

## **Perspectives on Transference**

**June 02, 2007**

**3:00 PM**

**The Philoctetes Center**

**Levy: Francis Levy**  
**Nersessian: Edward Nersessian**  
**Pincus: David Pincus**  
**Brenner: Charles Brenner**  
**Doidge: Norman Doidge**  
**Freeman: Walter Freeman**  
**Modell: Arnold Modell**  
**Peterson: Bradley Peterson**  
**Solms: Mark Solms**

Nersessian: I just told Mark Solms, who is sitting here, that I didn't realize transference was so popular. And he said, "Well, it's because it's ubiquitous." Transference is a little bit like the magic bullet in psychoanalysis, so I expect an interesting roundtable today. I will introduce the participants in alphabetical order so I would appreciate if you would raise your hand when your name is mentioned. Charles Brenner is training and supervising analyst at the New York Psychoanalytic Institute, past President of the American Psychoanalytic Association, author of numerous articles and several books, the most recent of which is *Psychoanalysis or Mind and Meaning*. He is also a highly regarded supervisor of mine from some years ago now.

Norman Doidge is a psychiatrist, training analyst, researcher, essayist and poet. He's on the research faculty at the Columbia University Center for Psychoanalytic Training and Research and at the University of Toronto. A four time winner of Canada's National Magazine Gold Award, he's the author of the recently released *The Brain That Changes Itself*. Walter Freeman is Professor of Molecular and Cell Biology at the University of California at Berkeley. He's a Guggenheim Fellow and a recipient of the Helmholtz Award and the Pioneer Award from the Neural Network Council. He is the author of *Society of Brains: A Study in the Neuroscience of Love and Hate* and *How Brains Make Up Their Minds*. Arnold Modell is training and supervising analyst at the Boston Psychoanalytic Society and Institute and Clinical Professor of Psychiatry at Harvard Medical School. He's a practicing psychoanalyst and the author of five books, the latest of which is *Imagination and the Meaningful Brain*. Bradley Peterson is Suzanne Crosby Murphy Professor in Pediatric Neuropsychiatry and Director of Neuropsychiatry Research at Columbia University. He's also Research Coordinator of the Philoctetes Center.

Dr. David Pincus, who is going to moderate today, is the director of the MindBrain Consortium at Summa Hospital of Akron. He is in private practice and a member of the Cleveland Psychoanalytic Center and on the faculties of NEOUCOM, Case Western Reserve University, and the Medical University of South Carolina. He sits on several editorial boards and has published articles and chapters on topics pertaining to the interface of mind and brain. His latest article is co-authored with Walter Freeman and Arnold Modell, entitled *A Neurobiological Model of Perception: Considerations for Transference*. He is also a past participant of roundtables at the Philoctetes Center.

Pincus: Thank you. Ed suggested a few minutes before that we begin our conversation by going around the room amongst the discussants and each of us giving some of our ideas about transference. Each of us has read the paper that myself and Walter Freeman and Arnold Modell have written, and we have all sort of worked off of that paper. But we don't want to be held to that paper, and certainly not to be held to that paper because none of you in the room have read it, so you cannot refer to it. My job is in some way to tell you in two lines or less what that paper is about, and then say a few things about my previous experiences in trying to talk about transference and then open up the conversation to our panelists and then eventually to the audience in the last half an hour.

The roundtable came about because I had sent the paper to Ed and to Francis, and it was no real surprise to me that they very quickly wanted to have a roundtable about it, because most people want to talk about transference. Perhaps that is, as Mark suggests, because it's ubiquitous. But it's also because it seems as if nobody quite knows how to define it or what it is, even though it is ubiquitous. Analysts and therapists are all familiar with it, or at least anybody with a psychoanalytic background. And there are many things about it that are in dispute. Some people consider transference something that is pathological, and others think of it as something that is universal and part of our ongoing social realities. Other people view transference as something that can be made conscious, and others believe that transference is foundational and unconscious to human communications and really can never become something that is conscious. It is something that we can reflect upon, but not something that we can ever really be conscious of in the moment.

In our paper, just to refer to it very briefly, our model of transference is that it is unconscious, that it is a part of all human perception and that it is something that is integral to the way in which we situate and find ourselves in the world. In its pathological forms it de-situates us and keeps us held to images of the past and to our adaptations of events gone by and times gone by and feelings gone by. And in its healthy forms it gives us a means of finding ourselves in our current worlds, and we find in others memories and experiences of others from our past, even though we're not conscious of it. And it is a way for us, in its healthier forms, to situate ourselves in our social worlds. We've linked our model neurobiologically to the work of Walter Freeman, who had initially studied olfaction in rabbits and cats, and his study of neurodynamics has extended to other creatures and to other modes of sensation and perception as well. I think that those are the two long sentences that describe what it is our paper is about. It's universal. We link it to a neurobiological model of human perception, human social perception, and it's unconscious. We define transference as uniquely human, and this is very much Arnold Modell's significant input to our paper, because of human's capacity for language and metaphor that enriches our elaboration of our previous experience in a way that other animals, to our knowledge, are not able to do. So with that as a very, very general background to what our paper is about, I'll transition—how did I do Ed?

Nersessian: Perfect.

Pincus: Oh good. Thank you. I'll just say that I've tried to give talks about transference before. It quickly regresses into definitions of terms, and arguments as to whether it's conscious, unconscious, this, that, the other thing. My job will be in some ways to encourage as much

conversation and dialogue as is possible, and yet at the same time not end up in a free-for-all about what we all think it is.

In experimental psychology and neurobiology—I'll just say a few things about models that have been equated or have been thought to be equivalent in some way or reduced to things that we think of as transference. Some people have called it emotional expectancy. Others have talked about priming emotional memory. Other people have talked about right brain laterality, social cognition, and some people have used the model of kindling from epilepsy research as a way of thinking about transference—that emotional kindling occurs that somehow carries us forward into our current environments. So with those as something of a backdrop, I'd like to go around to our panelists, and I'll start with whoever would like to begin. I'll look around and see whose eyes meet mine first. You're free to take off from the paper or to elaborate in whatever way you would like about what is most significant for you about transference. Are there any eyes looking at me? Who would like to begin? Charles?

Brenner: Sure. This paper was called *A Neurobiological Model of Perception: Considerations for Transference*. This is a long and complex paper, and my discussion is very brief. There are, after all, various ways of studying the functioning of the central nervous system. One is by studying the mind, as psychologists, and, in particular, psychoanalysts do, because the mind is one aspect of central nervous system functioning. Another way is by studying chemical and electrical phenomena, like brain waves. There are others, but these are the two with which this paper is concerned. So what are the main points the authors seem to want to make? First, that they have demonstrated that present perception is determined by past perception. **The present is always influenced by the past when it comes to central nervous system functioning of the sort involved in what everybody calls transference, whatever that means. Second, that transference is not just limited to the relationship between patient and analyst. It's a ubiquitous phenomenon, therefore, and is determined by previous experience.**

Those are the two principal points, as I understood them. Now I fully agree with both of these statements. Arnold wrote about the first—that is the influence of the past on present perception—back in 1969. And I've written at length about the second—the mind in conflict—elsewhere. But I do have some points of difference that I think are important enough for me to mention. As I understand it, the authors consider transference to be uniquely important in psychoanalytic therapy. For example, the abstract of the paper says—I quote now—“Transference is a key concept in psychoanalysis, distinguishing the analytic technique from other forms of psychotherapy.” The section of the paper that's labeled *Discussion and Conclusion* begins with this quotation: “The theatrical and dramatic operation by which healing takes place or does not take place has a name: transference.” So according to the authors transference is the theatrical and dramatic operation by which healing take place. That echoes Strachey's dictum—one he made many years ago—that only a transference interpretation produces truly analytic improvement. It has to be an interpretation of the transference, according to Strachey. Now that's a dictum that many colleagues agree with to this day. I'm not one of them. I disagree with it. I believe that the principal aim of analytic therapy is not to analyze transference. The principal aim, I believe, is to discover and to help the patient become aware of the conflict and compromise formations resulting from those conflicts that are responsible for the troubles that have brought the patient to seek help. Those conflicts in

general—not the transference alone or primarily—in my opinion is what analysis is all about. And carrying out this task, an analyst uses, or I believe should use, every available source of information. Among these sources are the thoughts, feelings and behavior that the patient has about the analyst. That is the transference, as Freud defined it. When they're analyzable, they're a valuable source of information about the patient's conflict, but no more and no less than any other source of information. They don't, so to speak, have a privileged position in analytic work, in therapy. Fantasies about the analyst aren't always the best source of information about a patient's conflict. Sometimes they are, and then it's very useful to analyze them. But sometimes they're not, and in those cases it's not useful to analyze them. Sometimes they interfere with the conduct and progress of the treatment. As Freud said, sometimes they cause a resistance to the treatment—that's back in 1912. In such cases it's also important to analyze, to understand them. But sometimes they're an aid rather than a hindrance to the progress of analysis, and sometimes they're not the best source of the information an analyst is after. To summarize, they don't necessarily take preference.

There's one other thing that is essential to be aware of and to keep in mind, in my opinion. The conflicts that persist throughout life, and that are ubiquitous in mental functioning, I believe, are conflicts over the pleasure-seeking wishes of childhood—wishes that become indissolubly connected with fear and misery. Freud's term was anxiety. I don't think it's possible to discuss the phenomenon called transference without including some discussion of the incestuous and aggressive wishes and fantasies of early childhood. That expresses my hope for one, at least, direction of the discussion.

Pincus: Thank you very much. Any comments, or shall we go on with other comments at this point?

Freeman: I think if we talk about Charlie's comments it'll take us off track because we'll get into the varying opinions of what works in psychoanalysis, which isn't really what we're here to talk about.

Brenner: Well it's in the paper.

Freeman: Yes, okay.

Pincus: That's fine. Actually the main point that you were referring to was from a quotation at the beginning of our discussion section, I believe, from Deluze, and I'm responsible for including that. I'm not sure that I entirely agree with it either, but that's okay. Okay, where else do we want to go?

Freeman: I would say that I agree with Charles in two respects. One is the enormous role that's played by the past in experiencing and interpreting the present. And further, that this includes—incorporates—these vivid experiences. The record of the past includes all of the incestuous desires and fantasies that you've alluded to. I would say that premise—from my perspective of how I got into this—is a conclusion that I drew from the chemical and electrical fields, which you eluded to, studying these fields. Very simple experiments in vision, hearing, touch, and olfaction answer the question of what the cortex does, the sensory cortex, when it gets a

stimulus? Overwhelmingly the answer is that the cortex uses a small sample from sensory receptors—a whisper, a glimpse, a face in a crowd—to construct a pattern, which is essentially retrieved from the background store. Now this pattern is not invariant with the stimulus. You present the stimulus over and over and, yes, you get the same pattern, but now when you change its significance you get a new pattern. And furthermore, all the other patterns in the repertoire change. This is a conclusion which is at variance with most of the entire history of Western Philosophy. Plato and Aristotle both postulated the incorporation of forms. Descartes postulated the mathematization of input. The major continental philosophers followed suit. There are two exceptions. One was Saint Thomas Aquinas, 700 years ago, who recognized that there is nothing in the way of forms—of information, as we would call it—crossing into the brain. It is as immune to the introduction of foreign material as our immune system, which, as you know, will respond violently to the introduction of material that it regards as foreign.

This led me to review studies of learning to see how the person or the animal builds this knowledge, because the stimulus is essentially activating some of the knowledge that the animal has. It's not a representation. It is a fragment of knowledge that the animal is going to use. And I came to the conclusion that this process of learning is endlessly divisive because everybody's experience is unique, and it carries us further and further away from everyone else. My favorite example is the graduate student syndrome, where the graduate student essentially dives into a project and learns more and more about less and less and loses contact with what's around. I think that, in fact, this is not a bad model for some forms of autism and psychopathology. So the question is: On the one hand, it's unequivocal that brains have this immense power for learning, for adapting, for incorporating by action and understanding, through assimilation, as Piaget described it. On the other hand, it's unquestionable that the evolution of the human species over the last 3,000,000 years has been primarily social, the development of the social brain. How is it possible to reconcile these two principles? How is it possible to have not just individual knowledge but shared knowledge?

From this then, in my readings in Pavlov and in William Sargant and related texts, I realized that there is a process, which we neurobiologists have been neglecting, which is the nature of affiliation, of bonding. We can now identify the hormone. It's a nine-chain amino acid oxytocin that mediates not learning but the dissolving of past learning, allowing for the formation of new learning. I think the most powerful single instance of this process at work is seeing an adolescent who for the first time breaks their bond to their parents and forms a new attachment to a loved one. They fall in love. That's catastrophic. And we know that it's mediated by oxytocin. What happens now is not forgetting; it's a dissolving of bonds between child and parent as prelude to the child becoming a parent. This is why it's so fundamental in mammalian evolution, the necessity for the caring for the altricial offspring, that you have essentially a process here that is happening not just when you fall in love but in many other circumstances. Once you realize that this is going on, you see it in boot camp training, in corporate indoctrination, in teenage gangs, in church affairs. It's ubiquitous, just like transference.

So this is the basis on which I viewed this opportunity to collaborate in raising the question of what the relationship is between what you psychiatrists call transference and this phenomenon, which now I see as pervasive in human society. That's why I'm here.

Pincus: Good. Well, welcome. Norm, go ahead.

Doidge: I think that Dr. Freeman's ideas about oxytocin and unlearning are staggeringly important and actually quite brilliant, and I haven't been able to get them out of my head since I first read them. I've just finished a book on plasticity, so there's chemistry for learning and we know a lot about that chemistry and how it happens, and it turns out that there's a different chemistry for unlearning. I'm not sure at this stage that we know absolutely all the details about oxytocin and unlearning, but I think it's a remarkably brilliant insight, because what he's found is that as human beings—I'm being presumptuous by reframing what you just said—because we're plastic and so much of our brains are plastic, including our perceptual apparatus, and we all see differently and we use different parts of our brains when we're seeing—we thought these maps were immutable but they move around inside us—we tend to become idiosyncratic and experience the world very differently. But because we're social animals we also need to somehow see it in the same way, especially if we want to cooperate. So he basically pointed us toward this commitment neuromodulator and then pointed out that there's this other literature about oxytocin where it's called an amnesic brain chemical to do with dissolving. Now just to bring it right back to transference, it seems really important. We know that several things happen in transference. There was a study done at the New York Psychoanalytic, I think about 25 years ago—this picking up on Charles's point—and it showed that you don't have to have a full-blown transference neurosis analyzed to get better. Many people who don't have that get better in analysis.

Brenner: There was a study?

Doidge: Yeah, there was a study. You were thinking deep thoughts, but it was actually going on over a number of years by the New York Psychoanalytic. It was an outcome study that was done.

Brenner: I proposed it, so

Doidge: Someone was listening. It was published in the '70s and the '80s. But it also showed that if you had a transference neurosis you actually made more progress than those who didn't. So, look, this idea that analysts have had for a number of years that there can be something special about analyzing transference and that it can be important I think was shown empirically to be the case. Now if you link this up with Walter Freeman's ideas, what you see is that in the case of a close bonding, a commitment is formed, but there's a potential for dissolving. The reason he says we dissolve when we get together is because to cooperate we have to forgo or give up our previous intentions to form new intentions. So the observation—not just in analytic treatments but in all treatments—that there's some kind of closeness with the therapist that can facilitate change, I think may be explained by your observation. I think it also explains something else, which is that in therapy there's also an opportunity to do harm to the person, because there's a kind of neuronal susceptibility, and if you think through patients—I don't know if everyone shares this idea, but ever since I read it, it seems to me profoundly true—that there's something about falling in love that leads to a kind of malleability. There's a malleability of the state of falling in love, which is why parents are so concerned about who their children fall in love with and why we say love is blind and why a very self-possessed person can fall into the

hands of someone who is very manipulative, and even though they're very self-possessed they seem to get soft in the brain.

Brenner: Insane.

Doidge: Insane, okay. But insane in neural terms means that existing sane networks have been undermined or dissolved to a degree. And in shorter-term therapies, where it's more of a cognitive approach, you'll have some of this, but less of it. The other issue that this raises is transferences tend to be very powerful. They tend to tie into childhood experiences, when important attachments are formed. And in terms of plasticity, we know that most of the cognitive functions have what are called critical periods. Now a critical period just means that the brain is exceptionally plastic and you don't have to pay attention to change structure. It just changes. Children soak up language without an effort. Later on you can still learn a language, but you have to pay constant attention and it's very difficult. So the way I see this linking in is that obviously we've known for years that oxytocin secretion is certainly at its height in the mother-child bonding and bonding with parents. Children have oxytocin when they bond with their parents. It's not just parents with children. And lovers have it too. And then you set some kind of schema up that becomes exceptionally attractive, and then what you're trying to do is rework that schema. So I find that exceptionally helpful.

I'll stop there, except to tag something I hope we can return to, which is that Walter Freeman also has this other very brilliant, arresting idea that he was describing, which is this: most people think of transference as having mental representations in our head, images in our head, based on the past that we transfer onto other people, and if it's a good match we're doing well and if it's a bad match we think it's a problem or pathological, etcetera. But Walter Freeman's idea, based on his work with electrodes in rabbits and studying exactly how the mind learns to recognize things, is that there are no representations in the brain. So this is another thing we just have to discuss here—the notion of a mental representation or mental picture is simply a wrong-headed metaphor. And I'd love you to elaborate on that.

Pincus: Well, Arnie, why don't you say something about that?

Modell: I'd like to pick up on that point. I think this is a very important issue. I think what Walter has proven is that what the neurosciences call information theory is totally wrong. And as it applies to psychoanalysis, I think these ideas aren't current right now, but some years ago the idea of the object representation was very much in fashion. There were self-representations and object representations, and unfortunately I think this came from Freud's reading of John Stuart Mill, who in turn borrowed it from Locke, and it is this old philosophy that there's something out there that we take in and there's a kind of mirroring inside. This is not how the mind works. This is not how transference works.

I'd like to also point out another aspect of transference that we haven't talked about yet, and that is the notion that it's not only transference as a selective idiosyncratic process, but as a kind of emulator of the future—the idea of transference as an expectation in terms of what will my response do to the other. We run a kind of internal script, as it were. To make this a little clearer, I think Freud had a sense of this in the notion of signal anxiety—that we become anxious in

terms of an impulse we have, which may be in conflict—to come back to Charlie’s point about conflict—in terms of a future action. So there’s an aspect of transference that has to do with the future interaction we will have with the other in terms of what we are feeling at that instant in time. So, in a sense, transference is a kind of simulator of what might happen if we act on what we are feeling.

Pincus: It’s what I meant by the word situating ourselves, or the word expectancy, which was such a different twist on the way in which we’ve thought about transference. Brad, were you going to say something?

Peterson: I’d like to respond to each of the previous comments, and I’ll see if I can try to do it somewhat coherently. Maybe the jumping off point would be Dr. Freeman’s critique of information processing, which, forgive me if I’m wrong, but I think it’s not as contemporary within current neuroscience—I think it’s a bit of a straw man, taking an older view of information processing, which is that essentially we’re passive recipients of sensory stimuli and in a bottom up way these stimuli somehow combine and percolate into creating a representation of external objects. That’s an old-fashioned view, and I think contemporary neuroscience now understands that there’s also top down processing from preexisting schemas, a term that Norm brought up earlier—preexisting schemas, attentive biases, preattentive biases. If something is very important to you from past experience you will preferentially process these billions and billions of stimuli that are bombarding all your sensory receptors and you will preferentially detect it in the environment. And that’s top down processing from the highest order—heteromodal: very complex frontal cortexes and other cortexes in the brain that actually feed back to very early portions of sensory processing in the receptors. Not necessarily peripheral receptors, but within the brain. From very high order centers within the brain going down to certainly secondary association areas and even primary association areas, so that there’s a constant back and forth, a give and take between bottom up, percolating up, and then top down, modifying and filtering and shaping our ongoing experience. I think it’s very consistent with your work, but I think the rest of neuroscience has caught up to you, and I think we believe that now. And there are infinite amounts of data to support it, not only from contemporary neuroscience, but from psychology and even with Piaget. So this is going back not only to assimilation—we don’t only take in and metabolize information in a passive way, we accommodate. That’s the other part of Piaget that’s most important, and I think was most revolutionary about his work: that we change in response to experience. And that changing in response has reorganized the schema. So we’re not the same as we were prior to that last experience. This is true of all perception, so in line with the paper, I agree very much that transference is a special aspect of perception. It is a perceptual process. It probably is unique in the sense that we are really social beings, and so much of our life experience and our happiness and unhappiness is formed in social arenas and social relationships have been formed—our schema, our preexisting schema, has come from very, very early childhood experiences, in line with Dr. Brenner’s comments. So I agree that, yes, transference does reflect the central aspects of conflict, primarily, and most often conflict is expressed through transferential relationships, because our desires and wishes have been informed so early. So I think I’m more or less agreeing with everyone, but maybe elaborating because I think conflict is absolutely central. That’s what we need to go for. I’m also agreeing that transference is so ubiquitously important in

psychoanalytic work because it's most often the source of conflict, and that both of those arenas—

Brenner: Transference is the source of conflict?

Peterson: Often. From desires, yes—in terms of incestuous, aggressive wishes that you mentioned, and most of those I think are generated within social domains.

Brenner: I would say expression of conflict, informed by conflict.

Peterson: Okay. That's good. Well, perhaps. I'm willing to say that's possible and probably right. I think aggression can also be a consequence of a frustrated wish, for example, that has been established by my preexisting schema of what I want from the next person I meet. And that wish from the next person I meet has been informed by my prior experience, and often very early prior experience.

Brenner: Informed by frustration and aggression.

Peterson: Yes.

Pincus: Brad, one thing I struggled with in the paper—psychoanalysts often are trying to map their idiosyncratic concepts on other concepts, and there's some mapping of transference onto the notion of perception for sure. Perception and memory have already been mapped together by some neuroscientists like Adelman, and I think Dr. Modell has shown that those are very close together. But it seems to me that there's a problem with tying in transference to perception too closely, because, you see, the transferences that are of most interest to psychoanalysts are the ones that don't accommodate.

Peterson: Absolutely.

Pincus: So I think the issue is once we start to talk about transference as this general, ubiquitous way of perceiving the world that's going on unconsciously, and adapting to the world and modifying the world, then we have the big problem of the patients that often come for treatment because they have recalcitrant transferences that are not adapting. So how do you understand why that's happening if it's just a core perceptual process?

Modell: I'm happy to answer it from our viewpoint from the paper, but if you're asking Brad, that's fine as well. We struggled with this a good bit, because we wanted to establish that it's a core perceptual process that's ubiquitous. And in doing so it does water down the stickiness that we experience clinically and the truncated versions of what we get in our clinical practices. So there is a big difference, and we didn't want to dilute the clinical phenomenon with the more ubiquitous one. Rather it is more of a special case and one in which we also have the opportunity to observe in the clinical situation, which we otherwise don't observe very carefully outside of the clinical situation. So one of the things I think is true is that there's much more fixity and stickiness in many, many different aspects of our lives—

Brenner: Don't you think another way of saying it is that it isn't that transference is in any way unique or special in the analytic situation, it's ubiquitous in all interpersonal relationships? What is unique about transference in the analytic situation is not its presence, but how it's dealt with. That is to say the second person tries to analyze and understand. That's not the way it is—

Pincus: In the rest of life.

Brenner: Yes.

Pincus: Absolutely.

Peterson: I do think that you're right that in many ways. In fact we discovered transference—others discovered transference—because of its pathological manifestations. This is true in many areas and domains of medical science: we learn about normal function through pathology. Not always, but often when things are working right you don't see them, you don't notice it. So this is ubiquitous, and most often it does come to clinical attention when it's not properly flexible—when there's an inflexibility, a failure to accommodate to external input and reality in a way that's adaptive. So for a person for whom every single male they meet is an abusive, harsh, demeaning father, that's pathological in the sense that it's not helping their lives. It's making them unhappy. That's still transference in the wide sense, but it's not sufficiently flexible and accommodating. I think it's often the case in pathological systems, neural systems, that you lose degrees of freedom, you lose flexibility in the functioning of those neural systems, and that's what I think is happening with transference. The problem with that, obviously, is that it makes people unhappy, but often it's a motivated inflexibility. It's generated by fear. It's a defense. It's associated with conflict because you both want that person to be the father and to undo the traumas that have happened, and at the same time you avoid that person or react as though they're going to traumatize you again. We all know how that plays out clinically, but I think that's another way in which the conflict enters when this system is sufficiently inflexible and pathological.

Pincus: We tried to use motor descriptions and Parkinsonian-like kinds of things, and in terms of dynamic modeling we talked about fixed-point attractors and things like that. There are ways of trying to describe what is otherwise a much more flexible kind of behavior or flexible anticipations and to contrast with things that are much more rigidified and structured in some kind of way. I think that the analytic situation takes advantage both in our ability to observe and interpret and to participate in some way that we don't otherwise have that capability of doing.

Brenner: You're saying, which I think is absolutely right, that there's a great danger in analogizing thought with motor behavior.

Pincus: Yes.

Brenner: I agree. Calling it inflexible, that doesn't describe thinking.

Pincus: No, it doesn't. I wanted to get to the point about consciousness of transference—the potential consciousness of transference processes. That is a very lively topic, I think, among many people. Arnie, were you going to say something at this point?

Modell: I guess the audience hasn't read this paper, but I think Walter makes a very important point which we made use of, and that's the distinction between sensation and perception. My take on it would be that the fixity of transference has to do with the lack of freedom of interpretation of meaning. We haven't used the term meaning in this discussion. But Walter has observed with his rabbits that the sensation in the nose is undone, as it were. That may not be the best word, but it's negated in a certain sense, and Walter's research comes very close to Freud's discussion of the mystic writing pad. If you remember this paper where Freud posits that the incoming percepts are wiped out—

Pincus: Wiped clean.

Modell: Wiped clean, yes.

Freeman: Well that's not quite what I got. Let's say there is some form, some entity in the environment, which impacts on the individual and the receptors. All the receptors get is molecules of scent—protons, vibrations at the atomic level—that they then convert into trains of action potentials at the cellular level. Where there is a synthesis of a percept now is in the cortex, after there has been a transmission of this activity driven by the external percept. If we don't know what that is, whatever it is, we now have had past experience with this, presumably. If it's the first time, okay, that takes a different path. But let's say there's some past experience. Then what the percept gives is the roster or the texture of experience, first in each of the sensory modalities, and this happens simultaneously in all sensory areas. They all transmit broadly, including the entorhinal cortex. It goes through the hippocampus, comes back up to the entorhinal cortex and goes back out to all the cortexes. What happens is most remarkable—it's the formation of a multisensory image pattern, which involves this synchronized activity, oscillations in the beta range over virtually the entire hemisphere. Now this is a real frontier area, but it's essentially the direction in which the studies of perception will take us to a phenomenon, which I think is an excellent candidate for consciousness, because of the breadth of it, the flexibility, the repeated frames. This is not a continuous flow. It's cinematographic, as Oliver Sacks describes it. This is why the percept coming in from outside is broken down into the atomic and cellular—

Brenner: It isn't a percept from the outside. What you're trying to talk about is the relationship between an afferent action current and thinking.

Freeman: That's what I'm describing also.

Brenner: That's what you're trying to talk about. That's an obscure relationship.

Freeman: But the thought is not in the initial impact in the primary sensory area. That's an ingredient. But the thought, it seems to me, comes after the multimodal fusion in line with Wolfgang Köhler.

Pincus: But it goes back to what Arnie was saying, that the sensory input only gets to the first synaptic layer.

Freeman: Yes.

Pincus: And there it's washed away.

Brenner: But it isn't synapses. If you think of the retina, there are changes at the very first perceiving neuron, the very first stimulated neuron. And to talk about brain and central nervous system and peripheral nervous system is complicated also, as I'm sure Professor Freeman would be the first to say. Certainly the second layer of cells in the retina is part of the brain. So is the cochlear.

Pincus: That's very true.

Brenner: It's a very complicated problem.

Pincus: The difference is in the organization of the stimuli. They maintain their coherence only to the first synaptic layer. And thereby their organization is tossed out and it is the internal gestalt that takes its form from there.

Brenner: But Professor Freeman's point is one that I certainly agree with, that the state of the central nervous system affects what we call perception.

Pincus: Right.

Freeman: There's a big difference, though, between the retina and the visual cortex. And there's a big difference between the cochlear nucleus and the auditory cortex. The processes I'm describing take place only in the cortex. There's an enormous amount, as you know, of preprocessing going on in the visual, auditory and somatic systems. The olfactory system, by contrast, is rock bottom simple. That's why I spent so much time on it. But the process that I find in olfaction—the olfactory bulb—occurs not in the retina, not in the cochlear nucleus, it occurs in cortex.

Brenner: So?

Freeman: That's where you have the topology of connections, which give you these dramatic oscillations that are crucial to the whole construction process.

Brenner: I don't see how anybody with even a medium knowledge of neurophysiology and brain physiology can dispute what you're saying. Absolutely, I agree.

Freeman: Our problem is suddenly evaporated.

Brenner: I don't think we had a problem. I started out by saying I agree with what you said. There are certain things that you've said that I would elaborate on, but basically I would agree. But that's got nothing to do with transference. What has that to do with transference?

Doidge: I can say something to that. I may be taking off on my own strange way, but my translation goes something like this: equivalent to sensation is the unconscious reaction to the other person's feeling states, which we then create a percept by interpreting it. You're looking at me as if—

Brenner: Unconscious reaction to a feeling state?

Doidge: We as analysts pick up—I can give you an example of transference that occurred quite recently in my practice, a very commonplace reaction. My patient was going on at great length talking about something. I didn't see the point of it and I was getting impatient, and I asked him what did this mean. But he picked up my impatience. I'm talking about the tone of voice as a communication, a feeling state.

Brenner: It's a communication.

Doidge: It's a communication. It is a raw input, unconsciously. Unconscious input. I'm saying something very simple. I'm saying I take this to be analogous to a raw input, which is then interpreted as a percept.

Brenner: When you say a raw input what does that mean?

Doidge: It means unconscious—an unconscious percept. The other person's feeling state is an unconscious percept, which we pick up by tones of voice in psychoanalysis.

Brenner: But you just said that he heard your communication, your tone of voice, as saying to him I'm impatient.

Doidge: Yes.

Brenner: Is that unconscious?

Doidge: No.

Brenner: It's a nonverbal communication. But it wasn't unconscious. Sometimes it's unconscious. Don't misunderstand me. It may be very often. But in the example you just gave it's a beautiful example of nonverbal communication.

Doidge: Yes. In this case it wasn't unconscious. But it often is unconscious.

Brenner: Of course.

Peterson: I think many times, in fact usually, the sensory stimuli that we're constructing as an internal experience, actively constructing, are out of awareness. I have no idea if this is relevant to the example, but let's just say that the patient, out of awareness, at some level intuited the impatience, but then responded in a sort of paranoid stance—you know, "You're going to attack me because you're impatient with me." Well through the analytic process you can hopefully disentangle that and understand that the fear of retaliation or attack comes from the perception of impatience—yes, maybe I was sort of aware of that in retrospect. And I think it's relevant to a point in the paper and something else that had come up—Dr. Brenner mentioned that we work through conflict and that we work through transference, that that's unique to psychoanalysis. I'm not sure that it entirely is because, for example, in CBT—part of CBT would be working in the moment, saying, you are reacting as though I'm impatient and you're distorting that into a paranoid stance as though I'm going to attack you. That's the modality of operating with CBT, and often that will occur in a sort of relationship mode with the therapist and the patient. So I don't think even that's necessarily unique to psychoanalysis.

Brenner: Well it's derived from psychoanalysis.

Peterson: I agree. But CBT people wouldn't say it's derived, but I agree it is.

Brenner: It is.

Peterson: I agree. But I also don't think that's necessarily the unique contribution of psychoanalysis. I think the contribution is really from your work—and others, of course—looking at conflict and the motivation of the information processing machinery that we have that will preferentially interpret things one way or another. So it may be a wish to make you into my attacking father that I would choose to interpret that impatience that way. It's a wish that you would be my attacking father, so that's a motivated construct. That's the unique thing, and obviously that's an ambivalent thing, because it's also a painful experience, the concern that my analyst is going to attack me. But at the same time it's a wish that you're going to be my father. That's conflict.

Brenner: Compromise formation.

Peterson: Exactly. That's compromise formation. And that is the unique modality of work with psychoanalysis in my opinion.

Brenner: But Brad, I never said that—

Peterson: Oh, no, I'm elaborating, that's all. I'm not disagreeing.

Brenner: I only said that that's what's unique about transference in analysis. It's not the only contribution that analysts have made to understanding the mind, but what's unique about transference is the way it's dealt with, that it's analyzed.

Peterson: Correct, and I was elaborating. I wasn't only saying it's reality testing or trying to undo the distortions or to make the cognitive information processing machinery more flexible or

more reality-prone, and prove reality testing. It's also getting at the motivational aspect of it and the function of it, which is compromise formation.

Brenner: Of course. That's what you mean by analyzing.

Peterson: Correct. Maybe I'm wrong, but I think a lot of people would not view the work of transference as that.

Brenner: There are many misguided people.

Peterson: Their cognitive schemas haven't quite accommodated it.

Audience: They all want to ask where this paper is.

Pincus: It will be published in *Psychoanalytic Psychology*, October '07.

Audience: Thank you.

Pincus: Let me ask if there is anything from our panelists at this point that they want to follow up with, or is it sufficiently interesting to pursue the idea about whether or not transference can become conscious? Is that something that people want to take up here or not? We're still within the panelists.

Freeman: Before you get into this imponderable question of is it or isn't it—or will it ever be—conscious, I'd like to raise a more mundane question, and that is the following: throughout human experience, and particularly in so-called primitive tribes—actually, they're pretty well advanced—you have remarkable ceremonies which are designed to ease the passage from childhood to adulthood. And these have well established techniques involving communal activity, typically with vigorous dancing, exercise, chanting, rhythmic clapping, stomping. It goes on for days and nights, to the point of exhaustion, collapse—what Pavlov called trans-marginal inhibition. Thereafter during this recovery process, coming back again, that's when the crucial process takes place of bringing a person into the tribe. There's a tribe in West Africa, for example, where an adolescent who collapses this way will be wrapped in a shroud and taken to the graveyard and then as they come back again, reawakening. So it's clearly a symbol of rebirth.

Brenner: You don't have to go to West Africa. You've been to a bar mitzvah, I suppose, or a first Communion.

Freeman: I wasn't going to make any personal remarks.

Brenner: But it's not just "primitive" societies that have it.

Freeman: Okay. They're far advanced societies. That's why I corrected myself. Okay. My point is that this is a form of social engineering.

Brenner: Yeah, sure.

Freeman: Which is designed to bring about behavioral modification of a very deep kind and a very desirable kind. I experienced it in hazing and fraternity, where it creates a lifelong bond with the old grads, which is outside consciousness. It's just there. It colors my behavior, even though I rebel against that kind of correlation. Somehow I feel you've been tip-toeing around this question of social engineering, of the techniques that are widely used, widely practiced for behavioral modification of this basic kind, which apparently are not in use in psychiatry and psychoanalysis. And my question is, why not?

Brenner: Because the modification is much less than you think. That's what psychoanalysis or psychoanalysts have discovered.

Freeman: Well you see this in teenage girls.

Brenner: When somebody falls in love, for example, it's not just to rupture the bond. It's to renew the bond with somebody else. It's determined by what went on before, as you say.

Freeman: Yes. I'm saying that there is a power to these techniques, which is neglected. I would say that this is a major problem in inner cities with teenage gangs, hoodlums, that safely bond to each other in circumstances where—

Brenner: What is the bond with each other?

Freeman: They form blood related gangs. They exchange wounds. They cut each other and share blood. They have rituals in which one of them has to go out and kill somebody, a random choice. You've heard of this kind of thing. This is going on in our inner cities.

Brenner: It also has a sexual significance.

Freeman: Highly so. They all do. But my question is—

Brenner: Well that sexual significance is determined to a much greater extent than you are willing to agree by past experience.

Doidge: Actually I want to disagree with Charles about one thing—this issue as to whether there is a rupture. I'm about halfway through a book by Leonard Shengold called *Haunted by Parents*, and one of the things he talks about is reanalyzing people who didn't get better and finding that a number of them have formed identifications or internalizations with parents who were in some ways abusive, that they can't let go. So they end up repeating sadomasochistic attachments. And when they do get better the person goes through this incredible crisis of feeling like they're going to die as they detach from that internalized bond to the negative parent. Now in the classic text on rights of passage—I mean this idea of the shroud—the idea that you have to die to be reborn is in most rights of passage, although I'm not sure it's in the Bar Mitzvah. You hear a lot of complaints during Bar Mitzvahs, but I haven't heard that one. But in a classic right of passage there is some kind of sense that the old self must die for the new self to exist. So I think in some analysis when there is a bonding with a problematic internal image that you can't let go of, you

can't conceive of yourself existing without that love, that as the person starts to get better they will have dreams of things dying, people dying, catastrophes happening, et cetera. Obviously I'm extrapolating from individual cases, but this is, it seems to me, what Shengold is also documenting, and it's of course going on in the head. The parents could have been dead for 30 years. I think you're on to something very important, and it may be a kind of archaic representation of what happens when we go through vast kinds of neuronal change. That's neuroscience speak for what we would normally call in analysis mourning or giving up the attachment, etcetera. But this piecemeal thing that happens when we mourn—the fact that mourning is piecemeal is very interesting from a neuroscience point of view. It does seem like what has to happen is you have to bring certain neuronal networks, activate them, pay attention to them and then alter them. And that's what, in general, people studying plastic change find, when you're trying to do any kind of learning. It requires paying concentrated attention. Analytically making the unconscious conscious. Talking in terms of neuroplasticity, it's about paying very, very close attention in a repeated way until the circuit starts to change and then it starts to generalize. It'd be very interesting to start to try to map out how the kind of myths that recur cross-culturally, such as you must die before you're reborn, tie into the fundamental changes that are going on inside us biologically.

Brenner: Norman, I would only say thoughts are a biological phenomenon.

Doidge: Sometimes they're about biological phenomenon.

Brenner: Of course. But they are biological phenomenon.

Pincus: Okay, so I think that we're going to go to our audience, and we're just not going to get to my interest in the unconscious and transference

Audience: I was particularly interested in Dr. Freeman's discussion of the child dissolving the bond to the parent and then forming other new attachments. It sounds as if they had a bond to the parent originally. Then that died or stopped, and then they went on to a new attachment that was unrelated to the original attachment. Now I don't understand, as I have understood transference, how that can be. Because it would seem you have an either/or situation, whereas it seems that in the usual perception of transference the original connection is carried forward in future relationships. It's different, and yet it bears enough of the sameness that it may be healthy or it may be unhealthy, and the patient brings that to the analytic situation, and through transference they form a bond with the analyst, which is then interpreted. Mostly patients bring unhealthy new connections and relationships to their sessions, which are interpreted. Ultimately after a long period of time it seems that there usually comes to be an understanding of the nature of those relationships and how they're based on the original ones, so that nothing has died. There is no dissolving of a bond, and I don't see—I cannot understand your work basically, what you described earlier in which you said there was a dissolving of this bond. So I have a big difference. If I believe you, then that means I can't believe as I do about transference. The two seem to be self-defeating. They don't go with each other, as I understand you. Thank you very much.

Freeman: Yes, well the question of dissolution is multi-leveled. On some levels where there's been enormous conflict between parent and child to begin with, then the adoption of a new love object can result in even permanent dissolution. But in most instances there is a transient period where the girl is telling the father, "Papa don't preach," and attempting to maintain some contact with her parents but not controlling, not allowing them to control. But I think there are all different grades of dissolution, and what I'm really pressing for most clearly is the phenomenon of the loss of parent structure. There's an excellent biological example of this in the multiparous sheep. That is to say not with the first litter, but the second litter, the dam will kick away the yearling if they come and try to nurse, meaning that the olfactory imprint for that yearling has been dissolved. It's gone. That no longer belongs to her. That is a simple elementary kind of example, and I don't think that that by any means can be stretched to accommodate phenomena, certainly not with my children.

Peterson: I'm sorry—I have to take a little bit of issue. It's not a loss of all structure. It's a restructuring, because it's very clear that if, at least from lots of animal research and even from something horrific, like the Romanian orphan situation, that if attachments and relationships aren't established early, if these relational schema are not established, that you don't have the capacity to attach and form relationships later.

Freeman: I have no quarrel, no disagreement.

Peterson: So the point is that at least something has to remain or you wouldn't go on to make a new attachment. So it's reworked, I think, just by definition. It has to be. It's not a loss of all structure.

Freeman: In fact, the classic picture of people undergoing religious conversion is that they walk down the aisle on their knees and then collapse at the altar and then as they come back out again most of their structure returns. Only a small part is missing, but that small part now essentially is a new kind of allegiance. So that's what I'm describing.

Peterson: Yes.

Audience: I think the one point of agreement clearly that hasn't been discussed very much is that the most interesting aspect of transference is emotional and that is the issue that really comes to prominence in psychoanalytic situations. As Brad Peterson said, if things are going well you don't notice it. It's only the bad ones that have to come and be resolved or brought into cognitive awareness. But the dilemma is that these affects are in a primitive form of consciousness. They are felt, but you don't know why you're feeling them, and the therapeutic situation brings them into cognitive awareness, hopefully in the correct way. So maybe people want to elaborate on that a little bit.

Even though there might be agreement on the emotional issues, I've got one disagreement with you, Walter, even though your vision of amnesia I think has an important part in the whole process of re-bonding. What we do in neuroscience, or what people who are consumers of neuroscience do, is they grab onto the most salient, popular fact. And oxytocin in bonding is the current meme. It is not necessarily the most important aspect of bonding. Since I've been there at

the very beginning and we generated the first neuroscientific hypothesis of bonding, it came from the available neurochemical system in 1972, which were opioids, and I do believe the evidence still indicates that opioids are more powerful in bonding than oxytocin, and oxytocin really wouldn't do anything unless it interacted with opioids. There's also dopamine for sexual bonding, and then there's that mysterious prolactin in the background that no one has studied fully, but it's very powerful in modulating the emotions that are necessary for bonding. So please wipe from your memories if you possibly can the meme that oxytocin erases the slate, unless Walter will correct me with data as opposed to hypotheses.

Let's go back in history when people were independent of this kind of neuroscience, and you go back to Homer's Odyssey and Helen of Troy has been returned after the wars. And the most famous of the warriors has not come back—Odysseus. Helen decides that she will throw a celebration for the lost warriors, especially Odysseus. Everyone congregates, and after the conviviality wanes people start talking about Odysseus and the other lost warriors, and everyone gets sad and the party goes down the tubes. Helen, of course, is highly distressed by this situation so she decides she has to solve it pharmacologically. She slips into the wine an anodyne, described by Homer as the sweet magic of forgetfulness, which Walter was talking about. Of course now ethnopharmacologists want to know what was this sweet magic of forgetfulness. We only have three options. One was alcohol, and there was already plenty in the system. It's a funny form of forgetfulness. Then there were opioids. And the only other option was—

Solms: GHB.

Panksepp: You only wish. Cannabis. If you take these, the high probability is that Helen put opioid, a tincture of opium, because that takes away sorrow. It melts sorrow, and when you melt sorrow you open up your mind to new associations. But we do not have this kind of data from oxytocin, except a little bit of human data suggesting the cognitive apparatus gets a little dull. Not necessarily forgetful, but dull. I'm sorry if I'm taking so long. David and I now are doing some oxytocin experiments, and because of your hypothesis, we're going to inject that into the study. I've done so much oxytocin work in my life, and it's an impressive molecule of bonding, as are opioids and those other ones, but if you're really looking for the sweet magic of forgetfulness, opioids can it do for all the negative memories, but it's a temporary solution. There's even a better one, and that better one is cannabis, the third alternative. What modern neuroscience has dramatically demonstrated is what anyone who's been high knows: your cognitive apparatus goes to hell. At a high enough dose you can't remember anymore. You literally one moment have an experience, the next moment you're wondering what that experience was. Cannabinoids are massively amnesic, so I would probably reformulate the hypothesis that's so intriguing from Walter that essentially what happens when you have to make a new bond is that cannabinoids, a molecule of momentary joy, allows the passage to a deeper and newer joy, a newer bond. Any thoughts?

Pincus: Okay. I wanted Walter to respond and then I wanted to say something after Walter.

Freeman: Very good. I'll be brief. Essentially I strongly object to your characterizing this process as amnesic—forgetting. It's not. I am not against the idea of the value of a good forgettory. In fact, it's far better to have a good forgettory than a good memory. I'm sure you

psychiatrists all know, there's far more people in mental hospitals because they can't forget than because they can't remember. And there just isn't enough research.

Audience: And that process improves every year.

Freeman: It solves itself. But I have utterly great respect for your many experiments in oxytocin. I thought you should have been on this panel to begin with. And I'm trespassing on your turf even to talk about it at all.

Audience: What data are you basing your oxytocin idea on? That is the question.

Freeman: Oh, this is a work on bonding described in the 1980s and '90s essentially by—what's his name? The guy that—

Audience: Insel.

Pincus: Insel was in the '90s.

Audience: But he doesn't talk about forgetting.

Freeman: That's right, it wasn't forgetting. That's my point. You're confusing the issue by introducing forgetting as a process. I say they don't forget. Saint Paul remembered clearly after his conversion experience.

Pincus: Well, but part of the problem was that cognitive neuroscientists did the lion's share of the oxytocin research and they were looking at attention, memory and concentration. Those are pretty poor measures of forgetting if you're thinking about becoming more involved in something. In fact there's a recent study that just came out on oxytocin in autism. Kids and adults with Asperger's and autism who were given four-hour infusions of oxytocin did really poorly on word memory tests, and their learning skills on social communication and eye contact and all of that stuff went through the roof. So it depends—

Freeman: Through the roof, meaning it improved?

Pincus: Very positively. So it's a bias as to who was doing it and what the measures were, in part. I just wanted to say something about reconciling between the peptides of the oxytocin and the opioids, and having something to do with education as well as transference. What I've learned from both Walter and from Jaak Panksepp through the years is that the research that I'm starting to undertake has to do with both of those peptide systems, the oxytocin and the peptides, and how they play into, for lack of a better word, attachment. But by attachment I mean the way we find ourselves through others in the world. And that is also a letting go of where we were before and finding what we find new. Those are the things that I'm most curious about.

Audience: I wanted to address the question that Dr. Freeman raised just before we went to questions, which was the idea of social engineering and behavior modification. I'm glad you mentioned twice now conversion experience. It strikes me that this is an example of a very

extreme shift between attachment to one set of beliefs and social structures that is now restructured in some dimension to create some significant variation in a person's daily activity. What I think Dr. Freeman was getting at was the vast difference that you see before and after such an experience and the process by which this occurs, and obviously there's a lot of talk we could do about the brain states involved. But I'm just curious if there's any notion of whether these sorts of techniques—and of course they come in less auspicious settings, brainwashing and interrogation—have any role in psychiatry and psychotherapy. Is there an ethical basis for them and is there a way to empirically validate these kinds of techniques such that we can use them to take advantage of neuroplasticity and behavioral modification?

Pincus: Well that's what Walter was bringing up before in asking that question of whether they can be more directly involved.

Doidge: I guess there's a question of how much of a role does suggestion play in everyday therapeutic work, whether it's psychoanalytic or other. Certainly I think that's akin to a lot of these sorts of experiences. And certainly hypnosis is the prototype of a suggestive therapy, and we know that relationship in analysis. For those who aren't analysts, the analytic situation of being the analyst behind the patient and the patient on their back came from hypnotic technique that Freud originally used. So I think some of these things, like it or not, do permeate our work.

Pincus: Just one sec, Norm. The best example of how we socialize our patients and how they socialize us actively is the gestures we make and how they start gesturing at the same moment we do, or we pick up their gestures. We never really talk about it usually but it's all going on all the time. Norm, let me go to Mark for one second and then come back to you.

Audience: Thanks. For my sins over the last few years I've been burdened with translating Freud's writings, so I understand them very, very well. And the concept we are discussing is transference, which is a Freudian concept, and I feel deeply bound to say something from the Freudian point of view, which I think has been missing in the discussion. You wanted to address the question, David, about conscious and unconscious and probably you would have got to it, so I just sort of feel, in case we don't get to it—

Pincus: Thank you. I was trying to get to that. You were my plant.

Audience: It touches on some of the issues you did discuss, but I think that the overall area that you have been discussing is not something that's uniquely Freudian. It's something that Freud was well aware of. It pre-existed Freud. Despite some of Walter Freeman's comments about recent innovations, I really think it was implicit even in the association psychology that you disparage. The concept of apperception is what you're discussing, and, as you say, it goes on in Gestalt psychology with Köhler. Freud was very well aware of these things. He didn't take intellectual ownership of the fact that the past influences the present or that we perceive the present through the lens of the past. That's not transference. Transference is a pathological phenomenon. It's a clinical phenomenon. I know that Brad and Charlie referred to that and I just want to clarify it. Freud divided the broad field of psychopathologies into transference neurosis, narcissistic neurosis and psychosis. Please note, transference neurosis—a whole category of disorder. Psychoanalysis as a clinical method was designed to treat those disorders. It was

designed to treat transferences. It's a very important point, you see. It's a clinical issue. The subset of the phenomena that you're talking about that Freud identified was that we don't only have these expectations born of early experience, which we then sort of carry through into all of our present perceptual experiences, but some of those expectations are repressed. Some of our wants we don't want to know about. We refuse to acknowledge them. That gives them a special quality—the affective charge that Jaak spoke about, the troublesomeness of them, which makes them pathological. We repress certain of our expectations, certain of our wants, certain of our past experiences that we project onto the present, and those repressions fail, so then the want wants to come out. What representation it wants to attach itself to, it's not allowed to, so it transfers itself onto another want. And that's critical to symptom formation. That's how transference neurosis symptoms are formed. The want gets transferred onto something else and it looks very bizarre. It has a compulsive power because it's repressed, because you will not recognize, "This comes from my past. I won't remember it." Forgetting, therefore, is central to transference. "I won't remember." That's where the affective charge comes from. That's where the compulsive, repetitive power comes from. That's why it's troublesome. That's why analysis in the classical sense has to interpret that, link it to the past experience, bring it into consciousness, which is what the treatment is all about. I personally am quite attached to thinking like that. But whether or not we still believe that, it is the concept of transference.

Pincus: There were a couple of things. From a dynamic standpoint it explains the inherent unconsciousness of transference. From our model of perception and our generalized model of transference it's unconscious because in the construction of perceptions we are never conscious of the construction of those perceptions. Part of the problem with Freud's writing—Arnie and I spent a lot of time with this—is that he wrote so little about transference throughout his writing, and it changed when he wrote about it. It changed quite a bit, and I think it was in '36—I don't know which quote it was from, the '20s or '30s—in the paper where he said about the ubiquity of transference, and he moved gradually towards the position that we feel like is in keeping with our argument. From a dynamic standpoint I agree with you that those are the reasons why it can never be conscious. From our model, neurobiologically, we argue for a different reason, and that reason being that no percept can be conscious in terms of its construction.

Audience: From Freud's point of view those would be descriptive unconscious processes. He wouldn't have called them transferences. Transferences are dynamically repressed object attachments, which then go through in the wrong place. They transfer with compulsive repetitive affective power.

Pincus: I'll find you that quote in the '30s.

Audience: This is directed to Mr. Doidge. The brain that changes itself—you can have all the repressive symptoms that you have and you don't know, I would guess, what they are, and yet the brain still can change itself and develop itself to make one different than one was before due to all these other experiences that one has. If one is repetitive enough, as you said, one can actually develop new learning that can move you to a different state and to a much more developed state, so that with all your repressions, your neurotic repressions or whatever, you can actually become healthier while still maintaining some of these repressions. I don't know what

that book is about, but it sounds like an optimistic book from the title, and from my experience also.

Doidge: Well I'm not sure exactly what the question is. The book is about brain plasticity. In some ways Freud was a forerunner of that idea, because he, in *The Project*, talked about the law of association by simultaneity, arguing that what we now call neurons increased their connections when learning occurs. So it changes itself in some way or another through thinking and consciousness. But brain plasticity can lead to flexibility, and the book, if you're asking, is about all the unexpected ways in which brains reorganize themselves after strokes, kids with learning disabilities getting over them, and the therapies that work and so on. But the plastic brain turns out to be both more resilient than we thought the brain to be for the last 400 years, but it also turns out to be more vulnerable. And even though the brain is plastic, it's plastic because nervous tissue works by changing its structure. It's also a habit-forming machine, and our innate human brain plasticity can give rise to behaviors, which are either flexible or more rigid. So when people get stuck in habits, it's not a sign that the brain itself lacks this fundamental property of plasticity. That's actually an expression of plasticity, because once networks get established they tend to be self-sustaining in the brain.

Pincus: Norm, you were also going to respond to something earlier and I never got back to you.

Doidge: I can't remember what it was.

Audience: First I want to say how grateful I am for this fun and fascinating discussion. I want to add a comment or an example about the question of fostering change, which I think is in line with much of what Walter Freeman has talked about. Some years ago I did a study of psychoanalysts, interviewing them very intensively about the changes in their own experience of their analysts over time after termination. Out of a sample of thirty-four, there were six who had experienced an extremely passionate, erotic transference, and then lingering feelings toward their analysts. They described that period in their analysis as the most powerful period of mutative change. What seemed to be happening was a collision between past transference and expectations, and openness to new experience. What was essential at that point was not only—or not primarily—the matter of interpretations, but something about the actuality of the analyst, as they perceived it, and the possibilities in the analyst for being a figure with whom a kind of—not just attachment interest or attachment intimacy, but where they could risk the most erotic and passionate feelings from past in the present, and where that could be safely done. It was also true that that was a time of extreme vulnerability and some of them, particularly the men who were analyzed in the '60s when male/male relationships were quite different from now, and who tended to experience indifference or a rejecting of their longings toward the analyst, that could be extremely damaging for a long time to come. So I have no knowledge about oxytocin, but I think what is actually in the room is very important as far as fostering or stymying change when possible.

Pincus: Thank you.

Freeman: I would say this raises the touchy question about the relations of analysts to their patients in the sexual arena, which is fraught with immense complications, not only legal and

ethical but physical. Now I think it's very clear that oxytocin is, in fact, involved with a reproductive process, not merely peripheral—as we've known for over 100 years, and as mammals have practiced now for 80 million years—but also the significant changes inside the brain. That's new and still poorly understood. Certainly the opiates are involved with this. But it's quite clear that the release of oxytocin is strongly related to sexual intercourse and orgasm in both males and females, of humans and other animals. And so intrinsically, if transference is related to this process, which I think it is, you have to face this complication head on to recognize that your patients now are in this, as she described it, vulnerable state, but so is the therapist. And in fact if he or she becomes terrorized by the threat it's very obvious, it appears to me, that we are on very delicate ground here in proposing this connection between transference and the fundamental process of bonding and reproduction. So I don't have any answers. I'm just raising this issue. Maybe you want to address that.

Audience: Very indirectly, although a little bit. I'm also from the Boston Psychoanalytic Institute, and I wanted to amplify something Mark said and then touch on the dispute—that may be too strong a word—between the two of you. Indirectly I think it does bear on your question. Going back to the Freudian perception of transference—what he proposed in those early years, that Mark almost got to but didn't quite complete, was the notion that at some point the cause of the illness that he was trying to cure would cease to generate symptoms and produce in its place a transference neurosis, and that this transference neurosis would give him as physician direct access to something that in other respects would be immaterial and inaccessible to his efforts as a physician, because he didn't have psychopharmacology in those days. So in that sense the transference neurosis is really a very powerful analytic tool, not to be confused with the basic mechanisms of projection distortion, which are probably made use of in forming the transference distortions, but aren't themselves transference phenomena in the dynamic unconscious sense, which I think is what you were saying. But on the issue of what it came to mean to Freud over time, which I think is an incredibly complicated subject, I would say one thing, which is, having recently reread *Analysis Terminable and Interminable*, the reading one gets—and I don't think I'm the only person, but I might be the only one who says it this way—is that he shifted over the course of his life from believing that the most powerful theory of mind that he could write would be one in which he could explain how one could cure a neurosis or a neurotic symptom, and that this was a key into potentially a very full understanding of the mind, and came to much more think that the most powerful theory he could ever write would be the one that would explain why you couldn't cure it or how people mostly don't change, rather than how people mostly could change. He was far less optimistic. In that sense, I think his view of what is left over of the person after you subtract the neurosis or the neurotic symptom, and therefore how transference might fill a person's subjectivity beyond what we think of as a transference symptom or transference neurosis, became much more complex, and I think at the end of his life, unresolved. Which is why you could read, I think, that paper in a somewhat different way than Mark was talking about. I don't actually think fundamentally he really changed his mind, but I think the language and the approach was in some way more complex.

Pincus: Okay. We have five minutes.

Audience: If I followed some of this, there are three challenges to psychoanalysis, I think, that were put out: Freud's change of opinion from curative to why it's not being cured; the issues that

you raised of both the sexual danger and the means of change; and the reference to societies that have initiation rituals. So those three things seem to be strong challenges to psychoanalysis in terms of transference. Why use the transference? Is this simply historical? Is this an accident or was this the wisdom of Freud that it got started? There's been a lot of work over the years in terms of breathing, in terms of stress reduction, relaxation, meditation, which would I think work on a very basic brain level of alternation, as well as some kind of resonance on all these other levels, so that one would have an alternative to what might be seen as the trap of transference—to run through that whole long history to see if you can dissolve or not dissolve or if you're going to end up like Freud, that it doesn't dissolve, to these alternative approaches. So I think there's a challenge that's very strong that's emerged in the discussion that's not being discussed. It's been heard maybe, but overlooked.

Pincus: We'll have to take it up in our next paper. All right, thank you all.