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# The Misuse and Use of Science in Family Therapy.

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*The wish to adopt ideas and metaphors from science can have a constricting effect on thinking about family therapy theory and practice. We describe three examples from the recent literature. The two problems describe: (a) borrowing the prestige and certainty of scientific ideas and metaphors and using them as cultural representations of reality, and (b) embracing certain philosophically comprehensive systems of thought. We then recommend some appropriate borrowing from the natural history tradition of science, and give some examples of ways in which that tradition has widened rather than narrowed the range of ideas that are used in family therapy.*

Our purpose in this essay is to describe how therapeutic work may be hampered when images and forms of thought derived from science are carelessly applied to either the theory or the practice of family therapy. This seems especially obvious when scientific ideas are swallowed whole and undigested, or are taken as more than imagery, taken indeed as the representation of that touted subject of scientific thought: external reality. Metaphors in family therapy that are borrowed from science tend to acquire an independent and prestigious status, and in the process lose a most important characteristic of useful science: the ease with which ideas can be thrown overboard when they don't work. When an intervention doesn't work, we tend to blame anything but the idea or theory on which it is based, because we associate scientific theories with ideas that have been tested, and hence convey truth.

But theories in any field are only candidate explanations. In psychotherapy, and in family therapy in particular, theories are rarely tested or even challenged by any quasi-experimental methodology. Instead, they are constructed from observations of repetitive patterns in the therapist's office. In this sense they are drawn from a type of natural history methodology, rather than from experimental science.

In this introductory statement we have used the words *scientific ideas, metaphors, theories, natural history, and methodology.* We shall begin our exploration by offering some home-brewed definitions of what we mean when we use these words. We will illustrate our definitions by an example: how a family therapist might treat the complaint of a child's misbehavior at school. In addition we will insert a term not usually part of this cluster of ideas: *politics.*

For the sake of clarity, we will make these terms seem more independent of one another than they are in practice. We recognize, and will try to point out, areas where they overlap, and especially ways in which they mutually influence one another.

## Methodology

It appears to us that both scientists and therapists define their methodologies in a general way as "what I know how to do and how I go about doing it." This is what qualifies them as professionals. Microbiologists have a methodology of sterile techniques, growth mediums, stains, and microscopes. Psychoanalysts have a methodology of scrutinizing free associations and interpreting dreams.

> To begin our example, let us say that a family is referred to a family therapist by a teacher at the school where their 10-year-old son has been having some problems with conduct, problems that the teacher understands are equally serious at home. In making the recommendation, the teacher selected "someone who knows how" to work with more than one member of a family present at the same time, as opposed to individuals alone, or groups of unrelated people.

Note that the attribution of competence in a methodology has nothing to do with the espousal of a particular theory. Indeed, the idea that the practitioner has an explanation in mind before assessing the problem might well strike the clients, the boy's parents, as an unwanted bias that would limit the exercise of expertise. At the level of methodology, then, the practice of family therapy is in no way confined to or defined by a theory. It is a way of working with psychological or interpersonal problems, which differs from other therapeutic methodologies by consistently including (1) consultation either direct or indirect with other family members, (2) the active recruitment of those others to the social support system mobilized for the solution of the problem, and sometimes (3) the inclusion of other observers and consultants as an

audience or community.

## Natural History

This is the object at which methodology is directed. It is the observational field that has to be scanned before theory-making can begin. Darwin (1962) was the prototypical natural historian, whose observations of the species of the Galapagos had to come before his theory of the *Origin of Species.* Before the Lynds (1959) could theorize about class in American society, they had to go to Middletown to observe and take notes. There is an important sense in which the observer attempts to be as free as possible of theorizing while gathering information during this phase. The open-minded exploration of the natural history of the problem is needed, at the very least, to confirm that the methodology was correctly chosen.

> Thus, the family therapist asks about and considers, for example, whether and when the child's behavior is different at school, at home or elsewhere; what consultation with teachers or extended family might add; whether there is some organic problem such as Attention Deficit Disorder, which may involve central nervous system abnormalities, and how that would influence the treatment.

In this connection, it appears to us that the outcry in the literature over whether qualitative research is real research—has scientific status or not—is a failure to understand the separation of the natural history phase from theory formation and testing. Qualitative research sounds to us like natural history in the best tradition: searching for patterns, studying crucial examples with great care, and making comparisons from different parts of the field. It lies in an area of social science close to social anthropology, kinesiology, and linguistics, which are not burdened with the hypothesis-testing programs that sociology and experimental psychology undertake.

Now, having attempted to define natural history and methodology as separately as possible, and having set each apart from theory, we must acknowledge that there are necessary and fruitful reflexive influences from theory to the natural historian's experience and to the methodology of observation (see Reiss, 1991). That is, some idea about what to look for (a theory) surely guides even the most original natural historian. Darwin had ideas about what to look for, but they did not determine what he saw.

Methodologies are sometimes associated with particular theories, often as the result of school training and guild membership, but the connection is not necessary. Indeed innovation is often the result of being able to go beyond the theories we were taught.

## Theory

At some point in the work of both the scientist and the therapist, the natural history of the problem and its context has to be simplified into an idea, explanation, or theory about what is going on. Theories are needed because, to paraphrase Lévi-Strauss (1974), there is more meaning in nature than we can use. The scientist cannot ask an infinite number of questions, and the therapist and family would be exhausted and frustrated by endless exploration. The *ars magna* of both professions is the transmutation of observations in nature or natural history into relevant theory or explanatory systems.

The word "theory" comes from a root word that means sight or spectacle, contemplation; later meanings—mental conception, explanation of a group of facts or phenomena—still carry a sense of being able to see how it works, to have a picture of a mechanism or process. Thus, a theory provides relief from the confusion of natural historical observation by offering us a single vision, which we can hold up to our eyes, at least for a moment, while ignoring the others.

> The family that brought their child to the family therapist had two explanations for his disagreeable behavior: one, that he was mean and stubborn (qualities he had inherited from his paternal grandfather), and two, that despite their best efforts, his mother, his divorced father, and even his new stepfather, had failed to teach him good behavior. These theories might be called Heredity and Good Discipline. The therapist had learned from her experience with similar situations that whatever truth there might be in those ideas, they were unlikely to produce change. She, therefore, decided to look for an explanation of the family's interaction that would enable the parents and the child to take charge of improving the situation.

## Politics

An important characteristic of the explanation or theory of interaction in which the family therapist is interested is its ethical or political consequences. The policy or action consequences of her idea favors what she regards as a good thing for the family. That is, heredity and temperament may play a role in this boy's behavior, but, since neither of them is amenable

to change, the therapist prefers an explanation that includes a description of the situation that could lead somewhere for the boy and his family.

In science, there are ways of measuring which candidate explanation, theory, or hypothesis has greater significance or likely effect. These techniques place a limit on the ethical/political uses to which research can be bent. In social science, the explanatory strength of theories is weighed by statistical analysis, and data gathering is supposed to be organized so that rival hypotheses can be compared in this way. But in the day-to-day practice of therapy, no test for dominance exists: therapists choose their theories for a mixture of clinical, philosophical, political, and pragmatic reasons, not the least of which is a belief that the ideas and values they represent are consistent with those of the surrounding lay and professional community, as well as the clients.

Most psychotherapies, and especially family therapies, are carried out in an arena of public consent, very like the convening of family and tribal members for a healing ceremony. We have begun to see that the family therapy movement participates in the genius of folk therapies by defining the group whose interests are involved in a healing outcome (the couple, the family, the mutual-aid group), adding when necessary an audience or witnesses (consultants, reflecting team), and devising an image or story for the origin and outcome of the problem to which the group can subscribe (Lévi-Strauss, 1974).

## Metaphor

In the preceding paragraph, we have used a metaphor to embody our point: family therapy = folk-healing ceremony. Clearly this *metaphor* is related to a *theory* (conceptual simplification) we have concerning the nature of psychotherapy: one of the essential ingredients in effective psychotherapy is the presentation of a metaphor that meshes with the criteria for value and relevance of the patient and his or her reference group. We also believe that the metaphor should imaginatively connect the problem to its solution in a way that opens up new possibilities. But note that our metaphor is not the same thing as our theory: the metaphor (therapy = folk healing) is a rhetorical device selected to embody and illustrate the theory so that it will more effectively penetrate the minds of the audience for which it is intended. If you liked our picture of family therapy as a folk-healing ceremony, you were prepared for the more detailed explanation of metaphor we gave in this paragraph.

A metaphor serves the political interest of the idea that a theory selects: it persuades the listener to agree that it applies or describes his or her circumstances.

> The family therapist makes a complex transition from theory to metaphor. Her thinking, based on her observations and training, is both systemic and psychodynamic. It involves mechanisms of guilt and resentment reverberating throughout the generations of the family. She pictures the boy as testing the ability of his mother to discipline him. And there are various stories about Bad Behavior and its antidote, Good Discipline, each connected with the parents' divorce. The therapist notices the net result of these stories is to discredit both father and stepfather as disciplinarians, and that there is a missing term in all the stories: there is no role for the mother herself as a provider of Good Discipline (something she believes her own mother never provided). The theory here is that a structural imperative in the solution of the problem has been ignored because of a gender bias reinforced by the mother's experience in her family of origin.
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> The therapist constructs a metaphor from all this: she says the boy has so far lived his life agreeing with his mother's idea that good discipline can come only from fathers. Now is a chance for the mother and the boy to find out whether a mother can do as good a job of bringing up a boy. The image of the problem as an investigative experiment rather than a losing struggle with heredity, is the value-changing part of the metaphor. The question "Can mothers be good parents?" is the problem-solution connection.

We have shown that as one passes through successively narrower domains—(1) the natural history of the family's manifold experience, (2) what the family therapy methodology selects from the natural history, (3) what the particular theories choose for attention, and (4) what the metaphor presents for the mind's acceptance—an editing process takes place that is only minimally scientific, and to a great extent cultural, political, and ethical. This is the sense in which therapy is more an art than a science. Science in the natural history sense does enter into the shaping of the methodology of family therapy, but we do very little experimental testing of theory. Since the greatest part of our theory is in the form of untested hypotheses, it amounts in effect to a source of metaphors. Even if the boy in our example improved in his behavior, it would not be a test of the theory. It might indicate that the metaphor had been accepted by the family, and had produced change—for reasons that may have nothing to do with the theory. And, since science in general is accorded a high value in our society, it provides the imagery for one of the metaphors, "investigative experiment," used in the previous example.

We might apply the term "scientism" to the belief that we are guided by scientific ideas. In letting scientism influence our thinking as family therapists, we run a number of risks. The two dangers that we especially describe in this essay are those

of oversimplification and overgeneralization. The risk of oversimplification comes from thinking that a scientific idea which has limited application can explain a whole range of cases—that it is a description of their reality. A psychopharmacologist of our acquaintance said, "A borderline personality is really just an affective disorder who happens to have had an unhappy childhood." This kind of simplification is possible if you believe you have got hold of a piece of scientific truth that permits you to ignore complexity and exceptions because it refers to something fundamentally "real."

A second danger is the problem of overgeneralization. When we encounter scientific ideas, they can kindle in us a kind of envy of physics and mathematics. We see them as having a comprehensive sweep of application, a universality that reminds us of the general laws announced by philosophy and theology. So we look for ways in which our conceptions, such as systems theory, can be expanded into a broad explanation of, for example, society, the family, and politics. Family therapists have always engaged in a certain amount of this kind of thinking, and it is currently having a considerable vogue (Allman, 1990).

Let us take a closer look at the desire to embrace a comprehensive theory, something that deals with the whole person as well as the family and social context. The ideal of comprehensiveness in hard science is something physicists appear to be working toward as they close in on a Grand Unified Theory. But the fact that theoretical consistency and comprehensiveness appear to be useful goals in physics does not mean that the same goals apply in the life sciences, and especially in the human sciences. On the contrary, Gould (1981) has pointed out that theoretical comprehensiveness is less useful in biology, and pernicious when applied to human endeavors such as the measurement of intelligence. Guttman (1986) has written persuasively about the limits of such philosophical-esthetic principles of consistency (derived from science's Grand Theory ideal) as applied in family therapy.

You could say that the idea of a philosophically integrated therapeutic system is an esthetic requirement, which has nothing to do with the way biological nature works. Consider holistic psychiatry, which seeks to integrate a philosophy of the whole person with Eastern practices, not only to cure illness but also to insure health. Minsky (1985, 1986) has pointed out that holism is not a good model for human behavior. The brain is probably a loose federation of independent operations, on which consciousness does a final editing job in order to give them the appearance of consistency. From this point of view, if you were to make consistency the basis for an investigation and analysis of what might really be going on inside the mind, your assumption would lead to error. To the comprehensive and integrative goals of holistic therapy, we would oppose the contrary idea that some of the most effective therapies, such as sex therapy and some types of hypnosis, may work precisely because they are able to isolate parts of the person from the whole.

## Bateson and Systems Therapy

With these two hazards in mind (the lure of scientific "reality" and the appeal of philosophical comprehensiveness), it is now time for us to look at examples of the part some borrowed scientific metaphors play in family therapy. Our first example comes from systemic family therapy.

The members of the Palo Alto schizophrenia project (Bateson, Jackson, Haley, & Weakland, 1956), like other family therapists, wanted a substitute for psychoanalysis and individual psychology. Gregory Bateson provided them with a scientific framework. His view of biological systems (Bateson, 1972) brought together many fields: evolution (the redwood forest's many species co-evolving together as a system); cybernetics (the woodcutter's axe changing its cut from one stroke to the next because of feedback through his eye-brain-hand); brain physiology (the insect-hunting lizard with a brain that reacts to movement: the "difference which makes a difference" (p. 453); therapeutic change (the connection between insight, change, and learning theory through the Levels of Learning and the theory of logical types); and psychosis (the double-bind theory of schizophrenia). Espousing this broad view gave the field of family therapy a metaphorical connection to natural science.

Bateson shortly turned his attention to whales and dolphins, but family theorists of widely differing schools today still turn to Bateson for legitimacy. At one end of the range is the Milan Group (Selvini-Palazzoli, Boscolo, Cecchin, & Prata, 1978), an association of psychoanalysts tackling the problems of anorexia and schizophrenia, and finding ways of being analytically neutral in the presence of what they see as extraordinary subversive malevolence, or "dirty games" (Selvini-Palazzoli, Cirillo, Selvini, & Sorrentino, 1989). At the other end stands the great variety of innovations Haley (1987) introduced to family and individual therapy. Although it is known that Bateson thought Haley was more preoccupied with power than pattern, strategic therapists continue to trace their ideas through Haley back to Bateson.

What is the reason for this hanging onto Bateson? Is it like Aquinas citing Aristotle, or psychoanalysts citing Freud? Beyond the impulse of the original inspiration, and Bateson's ideas were certainly inspiring, what are the consequences of having this sort of scriptural basis for the work we do? One example is Dell's controversial article (1985) entitled "Understanding Bateson and Maturana: Toward a Biological Foundation for the Social Sciences." This article has been criticized by Held and Pols (1987) for its lack of clarity about the proposed "new epistemology," the nature of the "real" world, and the relationship between the two. At the same time, they find the article worthy of attention because Dell has brought the ideas of the biologist Maturana into the field of family therapy, providing a theoretical basis for constructivism,

social constructionism, and so on.

Dell says that Bateson's incomplete epistemology for the social sciences has been completed by Maturana. He says that the two epistemologies taken together allow us to understand that our perceptions "never can be objective—and yet, *all* observations have equal validity ... in that they are specified by the structure of the observer in conjunction with what that observer's interaction with the medium allows. For these reasons, Maturana insists that all realities which we bring forth are legitimate" (p. 16). All perceptions are worth paying attention to since they are all products of the interaction of the biological perceiving apparatus and the unknowable universe. What this point of view, and the epistemological debate surrounding it, has to do with family therapy, is often unclear. We would guess, from the constructivist practice we have seen, that it encourages therapists to pay attention to the diverse views and languages of family members, what White and Epston (1990) call "local knowledges," rather than to search for magisterially correct, expert, or objective views.

But why must such a sensible objective be supported by "a biological foundation for the social sciences" (Dell, 1985)? Why use the ideas of a Chilean biologist to shelter such a humble practice? The social sciences seem to have enough trouble doing their job of accounting for behavior without also having to perform as a subdivision of the physiology of perception. In order to take his sweeping, philosophical stance, Dell disqualifies our interest in old-fashioned lineal causality, calling it an illusion of the outside world, which we perceive through our information-closed, structurally determined perceptual systems. He implies that one-way influences from the physical environment on biological organisms are not important. But in such a world, how do we think about the effects of poison and violence, climate and terrain, food supply, the depredations of time, disease, and death?

We certainly do not mean to imply that the exploration of connections between the neurosciences and psychology is pointless. On the contrary, recent developments in neuroscience are full of exciting models for psychotherapy. We are especially interested in the dialogue between Gerald Edelman's (1993) description of the biological basis of mind and Jerome Bruner's (1990) ideas of narrative construction. This is a subject far outside the scope of this essay, but we mention it to make the point that there are explorations of the biological basis of mind that expand rather than narrow the range of ideas that can be applied to thinking about therapy.

Of course, it could be argued that philosophical debates about ideas such as Dell's and Maturana's, which get our attention and take up space in the literature, needn't have a great effect on the way family therapists who are intrigued by them actually work. We next turn to a field where the impact of theory on practice is easy to see.

## Psychoanalysis

Besides Bateson's, the other great comprehensive description of mental phenomena, which family therapy continues to inherit, is psychoanalysis. While the scientific status of psychoanalysis may be in doubt, it certainly has a scientific origin, setting, and presentation; Freud himself thought of it as grounded in neurophysiology, as illustrated by his "Project" for a scientific psychology. But more important than what Freud thought, psychoanalysis is appealed to by some modern writers on therapy as if it had precisely the kind of established scientific status we were talking about in our introduction. There is a group of writers (for example, Slipp, 1984; Stierlin, 1977) who have tried to harmonize family therapy with psychoanalysis, as if such a reconciliation would solve a major theoretical problem—like the conflict between wave and particle theory in physics. Our point is that neither of these clinical disciplines contain enough experimentally demonstrated hypotheses to make their reconciliation anything but an esthetic achievement—a mixture of clinical metaphors. As such, one way in which psychoanalysis and family therapy have been usefully brought together is in the form of a methodology, as in Scharff and Scharff's *Object Relations Family Therapy* (1987).

We are impressed by the ways in which psychoanalysis continues to be regarded as a basic clinical orientation by many family therapy practitioners. Although it has been dismissed by most theorists of family therapy as no longer worth attacking, on the front line of our practice it is still very much alive. Psychoanalysis seems to have several sorts of appeal: it has historical prestige; its literature is full of luminous classics; and it has rich literary and academic associations. It has also acquired, after almost a hundred years of commentary and development, a comprehensive scope and integration of theory, which is what we were warning about in our introduction.

For an example of the kind of problem created by an appeal to psychoanalysis, let us look at Luepnitz' *The Family Interpreted* (1988). Luepnitz is searching for a feminist family therapy. She believes that family therapy as now conceived is too narrowly technical; that it ignores history, society, and the individual; that it is unable to ask not only does it work, but for whom and in what context. Some of these deficiencies in family therapy can be helped by feminist ideas: such as the consideration of gender, which challenges patriarchal ideas about the family. But Luepnitz is not satisfied with the contributions feminist thought might make to family therapy practice. She feels that family therapy also needs a *theory* of the family, which feminist theory by itself cannot supply.

One clue to Luepnitz' wish for the richness of a more inclusive theory is the fact that she takes a dim view of mere pragmatic effectiveness. She says, "A method of therapy that does not consult to the whole person, but only to the symptom,

that takes no account of affect, or that trivializes the therapeutic relationship, makes only a faint claim to the label 'humanist,' let alone feminist. Behavior therapists do not count reflection or insight as curative factors in their treatment. It is sufficient for them that the smoker quits smoking, the bed wetter is dry, the unhappy couple has sexual intercourse" (p. 22). This makes behavior therapists also deficient in a rich and comprehensive theory, and thus unable to provide an adequate underpinning for family therapy.

The particular theory that Luepnitz elects for the job of underpinning a feminist family therapy is object relations psychoanalysis, with its sense of the history of the individual. She points out that family therapy is indebted to psychoanalytic thinking for a number of ideas: the idea of a family psyche isomorphic to the individual psyche; notions of the unconscious, of projection, and denial; illness as metaphor; the idea that "what is learned in infancy is relatively intractable" (p. 180); and the primary importance of early experience with the mother. This latter point, she reminds us, is supported by the feminist thought of Chodorow (1978).

The crucial error here is the idea that a healing practice needs a certain elaborateness and comprehensiveness of theory, and the way to get it is to turn to a systematic model like psychoanalysis. Theories in the scientific sense are not meant to convey a world view: they are only meant to clarify, explain, simplify, and summarize. To ascribe to them critical power for challenging assumptions is to grant them the status of demonstrated hypotheses, which they are not. They are simplifications that, like the simplifications of behaviorism, hypnotherapy, and other approaches, must be tested for their usefulness. From the customer's point of view, for example, what is wrong with pragmatism? Who hired the therapist to decide for the customer what is a "whole person?" What more should be expected than symptomatic cure? An ancient problem with psychoanalytic theory is the danger of the analyst's claiming to know better than the patient what is healthy, which has in fact been criticized by some feminists as "patriarchal" when applied to women's issues.

Perhaps the psychoanalytic ideas Luepnitz advances should also be subjected to her challenging questions: for whom does it work, when, and in what context. It seems to us that when this has been done, the relevant research suggests that several of the specific ideas she refers to are unfortunate choices. Reiss, Plomin, and Heatherington (1991) challenge the notion of a family psyche. Kagan (1984) raises questions about the intractability of childhood experience. Chess and Thomas' (1987) prospective research on parent-child temperamental fit challenges the object relations view, which has "mothering" as the essential early childhood experience and therefore at the center of ideas about psychopathology and the therapeutic relationship.

Finally, and perhaps most important, Luepnitz' attraction to psychoanalysis may detract from her primary goal of bringing feminist ideas to the aid of family therapy. For example, feminists have taught us that there are real power problems generated by gender and status differences that are not just the projections of transference and countertransference. And what about the primacy of mothering? Doesn't that burden women with the responsibility for any trouble in the intrapsychic world (Hare-Mustin, 1991)? As Goldner (1985) and others have pointed out, getting mother out of that responsible-victim position is an important correction of previous practice. This is a correction inspired by feminist experience, not psychoanalytic theory. Up to this point we have been talking about theorists speaking mainly to others in the field; and one might well say that if the metaphors have been designed to catch anyone's mind, it is the mind of the professional. Our last example is a very specific treatment practice in which the theoretical and metaphorical assumptions have clearer consequences for the families being treated.

## Psychoeducation: The Medical Model

Psychoeducational treatment models,[1] originally developed for schizophrenia and now adapted to other long-term illnesses, have some nonmedical, general therapeutic features such as the mobilization of social support by the group and the teaching of certain behavioral techniques. But they also have in common a strong explanatory line that begins with the proposition that schizophrenia, for example, is a medical rather than a psychological condition, and they then proceed to the efficacy of medication, absolution of the family from an etiological role, and explication of symptoms in terms of the interaction of brain physiology and the environment—both social and physical.

It is indeed this medical explanation that forms the basis of the alliance between the family, the patient, and the treatment team. It defines the condition as an illness and symptoms as phenomena to be dealt with by collaborative, experimental management: the family is encouraged to try to find what works. It is a cool, methodical approach, and it provides a confident direction and reliable frame for collegial collaboration. Everyone, including the patient, is elevated to the status of expert campaigner in a struggle illuminated by scientific knowledge.

There are two ways in which borrowings from science have had problematic impacts on the practice of the psychoeducation approach:

1. *Expressed emotion:* Psychoeducation as a treatment method was designed by researchers (Anderson *et al.*, 1986; Leff & Vaughn, 1985) who were studying how families might affect the course of schizophrenia. But the idea that family affective communicational style (expressed emotion) influences the symptoms of the patient when presented

straightforwardly to families in treatment—has driven some families away. Even more toxic to the consumer movement among families of schizophrenic patients (Leffley, 1992) is the scientific evidence of the family environment's contribution to the increasing vulnerability to the illness (Doan, Falloon, & Goldstein, 1985; Tienari, 1991). This concept has been wisely kept out of educational presentations to families because the suggestion that they are a primary factor in the life of the illness is a good example of a scientific image that may be useful in research but useless in treatment. Some people believe that such ideas finger the family as a villain. Many families understand the concept of expressed emotion to mean "You made the situation, and now you must take responsibility for it." They react to it as though it were a description of a biological, psychological, and possibly moral defect in them.

There are other ways in which expressed emotion illustrates how a concept that is helpful in research can be limiting in practice. First of all, in order to do research on a question, it has to be broken down into components of which a few are chosen for investigation. These are then isolated from the other components. This means that the findings of research have as much to do with the research ideas and methods as with clinical reality. Whatever applicability findings may have are confined to the narrow definitions within the specific research design.

Although we all know this intellectually, we frequently forget it when we apply research leads we've acquired to our practice. The findings about expressed emotion sparked the professional community's interest in psychoeducation. Leff and Vaughn (1985) showed statistically that if you lower expressed emotion ratings for a family member, patients relapsed less frequently. The conclusion then reached by many clinicians was: high expressed emotion causes relapse. They began to use "high EE" and "low EE" as explanatory metaphors for relapse in the patients with schizophrenia. Using these labels puts a hierarchical distance between clinician, family, and patient, making it harder to see other factors in the environment that may contribute to relapse. A patient may be more susceptible to relapse, for example, because of being treated in a distant, put-down manner by the treatment team, and a family may be less able to deal imaginatively and flexibly with a chronically demanding situation if its expertise is denied.

At least one idea from psychoeducation research does provide a more useful image in treatment: the family is only one component in the larger social environment that affects the long- and short-term course of the illness. This image allows practitioner, family, and patient to join together to control environmental stimuli in order to contain the illness. Describing the impact of the environment, rather than the impact of the family on the illness, exonerates the family from sole responsibility and allows other social entities such as service agencies, hospitals, employers, the police, and, not least, the patient to share the work. In fact, there are a number of studies in which the psychoeducational model has been used with program staff members, rather than with family members, to create a low stimulus environment for patients (Ranz, Horen, McFarlane, & Zito, 1991).

2. *The reification of diagnosis:* In the best psychoeducational practice, educational statements about schizophrenia are used as metaphors for the illness so that it is seen as an objective and external disease state, with varying manifestations in the individual case. Sometimes psychoeducation for schizophrenia is mistakenly understood to be primarily a program of general education for families about the symptoms and course of the illness. And some critics (Madanes, 1980; Mosher & Landau-Stanton, 1987) worry about the danger that some practitioners and administrators could assume that a general scientific description of schizophrenic symptoms and course is definitive for all cases. People of mixed symptomatology might then be locked into the schizophrenic diagnosis, depriving them of the chance for a career outside the usual treatment plan. This is a warning about scientism: an example of how a dominant scientific metaphor—schizophrenia as a well-classified and fairly well-understood disease—could be used to constrict the scope of the clinician's work. It is an example of what can happen when a scientific idea gets mistaken for external reality.

## An Artistic Metaphor?

We said before that there are some senses in which therapy is more an art than a science. At the end of our critique of three examples of problematic scientific metaphors, let us ask if the appeal to the imagery of art is an improvement over the imagery of science. Some critics carry the image of therapy as a healing art so far as to say flatly that therapy has nothing to do with science. Therapy is an art; indeed it is akin to the political arts, such as government.

Here, we think, architecture rather than government is a better example of an art whose practices might instruct therapy. Architecture, like therapy, is an art that buyers can't lock in the closet after the artist departs. They have to live in or with it; if the architect is not a good engineer, the house will fall down. There are certainly esthetics and politics involved in building a house, but no one wants to live in a house whose main distinction is that it was designed by a master politician or esthetic theoretician.

The architectural consultation is also a good metaphor for constructivist therapy. Imaginative co-creation of a house design with a family is effective if the architect, in addition to being a good engineer, is interested in the local culture of the particular family or individual. A healing metaphor is powerful if it is locally and uniquely relevant in the limited microculture of the family. This does not depend on its being based on a philosophy that the architect/ therapist thinks of as universal: quite the opposite.

### A Medical Metaphor?

If we had to choose a model human activity that grapples with complexity, it would be the practice of medicine. What attracts us is not medicine's physiological base or its technical prestige, each of which is greatly over-sold these days, especially by the some of the teachers and researchers whose careers are involved in the success of technologies or theories. We are more interested in medicine's association with pragmatic outcomes throughout its long history, and its consequent, vast experience with error. The history of medicine is a marvelous parade of wrong ideas that had to be discarded. We also like the fact that physicians must become accustomed to the ugliness in life, and can not afford the illusion that esthetics count in the recognition of truth. Medicine and psychology meet in the study of the life cycle, where mind is a part of the developing, disease-prone, and ultimately deteriorating body. Most important for our purposes, the practice of medicine is a cautionary example to anyone interested in unitary theories: in spite of five hundred years of medical philosophizing, it remains a vast and unruly hodgepodge, a collection of methodologies and life sciences unrelated to each other except by their usefulness in the art of healing.

Finally, medicine is an appealing model because the ultimate criterion for practice is supposed to be ethical: the physician struggles with the difficulties involved in the motto "Do no harm," and tries to apply ethical criteria to the conflicts of interest in the microecology of the patient, the illness, the family, and the treatment situation. This is what the little science we have is for: to help us make ethical choices, whether or not the outcome is elegant or ugly, tragic or congruent with any philosophy.

Looking historically at the relationship between medicine and philosophy, we find that the expectation that theories about function and disease should be philosophically comprehensive and correspond to contemporary schemes of science has led to blind alleys. Galen and his theory of four humors corresponding to four elements and temperaments is an example of philosophical comprehensiveness, and it stalled medical progress for centuries. The misunderstanding of hypnotism as "animal magnetism" (Ellenberger, 1981), and the effort to connect it to electromagnetism—the New Science of the eighteenth century—is another example. Sulloway (1992) has written about the ways in which Freud's importation of metaphors from the crude but marvelously comprehensive German medical physiology of his time led to the hydraulic and neurohumoral imagery of his topographic theory of the mind, from which we are still recovering.

Finally, the history of medicine also teaches us that, as methodologies and sciences mature, they develop corrective disciplines (epidemiology and experimental physiology, for example) that chasten theorizers into an awareness of their limitations.

## SCIENCE AND THERAPY

Now we can look for a last time at the comparison between the therapeutic and the scientific enterprises, and the ways in which they use theory and metaphor. Looking back at the effect of these scientific and philosophical ideas that we have reviewed, we notice that most of them are not hypotheses for testing but, rather, metaphors to catch the mind. We also noted that the mind that is caught is as often the therapist's as the customer's. Are there problems involved in the therapist/theoretician's fascination with her or his own simplifying ideas or inclusive explanations?

The danger in experimental science is that investigators will become so enamored by their vision that they will not consider alternatives. There is certainly a similar problem in therapy, further compounded by the necessarily more personal nature of the enterprise. Both therapist and family are from the beginning heavily invested in the hope for a new idea, a new metaphor that will have a transformative effect on the problems in their lives. They are ready to become involved with an attractive simplification of their experience because in a very real sense that is what they have come together to produce. The placebo effect of all therapies, the ancient observation that just about everything seems to work most of the time, is a reflection of this fact. Having a model of the problem and a model of action overcomes demoralization and anxiety. The placebo effect works for the therapist as well. And one essential way in which therapy differs from science is that, in addition to the intellectual process of simplification, the therapist and family add the emotional and personal arts of mutual persuasion, empathy, and so on, as they go about the process of negotiating a new and active version of their reality.

In natural science, there is still the hope for a final experimental phase of testing for the null hypothesis, or the comparison of one positive hypothesis with another. Here the scientist tries to attack the robustness of the theory, to see if there is any evidence that, by withstanding attack, it will show itself to represent something other than a creature of desire and imagination. There are several senses in which this phase has no analogue—never really arrives—in therapy. Theories generated in the therapy session are by definition creatures of desire and imagination, otherwise metaphors derived from them will not be accepted in the therapeutic dialogue. Thus, a true test of alternatives may not be available in the individual case. Therapist and family may have time and energy for only one shot. They cannot go through the therapy all over again to see if something else would work as well or better. And if clients are able to think of what they are involved in as an experiment, then at the very least they want to think that the therapist has an expert grasp of the methodology, that they are not just having a conversation in which one idea is as good as another. This risk is the down-side of the radical

constructivist position.

So, in the practice of therapy, where is the rigor of testing to be found? First, in the recognition that most of the enterprise is the application of a methodology to the natural history of the family's experience. Second, the scientific attitude of testing alternatives is built into the detailed process of many therapies (Beavers, 1990). We think of circular questioning, of White and Epston's (1990) questions, of psychoeducation, of the many authors who describe therapy as a dialogue or conversation in which choices and alternatives are weighed and plans are made for short-term trials. This, to us, is the real contribution of the constructivists and their descendants or cousins, the co-constructionists. The reporting back on tasks and homework, designed as small-scale or short-term models of the problem, making notes, keeping lists, writing letters, forming cognitive externalizations of the problem, meeting at longer intervals and keeping records of change, are all part of this. The effort from the beginning to cast the therapy as a large collaborative life-experiment in which the therapist is an expert consultant and the family is the principal investigator, is, it seems to us, one of the most fruitful importations of the scientific metaphor into therapy.

Before concluding, we should mention three obvious but important ways in which we as therapists can import some of the benefits of scientific rigor into practice. The first way is to follow the literature on long-term outcome in other people's work, and to keep track of our own work over time. Time is, after all, the most important dimension of testing in therapy. The second way is to critique ourselves by studying carefully the ways in which we turn theories into realities, or into scientific metaphors, and take note of the point at which we make that choice. And the third is to stay open to new ideas. Family therapy as a methodology has always been a pastiche, an eclectic tradition of methods, ideas, and devices, which have from time to time become organized by schools and over-arching theories. Perhaps the present challenging and fragmenting of some of the founding ideas in the field is, as one of our colleagues, Margot Weinshel, has suggested, the mark of our passage from youth to middle-age. The youthful fascination with tidy explanatory systems that in early years eased the way through a new field in mental health may no longer be necessary, thanks to the wisdom and confidence that comes with experience.

In daily practice, like other folk healers all over the world, we family therapists find that pursuing our craft is often a fearful experience, that doing shamanistic battle with the forces of evil and the demons of the night is an uncertain enterprise. In order to go forth to our struggle every day, we need to strengthen ourselves by an alliance with the forces of nature. We need to feel that the spirits of the forest and the mountain, and of our ancestors, have taught us what we need to know. Is this need to borrow strength from nature at the root of our attraction to scientific metaphors?

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[1]By psychoeducational ideas, we mean the therapeutic schemes proposed in the work of Anderson, Reiss, and Hogarty (1986), Falloon, Boyd, McGill, *et al.* (1982), and Leff and Vaughn (1985).