ROTHENBERG

CREATIVITY & MADNESS

Johns H

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CREATIVITY and MADNESS

New Findings and Old Stereotypes

THE JOHNS HOPKINS UNIVERSITY PRESS
Baltimore and London

To the memory of my mother and father

Printed in the United States of America

The Johns Hopkins University Press
701 West 40th Street, Baltimore, Maryland 21211
The Johns Hopkins Press Ltd., London

 The paper used in this book meets the minimum requirements of American National Standard for Information Sciences—Permanence of Paper for Printed Library Materials, ANSI Z39.48–1984.

Library of Congress Cataloging-in-Publication Data

Rothenberg, Albert, 1930–
Creativity and madness : new findings and old stereotypes / Albert Rothenberg
p. cm.
Includes bibliographical references.
ISBN 0–8018–4011–2
1. Creative ability. 2. Mental illness. I. Title.
BF408.R682 1990
153.3'5—dc20 90–30770 CIP

ACKNOWLEDGMENTS

Portions of the material in this book have appeared in different versions in the following: *Saturday Review; American Poetry Review; College English; Psychology Today; American Journal of Social Psychiatry; Literature and Psychology; Sexual Behavior; Journal of the American Psychoanalytic Association; Psychiatry; Psychoanalysis, Creativity, and Literature* (Alan Roland, editor, Columbia University Press). I gratefully acknowledge my research subjects and my patients who provided the data, information, and experience used in this book and Austen Riggs Center (Daniel P. Schwartz, medical director), Yale University, National Institute of Mental Health, Gladys B. Ficke Estate, John Simon Guggenheim Foundation, Center for Advanced Study in the Behavioral Sciences, John D. and Catherine T. MacArthur Foundation, and Harvard University, who provided both occupational and financial support along the way.

For help with particular studies, I thank Donald Gallup and the Beinecke Rare Book Library of Yale University (O'Neill), Martha N. Noblick of the Jones Library of Amherst (Dickinson), Dr. Theodore Lidz (for first introducing me to the work and biography of August Strindberg), and Craig Daley (alcoholism). Special appreciation goes to Helen W. Linton, librarian of Austen Riggs Center, for her breadth of helpful knowledge, skilled reference work, and diligent procurement of bibliographic materials. Virginia Heaton helped with word processing of early drafts, but the major portion of the difficult and meticulous work of word processing this book into existence was carried out by Wendy Menatti. To her, I express warm appreciation. To my wife and love, Dr. Julia Rothenberg, whose heart and thoughts were with me through the writing of every word in this book, go my unstinting admiration and deep gratitude.

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1 A Scientist Looks at Creativity

To start with, let me tell you some stories or, if you will, myths. You are walking near the park of a very large city. As you stroll, you become aware of a person walking toward you, half shaded by the streetlight, looking deep in thought, virtually rapt in concentration. He is medium tall, quite thin, and sensitive looking, with a slightly unkempt appearance. He is remarkably handsome, with hair that is long and full. As he approaches you, you are enormously surprised to see his expression change while his face suddenly lights up with excitement and pleasure. Without noticing your presence at all, he wheels around sharply, hurriedly retraces his steps in the opposite direction, and disappears in a doorway approximately half a block away.

Because of the strangeness of the experience, you follow him to the doorway through which he disappeared and, noticing a doorman standing there, you can't resist asking who this person was who so quickly entered in that door. The doorman, who, in this particular city would otherwise be quite surly to any passerby asking a question about one of the tenants of the building, cocks his head half in pride and half in amusement and says, "Oh, that's W. B. Y., the famous poet." Then he adds, as if to answer an unasked question, "A little strange, you know."

Recognizing the poet's name immediately as that of a winner of a Nobel Prize, you, too, are now transported. You begin to imagine the poet in his luxurious apartment upstairs, sitting down immediately at his desk and working on the inspiration he just had (for you now realize that *that* is exactly why he stopped suddenly on the street),

feverishly engaged in writing his poem. As you walk on, you may think of him as staying up all night to continue working until he finishes the poem. Or, you may fantasize that he goes to bed for only a few hours and once again is aroused by an inner force that drives him back to the poem because he cannot stop, or sleep, until he completes it. When the poem is done, the next morning, you are sure it will be another one of his masterpieces, and you make a note of the date on which all of this occurred so that you can be sure to recognize the exact work when it is published.

Another story comes from another period of history, in ancient Greece, and another type of artistic medium—painting. At a large art exhibit in Athens, two artists named Zeuxis and Parrhasios are publicly discussing Zeuxis' painting in which he has depicted grapes that look so real that Parrhasios at first thinks they are actual grapes. They decide to take the painting outside for a test, and while several people look on, sparrows swoop down and attempt to peck at these painted grapes. Parrhasios is impressed and then says that he wants Zeuxis and the onlookers to come to his studio because he believes he can show Zeuxis a painting that also has a high degree of verisimilitude, or an uncanny resemblance to reality. When they arrive at the studio, Parrhasios points to a painting in the corner that demonstrates his own ability in this area. Zeuxis walks over and he turns to his colleague saying, "Would you please part the curtains on the painting so that I may see the subject." Parrhasios says that he cannot do so, unfortunately, because the curtains *are* the painting. Amazed, Zeuxis says, "You are better than I. I took in the sparrows, but you took me in."

The onlookers to all of this exchange between the two painters marvel at the events. They speak of Parrhasios as always having been a person of extraordinary talent. People whisper that they had heard that when he was a child, he could remember every single article of furniture in a room, every color, and every texture many months after having seen the room only once.

The final legend, myth, or story about a person of genius concerns the man or woman of science who slaves and slaves, attempting to solve a crucial problem until one day, while on vacation, or when sleeping at night, or when talking to a colleague—to cover several different legendary accounts—the solution bursts upon him or her ready-made as though welling up from the unconscious or coming as a stroke of lightning from a mysterious source.

In contrast to these stories, but related to them, are the mythic stories about the dreary homemaker or the driving business executive,

the deteriorated schizophrenic, the enslaved drug addict, or merely every one of us ordinary persons who turns to so-called creative activities such as drawing and painting, or playing music, or acting in community theater, or learning to dance and use so-called creative movement, and who then experiences a sense of *transformation* in his life.

What do these stories have in common?

All are myths in the sense that they convey popular notions about creativity throughout history which have *not* been empirically assessed or substantiated.

Story 1, about the meeting in the park, is representative of the myth of the inspired poet who writes everything out of his head in one fell swoop. It is a time-honored myth, like the myth of Athena springing from the brow of Zeus, that is cherished by professionals as well as laity. It has been nurtured by creative people themselves. As in the story, such a miraculous faculty is often connected with strangeness as well as madness.

Story 2, about the painters, refers to the mythic idea of a very special talent—supposedly identifiable in the childhoods of all artists. Also, it includes the idea of unique special talent associated with what is called the *eidetic* faculty of being able to have perfect visual memory. There is, however, no evidence that eidetic memory, or synaesthesia (interchangeable sensory experience), or, for that matter, especially high intelligence has anything to do with creativity in general. There are exceptions to this, such as high intelligence in science or musical ability.

The scientist genius story is the myth that scientific creativity consists of ideas welling up from the unconscious. Many famous scientists such as Jules-Henri Poincaré and August Kekulé—the latter of whom was the initiator of the famous myth of the discovery of the benzene ring in a dream—have forwarded this. This myth is a variant of the dramatic inspiration idea.

The last story consists of a legendary type of focus on the idea that people have wellsprings of creativity which are released by participating in so-called creative activities. This idea is not completely false, as I shall clarify shortly.

Why have these myths developed? They have, partly because it has been difficult to get good data about the relatively small number of people throughout the history of the world who have been creative geniuses, partly because these creative geniuses have enjoyed perpetuating certain of these myths (the inspiration myth especially) for various reasons, but primarily because creativity is very, very positively valued. Because of this, it is cloaked in mystery and surmise,

and everyone has very strong feelings and beliefs—right or wrong—about it. I venture to say that hardly anyone would disagree that creativity is positively valued. As a test, consider for a moment the idea of calling Adolf Hitler a creative person: some might call him a mad genius, perhaps, but a creative killer—not too likely.

The Definition of Creativity

As strong as this positive value is, however, there is little consistency or definite agreement about the meaning of the idea or of the specific term, *creativity.* In the dictionary, the word is defined merely as "bringing something into being." However, some would reserve the term to be used to describe only the most exalted types of bringing something into being, such as God's creation of the world, or the most glorified and prized achievements in the arts or in science; others would consider the term to be applied properly to virtually any type of producing or making, such as in the common linguistic use—for example, the phrase "creating a scene." This latter type of use might also be extended to such ideas as "creating a smoke ring," making a chair, or making an automobile on the assembly line. An irreverent student of mine once went so far as to state that he thought making a bowel movement was an instance of creating something. But, leaving irreverence and irony aside, production of something, or productiveness, is often labeled as creativity in our culture.

For the scientist, the matter of positive value is very important to consider because it is one of the reasons for trying to study and research the phenomenon. But things such as values produce special problems for scientists because it is very hard to deal with them objectively and, therefore, it is necessary to be clear about what is meant by them. Productivity—the mere turning out of large quantities of things—is not the same as creativity. Often, someone who writes a great many books or who constantly brings out lots of ideas or even makes copious drawings in a sketch pad is described as creative. However, as my irreverent and teasing student's comment points up, the result can be a large quantity of worthless material. There is a similar confusion regarding creativity and originality. Although the notion of originality is often used as though it were identical with creativity, originality in the sense of merely producing something unusual or out of the ordinary is not the same as creativity. We all know that many unusual and out-of-the-ordinary ideas are not at all worthy of attention and that some people go around being markedly different in the hope that somehow they will merit the honor of being called creative.

Creativity is, therefore, the production of something that is *both* new and truly valuable.

Creativity in Everyone

Is everyone potentially creative, or is the basic creativity in human beings generally unrecognized? This is the crux of the matter. One reason for studying creativity could be to find the answer to this question. Basically, I think it is a matter of definition. If we decide that creativity consists of being open-minded and flexible and arriving at useful or new solutions to work or living problems, then surely the potentiality for this type of creativity exists in everyone. If we decide that creativity consists of realizing and expressing the uniqueness of one's own personality, style, goals, and ways of interacting with other human beings, then this type of creativity is, theoretically at least, feasible for everyone. If we decide that creativity consists of the ability to grow and develop and change oneself in relation to inner aims and outer reality, then such creativity is widely possible, and quite important, to achieve. Or, taking our model for creativity from the arts, should we decide that its major component is an ability to carry out any type of task—be it cooking, or tennis, or everyday work—with a certain type of elegance and aesthetic grace, then we are justified in speculating, with a fairly high degree of security, that such creativity is possible for everyone despite the fact that such artistry is not a common experience. Finally, if we follow the position in the last myth I described and consider that creativity consists of working at some task in an artistic field such as drawing, playing a musical instrument, writing short stories or poems—regardless of how competently performed—then there is no doubt whatsoever that everybody can, with some degree of training and help, learn to carry out such acts and be gratified although not transformed by them.

To go on with this list of definitions of creativity and to discuss the implications and applications of each would be very interesting indeed and would take us deeply into questions about the enigma and meaning of life, philosophical and theological concerns as well as assessments of the goals of educational and psychiatric disciplines; it might even lead to issues of politics and the organization of society. But, a scientist's purpose in studying creativity, *my* purpose, cannot be as broad and far reaching as is implied by these types of definitions and questions. A scientist must look at specific issues and relate them to particular problems within the existing corpus of knowledge in his field. Consequently, the focus of my research in creativity—the project

called "Studies in the Creative Process," of which I have been principal investigator for more than twenty-five years—has been on much more limited and specific questions, although these do have implications—as I shall specify later—for these broader matters.

Creativity and Psychosis

Among the many specific questions I have looked at regarding the psychological processes operating in creativity as well as normal functioning and psychotherapy, is the relationship of creativity to psychosis. Linking creativity to such a highly specific issue may seem a sharp shift from the very broad and all-encompassing areas I just mentioned, but let me explain what I mean. There seems little doubt that geniuses in every era of human history have been worthy of being designated as creative people. Their achievements in the arts, sciences, and other fields have almost invariably been *both* new and positively valuable, and the works of geniuses are essentially the models for every other interpretation or definition of creativity I have mentioned. In view of such high achievement and honor in connection with genius, I was at one time extraordinarily puzzled and piqued about the fact that so many outstanding persons also suffered from some form of psychosis. Although absolute proof of the matter is hard to establish, the presumptive list includes the artists Hieronymus Bosch, Vincent van Gogh, Wassily Kandinsky, and Albrecht Dürer; the scientists Michael Faraday, Isaac Newton, Johannes Kepler, and Tycho Brahe; the composers Robert Schumann, Hugo Wolf, and Camille Saint-Saëns; the writers Johann Hölderlin, August Strindberg, Arthur Rimbaud, Edgar Allan Poe, Charles Lamb, Guy deMaupassant, Theodore Roethke, Ezra Pound, T. S. Eliot, Virginia Woolf, Hart Crane, Sylvia Plath, Jonathan Swift, Lewis Carroll (Charles Dodgson), William Blake, Ernest Hemingway, and Charles Baudelaire; and the philosophers Arthur Schopenhauer and Friedrich Nietzsche.

Shakespeare had one of his characters say, "The lunatic, the lover, and the poet are of imagination all compact," and the idea of mad genius has long been popularly accepted in both our culture and our literature. Our project's interest from the beginning, however, has not been in either proving or disproving a connection between psychosis and genius—many have tried to do this and have failed; that is, they have failed to show any invariant connection between genius and psychosis—but we have been interested in how it is that two such seemingly opposite conditions ever could exist in a particular individual. The answer to such a puzzle surely sheds a good deal of light on both psychosis and genius. Thus, we have focused on studying high-

level creativity, a study that has application to every type of creativity—of course.

The Method of Approach

We are not, I should emphasize, the first to attempt a *scientific* study of creativity. Not so long ago, we compiled and published a two-volume bibliography entitled *Index of Scientific Writings on Creativity*;[1] this bibliography listed 9,968 titles of books and articles. It was a comprehensive catalogue of studies in the field, and scientific approaches to creativity cited there consisted of psychological experiments; medical, psychiatric, and psychoanalytic case histories; anthropological and sociological field studies; genetic studies; psychohistorical and other types of theoretical analyses; and reports and assessments of clinical and educational interventions. Despite this rather voluminous prior literature on the topic, however, only bits and pieces of knowledge have heretofore been obtained.

Our research on creativity has been based on empirical data derived directly from creative people through very extensive and intensive psychiatric interviews, controlled psychological experiments with large numbers of subjects, and statistical and psychological analyses of literary manuscripts in conjunction with interviews of surviving families of outstanding creative persons. To date, I have personally carried out more than 2,000 hours of interviews with artists and scientists who have been winners of such honors as the Nobel Prize, Pulitzer Prize, National Gold Medal, the National and American Book Awards, and the Bollingen Poetry Prize; designated as Poet for the Library of Congress and Poet Laureate of the United States; elected to membership in the American Academy of Arts and Letters, the National Institute of Arts and Letters, the National Academy of Sciences, or the Royal Academy of London. I have worked with these persons as research subjects, *not as patients in therapy,* and they have collaborated in an intensive exploration of the psychological roots of their creative processes. The interviews, in other words, were focused on creative work in progress and were carried out at regular intervals until a particular creative work was completed. In the case of a novel, for example, interviews began when the author got his or her first idea for it and continued at regular weekly or biweekly intervals until the novel was published some two and a half or three years later. I also carried out extensive interviews with noncreative persons paid to engage in a literary or scientific project. Controlled psychological experiments were additionally carried out individually by me and in collaboration with my associates, both with these subjects and with large

numbers of other subjects considered to have creative potential; these experiments consisted of special tasks designated to identify characteristic thinking processes.[2]

General Findings

From all of these researches, I can report a very clear conclusion that some factors underlie *all* types of creativity; there are common psychological factors operating in varying types of creative processes in art, science, and other productive fields. These common factors consist particularly of special types of thinking patterns used by creative persons during the process of creation itself.[3] But before touching on these important creative thought processes, I shall first report some generalizations about creative people derived primarily from my data. First, contrary to popular as well as professional belief, there is *no* specific personality type associated with outstanding creativity. Creative people are not necessarily childish and erratic in human relationships, as is often thought, nor are they necessarily extraordinarily egoistic or rebellious or eccentric. Second, I must emphasize that, surprising as it may seem, creative people are actually not all exceptionally intelligent, speaking of intelligence in the commonly accepted meaning of performance on verbal I.Q. tests. Many outstanding artists, writers, architects, and other types of creators are only slightly above average in intelligence. There is, moreover, no uniform personality style, if we speak of it in a technical psychological sense. Creators are neither generally compulsive nor impulsive, although many—even highly outstanding ones, interestingly—are somewhat rigid, meticulous, and perfectionistic rather than free and spontaneous. Some degree of introversion—inwardness and self-preoccupation—does predominate among creative people in many fields, but some are surprisingly extroverted. There is generally a good deal of idealism and striving for an ideal in their work, but there is neither a characteristic ideological position nor political affiliation. Authoritarianism tends generally to be despised, but there is inconsistency because some creators are rather authoritarian about matters of judgment and taste. Few of us—creative or not—tend really to like authoritarianism and are sometimes inconsistent, so there is no particular difference with this group. Only one characteristic of personality and orientation to life and work is absolutely, *across the board,* present in *all* creative people: motivation.

The Need to Create

Creative people are extraordinarily highly motivated, both to work and to produce, but, more than that, they are motivated to produce entities that are both new and valuable—creations. It is safe to say that *nothing* is ever created without the particular intention to produce a creation. Contrary to popular belief that great ideas often pop into certain people's minds spontaneously and without effort, the creative process always results from direct, intense, and intentional effort on the creator's part. Creative people, in other words, are always on the lookout for new and valuable ideas and thoughts and approaches and solutions. They want *specifically* to create and to be creative, not merely to be successful or effective or competent. Although important ideas do sometimes come spontaneously—and there always are rare but interesting and dramatic accounts of bolts from the blue which solve great problems or inspire great works of art—such inspirations do not become creations unless there has been a good deal of preparation for them or unless the person is able to elaborate and develop them after they appear. Painstaking work is involved in both the beforehand preparation and the elaboration after.[4]

I shall go into this matter in some detail in a chapter on inspiration, but what I am saying holds equally true for chance discoveries in science, the so-called factor of serendipity, or serendipitous discovery. Sir Alexander Fleming, for instance, was a creative scientist, not simply a lucky serendipitous observer. That is, once he noted the clear areas around an accidental growth of mold on his Petri dish, he was able to develop this observation into the eventual use of a mold product, penicillin, for general antibacterial use. There can be little doubt that such mold contamination and effect had already occurred in numerous laboratories, but it was either unobserved or undeveloped until Fleming had the vision to do so. Similarly, in the case of the discovery of the double-helical structure of DNA and the nature of the genetic code, many researchers were hot on the trail of finding it at the time, but only two—John Watson and Francis Crick—had the specific preparation and drive to make that creative leap. Creative people want very much—perhaps it may be correct to say they *need* very much—to create, partly because they have the talent to do so and partly because of strong environmental influences that instill such strong motivation. These strong environmental influences consist especially of the early family environment, a matter to which I will return shortly.

I shall come back to it because I know that now that I have mentioned this special need to create as well as the family environment of the creative person, you will immediately say, "Aha, he has neglected

the most important issue; everyone knows that geniuses have special kinds of talent and that these talents are of such type and degree that it is very unlikely that they could have been produced by the environment. Even the word *genius*—pertaining to, or of the genes—suggests something one is born with, begotten, or inherited. Everybody knows that great geniuses like Wolfgang Amadeus Mozart and William Shakespeare were born, not made. The genius or creative person doesn't really learn how to carry out those sublime feats of thought or art and, even though he may dedicate himself to working and creating, the substantial material comes to him naturally and at moments when he isn't even absorbed or intensively working at the task. The genius is not constructed like ordinary people; his special innate talents allow him to wait for those special ideas or inspirations that start him on the way to a great masterpiece. We have been led astray."

Geniuses: Born or Made?

Some of this challenge is true, and some of it not. Many creative people do have an extraordinary capacity with crucial matters such as manual proficiency required for music, facility with language required for literature, or the use of abstract symbols in mathematics. But it is undeniably *not* true that learning is beside the point or that the creative person need only wait for inspiration that arrives naturally and spontaneously. Creative people are professionals just like any other professionals. They have undergone training and learning—virtually all go to college. Although their working habits vary and, in some cases, are more erratic than those followed by most of us—there is generally not a 9:00 to 5:00 (or 6:00, 7:00, or 8:00) working pattern—there are no real creators I know of who regularly only wait for inspiration from the muse. Also, there are none whose talent was not facilitated by upbringing and environment.

As an aside, I should tell you that no special working pattern characterizes creative people. Some are highly superstitious and carry out small rituals such as sharpening a certain number of pencils, counting the pages finished the previous day, sitting at a special desk, or using a special broken-down typewriter or souped-up word processor, but by and large they are all people who work at their profession on a daily basis. There is no clue to creative capacity and achievement in tracing their working patterns. They start at a regular hour that is best for them and stop at an appointed time. They are sometimes preoccupied with their work outside of working hours, just as many of us are, and sometimes, although not so commonly as is generally believed, they do get consumed with their task and work in a

somewhat unbroken stream of time with a passion that approaches frenzy.

Major Findings and Their Implications

To return to your challenge, I will further specify my position only by saying that I do not know whether the talent for having creative thoughts, the special factor of creativity itself, is inherited. The major findings to come out of my research are that there are particular and specific thought processes used by creative people during the process of creation; this applies to the entire spectrum of disciplines, areas, and media. These special thought processes are the features that distinguish creative people from the rest of us. Although very complicated in structure and in psychological function, there is little doubt that these particular processes, or forms of creative cognition, are crucial to outstanding creative attainment. One of these processes is responsible for germinating creative ideas, another is responsible for producing metaphors and other unified structures in both artistic and scientific types of endeavor. Both of these are sequences and patterns of thinking that, when used by someone highly knowledgeable and sophisticated in a particular field or area or artistic endeavor, help to solve important problems and produce great forms and themes. I do not know if the capacity for these and other specifically creative types of thinking is inherited in creative people, but I have carried out experiments that suggest that use of at least one of these processes can be learned.[5] Also, although I do know of definite environmental influences, primarily from the family, that actually stimulate such types of thinking, I do not yet know whether there is an inherited potential for them which works in conjunction with the environmental influences.

Creativity and Psychosis: The Relationship

Now, to the heart of the matter I raised earlier: the question of the relationship between creativity and psychosis. The discovery of these processes answers that question quite conclusively. The creative thought processes I have discovered are used by the creator when he is in a perfectly rational and conscious frame of mind; he or she is not undergoing what some have called an altered or transformed state of consciousness. Involved, however, are unusual types of conceptualizing, and I think it is precise to say that the processes transcend the usual modes of ordinary logical thought. Therefore, I refer to them as translogical types of thinking. As a corollary to the firm connection of these processes with both logic and consciousness, there is an impor-

tant conclusion: nothing is pathological about them, nor do they arise from pathological motivations; on the contrary, their roots are instead highly adaptive and healthy in their psychological nature and function.

What does this mean in relation to creativity and psychosis? It means that key aspects of creative thinking have nothing really to do with psychosis. They consist of healthy thought processes that generally arise from healthy minds. In those cases in which a creative person is suffering from a psychosis, it is still correct to say that while he is using these specific processes and engaged in the creative process, he is at those moments or periods of time thinking healthily. You see, there are some superficial similarities and connections between these creative cognitions and psychotic modes of thinking. Both types of thinking are quite unusual in superficially similar ways. There is thus a thin *but definite* borderline between the most advanced and healthy type of thinking—creative thinking—and the most impoverished and pathological types of thinking—psychotic processes. The great creative person who is also psychotic can, and does, shift back and forth between these pathological and creative processes. Jealousy, hatred, revenge, and other preoccupations of a psychotic artist often play a role in determining some of the themes and contents of a work of art, but the processes that mold and structure such preoccupations and themes into great creations are healthy, not pathological. This fact has many implications both for the therapy of psychotic people and for the goal of nurturing and developing creativity in children. For one thing, justifying avoidance of treatment on the basis that psychotic suffering is necessary for creativity is unwarranted. Also, fostering children's withdrawn or egocentric or other types of disturbed behavior with the hope that it is necessary for original and creative thinking is ill advised. On the other hand, acceptance by parents and teachers of tendencies to what I call and shall further describe as translogical modes of thinking can nurture and facilitate creative capacity.

Family Background and Creativity

With respect to family environment, there is also a thin but definite borderline between the type of family interaction which nurtures psychosis and nurtures creativity. Both types of family emphasize unusual modes of thinking, and in both there are often remarkable discrepancies between what family members say they feel and what they actually feel, thereby forcing a child within such an environment to become unusually sensitive to implicit messages. But, whereas in the case of a psychotic person both parents are commonly disturbed, the