to social, historical and institutional factors in America concerning the ongoing stigma attached to mental illness. This identity draws together both the National Alliance for the Mentally Ill in shaping research directions and public perceptions of mental illness as biological disease, and the Twelve-Step Movement (an outgrowth of Alcoholics Anonymous) in establishing the positive identity of afflicted individuals as people who share a unique experience and are stronger for fighting it (cf. Makela; Rabinow). Thus Kay Jamison, who suffers from manic depression as well as studies it, concludes in her autobiography, *An Unquiet Mind*: "But, as I well knew, an understanding at an abstract level does not necessarily translate into an understanding at a day-to-day level. I have become fundamentally and deeply skeptical that anyone who does not have this illness can truly understand it" (Jamison, 1995, pp.173–174).

Here I have just begun formulating this analysis and really need cross-cultural comparisons. I think that Jamison's conclusion is dependent upon the notion that in being her brain against her brain, she also must acknowledge her inability to monitor herself. That is, when she slips into mania or depression, her ability to recognize this slip is compromised from within. Thus she cannot fully care for herself. She is no longer independent and self-responsible, but must engage a network of others who will tell her when she starts slipping out of normality; who will tell her this because they understand that she suffers from a biological illness that impairs her own self-recognizing and help-seeking activities.

This historically and socially self-reflexive patient's position is stated clearly in another book, *A Mood Apart*, by a patient, Stephan:

> The biological perspective is a welcome shift from a few years ago, when many psychiatrists considered Freud's dynamic theories of intrapsychic life to be a complete explanation, but I wonder whether the swing has gone too far. . . . From the patient's standpoint, biology is only part of the story. . . . We know for example, that I have a special vulnerability to manic depression. And I also know from my reading that if the distribution of blood flow in my brain has been measured by a PET scan during one of my depressions probably it would have differed from what is going on in my skull at this moment. Now I find such studies genuinely exciting, but unusual patterns of blood flow do not explain my madness, nor do they guide me in what I can do about it. Blood-flow studies are not a sufficient explanation of cause. The manias and depressions I suffered were usually precipitated by grief . . . my first episode . . . trying to cope with the death of my father, and especially that he had committed suicide. . . . Measuring blood flow represents an important level of biological inquiry . . . but it tells us little about what pulled the trigger in the first place. And that's what the patient wants to know. Then there's a hope of gaining greater control, and perhaps a chance for prevention.[12]

These sufferers' accounts point toward a particular kind of self I want to call a pharmaceutical self whose scale is one of days and weeks. Contrary to a Heideggerian phenomenology in which one is passively thrown into moods, here one's abnormal neurochemistry actively throws one into depression or mania. Sometimes one can respond to this by taking drugs that, days or weeks later, throw you into yet a third state—not normal, but better. Whether or not drugs help, the result is an understanding of oneself as if on drugs. Mental illness is a bad pharmaceutical side effect. One is thrust into circumstances not of one's choosing,

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[12] *A Mood Apart*, pp. 233–4. Peter Whybrow is quoting a patient, Stephan.

but within which one must cope by depending on self-monitoring necessarily supplemented by others who also understand one's pharmaceutical self.

These accounts illustrate three critical aspects of objective-self fashioning for our purposes. First, there is a tremendous flexibility and openness of explanation of the objective-self. Even in the face of specific received-facts about ourselves such as brain images, there is room for negotiation and redefinition. Sociologists and anthropologists of psychology have called this the "pandemonium" of folk psychology. But they also note that even as we can play with mind and brain, motivation and behavior, we also ultimately must satisfy local common sense.[13] For Thompson, the common sense constraint consists in having to come up with a responsible relation *toward* her depression without being responsible *for* it. Attending to the active use of explanatory flexibility allows us to understand how "models serve social relations as much or more than social relations follow models" (Holland & Quinn, 1987).

The second aspect of objective-self fashioning we need to highlight is the need for a nuanced, complex cultural, historical and institutional as well as scientific or biomedical understanding of context. Objective-self fashioning is an ongoing process of social accounting to oneself and others in particular situations in which received-facts function as particularly powerful resources because they bear the objective authority of science. As the location of social accounting changes—to a lab, to a courtroom, to a doctor's office, to someone's home—the relative force of particular received-facts also changes (Browner & Press, 1996; Good et al., 1994; Mattingly, 1994; Rapp, 1998; Shohat, 1992).

The third critical aspect of objective-self fashioning is the fundamental connection between the *brain* as objective-self and one's own personal identity. When genes are invoked as the cause of one's objective-self and aspects of one's personality they can become synecdoche for one's identity. If one has a gene for depression, one can fear *becoming* depressed. More troubling for Thompson, to the extent that it can be characterized and measured, the brain seems to *be* one's personal identity.[14] We can note here that brain images further confuse the part with the whole—even though brain images only show a slice of the brain, they show the slice as representing the whole brain, which in turn *is* the person. This contrast between genes and brains can be illustrated by reactions to images of the two. Anthropologists Emily Martin and Deborah Heath have observed that people with genetic afflictions hiss and boo at pictures of genes or enzymes that cause these afflictions (Martin, 1994; Heath, 1997). At meetings and conferences that I have attended, sufferers of mental illnesses do not react negatively to brain images of depression or schizophrenia. Rather, the reaction to brain images is often one of care and concern, much more akin to the reassurance and bonding experienced

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[13] "We play with the terms of, but also ultimately satisfy, Western (cultural) common sense" (Lutz, 1992, p.185).

[14] Genes convey a future, a disposition for something to happen, and are in the modality of speed. Brains convey the present, a self, and are in the modality of infinite speed, the future now.

between parents and ultrasound images of fetuses (Taylor, 1998). The brain image appears in this setting to be an image of the *suffering* of the afflicted, as well as an image of the affliction.

The kind of brain that Thompson comes to understand is one that helps locate her Beast as a *brain-type.* Brain-types can stand for the human kind or state as their reality. Brain-types *fix*, and with imaging *show,* what is otherwise difficult to see, contested, or comes and goes. Faced with a brain-type, a person is doubled as both being the brain-type and having it. Brain-types can conversely be said to *express* themselves in the person and as the person.

The relationship between Thompson, Stephen or Jamison and their brains appears to be a form of embodiment, but one not well studied in anthropology. Research on embodiment and the medicalized body have tended to oppose the two, with the lived, active body in opposition to the passive, objective, medical body (Merleau-Ponty, 1964). In the case of the brain in biomedical America, PET scan brain-types reveal a medicalized but active, unruly and almost always irrational brain. Ironically, the “normal” brain-type is the one which is, so to speak, passive and lets the real self talk *though it.*[15] The depressed brain-type, on the other hand, substitutes itself for the real self and speaks instead, providing us with such expression as “That was my illness speaking, not me,” or in Thompson’s terms, “That was the Beast.” The brain-type, while objective, is simultaneously subjective, lived by the person as well as against the person.

Our next task is the uses to which brain facts are put. How are they deployed in one representation, incorporated by others, and re-deployed in turn? The lack of ultimate clarifications as to what brain images mean—in abstract , or in a particular use—is a consequence of our considering them in use (and potential reuse and thus reinterpretation). Objective-selves, received-facts, and brain-types are thus “*not terms that avoid ambiguity,* but *terms that clearly reveal the strategic spots at which ambiguities necessarily arise*” (Burke, 1945, pp. xix, xviii, emphasis in original).

If we see that responsibility and causations are part of our categories of persons, this example demonstrates the flexibility and contestibility of these categories. Mental illness patients and their families support this research because they desire to see the results and hope for cures. They are actively grouping together around a shared biological fact to support and promote this research, what Rabinow (1992) has begun calling biosociality. A key point to remember here is that the facts of biology that these groups are organizing around are not *necessarily* fully established within the scientific community. Yet they provide the means for social action, justifications for support of certain kinds of research, and arguments for a biological understanding of mental illness. The facts enable the groups to further promote a category of the objective person that does not, in their view, prejudge

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[15] According to Braude (1989), early spiritualists argue that they are able to function as mediums precisely to the extent that they can render their mind and body passive, letting the spirits speak through them. This is part of how women were able to turn the tables on assertions of their passivity: men being active were therefore unsuited to be mediums.

them and condemn them to blame and guilt. This involves understanding the many very different ways objective facts (from science, technology, nature) and subjective facts (from experience, subjectivity, personality, culture) are constantly shaping and tripping over each other. They are creatively working to refigure responsibility for mental illness, in this case, to biology, in an attempt to gain control over this part of their world.

Individual sufferers are trying to both understand their illness and live with it. These are activities that are not necessarily compatible. Using the notion of the pharmaceutical self, I would suggest that they have entered into a relationship with their brain that is negotiated and social. Mutating a concept from Michel Serres, this is a kind of "biological contract" with their brain. A combination of self-sacrifice, encouragement, surveillance by others, and coercion through drugs is needed. Many of these sufferers negotiate a lifestyle where monitoring and drugs play roles and in which their minds, their moods, and their enjoyment are the stakes.

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