The Formal Elements Art Therapy Scale
The Rating Manual

Linda Gantt & Carmello Tabone

Morgantown, West Virginia
The Formal Elements Art Therapy Scale: The Rating Manual

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Dedication

To those who blazed the path for us and to those who will follow after us in this fascinating endeavor.
## Contents

| Acknowledgments | xi |
| Preface | xiii |
| Why Use This Manual | xvi |
| How to Use This Manual | xxi |
| Specific Audiences | xvi |
| Using the Rating Sheets & Content Tally Sheets | xvii |
| Permissions & Credits | xvii |

### Chapter 1: Introduction & Overview ................................................................. 1

- Purpose ................................................................................................................. 1
- Searching for Diagnostic Information in Art .................................................. 1
- Our Philosophical Position on Research & Diagnosis ........................................ 2
- The Foundation of Our Work ........................................................................ 4
- A Brief History ..................................................................................................... 4
- The PPAT ............................................................................................................. 4
- The Precursor of the FEATS ........................................................................... 5
- The Contribution of the DSM to Our Work .................................................... 7
- Moving Beyond the DSM .................................................................................. 8
- Application to Children's Art .......................................................................... 9
- The Concept of Pattern Matching .................................................................... 9
- State Versus Trait ............................................................................................. 9
- The Illustrations ................................................................................................. 10
- Content Scales Added ...................................................................................... 10
- Group Versus Individual Characteristics ...................................................... 11

### Chapter 2: Collecting the Pictures .................................................................. 12

- The PPAT Drawing ........................................................................................... 12
- Instructions for the Drawing ........................................................................... 12
  - Materials ........................................................................................................... 12
  - Directions ........................................................................................................ 13
  - Timing ................................................................................................................ 13
  - Practice Effect .................................................................................................. 13
- Why Use This Drawing? .................................................................................... 14
- Does the PPAT Have Symbolic Aspects? ......................................................... 14
- Our Facility .......................................................................................................... 14
- Establishing Our Archive ................................................................................... 15
- Our Sample .......................................................................................................... 15
  - The Control Group .......................................................................................... 15
  - Limitations of Our Sample ............................................................................. 15
  - Difficulty with Generalizations ....................................................................... 15
- Temporal Fluctuations in Drawings .................................................................. 16
- Cross-cultural Applications ............................................................................... 16

### Chapter 3: Developing our Approach ................................................................. 17

- Making Diagnostic Decisions Using Only Pictures ......................................... 17
- The Basic Steps in Making the FEATS ............................................................. 18
- The Diagnostic Categories under Study .......................................................... 20
- Pattern Match ..................................................................................................... 21
- Measuring Diagnostic Information .................................................................... 22
  - Developing the Rating Scales ....................................................................... 22
The Problem with Previous Rating Systems & Scales ........................................... 22
Emphasis on Global Characteristics .................................................................. 23
The Reason for Not Using a Single Criterion ................................................... 24
Constructing our Scales .................................................................................... 24
The Specific Scales Related to Symptoms ......................................................... 25
Graphic Equivalent of Symptoms ...................................................................... 26

Chapter 4: The Individual Scales ......................................................................... 28
Some Caveats ....................................................................................................... 28
The Scores on Each Scale .................................................................................. 28
Different Definitions ......................................................................................... 28
Problems in Comparability ............................................................................... 29
Inadequate Samples ........................................................................................... 29
A Note on Color .................................................................................................. 29
The Specific Scales ............................................................................................. 30
Scale #1 - Prominence of Color ........................................................................ 30
Scale #2 - Color Fit ............................................................................................ 31
Scale #3 - Implied Energy ................................................................................ 33
Scale #4 - Space ................................................................................................ 33
Scale #5 - Integration ........................................................................................ 34
Scale #6 - Logic .................................................................................................. 35
Scale #7 - Realism .............................................................................................. 36
Scale #8 - Problem-Solving ............................................................................... 37
Scale #9 - Developmental Level ........................................................................ 38
Scale #10 - Details of Objects & Environment .............................................. 39
Scale #11 - Line Quality ................................................................................... 40
Scale #12 - Person .............................................................................................. 41
Scale #13 - Rotation .......................................................................................... 41
Scale #14 - Perseveration .................................................................................. 42
Demonstrating Reliability .................................................................................... 43
A Special Note on Scales #13 & 14 ................................................................... 44
Establishing Validity ........................................................................................... 45

Chapter 5: The Content Scales ........................................................................... 47
Reliability of the Content Scales ......................................................................... 47
Color Used for the Whole Picture & for the Person .......................................... 48
Person .................................................................................................................. 49
Gender .................................................................................................................. 49
Actual Energy ...................................................................................................... 49
Orientation of the Face ....................................................................................... 50
Age ....................................................................................................................... 50
Clothing ............................................................................................................... 50
Apple Tree .......................................................................................................... 50
Environmental Details ....................................................................................... 50
Other Features ..................................................................................................... 51
Other Hypotheses ............................................................................................... 51

Chapter 6: Pattern Matching .............................................................................. 52
Patterns Beyond Words ..................................................................................... 52
Problems with the Dictionary Approach ........................................................... 53
No Pathognomonic Signs .................................................................................. 54
Specific Patterns ................................................................................................. 55
The Diagnostic Groups................................................................................... 55
  Non-patient ................................................................................................ 55
  Major Depression ...................................................................................... 56
  Organic Mental Disorders ......................................................................... 56
  Schizophrenia .......................................................................................... 57
  Bipolar Disorder, Mania .......................................................................... 57
Border Cases & Other Considerations....................................................... 59
Afterword: Future Research........................................................................ 60
  Possible Extensions.................................................................................. 61
  The Necessity of Predictive Hypotheses ................................................ 62
Glossary......................................................................................................... 63
Historical Writers........................................................................................ 63
References.................................................................................................... 64

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Appendix ...................................................................................................... 71
  Directions for Rating Pictures Using the FEATS ..................................... 73
  Illustrations & Rating Instructions for Each FEATS Scale ...................... 74
  FEATS Rating Sheet ............................................................................... 103
  Content Tally Sheet ............................................................................... 105
Index ........................................................................................................... 107
About the Authors....................................................................................... Inside back cover
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PREFACE

The publication of this manual is the result of more than ten years of collecting a specific drawing and refining a method to study it. We hope that other art therapists will use our approach to conduct desperately needed research on the structural aspects of art.

Our efforts had their genesis in graduate school when we watched our instructors effortlessly “read” pictures. As novices we were amazed and intrigued at the way experienced art therapists talked about pictures. But the unpacking or decoding of pictures was never explained in our training; we took it for granted that it was an intuitive process that could not be taught. We envied the skills of our instructors but had no idea how to acquire them. Then, over the course of many years of clinical work, we came to realize that somehow, as if by magic, we had developed some of those same skills. But like our professors, we had no systematic way of explaining that process to others, let alone the skills to conduct research on the topic.

We set about analyzing what we thought we knew. Then we realized that only solid research would prove it to others. This manual is the result. Now, we can say that the seemingly intuitive process we watched our instructors use was a type of pattern-matching process that identified the graphic equivalent of symptoms. These two concepts—pattern-matching and the graphic equivalent of symptoms—eventually led to the development of the Formal Elements Art Therapy Scale.

We hope that by systematizing what we have learned we will help the next generation of art therapists go further and faster with their research. Our method is a blending of two separate lines of investigation—one from art therapy and one from psychology. From art therapy, we learned how to look at art using global variables and from psychology, we learned the importance of creating a reliable and valid measure.

Studying the drawings we now have in our archives will probably occupy the rest of our lives but it will be a pursuit that we continue with enthusiasm and curiosity. We never cease to be surprised at the inventiveness of our patients and the expansiveness of this project.

It was only recently that we filled in a gap in the history of the PPAT (“Draw a Person Picking an Apple from a Tree”). Tally Tripp, a classmate of Carmello’s in the graduate art therapy program at the George Washington University, had done a practicum with Julia Daugette of Atlanta, Georgia. Julia routinely asked for such a drawing in her art therapy sessions. When Tally returned from Atlanta she told her classmates about this drawing. Carmello added it to the many suggestions he used with a variety of groups. Once we started using it in earnest some ten years later, the connection to Tally and Julia had been forgotten. Unfortunately, we have found little written about this drawing. We did locate a study by Viktor Lowenfeld in 1939 that used a variation of it. We would
be grateful if any readers who know of others using this drawing would contact us with that information.

For convenience and ease of reading, we have avoided using cumbersome terms such as the “senior author” and the “junior author” since this has been a collaborative effort from the beginning. But, for the record, Carmello collected virtually all the drawings in the archive and Linda did the research design and theoretical work. Dr. Donald Egolf, Linda’s major advisor for her dissertation at the University of Pittsburgh, suggested the name “Formal Elements Art Therapy Scale.”

Writing a technical work we hope will be read and easily understood requires us to pay careful attention to language. We use the terms “patient,” “client,” and “artist” interchangeably and try to refer to “people with a specific disorder” rather than labeling them by their illnesses. We started this project when the DSM-III was in use. Although we understand the reasons for changing the term “organic mental disorders” to “delirium, dementia, amnestic and other cognitive disorders” in the DSM-IV, we trip over the new term every time. We hope readers will permit us to stick with the old term.

We undertook our studies to answer the questions our instructors could not. And we wrote this manual and developed the research tools to help others ask and answer even more questions. Our project has grown far beyond what we ever imagined it would be. We hope others will agree that by separating the structural from the symbolic aspects of art we can carve out manageable and meaningful research studies.
WHY USE THIS MANUAL?

Why should any art therapist have an interest in the formal elements or variables in the art of their clients or patients? What does this manual provide that could be useful in clinical settings? How could our approach be helpful to researchers?

We wrote this manual to:

- Provide a method for understanding and studying the non-symbolic aspects of art;
- Demonstrate how structural characteristics provide information on diagnosis and clinical state;
- Separate art therapy folklore from verifiable fact;
- Describe a way of researching art that is compatible with art therapists’ ways of thinking; and
- Develop specific research tools to make art therapy a credible discipline.

Our main focus is on how people draw, rather than what they draw. Thus, we address those aspects of a drawing that need not be explained by the artist. This approach uses objective rating instruments to test the abundant but impressionistic statements about the way certain groups are supposed to draw. Unfortunately, such unsubstantiated opinions are common in our field. These generalizations often are taken as infallible truth by students and repeated without question. Using our methods anyone can investigate a statement such as “People with depression draw small pictures and use less color” and verify or discard it based on solid empirical evidence.

We intend to demystify the process by which we get information from pictures so we can explain that process to those who are skeptical about our skills. Readers can follow the steps we took to analyze what we see in pictures and to develop our rating system. They will also learn how to use an understanding of structural changes to make judgments about clinical changes.

We value the symbolic aspects of art but that is another book. We contend that by looking first at formal variables one can investigate whether there truly are differences in drawing styles between one group and another, whether those groups are based on age, culture, diagnosis, medication response, point in treatment, or similar characteristics.
HOW TO USE THIS MANUAL

Specific Audiences

- Clinicians

Art therapists are interested in many variables such as color use, perspective, and shading; yet, not all variables will be related to group membership. By knowing how certain characteristics vary within the drawings of one group (such as people with specific Axis I disorders or children) art therapists can compare and contrast them more readily. We developed the FEATS to measure the graphic equivalents of symptoms. If the clusters of DSM symptoms distinguish one psychiatric disorder from another then the FEATS should do the same for the pictures.

Clinicians in a wide variety of settings will be able to use this manual to compare the drawings they obtain with our examples. Our illustrations show not only the range of possible ratings on the specific scales but also that each picture is unique. However, despite that uniqueness, there are certain similarities which begin to suggest ways of looking at not only other PPATs but other types of drawings, both directed and spontaneous. Clinicians should pay particular attention to Chapter 6 on pattern matching. In that chapter they can learn to distinguish the major features of four classic Axis I disorders (major depression, schizophrenia, organic mental disorders, and bipolar disorder). They can then compare both directed and spontaneous art to these examples. Just as Lowenfeld’s work is fundamental to understanding the changes in children’s art as they mature, so the Formal Elements Art Therapy Scale (FEATS) will help art therapists see how global aspects of art change with psychiatric disorders and clinical state. As clinicians collect pre- and post-treatment drawings or make interventions, they will be able to see and compare these changes.

- Researchers

The FEATS manual gives researchers ready-to-use tools for studying any population. They can use our manual for training raters and can check their inter-rater reliability against our figures before proceeding with their studies. The excellent inter-rater reliability of the FEATS (see Table 2, page 44) makes it easy for investigators to proceed quickly to validity studies.

After working systematically with the FEATS and the PPAT for over 10 years we found certain curious features occurring sporadically but not apparently associated with a particular diagnostic group. Wanting to find out more about these occurrences we developed the Content Scales (Chapter 5) and the Content Tally Sheet (Appendix). We have tried to make the tally sheet as detailed as possible to capture the information about specific color use, rare signs (such as writing or numbers), and specific environmental and clothing details not covered by the FEATS itself.
• Instructors

Instructors in art therapy training programs can use the manual and the accompanying picture cards to teach students about formal elements in art. The picture cards, which are duplicates of the illustrations in the manual and a set of children's PPATs, can be used in classroom exercises as an adjunct to lectures on the Diagnostic and Statistical Manual (American Psychiatric Association, 1994), psychopathology, and developmental levels.

Using the Rating Sheet and Content Tally Sheet:

Both the FEATS Rating Sheet and the Content Tally Sheet (Appendix) are designed to be used straight from the manual. Individual researchers may reproduce either or both in the quantity needed for their studies. Instructors wishing to copy any portion of this manual for classes must contact the publisher for written permission to use this material as handouts. No modification of either the FEATS Rating Sheet or the Content Tally Sheet may be made without the written permission of the publisher.

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The correct citation for this manual is:

- In the text of a book or paper:
  Gantt and Tabone (1998) or (Gantt & Tabone, 1998).

- In a reference list:

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**Note:** Originally, we devised one Energy Scale. We later split it into the Actual Energy and Implied Energy Scales. As a result, there are 15 scales in several of our early studies. After more research we decided to place the Actual Energy Scale in the Content Scales (see Chapter 4). Also, to make the layout of the color plates consistent we switched the order of the last two scales (Perseveration and Rotation) so that the plate with six illustrations would be at the end. Thus, some scales bear different numbers depending on when the studies were done.
Chapter 1

INTRODUCTION & OVERVIEW

Purpose

Our purpose is to provide clinicians and researchers with a standardized drawing and a sound scientific method of studying it. We will make the case that the drawing of a “person picking an apple from a tree” (PPAT) has great utility as a brief art therapy assessment, especially when evaluating clinical state and response to treatment. Because the content is held constant the PPAT is also an ideal drawing for researching differences between various groups. Our scientific method is based on a reliable instrument—the Formal Elements Art Therapy Scale (FEATS)—that measures specific global variables that we feel are the graphic equivalents of psychiatric symptoms. In addition, we devised a Content Tally Sheet to capture information on content such as specific color use and environmental and clothing details.

To make these tools useful to clinicians as well as researchers we developed a detailed rating manual (see Appendix), illustrated with actual pictures collected in a clinical setting. In the following chapters we explain how the rating system was developed, give the rationale for the individual scales, and provide instructions for collecting the drawings and rating them.

Searching for Diagnostic Information in Art

The current interest in using art for assessment and treatment has a long history (Oster & Gould, 1987). For over one hundred and fifty years, various writers have remarked on diagnostic information in the spontaneous drawings of psychiatric patients. However, there is relatively little rigorous research on this important issue. Fritz Mohr, a German investigator, collected both spontaneous and directed drawings (Mohr, 1906), and his work gave rise to two different approaches to studying art. Psychologists, using a testing approach, looked for nomothetic (group) principles based on personality characteristics and stressed reliability and validity. Psychoanalysts and art therapists sought to understand the individual more thoroughly and saw the art as a reflection of mood or progress. (For a more detailed description of the differences between these two approaches see Gantt, 1992, pp. 135-136.) Unfortunately, these two separate approaches can not stand
on their own for each has serious drawbacks. The first used a sign-based method that took material out of context and the second lacked scientific rigor.

While projective drawings are still popular with psychologists, a number of writers have questioned their scientific merit (Chapman & Chapman, 1967; Kahill, 1984; Klopfer & Taulbee, 1976; Roback, 1968; Suinn & Oskamp, 1969; Swensen, 1957, 1968), pointing to less-than-convincing research findings. According to Groth-Marnat (1990), “During the 1970s and especially the 1980s, their use declined due to poor reviews regarding their validity, decreased belief in psychoanalytic theory, greater emphasis on situational determiners of behavior, and questions regarding their cost-effectiveness” (p. 366). Ironically, this was exactly the time that art therapy graduate training programs were being established. The field of art therapy was developing clinical techniques based on the very assumptions that psychologists dispute. Art therapists are therefore challenged to answer the same criticisms about their methods and claims. Fortunately, there are some who are beginning to answer this challenge (Cohen, Hammer, & Singer, 1988; Cohen, Mills, & Kijak, 1994; Mills, Cohen, & Meneses, 1993; Neale, 1994; Silver, 1982, 1988).

Groth-Marnat, a psychologist, notes that most clinicians who use projective drawings “are more likely to use intuitive judgments based on clinical experience” (1990, p. 367). He then goes on to say: “However, few of these interpretations are based on validated research. Given the lack of any unified administration, scoring, or interpretation as well as the complexity, diversity, and richness of the drawings themselves, it is unlikely that this intuitive approach will change significantly in the near future” (p. 367). Until recently, we could say the same thing about art therapists. But, it is our intention to change this situation!

**Our Philosophical Position on Research & Diagnosis**

Before we describe the foundation for our work and give an overview of our methods, we should describe our philosophical stance on research in art therapy and on diagnostic information in art. In *Heaven of Invention*, George Boas (1962) describes the two opposite ways of looking at experience—the scientific and the appreciative. In contemplating the stars, for example, one can adopt the stance of an astronomer who thinks of galaxies, constellations, and chemical composition or that of one who sees the heavens as awe-inspiring spectacle. But Boas emphasizes that the experience itself does not demand one approach to the exclusion of the other. So it is with art; one can look at a painting or a drawing from an appreciative point of view or a scientific one without diminishing or altering the original work.

Some art therapists have seriously proposed forsaking efforts to link characteristics of art work with psychiatric diagnosis. Diagnostic categories are, they charge, by their very nature, reductionistic. Such rigid classification is bound to strip the art of its “true” meaning, denying its richness and complexity. These
art therapists question whether using the scientific approach has any utility for our discipline since each work of art is unique and that uniqueness cannot be reduced to codes or numbers.

Present diagnostic categories, however, are far from simplistic. To the contrary, diagnosis is part of a larger process to systematically derive concepts and general principles that are the core of the scientific method. Without concerted efforts to develop such concepts there would be no advancement in knowledge.

We advocate that, rather than abandoning attempts to correlate diagnosis and art, we give priority to such work. In doing so, we will accomplish several important goals: separating fact from clinical myth, developing more precise definitions, building a better theoretical foundation, and, most of all, pointing the way to more precise treatment methods. The ultimate aim of diagnosis should be to inform treatment decisions.

Certainly, there are abuses of diagnostic labels. A diagnosis can be a self-fulfilling prophecy; it can be set in concrete and never re-examined or modified in light of additional information; it can outlive its usefulness; it can be pejorative; and, worst of all, it can be dead wrong. But knowing how categories can be misused helps us to be on guard. However, ignoring diagnostic categories forces us to re-invent the wheel each time we work with a new person.

Not all art therapists work in settings which use diagnosis in the strictest sense. There are many programs in which the use of a psychiatric classification would be inappropriate and downright misleading. But that should not deter us from applying the rigor of the scientific method to the important questions about common characteristics within groups. After all, it is the question which one asks that determines the means to be used for getting the answer. If we want to know what is unique about an individual, we can employ the case study approach which is rich in details but virtually worthless when it comes to confident generalizations. On the other hand, if we want to know what formal features in art are correlated with depression and only rarely found in other clinical conditions, we can only use an already prescribed process. This process is, by no means, easy, which may be the real reason why some reject the scientific approach. It takes considerable effort to design and carry out a clean research project and to comply with the rules of scientific investigation. Biases are easy to introduce and often easier to ignore. No one study can provide the definitive answer and someone is bound to come along with exactly the opposite results. And, inevitably, the conclusion of every research study is that “more research is needed!”

Having one foot in art and one in therapy is a stance most of us have managed without too much effort. We are certain that, with a little practice, we can wisely strike a similar balance between the scientific and the appreciative stances, rejecting neither but using each when it is appropriate and legitimate.
The Foundation of Our Work

We assume that diagnostic information is embedded in how the art is done as well as in what the art is about. We base our work on an approach we think is consistent with the thinking of most art therapists. That is, we look at the drawings as art, not as projective drawing tests. Consequently, we focus on global variables that are important to artists such as color use, integration, and line quality. Having seen great fluctuations in these characteristics in the work of psychiatric patients we are convinced that these variables are more likely to mirror clinical state than personality traits.

While we build our method on the work of our predecessors, chiefly Hanna Yaxa Kwiatkowska, Elinor Ulman, and Bernard Levy, we have a distinct advantage over them. We were fortunate to start our research at a time when we could rely on a greatly improved diagnostic system, the Diagnostic and Statistical Manual (3rd edition, American Psychiatric Association, 1980). Research on diagnosis done prior to this and the subsequent editions of the DSM (American Psychiatric Association, 1987, 1994) was greatly hampered by unreliable and overly broad categories.

We are also fortunate in being associated with a large psychiatric facility, permitting us to amass an immense collection of drawings from a wide variety of people with different psychiatric disorders. Using these tools—the DSM, the FEATS, and the PPAT—we can show how psychiatric diagnosis and severe mental illness have predictable effects on drawing and how knowledge of those effects can be useful in a clinical setting.

Much as been written about the hidden symbolic meaning in dreams, jokes, and folktales as well as art. Groth-Marnat (1990, p. 388-391) summarizes the interpretations given to various aspects of the House-Tree-Person Test (H-T-P). While many of these interpretations have great appeal and sound consistent with work done on symbolism in general, we caution readers not to apply these interpretations to the PPAT. Too little systematic work has been done on this drawing to proceed to unpack its supposed symbolism. Before looking for latent material, we think we must determine what we actually see and what information that might provide. Therefore, we place great emphasis on honing our description of various features. If we can get raters who agree they too see essentially the same things, then we are well on our way to solid research.

A Brief History

• The PPAT

There are, no doubt, a number of subjects for pictures that would have served our purpose. The ideal picture would be a novel request and one which could be

4 Gantt & Tabone, FEATS Rating Manual
Lehmann and Risquez (1953) set out four specific requirements for an art-based assessment:

1. The method should be applicable to any patient regardless of his degree of artistic ability, interest, co-operation and intelligence.

2. It should be possible to obtain repeated productions which are comparable in order to obtain a longitudinal view of the variations in the patient’s graphic expression over a period of time.

3. The method should allow for the comparison of productions of different patients and of the same patient at different times by means of a standardized method of rating.

4. It should be possible to obtain useful and valid information on the patient’s medical condition through the evaluation of his paintings without having to spend additional time in observing the patient while he is painting or in interviewing him about his finished product.

In addition, it seems advisable to use as simple and direct a method of painting as possible in order to reduce to a minimum the technical difficulties connected with the handling of the various media in the making of the painting. (p. 39)

We feel our selection and administration of the PPAT satisfies all of these requirements. We have used the PPAT informally for approximately 20 years and have been studying it systematically for the last 10. The instructions we give to the artist are simply, “Draw a person picking an apple from a tree.” This drawing was first described by Viktor Lowenfeld (1939, 1947). (See Chapter 2 for more details on materials and other considerations about administering the PPAT.)

Our work has been greatly influenced by the research of Elinor Ulman and Bernard Levy (Levy & Ulman, 1967; Ulman & Levy, 1968, 1973, 1974) who concluded that an emphasis on structure, rather than content, would be more likely to reveal differences between diagnostic groups. Other investigators (Dörken, 1954; Kahn & Jones, 1965) suggest that global characteristics, not individual signs, yield more information.

- **The Precursor of the FEATS**

Once we had a fair number of PPATs we needed a method of comparing them. We were intrigued by the apparent ease with which we correctly guessed the diagnosis of a newly admitted patient on the basis of his or her PPAT. Faced with others who were skeptical about our seemingly intuitive conclusions we soon realized that, in truth, we could not give much of an explanation about how we
derived them. We set about to tease out the diagnostic information from what seemed a myriad of variables.

At first, we tried to create a decision tree similar to that of the DSM but based only on information in the picture. (We did not consider titles or associations by the artist). We made a serious mistake with this decision tree because we attempted to apply it to both PPATs and spontaneous work. With our very first decision point we hit an impasse when we tried to determine if the art was non-representational or realistic. What we could not determine was how successfully an artist might have achieved his or her intentions. If, for example, the picture consisted of a series of broad horizontal stripes in varied colors but the artist had intended to do a realistic landscape, then we had no idea what the generative thought or stimulus was. We then concluded we would have to restrict our research to the PPAT and, at least for the time being, forego any work on free drawings. We then began making lists of those characteristics we found interesting in the PPATs and tried to craft them into rating scales. Deciding what to measure and how to measure it was not easy since there were many fascinating details we wanted to know more about. Writing the instructions proved an especially difficult task because we had to cover all the variations we had seen up to that point and anticipate as many possibilities as we could. For a long time, we could not tell what features might give us the most information. A medical student with considerable talent in art offered to make us a visual catalog of the PPAT trees. As he spent hours copying the general shapes and trying to put them into manageable categories we realized that this gave us little useful clinical information.

To proceed to a more sophisticated level of analysis we gathered information on rating manuals and rating procedures used by psychologists as well as art therapists. Relatively few art therapists have developed detailed rating manuals thus far (Cohen, Hammer, & Singer, 1988; Kwiatkowska, 1978; Silver, 1982, 1988). Some writers have done preliminary work on new scales but evidently have not developed them to any extent (Pelto, 1973; Reiner, Tellin, & O'Reilly, 1977; Russell-Lacy, Robinson, Benson, & Cranage, 1979).

We think the rating systems and approaches devised by psychologists for use with projective drawings such as the House-Tree-Person Test (Buck, 1948; Jolles, 1971) and the Draw-a-Man Test (Machover, 1949; Urban, 1963) are seriously flawed in several major ways. First, most are based on out-dated theories that have not been substantiated by careful research. The exception to this are those used with children's drawings [the Goodenough-Harris system (Harris, 1963); Koppitz, 1968]. Second, much of the research was devoted to associating a single sign with a diagnostic category (for example, shading as an indicator of anxiety, with more anxiety supposedly present in patients than in non-patients). Third, no consideration was given to some aspects with which art therapists are especially concerned such as the use of color or integration. In Chapter 3 we give more detail about the problems we found with existing rating systems and the process we used to develop ours.
The Contribution of the DSM to Our Work

The advent of the third edition of the Diagnostic and Statistical Manual (American Psychiatric Association, 1980) represents a watershed event in psychiatric diagnosis. First, the task force that developed it focused on clear and objective descriptions of symptoms and syndromes without a reference to a theoretical base. By more clearly describing specific symptoms the task force took a long step toward greater reliability. Second, they separated the clinical diagnoses (Axis I) from personality disorders (Axis II), making it possible to conduct much more sophisticated research. The fluctuating course of many Axis I disorders can be studied in a different way from the more stable Axis II conditions. Those art therapists who work in inpatient programs can attest to the dramatic changes in the art of patients with Axis I disorders. Third, medical explanations take precedent over psychological ones. An example that would apply in art therapy might be that of color use. If a person were color-blind, a psychological explanation of color choice would not be permitted. Some art therapists may object to the use of the medical model but we find it fundamental for the kind of basic research we do.

We are particularly interested in the four disorders that Emil Kraepelin, the influential German psychiatrist, described in considerable detail in his fundamental work on psychiatric diagnosis at the beginning of the 20th Century. They are major depression, bipolar disorder, schizophrenia, and organic mental disorders [called by the term “Delirium, dementias, and amnestic and other cognitive disorders” in the DSM-IV (American Psychiatric Association, 1994)]. We observed that the apple tree drawings of patients in these groups were considerably different as groups. As we refine our research techniques and collect larger samples we believe we will be able to verify a drawing profile for each of these diagnostic groups.

ADVANTAGES OF THE DSM FOR BASIC ART THERAPY RESEARCH

- Approach is atheoretical and descriptive
- Axis I and Axis II disorders are separate
- Medical explanations trump psychological ones

While no classification system is static, let alone perfect, we expect that we will encounter the same types of difficulties that researchers in other fields have.
Some of these difficulties include overlapping categories (as in schizoaffective disorder) and statistical outliers (those exceptional cases which fall in the tails of a distribution). Since the DSM permits multiple diagnoses we must tease out which disorders are likely to affect artwork the most. We can study the variable course of such illnesses and see if they are indeed correlated with changes in the art.

For 50 years, the research on projective drawings has yielded mixed results. Writers have justifiably questioned many of the original assumptions about what drawings contain. The problems identified by critics of projective drawings point to the need for a fresh approach to researching how art can be useful in clinical settings. We advocate that the approach be based on making assessments less like tests and on studying how art changes with psychological state. Only a few early writers have been interested in the way states are mirrored in the art and we feel this area has been, unfortunately, neglected by many contemporary researchers.

Moving Beyond the DSM

By using the DSM for our model we are going back to careful description of the actual art in order to get a better classification system. We must, however, caution the users of this manual that they should not consider either the PPAT or the FEATS as being absolutely tied to the DSM. While most of the FEATS scales are derived from symptoms in the DSM (in concert with clinical observations and the literature) they are, nonetheless, based on characteristics or variables which can be used to describe two-dimensional art regardless of the age of the artist. Even the Perseveration and Rotation Scales, which were suggested by the literature on the Bender Visual Motor Gestalt Test (Lacks, 1984), can be used in normative studies. We know that motor perseveration and rotation can be found in a small percentage of young children’s drawings.

The utility of our approach is rooted in the nature of the PPAT itself and in the emphasis of the FEATS on combinations of global formal elements rather than a single sign or a checklist of specific features. The PPAT is a task requiring an integrative approach. The instructions ask the artist to combine at least three items in order to solve a problem. We have demonstrated that individual scales of the FEATS have high inter-rater reliability (see Chapter 4). Furthermore, our initial validity study demonstrated that there was a statistically significant difference between two or more groups (four patient groups and a control group) on 10 scales (Gantt, 1990, 1993). Now that we have improved the inter-rater reliability of the Perseveration and Rotation Scales we anticipate that validity studies on larger samples will show that certain groups can be discriminated from each other by these scales.

8 Gantt & Tabone, FEATS Rating Manual
Application to Children’s Art

In a pilot study of over 300 children’s drawings we have also seen that the scores on the individual FEATS scales tend to be correlated with age. Pilot studies conducted by other art therapists have also suggested that the PPAT and the FEATS may be useful with children and adolescents (Ferber, 1996; Munley, 1996; Smitheman-Brown & Church, 1996). We are encouraged by these results. We see our most pressing need to extend our work to a large-scale normative study with samples drawn from all ages and ethnic groups.

The Concept of Pattern Matching

When art therapists and other mental health professionals are asked to place drawings (without any other information about the artist) into a psychiatric diagnostic category they are more often right than wrong (Gantt, 1990). However, even the mistakes judges make are instructive. In general, the art of non-patients is correctly identified as is the art of those with organic mental disorders. But the drawings of some patients with mood disorders are more likely to be mistaken for those of non-patients. In all likelihood, people who are asked to do this sorting task rely on some sort of pattern matching as their strategy for making their decisions although they would probably find it difficult to give a cogent explanation of their reasons. This, we think, was the same process our professors used when they read drawings. We will say more about pattern matching in Chapter 6.

State Versus Trait

Our clinical experiences in acute-care psychiatric inpatient programs have convinced us that we must study the dramatic differences we observed over a short time. Some of the more striking changes seem to correlate with the patients’ responses to medication. Two early and important writers who investigated changes in clinical state and their correlation with art are Mohr and Lehmann. Mohr seems to be the first to systematically study how state affects art. The following describes Mohr’s approach: “Drawings done prior to the onset of the illness are compared with those done during illness, and drawings illustrating the various stages of development of a psychosis are studied as a developmental series” (MacGregor, 1978, p. 424). Lehmann, a Canadian psychiatrist who did pioneering work in using fingerpainting to gauge therapeutic response to antipsychotic medicines, concluded that “an evaluation of serial productions can give valuable information on a patient’s progress or failure to progress with therapy” (Lehmann & Risquez, 1953, p. 43).

At the beginning of this project we thought we had at least a rudimentary grasp of the major stylistic differences distinguishing the four Axis I disorders.
listed above. However, we still do not have any clinical impression of how the Axis II disorders might be manifest in art. Bergland and Gonzalez (1993) used the art of patients with personality disorders in developing the Sheppard-Pratt Art Rating Scale (SPAR). Their work has interesting parallels to ours in that we use related variables. The SPAR measures the variables of space, figures, energy, color, composition, and “general” (related to integration). They use their rating instrument for both representational and non-representational art. Clearly, they are working with people at a different stage of their illnesses than we are. The Sheppard-Pratt patients are in a long-term program (but the length of stay was not specified in the article). Most of the patients in our sample are in short-term programs that last only days or weeks. Perhaps, if we saw our patients over a longer period of time we might have some ideas to investigate about the effects of Axis II disorders on art.

The Illustrations

The illustrations in this manual were selected from a file of over 15,000 pictures done by inpatients in a psychiatric hospital over a ten-year period. Our aim was to get drawings from as wide a variety of people as possible, making certain that all had been collected under the same conditions and had been drawn with the same materials. Also, we attempted to select drawings so that each variable was displayed across the greatest imaginable range. At first glance, it may look as if most of the attributes co-vary but that is not the case. For example, all three illustrations for Prominence of Color (Scale #1) would receive the same rating on Problem Solving (Scale #8).

Content Scales Added

While the instructions for the PPAT seem to limit its subject matter there is, in fact, considerable variation in the specific items included. We noticed that certain kinds of details or specific colors seemed to be used by some groups but not others. For example, it seemed that only in the patients’ drawings did we see a person drawn completely in yellow. We had the impression that this might be associated with a feeling of depersonalization, derealization, or dissociation. But we do not know if that particular color is significant. Perhaps, what might be more important is the use of a single color for the person (no matter which one). Could the use of a single color for the person in the PPAT distinguish the patient group from the non-patient? Of course, only by coding for the presence of these details could we begin to answer questions about them. Therefore, we designed the Content Tally Sheet (see Appendix) to capture information on the depicted action, age and gender of the person, the specific colors, clothing and environmental details, and the degree of fantasy.
Group Versus Individual Characteristics

Those who think that a directed drawing forces everyone into the same response should carefully study our illustrations. The individual responses to our request for a PPAT are as varied as the people who draw them. Yet, when we talk about diagnostic categories we are concerned with the cardinal features of a specific group. There may be many more variables of interest but they might not be the most predictive of group membership. Once we have found the salient variables we have to use them to determine whether specific individuals fit into the group (see Chapter 6 on pattern match). If there is information on diagnosis or clinical state in drawings we should be able to determine which variables or cluster of variables are statistically associated with particular groups. We can cast a good, well-made net but find the holes are too large and let too many through or too small and capture everyone as was the case of schizophrenia prior to DSM-III.

Readers must remember there are always statistical outliers. There will be individuals who are difficult to categorize according to these group characteristics and we will make mistakes. But with well done research we increase our chances of being right far more times than we are wrong.
Chapter 2

COLLECTING THE PICTURES

The PPAT Drawing

The drawing we are studying ("a person picking an apple from a tree" or the PPAT) was first described by Viktor Lowenfeld (1939, 1947) in a study he conducted on children's use of space in art. His instructions were more detailed than ours:

You are under an apple tree. On one of its lower branches you see an apple that you particularly admire and that you would like to have. You stretch out your hand to pick the apple, but your reach is a little short. Then you make a great effort and get the apple after all. Now you have it and enjoy eating it. Draw yourself as you are taking the apple off the tree. (1947, pp. 75-76)

Little else has been written about this drawing. Greg Furth included examples in his book *The Secret World of Drawings* (1988, p. 86-88) but did not discuss his reason for using it.

There are, no doubt, a number of subjects for pictures which we could use to study group differences in art. An ideal picture would be a novel request with simple instructions and one that could be done by a wide variety of patients or clients. It would use colorful art materials and large paper, rather than writing or testing materials (i.e., pencil and typing paper). Thus, any drawing structured according to these attributes would be a suitable one for art therapy research. The most important characteristics are standardizing the instructions and the materials; otherwise, drawings from one group cannot be compared to those from another.

Instructions for the Drawing

- Materials

All drawings in our archive were done with the same materials [white drawing paper (12 by 18 inches) and 12 colors of felt-tip markers (red, orange, blue, turquoise, green, dark green, hot pink, magenta, purple, brown, yellow, and black)]. The brand of markers we use is the scented Sanford® "Mr. Sketch"® water color markers.
In the early clinical trials we gave the artists a choice of felt-tip markers or pastels. A number of artists stated they did not like using pastels or refused to draw so we decided to use only markers. Using markers does make some rating tasks easier and the judges find it easier to count the number of colors used. We recognize the limitations of the materials but have found that, even with some restriction on expressiveness, we still obtain a great amount of useful information.

**Directions**

We hand the artist the paper so that he or she decides the orientation of the paper and say simply, “Draw a person picking an apple from a tree.” If the person asks whether it should be a man or a woman, we repeat the same words emphasizing the word “person.” We do not place a time limit on doing the drawing.

The instructions suggest three objects to include in the finished picture as well as a relationship among these objects. Since two of the three items (the person and the tree) are part of the House-Tree-Person Test we could make some comparisons between these two assessments in the future.

**Timing**

Usually, we collect the PPAT in the first group art therapy session the patient attends after admission to the hospital. Other group members who have attended previous sessions may be doing other drawings. Because this single-picture assessment can be repeated easily, we also try to get a discharge drawing. For those patients having electroconvulsive therapy (ECT) we collect a PPAT on admission and another as they are being withdrawn from medication prior to the first ECT session. Then, we ask for a PPAT after each ECT session and periodically during the rest of the hospital stay.

**Practice Effect**

We are not concerned with a practice effect due to repeated administrations of the PPAT in our patient group. We have a number of case studies in our archive which clearly demonstrate that clinical state has a greater effect on the formal elements of the drawings than does practice. Lehmann and Risquez (1953) observed that their non-patient subjects did “tend to experiment” on subsequent fingerpaintings but that

Psychotic patients, however, improve their fingerpaintings only rarely with practice unless there is a parallel improvement in their mental condition. It is usually possible to demonstrate fluctuations of mood, energy output, etc., corresponding to the person’s state of mind even in those
non-psychotic individuals who have practice and skill with fingerpainting. (p. 43)

We plan to study those individuals for whom we have many drawings over a five-year (or more) span to back up this assertion. However, we do see interesting responses from adolescents who are asked to draw another PPAT before discharge. They often add humorous touches or fantastic solutions to their drawings while complaining “I did that already!”

Why Use This Drawing?

This is not a traditional projective drawing (such as the House-Tree-Person Test or the Draw-a-Person Test), nor do we approach it as such. We developed our methods specifically so that we could do credible research in art therapy on the correlation of diagnostic information with certain global variables in art.

At this point in our development of this picture as an assessment procedure, it remains a matter of conjecture whether the person in the picture represents the artist in some fashion. In human figure drawing studies the drawn person is assumed to represent some aspect of self [whether one's idealized, actual, or feared self (Hammer, 1981, pp. 180-181)], sexual orientation, or gender identification. We cannot assert that such is the case here. In our clinical trials, a number of individuals drew the person with insufficient details for our judges to determine the gender, thus making any hypotheses about identification with the apple picker difficult, if not impossible, to test.

Does the PPAT Have Symbolic Aspects?

We approach this drawing strictly for what we can learn from the way in which it is drawn. We have no expectation that the subject itself carries any symbolic meaning. We have been asked whether we thought the tree to be symbolic of the self. (For the root of this idea see Hammer, 1958, p. 172). But we do not think of it that way. Sometimes, there are interesting symbolic elements added by our artists such as apples with worms, trees that are almost dead, or tombstones, but such additions are not common. Occasionally, a PPAT is turned into a depiction of the biblical story of Adam and Eve.

Our Facility

The facility where we obtained the majority of our drawings is a 70-bed psychiatric hospital with four inpatient units: intensive psychiatric care, alcoholism recovery, adolescent, and general psychiatric. Relatively recent additions are a residential center for adolescent boys who are sexual offenders and a children’s day treatment program. Also, the hospital has several outpatient programs and medication clinics. We have been affiliated with this hospital since it opened in 1987. Prior to that time, the psychiatric programs were housed in a
wing of the general medical hospital of West Virginia University. Some PPATs were collected in 1986 in the art therapy groups on that wing.

Establishing Our Archive

We have amassed an extensive archival collection of PPATs since 1986. In 1987 we standardized the materials and the instructions so that we could compare one picture to another. At present, we have over 5,000 individuals who have done one or more PPATs for us. Some have done more than 20. Given that many patients with chronic psychiatric illnesses have returned often to the hospital we have abundant material for longitudinal studies. The relatively short-term hospital stays and the current treatment methods (such as electroconvulsive therapy and anti-psychotic and anti-depressant medication) also provide opportunities for researching treatment effects on art.

Our Sample

- The Control Group

The inclusion of a control group in our work is imperative since virtually no recent systematic collection has been made of the art of adult non-patients. Without such a comparison, generalizations of any kind would be of little use since the purported pathological “signs” in the drawings by patients may simply be the lack of artistic training or skill.

- Limitations of Our Sample

We face certain limitations of sampling with both our control group and our patient group. First, due to the presence of the main state university, our community is, on the whole, better educated and of a higher socio-economic group than the rest of West Virginia. Second, although there are members of minority groups in the student body they are often from other countries or other states. The patients are most likely to be Caucasian. West Virginia has an African-American population of approximately 3% and most members of that group live in the southern part of the state, about four hours away. The second largest ethnic minority in West Virginia is Hispanic. While this is a rapidly growing group in one part of the state, we have few Hispanics in our area. The patients are more likely to come from the communities geographically closer to the university.

- Difficulty with Generalizations

We are cautious about generalizing our conclusions given our lack of access to a more representative sample of both patients and control group members. We hope that other art therapists will replicate our work so that we might eventually get a suitable control group that is more representative of the United States population as a whole.
Temporal Fluctuations in Drawings

Since our primary focus is on the Axis I disorders, their temporal fluctuations must be taken into account. Therefore, we assume that if the pictures reflect psychiatric symptoms in some way, then they should fluctuate when the symptoms do. Accordingly, it is imperative to control for the time at which the pictures were collected. We cannot expect to capture the graphic equivalent of a symptom if the symptom is not present. (This is consistent with the emphasis in the DSM on observable symptoms.) Our fundamental assumption is that if we systematically collect the PPATs we can demonstrate that they accurately reflect changes in state and are therefore an indispensable aid in clinical work.

Cross-cultural Applications

In theory, there is no reason why the FEATS could not be used with drawings from other cultures or ethnic groups. Perhaps the PPAT would require some modification if apple trees do not grow in a particular country. However, we think any tree/fruit combination could be used.

Cross-cultural studies would make for interesting comparisons. For instance, there might be a different set of problem-solving methods for picking dates from palm trees. But the focus should be on whether the artist could actually solve the problem (not on the specific use of the apple tree). If another type of tree were used one might have to make some modifications on the Content Tally Sheet with respect to the particular colors of the tree and the number of fruit (since dates grow in clusters).

This problem of “portability” was raised by several art therapists who asked if urban children who had never seen an apple tree, let alone picked an apple, could be expected to do this drawing. We do have a small sample of PPATs from adolescents in a New York City borough. These artists seemed to have no difficulty complying with the request. A reason for this may be that pictures of apples and apple trees are commonly found in school textbooks and other reading materials. Of course, this is an easily researched problem. We hope art therapists in urban areas as well as those in other countries will let us know if they have any difficulty in getting comparable pictures.

Religious prohibitions against depicting the human form may be an impediment in comprehensive cross-cultural studies. We reiterate that the relative novelty and complexity of the PPAT compared with the traditional projective drawings such as the DAP and the H-T-P are its strengths. The PPAT requires an attempt at integrating three key elements—person, tree, and apple. If cultural constraints limited drawing a person then an art therapist wanting to conduct a study similar to ours would need to do some inventive pilot studies to see if he or she could make a reasonable substitute. In all probability, some of the FEATS scales would have to be eliminated.
Chapter 3

DEVELOPING OUR APPROACH

Making Diagnostic Decisions Using Only Pictures

We conducted several pilot studies to determine if the drawing of "a person picking an apple from a tree" (PPAT) carried sufficient diagnostic information to warrant further work. We wanted to (a) determine if judges could correctly classify this particular type of picture into diagnostic categories using no other information (such as sex, age or IQ scores) about the person who drew the picture, and (b) see if using a checklist of characteristics of the various groups helped the judges make accurate decisions. If the judges could not perform the classification task at a level above chance in either pilot study it would have been reasonable to conclude that the PPAT did not carry sufficient diagnostic information to warrant developing a rating instrument for it. If that were the case, we would need to select another type of picture and repeat the pilot studies.

Our clinical experience suggested that variations in the formal elements of this picture (rather than the content) seemed to be connected with particular diagnostic categories. We reasoned that if this were the case, judges who had not seen the pictures being drawn and who knew nothing about the patients should be able to place those drawings in correct diagnostic categories at a level above chance.

We asked judges to look at 35 mm slides of 30 PPATs and decide which of six diagnostic categories the pictures belonged in. Based on the drawings alone, the judges made correct decisions more often than not (Table 1). This study is described in greater detail in Williams, Agell, Gantt, and Goodman (1996). The number and pattern of decisions demonstrated that most of the judges were able to recognize diagnostic information in the drawings. If the judges had been guessing, the responses would have been spread more evenly across the six categories.

The pattern of mistakes helped us understand how the judges approached the task. They placed some of the drawings of the controls in the manic category, and some of the drawings by the patients with mania in the control group. Some judges confused the drawings of the patients with mental retardation, schizophrenia, and organic mental disorder with each other. But generally, the judges did not place the drawings by the controls and patients with mania in the categories for organic mental disorder, schizophrenia, or mental retardation. None of the judges mistook a drawing by a control for one done by a patient with organic mental disorder, or vice versa.
Of all the DSM categories, the mood disorders are the closest to a "normal" condition. The moods in either depression or mania do not drastically affect daily functioning until the extremes are reached. Then, at either end of the mood spectrum, an individual may become psychotic and exhibit some of the symptoms often associated with schizophrenia (such as hallucinations and body image disturbance).

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<td>Judges’ Classification of Pictures</td>
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<td>Correct Diagnoses from Pilot Study</td>
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<th>Actual Diagnosis</th>
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Note: Correct diagnosis is in **boldface**. There were 37 judges and 30 pictures. The judges included art therapists, students, other creative arts therapists, and mental health professionals.


The Basic Steps in Making the FEATS

Developing the Formal Elements Art Therapy Scale involved many steps. We had to do the following:
- Find an assessment that afforded a compromise between a structured approach to art-making (directed drawings) and an unstructured approach (spontaneous or "free" drawings);
- Administer this assessment to patients in different diagnostic groups at the same time that the patients were likely to have the greatest number of symptoms or when the symptoms were the most intense;
- Determine if the pictures thus collected had sufficient diagnostic information to proceed with developing a rating instrument;
- Review the formal variables which have been identified as important diagnostic clues by previous writers;
- Select specific variables for investigation;
- Evaluate previous rating instruments for coding and classifying patient art work, and decide on a suitable one for measuring the material at hand;
- Develop reliable measures for these variables;
- Apply the resulting rating instrument to the drawings of subjects who fit rigorous diagnostic criteria; and
- Establish the validity of the rating instrument by testing the hypothesis that these formal variables did distinguish one diagnostic group from another.

### DEVELOPING THE FEATS

- Find a suitable picture
- Collect pictures when symptoms are greatest
- Determine if picture has diagnostic clues
- Review literature for variables
- Select specific variables
- Evaluate other rating instruments
- Develop a reliable measure
- Use rigorous criteria for sample
- Establish validity
The Diagnostic Categories Under Study

When we use the term *diagnosis* we refer to the present system of diagnostic classification used by the American Psychiatric Association [the *Diagnostic and Statistical Manual* (4th ed.) (American Psychiatric Association, 1994)]. This classification system is atheoretical insofar as it does not postulate a cause for any of the disorders in its system except for those for which a cause is "well established and therefore included in the definition of the disorder" (American Psychiatric Association, 1987, p. xxvii). It attempts to describe a person's present, and therefore observable, symptoms although past history is used to make some differential diagnoses. Because the DSM emphasizes description, it is well-suited for our use which concentrates on formal, and therefore observable, elements in art.

At present, we are interested primarily in four Axis I categories—schizophrenia, bipolar disorder (manic phase), major depression, and what had been termed the organic mental disorders in the DSM-III (delirium, dementia, and amnestic and other cognitive disorders).

We selected these diagnoses because they have been studied extensively since the time of Emil Kraepelin (1856-1926). These diagnoses are, at least in theory, quite distinct clinical entities. Furthermore, these are the important diagnoses discussed in the historical literature on psychiatric diagnosis and art. Each one has sufficiently severe symptoms so as to be recognizable (at least in their most extreme forms) to the general public as mental illnesses which are incapacitating. These illnesses are quite distinct from the Axis II personality disorders which are life-long conditions. The personality disorders are unlikely to cause a disruption in daily living or be the primary cause for inpatient treatment on an acute care unit. Some of the other DSM categories are relatively new (for example, adjustment disorders, sleep disorders); some are both new and controversial (such as the anxiety disorders). While we are interested in the effects any diagnosis might have on art we do not at this time have any clinical evidence that other disorders have the predictable and dramatic effects of these specific Axis I disorders.

In our pilot studies we included pictures done by individuals with mental retardation. The essential features of mental retardation are "significantly subaverage general intellectual functioning (an IQ of approximately 70 or below) with onset before age 18 years and concurrent deficits or impairments in adaptive functioning" (American Psychiatric Association, 1994, p. 37). (Although mental retardation is an Axis II disorder because it is diagnosed in infancy or childhood, one might argue that its symptoms are substantially different from those of the personality disorders and therefore, could be studied with the Axis I group.) Many individuals with mental retardation have "child-like" drawing skills (although many do not advance beyond the skills of a three- or four-year-old). In the validity study (Gantt, 1990) we omitted this diagnosis because it can be the
result of one of several different causes. We intend to do separate studies on this diagnosis in the future.

Schizophrenia, with its hallucinations, delusions, alterations in the sense of self, and clang associations (word associations built on rhyme but not reason), has been classified as a thought disorder in which both the content and the form of thought undergo characteristic disturbances. The condition is what most laypersons would label as “crazy.” The art of patients with schizophrenia, carefully collected and intensively studied, has been considered the prototype of “insane art.”

The common feature of those diagnoses falling in the category of delirium, dementia, and amnestic and other cognitive disorders “is a clinically significant deficit in cognition or memory that represents a significant change from a previous level of functioning” (American Psychiatric Association, 1994, p. 123). Of special interest to us are those disorders which are related to aging such as Alzheimer's disease and vascular (multi-infarct) dementia. Prominent features of both illnesses are dementia (impairment in abstract thinking and higher cortical functions such as aphasia and agnosia, and personality change) and a deteriorating course. The brain tissue is severely impaired or destroyed. Just as the study of children's art has yielded knowledge of intellectual development so the study of the art of brain-damaged patients should demonstrate the results of mental decline.

The affective disorders, of which depression and bipolar disorder (mania) are two variants, are described as mood disorders in which an elevated or depressed affect is the key feature. Although a patient with a mood disorder may have psychotic symptoms such as hallucinations, delusions, and depersonalization or derealization, these are manifest only when the illness is most severe. Generally, the alterations in mood are noticeable to both the patient and those around him or her but may not interfere appreciably with activities of daily living. If the mood swings are sufficiently severe to be noticeable in behavior such swings should be detected in art work.

These disorders represent the most extreme and readily recognizable mental illnesses. If art mirrors the mind of its maker in some tangible way, we can search the drawings of the patients in these groups for measurable differences.

**Pattern Match**

If judges could classify pictures according to diagnostic groups using only the nonverbal information in a picture drawn when psychiatric symptoms were at a peak, then there must have been some regular (and, therefore, predictable) pattern of characteristics which was manifest in the pictures.

In another pilot study we asked eight judges, working in pairs, to use a checklist to sort the same pictures. Six of the judges were second-year art therapy students and the other two were a construction worker and a bookkeeper. All
four pairs performed at roughly the same level. Curiously, the best performance was by the non-art therapists. They seemed to pay strict attention to the checklist and did not get sidetracked by interesting but irrelevant details. As we have conducted more studies, it seems that our art therapy raters take longer than do non-art therapists. Perhaps this apparent difference in raters should be studied for its own sake.

In the first study, the most experienced judges (as determined by length of the time they had been in a mental health field) did a better job than the less experienced ones, presumably by relying on their clinical experience. Perhaps this clinical experience helped in making correct choices when there were two categories that seemed to fit one picture. Since none of the judges had seen any of the pictures before, these experienced judges had to be comparing the drawings against ones they had seen in a clinical setting and/or against a theoretical construct.

**Measuring Diagnostic Information**

Our pilot studies showed that the judges did see diagnostic information in the pictures. Therefore, our next step was to devise a rating scale. We decided to base it on the presumed graphic equivalents of diagnostic symptoms and other distinctive features of the art of specific groups as reported by other writers. Next, we would have to demonstrate that these “equivalents” could be measured reliably (without reference to a specific diagnostic category). Finally, we would need to see if a pattern of certain variables set one diagnostic group apart from another.

- **Developing the Rating Scales**

To develop suitable rating scales, we first assumed that specific symptoms are expressed in some regular and predictable way in art work. Next, we reviewed previously used scales and rating instruments. Then, we examined global formal characteristics of art that might be analogous to specific symptoms.

- **The Problem with Previous Rating Systems & Scales**

According to Jones and Thomas (1961), two basic approaches have been used—matching and coding. Initially, we used a matching process. Once we determined that there was at least rudimentary diagnostic information in the drawings we proceeded to develop our rating manual.

We analyzed the manuals developed for traditional projective drawings (Buck, 1948; Jolles, 1971), children’s paintings (Waehner, 1946) and children’s figure drawings (Goodenough, 1926; Harris, 1963; Koppitz, 1968), as well as those systems that purported to measure several psychological variables (Elkisch, 1945), or a single one such as anxiety (Evans, 1984; Handler & Reyher, 1965) or
“restraint/activity” (Schube & Cowell, 1939). Several systems were based on checklists developed from literature reviews of informal studies of psychiatric art (Cohen, Hammer, & Singer, 1988; Pelto, 1973; Reiner, Tellin, & O’Reilly, 1977; Russell-Lacy, Robinson, Benson, & Cranage, 1979). The most helpful manual was that of Kwiatkowska (1978). Its detailed approach to defining the ordinal points of its scales was crucial to our work.

**PROCESS OF MEASURING DIAGNOSTIC INFORMATION**

- Look for graphic equivalents of symptoms in art
- Evaluate other rating systems
- Find global characteristics that apply to art in general

We briefly considered the idea of a checklist to provide a total score of items present or absent. But we rejected that idea because the whole drawing does seem to be more than simply the sum of its parts. Furthermore, many of the standard items on the existing checklists do not apply to this particular drawing.

- **Emphasis on Global Characteristics**

Many studies on figure drawings showed that Machover's (1949) specific signs have not been validated. (For general reviews see Groth-Marnat, 1990; Kahill, 1984; Swensen, 1957, 1968.) However, a number of studies demonstrated that global measures can be reliable. According to Ogdon (1975), “global ratings have a level of reliability suitable for most psychometric purposes while single signs usually are less reliable” (p. 66).

Several studies (Dörken, 1954, p. 177; Lehmann & Risquez, 1953; Ulman & Levy, 1975, p. 402) suggested that there should not be an emphasis on content, and that differences between diagnostic groups are more likely to be found in the structural or formal aspects. It is logical that if one is looking for nomothetic principles, one needs to identify the specific attributes of the various groups.

Initially, we did not consider developing any measurement of content. We do think content is important, especially in actual art therapy sessions. But we were so focused on developing our scales for global variables that we only
recently worked out a method for capturing specific data on content (see Chapter 5 on the Content Scales).

- **The Reason for Not Using a Single Criterion**

Some studies attempted to use a single criterion (such as level of adjustment or degree of anxiety) as the measurable variable. The results of these studies were mixed. Evans (1984) found that judges were unable to distinguish between "poorly adjusted" and "well-adjusted" subjects on the basis of their human figure drawings. Ulman and Levy (1968) asked judges to classify pictures according to the broad categories of "patient" and "non-patient." Even though most of the patients in their study had been diagnosed as having schizophrenia, there was no assurance that the patients were alike in any way except that all of them were in a psychiatric hospital at the time the pictures were collected. The number of disorders in the DSM-IV exceeds 200; one would expect considerable variation among such disorders if they are truly distinct. Therefore, the dichotomous classification of "patient/non-patient" is far too simple to be truly useful in anything more than preliminary research.

The DSM uses a cluster of symptoms for determining a diagnosis. By analogy, one should look for a cluster or pattern in the art that would have a temporal correlation with those symptoms. As Ogdon (1975) stated, "no single sign is conclusive evidence of anything; the configuration of signs must be considered as more important than any single sign, and this appears to be most relevant in the interpretation of projective drawings" (p. 66, emphasis in the original). One might think of the pictures themselves as a collection of many characteristics or processes, such as motor control, problem-solving, planning, affective response, integration, energy, and ability to follow directions.

In their study on fingerpainting, Lehmann and Risquez (1953) developed four scales for clarity, contact with reality, energy output, and affective range. They focused on the formal aspects of their patients' undirected fingerpaintings. Furthermore, they thought it was "desirable to choose descriptive categories of graphic expression which are also significant for the description of behavioral aspects of the patient who produced the painting. Otherwise, problems arise when one attempts to translate the results of the test evaluation into meaningful psychiatric language" (p. 40).

**Constructing Our Scales**

Following the reasoning of Lehmann and Risquez we constructed each scale so that it would be isomorphic with the clinical symptoms that were distinctive features of the specific diagnostic groups and would measure the relative magnitude of the variable. Each of the 14 FEATS scales is based on three sources:

- Symptoms from the DSM that could have graphic equivalents;

24 Gantt & Tabone, *FEATS Rating Manual*
The art therapy and psychological literature on both spontaneous art and directed drawings; and

Our clinical observations of PPATs done by adult psychiatric patients.

Those items that seemed to be related or were opposites were combined in one scale. For example, “increase in goal-directed activity or psychomotor agitation” in mania and “fatigue or loss of energy” in depression were combined in Implied Energy (Scale #3). Some of the symptoms listed in the DSM suggested scales which might be based on content (such as “recurrent thoughts of death” or “suicidal ideation” in major depression). But we did not use these symptoms since they could not be translated into formal variables.

We defined the ends of each scale to reflect a range of possible responses with 5 points on each scale (rather than simply the presence or absence of a characteristic). Later, at the suggestion of Anne Lipe, a music therapy researcher, we added a zero to each scale. Thus, we can use more powerful statistical tests. There are other ways the scales could have been constructed. For example, we could have placed a zero in the middle and a plus and minus on either side or used bipolar scales.

An advantage of a dimensional approach (that is, using an ordinal, interval, or ratio scale) such as the FEATS is that we can use it to assess gradual changes in art-making such as those of children as they mature, patients with Alzheimer’s disease as they decline, or patients with depression as they respond to medication.

The Specific Scales Related to Symptoms

The chart at the end of this chapter shows how the FEATS scales are logically derived from the core symptoms of a particular disorder. It gives only those psychiatric symptoms that could be considered as having graphic equivalents. For example, lack of energy in depression may be expressed in a drawing by the use of fewer details, fewer colors, and/or less space. Not all DSM-IV symptoms for each of the diagnoses under study are listed here. Some symptoms, such as insomnia, weight loss or gain, or suicidal thoughts or intentions, cannot be expressed in formal variables (although, certainly, someone might put some suicidal content in a PPAT). Not only are the scales isomorphic to specific psychiatric symptoms but they are also tied to many of those artistic concepts that are of greatest concern to artists such as integration and color use.

Although the symptoms and graphic characteristics are lined up as equivalents readers must not assume that they are statistically correlated in any way. This is a question for future research. As we discuss in Chapter 4, the scale on developmental level comes from Lowenfeld’s work. We added it to the FEATS even though there was no symptom to tie to it. However, we think that at some later point, it might be useful in comparing a large sample of adult and child non-patients for norming purposes.
## Graphic Equivalent of Symptoms

Linda Gantt & Carmello Tabone © 1998

<table>
<thead>
<tr>
<th>DSM Symptoms</th>
<th>Observations in the Art Therapy Literature</th>
<th>FEATS Scales</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major Depression</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depressed mood</td>
<td>Lack of color</td>
<td>#1 Prominence of Color</td>
</tr>
<tr>
<td></td>
<td>Dark colors</td>
<td>#2 Color Fit</td>
</tr>
<tr>
<td>Loss of energy</td>
<td>Constricted use of space</td>
<td>#3 Energy</td>
</tr>
<tr>
<td>Psychomotor retardation or agitation</td>
<td></td>
<td>#4 Space</td>
</tr>
<tr>
<td>Diminished interest</td>
<td>No environment</td>
<td>#7 Realism</td>
</tr>
<tr>
<td>Diminished ability to think or concentrate</td>
<td>Lack of detail</td>
<td>#10 Details</td>
</tr>
<tr>
<td></td>
<td></td>
<td>#12 Person</td>
</tr>
<tr>
<td><strong>Bipolar Disorder, Mania</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elevated, expansive, or irritable mood</td>
<td>Many colors</td>
<td>#1 Prominence of Color</td>
</tr>
<tr>
<td></td>
<td></td>
<td>#2 Color Fit</td>
</tr>
<tr>
<td>Flight of ideas; racing thoughts</td>
<td>Abundant details</td>
<td>#3 Energy</td>
</tr>
<tr>
<td>Distractibility</td>
<td>Expansive use of space</td>
<td>#4 Space</td>
</tr>
<tr>
<td>Increase in goal-directed activity or psychomotor agitation</td>
<td>Swirling or looping lines</td>
<td>#10 Details</td>
</tr>
<tr>
<td>Inflated self-esteem or grandiosity</td>
<td></td>
<td>#11 Line Quality</td>
</tr>
</tbody>
</table>

Gantt & Tabone, *FEATS Rating Manual*
**Graphic Equivalent of Symptoms (cont.)**

Linda Gantt & Carmello Tabone © 1998

<table>
<thead>
<tr>
<th>DSM SYMPTOMS</th>
<th>OBSERVATIONS IN THE ART THERAPY LITERATURE</th>
<th>FEATS SCALES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SCHIZOPHRENIA</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delusions</td>
<td>&quot;Primary process&quot; thinking;</td>
<td>#5 Integration</td>
</tr>
<tr>
<td>Prominent hallucinations</td>
<td>fragmented composition;</td>
<td>#6 Logic</td>
</tr>
<tr>
<td>Incoherence or marked loosening of associations</td>
<td>writing or numbers unrelated to task; additions which seem out of place</td>
<td>#7 Realism</td>
</tr>
<tr>
<td>Flat or grossly inappropriate affect</td>
<td>Bizarre colors</td>
<td>#8 Problem-solving</td>
</tr>
<tr>
<td></td>
<td></td>
<td>#12 Person</td>
</tr>
<tr>
<td><strong>DELIURUM, DEMENTIA, &amp; AMNESTIC &amp; OTHER COGNITIVE DISORDERS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impairment in abstract memory &amp; thinking</td>
<td>Unintelligible picture</td>
<td>#5 Integration</td>
</tr>
<tr>
<td></td>
<td></td>
<td>#6 Logic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>#7 Realism</td>
</tr>
<tr>
<td></td>
<td></td>
<td>#8 Problem-solving</td>
</tr>
<tr>
<td></td>
<td></td>
<td>#12 Person</td>
</tr>
<tr>
<td>Other disturbances of higher cortical functioning:</td>
<td>Colors not related to the task</td>
<td></td>
</tr>
<tr>
<td>Aphasia</td>
<td>&quot;Bender&quot; signs</td>
<td></td>
</tr>
<tr>
<td>Apraxia</td>
<td>Broken lines</td>
<td>#11 Line Quality</td>
</tr>
<tr>
<td>Agnosia</td>
<td>Rotation</td>
<td>#13 Rotation</td>
</tr>
<tr>
<td>Constructional difficulty</td>
<td>Perseveration</td>
<td>#14 Perseveration</td>
</tr>
<tr>
<td></td>
<td>Simplification</td>
<td></td>
</tr>
</tbody>
</table>
Chapter 4

THE INDIVIDUAL SCALES

We developed the individual scales of the FEATS using three sources—our own clinical observations, the art therapy and psychology literature on the art and projective drawings of psychiatric patients, and the symptoms from the Diagnostic and Statistical Manual (American Psychiatric Association, 1994). The majority of scales measure global attributes common to art in general and therefore, can be used to study the art of non-patients and children as well. After discussing some general cautions for readers to keep in mind while reading about the scales we give our rationale for each one.

Some Caveats

• The Scores on Each Scale

On each of our scales a picture may be scored from zero to five or between any two of the numbers. The numbers indicate more or less of a particular variable. However, higher scores are not necessarily better than lower ones. For example, high scores on Implied Energy (Scale #3) and Details of Objects and Environment (Scale #10) are likely to be associated with mania. Only when we have large-scale studies on a representative sample from a non-patient population will we be able to say what the norms are for each scale. As we rate more drawings from our archive we will be able to devise a weighting system to convert raw scores on particular scales to a clinical score.

• Different Definitions

While reading the summary of the historical literature below one must keep in mind the diagnostic categories in use at the time an article was published. Before the discovery of lithium as a treatment for bipolar disorder (manic-depressive disease) in the 1970s, people with this disorder were frequently diagnosed as having schizophrenia. In fact, during psychotic episodes, the two disorders can look quite similar. Therefore, one cannot assume that these writers were describing a relatively homogenous population. It was not until 1980 and the publication of the third edition of the Diagnostic and Statistical Manual (DSM-III) that clinicians and researchers could be assured they were talking about the same conditions.
- **Problems in Comparability**

The historical literature describes different types of art, both directed and spontaneous. Sometimes the articles refer to "art" in general and sometimes to specific types of art such as fingerpaintings, drawings, or paintings. Few writers said much about the type or quality of art materials used or the paper or canvas size. Likewise, not all the articles specify how the art was collected. Prinzhorn (1972) estimated that in the Heidelberg Clinic less than 2% of the patients drew spontaneously (p. 267). This made generalizations about any patient group difficult because the available sample was bound to be skewed.

Furthermore, relatively few studies on spontaneous art had adequate experimental controls or used statistical tests. These problems make it hard to interpret some of the conclusions. The research on projective drawings had better designs; but art therapists find it difficult to accept the atomistic approach of adding up individual signs to try to describe what should be a coherent whole.

The fact that independent observers made similar comments about formal variables makes us confident that we have ample justification for the specific scales that make up the FEATS. (For a chart comparing the graphic equivalents of the DSM symptoms see pages 26 and 27).

- **Inadequate Samples**

Many of the earliest articles on the art of psychiatric patients were based on small samples. Simon reported on only 14 cases while Lombroso based his observations on 108 patients, only 46 of whom were interested in painting (in Anastasi & Foley, 1940, pp. 6-7). Other papers reported studies in which there were no controls; to determine that certain characteristics the authors described occurred only in the work of patients was unfounded. Many articles made conclusions based on impressionistic evaluations, not objective criteria. Furthermore, the authors did not use statistical tests to come to these conclusions.

- **A Note on Color**

One of the drawbacks of most projective drawings is that the artists are given only pencils. Our use of colored felt-tip markers permits us to tackle an important question in art therapy about color use.

We measure the relative amount of color, its appropriateness for specific items, and the use of specific colors. Our first two scales and the Content Tally Sheet (Appendix) provide a means of capturing this information. Whether any or all of these scales can be applied to other assessments depends on whether the subject matter is realistic and whether it is a drawing or a painting. For example, we cannot apply Color Fit (Scale #2) to an abstract drawing because we cannot determine the "appropriateness" of colors in abstract art.
As much as art therapists discuss color at professional conferences one finds no discussion in the art therapy literature of screening for color-blindness. We admit that we have not done such testing in our own research. But we would suggest that researchers consider this for their studies. Otherwise, it is difficult to rule out color-blindness as an explanation for low scores on the Color Fit Scale.

The Specific Scales

Earlier in this manual we used the phrase the graphic equivalent of symptoms. This was to make the point that we looked for those attributes found in the formal characteristics, not the symbolic content, of drawings. Just as the symptoms of a psychiatric disorder are beyond the conscious control of an individual so too are the majority of these stylistic attributes.

One must remember that until further research is done on the correlation of specific scales and psychiatric symptoms we cannot assert that a particular scale is the actual equivalent of a symptom. Some of these variables may be multiply determined. For example, decreased energy in major depression may be manifest in less color, fewer details, less use of space, and less imaginative problem-solving. But a depressed mood, feelings of worthlessness, and diminished ability to think or concentrate (DSM-IV, American Psychiatric Association, 1994, p. 327) may also contribute to the same “picture.”

SCALE #1 - Prominence of Color

Our first scale measures how much color a person uses in the entire picture. Does the artist use a color only to outline a form, or does he or she color in the forms and the background as well?

In general, color is related to affect. Hammer (1958) suggests administering an achromatic House-Tree-Person Test (H-T-P) and then a chromatic one for which crayons are provided. He speaks of the “emotional impact of color” (p. 219). He states that “the crayon drawing task tends to elicit reactions to, and tolerance for, emotional stimuli” (p. 232). According to Groth-Marnat (1990) in his summary of the Rorschach literature, “The manner in which color is handled reflects the style in which a subject deals with his or her emotions” (p. 304). Much earlier, Lehmann and Risquez (1953) came to the same conclusion. They were appropriately cautious, however, when they stated that

Although one is not necessarily justified in assuming that the colour/affect relationship which prevails in perception may be transferred to the individual’s active choice and use of colour in manual production, it is difficult to see how one can entirely escape such a conclusion.” (p. 41)
Therefore, one would expect that as a group people with mood disorders would employ either little color (major depression) or a great deal of color (the manic phase of bipolar disorder).

There is some debate among art therapists about color use by depressed patients. Wadeson (1980) points out that there is considerable difference of opinion as to whether depressed patients actually use less color or darker colors. She stated that four other authors had remarked on the use of dark or somber colors, and that two had noted that "the upper half of a picture is often darker than the lower" (p. 64). However, Wadeson contends that in her patients' art she observed a lack of color instead. A possible explanation, she suggests, are that the samples are skewed. However, there are two other possibilities which we offer: (a) the other authors were describing paintings, not drawings, and the two types of work cannot be compared; or (b) they were describing patients who had a type of depression characterized as an exogenous depression. Wadeson, who was working on a unit which studied biological depression, was working with patients who had an endogenous depression. We have seen depressed patients who, when doing undirected drawings with pastels or oil pastels, used dark colors over the entire drawing and others used color only to outline forms.

Pianetti, Palacios, and Elliott (1964) found that the drawings of people with chronic schizophrenia are "highly impoverished with little use of color and content" (p. 139). They also found that their subjects "used crayon to outline shapes or forms and did not exert much effort in coloring in the forms. Landscapes were, so to speak, empty and people merely outlines" (p. 140). Anastasi and Foley (1944) conducted an experimental investigation in which they requested four drawings (a "free" choice, a drawing of "danger," a picture of a man, and a copy of a stylized floral design in six colors). While there were no features which were "completely absent" from the normal drawings, there were some which occurred more frequently in the abnormal drawings including excessive color and using color only as an outline.

Karpov observed the use of darker colors, and that depressed patients were "less productive in general" (in Anastasi & Foley, 1940, p. 16). According to Dax (1953), the paintings of depressed patients were dark and "sombre" (p. 33) but those of patients with mania were "highly colored" (p. 34). This accords with the observations of others (Wadeson, 1980, p. 191; Zimmerman & Garfinkle, 1942, p. 316).

**SCALE #2 - Color Fit**

Our second scale assesses whether the colors used in the PPAT are appropriate to the objects depicted. We constructed this scale expressly because several writers observed that patients with schizophrenia often use bizarre colors. There has been little theoretical speculation as to why this should be. Presumably, it is simply considered to be related to illogical thinking, a cardinal feature of the
disorder. Amos (1982) thinks that it may indicate "difficulty in integrating affective experience" (p. 141).

We appreciate that both trained and untrained artists can use colors in an expressive way. The extraordinary use of colors by the Fauves, the German Expressionists, and other 20th Century artists was certainly part of the prevailing style. We do not mean to imply that a low score on the Color Fit Scale is necessarily pathological. But there are those who use colors in a haphazard or even arbitrary way for a variety of reasons. We are interested in capturing this information so we can see how color use relates to an over-all pattern.

Perhaps the important question is how much color choice is under the artist's voluntary control. Little mention is made in the art therapy literature about physiological causes for changes in color perception. A stroke can damage the area of the brain that generates color names. Changes in vision associated with organic mental illnesses may influence color choice. Carol Cox, an art therapy colleague, alerted us to a paper by Renfroe, Velek, and Marco (1987) about a type of color blindness associated with acute psychiatric illness. These investigators found that 29% of the 87 psychiatric patients they tested had specific types of color blindness which seemed to vary with the stage of psychiatric illness. Those patients in an acute stage were more likely to have a color-blindness or "color-weakness" than those in a chronic stage. Could such a condition account for mistaking one color for another?

Reitman (1947) commented that the art of patients with brain injury showed orderliness, avoidance of empty spaces, perseveration, and disordered color choice. Anastasi and Foley (1944) found that the drawings of patients were more likely to have "unnatural coloring" as well as an excessive variety of color than the drawings of non-patients. In an earlier article (1941) in which they reviewed the published literature they mentioned that Pfister made the same observation. Furthermore, some of Pfister's subjects used a single color, "while others used a variety of colors in a fantastic manner, as in painting a green face, a red face encircled in green, each arm in a different color, or every line in a different color" (p. 194). Reitman (1948) and Carstairs (in Pickford, 1967) noted that this unusual color use occurred in the work of some patients with schizophrenia.

Robertson (1952) measured the use of colors by psychotic patients using several different methods, including asking for color preferences in certain situations, gathering associations to specific colors, and observing actual color use. He concluded that "the central factor underlying all the peculiarities in the use of colour in painting by seriously disordered patients is a diminished feeling for colour or a weakened reactivity to it" (p. 183). This weakened reactivity "in conjunction with impaired self-criticism, leads to haphazard placement and so to the production of unrealistic colourings" (p. 183).
**SCALE #3 - Implied Energy**

This scale attempts to measure the amount of energy used to make the drawing. Originally, our definition of an Energy Scale included both Implied and Actual Energy. At the suggestion of Carol Cox and Dr. Katherine Williams, both experienced art therapists, we split the scale into two separate ones and re-wrote the definitions. When we developed the Content Tally Sheet we realized that Actual Energy should go there. We kept the Implied Energy Scale in the FEATS since it assessed a formal variable.

Energy is certainly biologically mediated. In the mood disorders (bipolar disorder and major depression) one can see the extremes of the energy continuum quite clearly. In a preliminary sample of 322 children’s drawings from a suburban elementary school we found that the distribution of scores on the Implied Energy Scale was normally shaped from the beginning. Unlike the scores on the other FEATS scales the shape of this distribution did not change with age.

Other conditions such as organic mental disorders may influence available energy. Lehmann and Risquez (1953) found that “energy output” was lower in the fingerpaintings of patients with organic mental disorders. Their group of 30 controls had higher mean scores on their energy output scale than those of 4 diagnostic groups (manic, schizophrenic, depressed, and organic patients). However, the definition they used for energy output combines variables we included in our scales on line quality and use of space.

In our clinical experience we have seen what appears to be a curvilinear relationship between the amount of energy expressed in drawings to the amount of manic activity shown by the patients. For example, the pictures rated 5 on the Implied Energy Scale, the Prominence of Color Scale, and the Space Scale (Appendix) were done by patients who were hypomanic at the time. But other pictures in our archive done by those who were at the height of manic episodes show paradoxically little energy. Such individuals dash off a number of pictures in one session. However, each picture contains sparse material because the artists are so eager to go to the next one. The same tendency was noted in an experiment conducted by Anastasi and Foley (1944). In comparing patients’ and non-patients’ drawings they found that “excessive productivity” (doing more than one drawing when only one was requested) was more common in their patient group. Because there can be a considerable difference between what can be seen in the picture itself and what can be determined by observing the artist we urge suitable care in setting up studies that rely only on the pictures.

**SCALE #4 - Space**

This scale measures the amount of space used for the drawing. We had assumed that the amount of space used in a drawing is correlated with the artist’s energy.
However, we do have some drawings that occupy 75\% or more of the page and yet score on the lower end of the Implied Energy Scale. A factor analysis on a large-scale sample will give us information about which of our scales are truly independent.

We have plans to measure this variable more precisely by using a computer and a scanner. Thus, we could convert this scale into a powerful ratio scale and be precise in detecting differences between groups. However, for our purposes now, this estimate of the amount of space used will suffice. As in the case with the Prominence of Color Scale, this scale may be best applied to drawings (where leaving some white space is a convention of the medium) rather than paintings.

_Horror vacui_ (filling all available space in the drawing or painting) was noted by both Prinzhorn and Pfister (in Anastasi & Foley, 1941, p. 193). Reitman (1947) commented that some patients with brain injury also avoided empty spaces. Mohr described a picture done by a manic depressive patient [as the disorder was termed then] "just at the transition from the manic to the depressed phase [which] revealed manic hyperactivity in the complete filling of all available space, while its content, a mourning angel hugging a cross, suggested the incipient depression" (in Anastasi & Foley, 1940, p. 11).

In an experimental study with 50 subjects, Dawson (1984) used a battery of five drawings. She found that depressed patients did use significantly less space than the non-depressed patients. Russell-Lacy, Robinson, Benson, and Cranage, (1979) concluded that the drawings of psychiatric patients had "uncovered space" and that this feature was not associated with any particular diagnostic group. According to Lynn (1971) the figure drawings of the organic patients were of small size.

The hypothesis that depressed patients produce smaller figure drawings was tested by a number of researchers (Dudley, Craig, Craft, Sheehan, Mason, & Rhoten, 1973; Dudley, Craig, Mason, & Hirsh, 1976; Holmes & Wiederholt, 1982; Lewinsohn, 1964; Roback & Webersin, 1966; Salzman & Harway, 1967; Sandman, Cauthen, Kilpatrick, & Deabler, 1968) but the results are contradictory. Machover maintains that large human figures are drawn by the "overactive manic" (as well as the "grandiose paranoid and the fantasy inflated individual") (Machover, 1949, p. 91). Furthermore, she says "The manic individual cannot help but scatter the figure over the page with an expansive use of paper and an extravagance of energy" (p. 90).

**SCALE #5 - Integration**

A coherent integration of its individual elements is crucial to any work of visual art. Since the PPAT suggests that specific elements (the person, the tree, and the apple) have a relation to each other we expect that the drawing will depict that relation. This scale measures the degree to which the items in the picture are balanced into a cohesive whole. It focuses on what has been variously described.
as “fragmentation,” “deterioration of composition,” “disturbed spatial organization,” and “disintegration” in the art by patients with schizophrenia (see chart in Wadeson, 1980, p. 190). Amos (1982) states “Where spatial organization is completely lacking, personality organization can be inferred to be severely disturbed” (p. 137). This variable is also connected with higher cortical functioning and abstract thinking, processes which are disturbed by delirium and dementia.

In referring to the debate about a consistency of style in schizophrenic art Carstairs states, “The work of acutely disturbed patients is characterised by incoherence and disintegration, that is by the abandonment of style” (in Pickford, 1967, p. 195-196). Billig and Burton-Bradley (1975; 1978) demonstrated that while the content of delusions and hallucinations portrayed in art by patients with schizophrenia is influenced by cultural beliefs, the disintegration of spatial organization is the same. Green and Pickford found schizophrenic art to be “less highly integrated” (Pickford, 1967). In contrast, Zimmerman and Garfinkle (1942) noted that the work of people with mania had, among other characteristics “fluid composition, excellent perception of form, [and] genuine [artistic] ability” (p. 316).

Reitman (1948) commented on the “lack of integration,” and “chaotic organization” of art by patients with schizophrenia (p. 314). Russell-Lacy Robinson, Benson, and Cranage (1979) found “pictorial imbalance” in the work of psychiatric patients, regardless of diagnosis.

**SCALE #6 - Logic**

This scale attempts to sort out illogical responses to the request for the drawing. The variable being rated is the graphic equivalent of the incoherence or marked loosening of associations of schizophrenia (DSM-IV, American Psychiatric Association, 1994, p. 276) and the impairment in abstract thinking in delirium and dementia.

Making a rating on this scale is not always an easy task. In our experience, some artists, particularly adolescents who are asked to do the PPAT for a second time, let their imaginations have free rein. The result is often a humorous or satirical treatment of the subject. For example, one picture in our archive shows a person sitting in a tree swinging a pick ax at a computer monitor with an Apple logo on it. This is a humorous and playfully literal rendition of “a person picking an apple.” However, raters must distinguish such a response from one that is bizarre or illogical. The key is whether the result is ironic, funny, or satirical as opposed to bizarre or nonsensical.

Arieti (1974; 1976) considered “primary process” to be an important feature of the art of patients with schizophrenia. This is probably the same characteristic as the “disorder of associative mechanism” identified by Hassman and Zingerle (in Anastasi & Foley, 1940, p. 23). The “incoherence” that Carstairs
ments is probably a manifestation of illogical thinking (in Pickford, 1967, p.195-196). Zimmerman and Garfinkle (1942) described the typical art of patients with schizophrenia as consisting of “completely abstract designs” and ideas superimposed on one another and that the “forms utilized may occasionally be bizarre” (p. 317). In describing the “schizophrenic flavor” of one set of drawings, Machover (1949) commented on “the generally bizarre effect of the drawings, all denoting a very private world of ideas” (p. 118). Amos (1982) echoes that statement when he says

In the artistic endeavors of creative persons, there is a concept to be abstracted, behind the abstraction. Such an abstraction can usually be decoded by the average spectator with the help of known symbols. The concept behind the work of schizophrenics is so individual that the spectator is at a loss to make sense of it. (p. 137)

**SCALE #7 - Realism**

The seventh scale assesses the degree to which items are realistically drawn. We do not expect that the people with whom we are working will be trained artists. But we do expect that the average non-patient of average intelligence will be able to draw recognizable trees and people. Lowenfeld (1947) points out that most people stop drawing in adolescence. Groth-Marnat (1990) agrees, and states, “most people’s artistic ability stops when they are about 10 years of age so that most people are not particularly good artists” (p. 371). We assume that those people in our non-patient sample have passed through the stage Lowenfeld calls “Dawning Realism.”

Raters must be able to identify at least one item such as a tree, person, or apple to give a score on this scale. Many of our patients with conditions such as Alzheimer’s disease draw unrecognizable pictures. Other investigators have noted the same phenomenon. Lehmann and Risquez (1953) found that the finger-paintings of patients with organic disorders were rated lower on “contact with reality” and “clarity” than those of three other patient groups (manic, schizophrenic, and depressed) and a control group. By contrast, their group of 30 controls had higher mean scores than those of the four diagnostic groups on clarity and contact with reality. “Clarity” was defined as ranging from smearing and confusion to “highly accurate” and “meticulous,” while “contact with reality” was defined as ranging from “indefinable, bizarre and meaningless repetition” to “landscape[s], buildings, people” and “detailed representations of objects, and plants” (p. 44).

Lombroso (1888) stated, “Paralytic [patients with tertiary syphilis] patients draw objects without any sense of proportion; their hens are the size of horses, and their cherries melons” (p. 204). Simon described the art of those same
patients as having “inadequacy of representation, great exaggeration, and the
use of insignificant, naïve, and simple drawings to represent grandiose ideas” (in
Anastasi & Foley, 1940, p. 6). [Although there are few patients with tertiary
syphilis these days, there are many with Alzheimer’s disease and similar illnesses
whose drawings are apt to be similar.]

SCALE #8 - Problem-Solving

This scale is concerned with whether and how the drawn person gets the apple
out of the tree. Can the person do so in a relatively reasonable fashion, or are the
apples simply falling out of the tree? There are many possible solutions (such as
extending a branch from the middle of the trunk so the person does not have to
stretch to reach the apple) and many fantastic ones (such as drawing Superman
flying in to pick the apple). This variable was not derived directly from the DSM
symptoms but from the directions for the picture itself. The Content Tally Sheet
captures some of the specific items that might be used to get the apple out of the
tree.

In contrast to most other drawing assessments, the PPAT emphasizes
finding a solution to a problem. The Kinetic House-Tree-Person (1987) and
Kinetic Family Drawing (Burns, 1982; Burns & Kaufman, 1970, 1972) emphasize
movement and a certain connection between elements of the picture. However,
these drawings do not require a solution to a stated problem.

In a small-scale validity study on the FEATS (Gantt, 1990; 1993) the
Problem-solving Scale distinguished each group (four diagnostic groups and a
control group) from every other one. This was an unexpected but intriguing
finding. Perhaps this variable is a special feature of this particular drawing that
can capture differences between patient groups at varying times in the course of
an illness, especially the mood disorders. Ostow (1980), who describes the
hypomanic personality from a historical perspective, states:

As contrasted with the individual who is neither manic nor
depressed, the depressive individual will be unable to see the
obvious potential in a situation, while the truly manic will see
the possibilities that are utterly unrealistic. The individual
with hypomanic personality will see potentialities beyond
those that are visible to the nonhypomanic; yet they will be
sufficiently realistic to warrant being taken seriously. This
perceptiveness and imaginativeness relate to problem-solving
in whatever area of interest. They may also lead to the
creation of imaginative images of reality, which possess
esthetic appeal for others. (p. 389)
Ostow’s comment about “esthetic appeal” accords with Karpov who stated that several of his manic patients made art of “considerable artistic merit” (in Anastasi & Foley, 1940, p. 15). Other writers link mania and hypomania with artistic creativity (Andreasen, 1980; Jamison, 1993; Zimmerman & Garfinkle, 1942). Sapas found that “manics were generally willing to draw and were talkative, their approach not differing much from the normal” (in Anastasi & Foley, 1941, p. 191). In fact, in one of our pilot studies there were two drawings by patients with hypomania that several of our raters mistook for drawings by non-patients.

**SCALE #9 - Developmental Level**

There is great interest in Lowenfeld’s developmental stages as they apply to children’s drawings. This scale compares the adult work with that of children at different stages. Our intention has been to develop finer gradations for this scale for children’s drawings. However, it may be that we will not need to have greater specificity if there are sufficient differences across children’s ages on the other scales. Our initial study of elementary school students shows that the FEATS we developed for adults works well with children’s PPATs.

In reviewing the literature we do not find the term “developmental level” used in conjunction with descriptions of adult art. Nor is this scale suggested by the DSM-IV list of symptoms. However, some writers used terms which may suggest a link between the pictures of several different diagnostic groups and children’s art. Simon reported that the art of patients with dementia praecox [schizophrenia] was, among other things, “childlike” (in Anastasi & Foley, 1940, p. 6). Lombroso (1888), in commenting on the work of paralytic [syphilis] patients said “the execution is merely childish” (p. 204). This is echoed by Zimmerman and Garfinkle (1942) who made the clinical observation that “general paretics [people who have general paresis, a psychosis due to syphilis]... showed an infantile level” in their art (p. 314). According to Dax (1953), “the changes [in organic disorders] which can be recognized are either those consequent upon a dementia, as in the chronic schizophrenic with a reversion to a childlike simplicity, or else those to be seen after head injuries with a paucity of thought and a tendency to concrete forms of representation” (p. 44). Simon noted that the “feeble-minded were ... child-like in their drawings and frequently resorted to imitation” (in Anastasi & Foley, 1940, p. 6). But, one must be cautious about such statements. Prinzhorn (1972) notes that “awkward, rather childish works...have been done by many a healthy adult” (p. 266).

From the beginning of the child study movement around the end of the 19th Century to the present day there has been no dearth of studies on the drawing behavior of normal children. However, there are relatively few studies on the work of normal adults without artistic training. Cameron (1939) showed that scientifically trained adults made artistically unsophisticated drawings. Thomas (1966) and her colleagues (Harrower, Thomas, & Altman, 1975; Shaffer, Pearson,

Virtually all the art therapy literature contains abundant generalizations about patients’ art without the benefit of an age-matched control group. Furthermore, there have been no large-scale studies to see if the drawings of adults are actually arrested at the level of adolescence as Lowenfeld surmised. Is the apparent developmental level influenced by education, art training, or socio-economic levels? If so, these factors must be weighted into any research on the effects of mental illness on art. This lack of serious attention to “norming” adults’ drawings on a representative adult population must be remedied in the future.

Careful use of this and the other scales in the FEATS can show the actual differences between children’s art and that of untrained adults. The art of children, the so-called “primitives” (artists from tribal cultures), and the insane is often lumped together. Art historians refer to this grouping as the “unholy trinity.” Unfortunately, those who have not studied the art of these three groups in depth are mistaken to treat them as a single category. According to MacGregor (1978, p. 97), this facile comparison has been a problem since the work of Cesare Lombroso. [Lombroso was the writer who made the simplistic equation that has so dominated this field since the 1880s—that genius and insanity are two sides of the same coin.] In fact, we think careful research will show there are considerable differences among them.

**SCALE #10 - Details of Objects & Environment**

This scale quantifies the relative amount of detail in the PPATs. According to Ogdon (1975), when doing projective drawings normal subjects “should, and almost always will, provide the essential details of the subject matter they are drawing... and add a few details that are not essential. They will omit nothing basic and they will not engage in excessive detailing” (p. 66). This succinctly describes how our non-patients approach the PPAT task.

As is the case with Implied Energy (Scale #3) we assume that a low score is associated with major depression and a high score with mania. Our observations are in accord with other clinicians. Using a battery of five drawings Dawson (1984) tested 50 subjects and found that depressed patients used significantly fewer details than the non-depressed patients. According to Dax (1953), the paintings of depressed patients “lack detail” (p. 33). But there are other diagnostic groups in whose art relatively few details have been noted: “general paralytics” [people with general paresis] (as reported by Simon in Anastasi & Foley, 1940, p. 6), people with chronic schizophrenia (Pianetti, Palacios, & Elliott, 1964), and those with organic mental disorders (Cronin & Werblowsky, 1979).
As for figure drawings, Hammer (1958) remarked that those of depressed patients were “characterized by either a marked paucity of details or an inability to complete all of the drawings, however scantily, or both” (p. 64). Goldworth (1950) found that the figure drawings of patients with schizophrenia lacked important details.

**SCALE #11 - Line Quality**

The scale for Line Quality is another one in which the extremes of the continuum are associated with one or more disorders. With this scale we try to describe the amount of control a person seems to have over the variety of lines in the picture. In other words, a person who is in control of both the medium and his or her hands can vary the lines at will. If the subject matter calls for it, the artist can make lines of different weights and lengths.

Urban (1963) considered that consistent line quality with rather steady pressure to be characteristic of “normal” figure drawings. Wilkinson and Schnadt (1968) found that the line quality in the drawings by patients with paranoid schizophrenia was heavier than in drawings by those with chronic schizophrenia or anxiety reactions. However, these findings were not corroborated by Dudley et al (1973; 1976).

Vernier, Stafford, and Krugman (1958) noted the abundance of sketchy, broken lines in the drawings of patients with organic disorders. Cronin and Werblowsky (1979) included “disconnections” on the list of early signs of organicity they found in their patients’ art. This is termed by some writers as the “organic gap.” However, this term usually applies to a break in a line such as that defining a circle or some other geometric figure. According to Lynn (1971), the drawings of the organic patients displayed both “tremor” and the “organic gap” (p. 25). On the other hand, Pfister found “uniform pressure” to be typical of the drawings of organic patients (in Anastasi & Foley, 1941, p. 194). In her book on figure drawings Machover (1949) stated that the quality of line is “more solid and simple in the organic and the defective” (p. 92), but there was “no modulation in line treatment” in the work of “regressed and vegetative schizophrenics” (p. 91).

Zimmerman and Garfinkle (1942) noted that the work of people with mania contains among other characteristics “swirl-like forms,” and “sharply agitated lines” (p. 316). In a summary of the literature on specific characteristics of patients’ art, Wadeson and Carpenter (1976) listed “disordered lines” as being found in art done by patients with mania.
SCALE #12 - Person

Drawing people is one of the first things children naturally do. With this scale we want to know if the person in the picture looks like a three-dimensional person rather than a stick figure. Presumably, a person’s own body image is related in some fashion to his or her drawing of a person. If the human figure is severely distorted or fragmented we assume the artist has a distorted or fragmented sense of self. Problems with body image are found in several psychiatric disorders.

Angyal and Lorand (in Anastasi & Foley, 1941, p. 202) concluded that the drawings of organic patients manifest general regression including disjointed body parts. Lehmann (1980) remarked on the “gross distortions of the body image” in the art of patients with schizophrenia (p. 1185). Zimmerman and Garfinkle (1942) made the clinical observation that patients with organic syndromes and the mentally retarded drew enlarged heads. According to Reznikoff and Tomblen (1956) the significant indicators of organicity included misplaced body parts, shrunken arms and legs, and distorted parts other than head or extremities.

Goldworth (1950) found that the figure drawings of patients with schizophrenia had disproportionate body parts. But Evans (1984) compared the figure drawings of individuals who were considered “well-adjusted” (non-patients) and those who were deemed “poorly-adjusted” (psychiatric patients) and found that none of five measures of anxiety (head simplification and body simplification, as well as omissions, line quality, and distortion) distinguished one group from the other.

SCALE #13 - Rotation

This scale measures the amount of tilt that the tree or the person show. Presumably, these items will be reasonably upright. This scale and the next on perseveration were designed to capture variables associated with “disturbances of higher cortical functioning” that are the hallmarks of organic mental disorders. Both scales relate to the “constructional difficulty” in these disorders. However, we must note that both rotation and perseveration (the next scale) are found in the art of some young children (see special note below) and are not necessarily pathological.

In reviewing the literature on the Bender Visual Motor Gestalt Test, Groth-Marnat (1990) notes that rotation on that test can occur in brain-damaged patients and the emotionally disturbed (p. 173). However, he states that “differentiated diagnosis...cannot be based on the presence of rotations alone” (p. 172). Bieliauskas and Kirkham (1958) investigated 18 signs on the House-Tree-Person Test presumed to be associated with “organicity” in figure drawings.
They matched 20 organic and 20 non-organic subjects for sex, age, IQ, and length of stay in the institution. The specific signs included the house, tree or person drawn as falling [rotation] and disconnected items [organic gap]. None of the signs were statistically associated with the organic cases.

Lynn (1971) noted that the drawings of the organic patients showed “rotation in plane” (p. 25). Angyal and Lorand stated that the drawings of organic patients manifest constructional or directional errors [rotation] (in Anastasi and Foley, 1941, p. 202).

**SCALE #14 - Perseveration**

With respect to performance on the Bender Visual Motor Gestalt Test, Groth-Marnat (1990) states: “Perseveration can be defined as the continuation of a response well beyond the required number expected” (p. 172). [He was referring to the numerous dots and circles required by the test.] Morrongiello (1996), an art therapist, surveyed the literature on the topic and concluded that “perseveration can be manifested in a variety of behaviors in all age groups, thus explaining the similarities of repeated graphic activity in both the elderly and children” (p. 19). She notes perseveration is found in conditions affecting the frontal lobe and disorders such as Alzheimer’s and other dementias, autism, learning disabilities, attention deficit/hyperactivity disorder (ADHD), and pervasive developmental disorder.

We are concerned with the first of the four levels of perseveration identified by Cuneo and Welsh (1992). This type is a “hyperkinesia-like motor perseveration” which is the “repetition of a single graphical element or motor act.” While other types of perseveration besides this one may appear in drawings, this is the one we can identify and measure more reliably. We have provided two sets of illustrations for the Perseveration Scale (Appendix) to show this type. The top two drawings on the left side are examples of motor perseveration. The artists drew over and over a line or an area. In fact, in the picture rated “1” the artist wore a hole in the paper. The top two drawings on the right side show the “repetition of a single graphical element.”

Various elements in the PPAT seem to lend themselves to perseveration. For example, a person may make repeated loops for apples or grass. However, making many apples is not always perseveration. Some patients with mania or obsessive-compulsive disorder draw dozens of apples. The bottom right-hand drawing rated “5” is not the same as the other two. While there are many apples, one gets the impression of an obsessive-compulsive act rather than perseveration.

We stress that perseveration in young children is not necessarily pathological. A kind of vocal perseveration in which the child finds a sound and repeats it *ad nauseum* is well known to parents. On the other hand, perseveration in adolescence or adulthood is usually only manifest in a disorder such as
schizophrenia. (For an example of this see the drawing rated “3” on the right-hand side of the color plate.)

Maclay, Guttmann, and Mayer-Gross (1938) collected 9,000 doodles by soliciting submissions through a newspaper article. They found that perseveration was common. The doodles were classified as to type and compared with drawings done under other circumstances (such as the “mescaline type” done under the influence of mind-altering drugs). The authors concluded that doodling was characterized by a “lowering of the conscious level” (p. 1349) and was comparable to the psychological processes observed in children and psychiatric patients. Lynn (1971) also found perseveration in the drawings of organic patients.

Pfister stated: “Perseveration of small motor elements and stereotypy of movement were found in cases of senile dementia, these patients often producing characteristic ‘cauliflower’ or ‘grape-like’ designs which consisted of successive, perseverative loops” (in Anastasi & Foley, 1941, p. 194). As Carstairs observed, “The quiescent or chronic [schizophrenic] patient ... often shows a seemingly involuntary perseveration in the repetition of small details, or in an elaboration of symmetrical patterning such as normal people show in doodling, or in a rigid formula of design, using straight-edge and compasses” (in Pickford, 1967, p.195-196).

Zimmerman and Garfinkle (1942) made the clinical observation that general paretics would go over and over a line [perseveration]. Sigg found that motor incoordination, disproportion of parts and perseveration characterized the art of organic patients (in Anastasi & Foley, 1940, p. 12). Perseveration was also noted by Cronin and Werblowsky (1979) as a early sign of organicity and by Reitman (1947) as an indication of brain injury. Reznikoff and Tomblen (1956) stated that a significant indicator of organicity was petal-shaped or scribbled fingers. The “petal-shaped fingers” are probably the result of perseveration.

Demonstrating Reliability

Once we chose what we wanted to measure and selected our scales we wrote a detailed rating manual and tested it under several different conditions. We found the judges’ performance to be consistent across these trials with most scales having an inter-rater reliability of .90 and above (Gantt, 1990), as computed using an intra-class correlation (Guilford & Fruchter, 1978, p. 270-271).

When we decided to make an illustrated manual we tested the prototype for inter-rater reliability using three groups (art therapists, social work students, and recreation therapy students) of three raters each (Table 2). Note that Table 2 has 15 scales; after we completed this study, we decided to move the Actual Energy Scale to the Content Scales.

We gave the social work students the shorter version of the illustrated manual with only the color plates and the rating scale. We gave the other two
groups the longer version with detailed explanations of each point. All groups were given the same ten pictures to rate. One of the recreation therapy students missed two pictures by accident so there were nine pictures rated on Scale #3 and Scale #15. The excellent results obtained with these raters on the majority of the scales give us confidence that our scales can be used reliably.

A Special Note on Scales #13 & 14

In the first pilot studies we could not achieve acceptable inter-rater reliability on the Rotation Scale and the Perseveration Scale. Hoping to correct this problem

| TABLE 2 |
| Inter-rater Reliability Compared Across Three Different Groups of Raters |
| FEATS Scales | Art Therapists† | Recreation Therapists† | Social Work Students†† |
| Prominence of Color | .91 | .96 | .94 |
| Color Fit | .98 | .95 | .94 |
| Actual Energy | .91 | .88* | .90 |
| Implied Energy | .93 | .92 | .89 |
| Space | .95 | .95 | .98 |
| Integration | .97 | .95 | .97 |
| Logic | .96 | .93 | .96 |
| Realism | .93 | .98 | .97 |
| Problem-solving | .95 | .97 | .97 |
| Develop. Level | .88 | .94 | .91 |
| Details | .94 | .96 | .98 |
| Line Quality | .76 | .93 | .84 |
| Person | .95 | .94 | .96 |
| Perseveration | .57 | .74 | .52 |
| Rotation | .82 | .74* | .82 |

* Calculated on 9 pictures; † Long Version; ††Short Version.

we re-worked both scales. Eventually, we realized that the reason for our difficulty is that both variables are not normally distributed. Instead, they seem to have a curvilinear relationship to age. Both characteristics are found in a small percentage of drawings by some young children and some elderly. Rarely are they present in the drawings of adult non-patients. In our preliminary study of children’s PPATs we found more pictures with rotation and perseveration in the pre-kindergarten sample than in the higher grades. We know from studies of children’s free drawings that young children do not orient their drawings to the lower edge of the paper and are apt to place elements in a seemingly random fashion around the paper. Therefore, we expect some rotation in the art of young children. And, as we pointed out above, young children will sometimes perseverate in their drawings. However, one does not expect either perseveration or rotation on the Bender by someone above 8 or 9 years of age (Groth-Marnat, 1990, p. 165). The same is likely the case with drawings.

In truth, our sample of adult drawings on which we were trying to establish our inter-rater reliability had little or no perseveration and/or rotation. Therefore, the raters were usually making identical judgments. The assumption of inter-rater reliability is that the sample will vary more than the raters.

But, this will not happen if the variable being measured does not actually vary in a specific sample. As Endicott and Spitzer (1980) point out, “Strictly speaking, ... reliability is not a property of a rating scale itself but rather, of the rating scale applied to a particular sample by particular raters in a particular setting” (p. 2403). We therefore caution researchers to consider the presence of both variables as a function of the ages of the subjects and check their inter-rater reliability on a set of pictures that have a range of these variables such as those illustrations in the Appendix of this manual.

**Establishing Validity**

Once we had a reliable instrument we needed to see if it was valid and actually measured what we designed it to measure. Could each scale discriminate between at least two diagnostic groups? For this next step we needed to get admission pictures from patients who met strict criteria in order to get as clean a sample as possible. We sorted through the records for patients admitted to our hospital during one calendar year trying to find five people in each of the four Axis I disorders of interest. We eliminated from consideration all those who had more then one Axis I disorder (including substance abuse disorder) during any hospital stay, substantially different Axis I disorders during different hospital stays, and any Axis II disorder. In addition, we omitted those individuals who had severe psychotic symptoms along with a mood disorder or organic mental disorder, or who had depressive symptoms with schizophrenia or an organic mental disorder. (For more details on the selection process see Gantt, 1990.)

We eventually obtained a sample of twenty-five (five in each of the diagnostic groups and five in the control group. The Rotation and Perseveration
Scales did not achieve acceptable inter-rater reliability so they were dropped from the analysis. Using an analysis of variance (ANOVA), we found that 10 of the 12 scales distinguished between two or more groups (Gantt, 1990, 1993). We plan to repeat this validity study using a larger sample and this illustrated manual. In addition, we will conduct a factor analysis to determine which scales give us the most information.
Although we say the content of the PPAT is controlled we have found considerable variations in the details the artists chose to include. To see if there are specific differences between groups we developed a set of nominal or categorical scales to measure content (see Content Tally Sheet, Appendix). While certain scales of the Formal Elements Art Therapy Scale (FEATS) measure the amount of detail or color in a picture, they are not sufficiently specific to capture all the material we would like to study. The Content Tally Sheet enables us to record the presence or absence of specific colors and details.

We began working on our Content Scales by revisiting the Energy Scale which we had previously split into two scales—Implied and Actual Energy. As we worked with these two scales we realized that only “Implied Energy” was a measure of a formal variable. Therefore, we moved “Actual Energy” to the Content Scales.

At this point in our research it is too early to judge whether these Content Scales will be as useful as the FEATS. But such coding does permit us to capture a significant amount of information about the great variety we see in the drawings. How many or which aspects of content will prove to be correlated with any demographic or patient characteristics is, at present, unknown.

Reliability of the Content Scales

When we wrote the Content Scales we assumed that coding these items would be relatively straightforward. Therefore, we were little concerned with testing their inter-rater reliability. However, in the early stages of developing the Content Tally Sheet we were surprised to find that coding for gender was unexpectedly difficult. While we (the authors) could usually agree on the gender of the person(s) in the drawings we found that the rater who tested the first set of scales was often at variance with our opinions. At first, we thought that those differences of opinion were based on differences in age. (The authors are middle-aged and the rater is a college student.) However, we have not tested whether there is a consistent disagreement that might be based on age-related factors.

After having thought more carefully about this problem we realized how complex it actually is. One determines the drawn person’s gender by using a number of clues such as secondary sex characteristics (breasts, beard), colors of the clothing, shape of body, hair style, and accessories. However, raters may not give the same weight to these various clues and may pay more attention to
certain attributes when there are contradictory characteristics. Therefore, we changed our coding on gender to permit some degree of uncertainty.

In a preliminary study on the Content Scales as applied to 200 consecutive drawings we have found that patients are less likely than non-patients to draw a person of an identifiable gender. It may turn out that the gender of the drawn person is not as important in this drawing as in other types of art. Nonetheless, we caution other researchers to be especially careful when using this specific variable without checking for inter-rater reliability.

- **Color Used for the Whole Picture & for the Person**

Our two FEATS scales on color (Prominence of Color and Color Fit) measure the relative amount of color and its appropriate use. By tallying the specific colors used we can look at both the total number of colors as well as the specific colors. We can also confirm or refute observations of earlier writers. For example, Anastasi and Foley (1944) stated,

> Extensive variety of color was found almost exclusively among dementia praecox [schizophrenia] cases and manic depressives in the manic phase; conversely, no manic depressives in the manic phase were found among those patients who employed color sparingly or painted in monochromes. (p. 308)

We have made some interesting clinical observations about the use of particular colors. For instance, pictures in only one color such as black or dark blue seem to occur with some frequency among patients with major depression while those in the hotter colors such as orange and magenta seem to be associated with patients who have organic mental disorders. Having the information about specific color use will now permit us to do statistical tests on these variables.

In discussing the chromatic H-T-P Hammer (1958) states that “From a normative standpoint... three to five colors for the House represents the average range, as does two or three for the Tree, and three to five for the Person” (p. 232). This accords well with our rule of thumb that a non-patient PPAT will have a tree with a brown trunk, red apples, and a green top, and a person with three or more colors.

Hammer also reports that “research in the area is in general agreement that the use of reds and yellows is a more spontaneous form of expression than an emphasis on blue or greens, which are more representative of controlled behavior” (p. 233). He goes on to say that “Black and brown are more common to states of inhibition, repression, and possibly regression” (p. 233). However, these statements apply to the chromatic H-T-P. It remains to be seen if similar results can be found in the PPAT drawings.
Our non-patient group seldom seems to use green in the person’s clothes although both the patient and non-patient groups use blue. Presumably, this is to depict blue jeans. While our control group members generally use three or more colors in the person many patients use only one color. We have clinical evidence that while one color for the person is not a positive sign there are some colors which seem to be correlated with a worsening condition. For example, an all-orange or all-yellow person seems to be “worse” than an all-black person.

Lehmann and Risquez (1953) developed a scoring system for the fingerpaintings they collected from psychiatric patients. They assigned the following scores to the six different colors they offered to the artists:

- Red, yellow - 3 points
- Blue, green - 2 points
- Black, brown - 1 point

Thus, they could quantify the “affective range” by adding up the number of colors and their point value (pp. 43-44). Since we think this type of scoring could be useful in some studies, we propose assigning the following points to the rest of the colors in our set of markers: orange - three points; pink, magenta, dark green, turquoise, and purple - two points each. Using this system some observations by earlier writers could be tested and, if necessary, the number of points adjusted.

• **Person**

From both patient and non-patient groups we sometimes get a picture with just a large hand grasping an apple. Sometimes, the hand appears to be sticking out of the picture plane. We have no specific hypothesis about this but will investigate its frequency and correlation with other variables.

• **Gender**

The Draw-a-Person (DAP) and the House-Tree-Person (H-T-P) tests assume that frequently the artist identifies with the drawn figures. However, with the PPAT this assumption seems unwarranted given that we have no means of testing this. If we administered a post-drawing interview we might capture some of this information. But we can see if the artists are more likely to draw their own gender.

We have observed that in the discharge drawings some patients seem to draw a person of the opposite gender from the admission drawing. We are interested in whether this happens in a particular group.

• **Actual Energy**

The types of Actual Energy on the Content Tally Sheet are relatively easy to code. We have found in a few instances that the people appear to be hanging
from the tree. However, unless there is a rope visible we do not hypothesize that this is a veiled suicidal gesture. “Hanging from the tree” is therefore coded if the person appears to be dangling from the tree, held there by his or her arm or with no visible signs of support (for example, with the head next to a limb or branch).

- **Orientation of Face**

Perhaps the orientation of the drawn person’s face is correlated with a person’s drawing ability or artistic training. That is, a person with more confidence in his/her drawing skills may attempt a more detailed face whereas a less skilled person might take the easy way out by drawing the back of the head. Prinzhorn (1972) noted that one of the “major characteristics of childish drawings [is] the mixing of front and side views in the representations of persons” (p. 233). Or, perhaps, there may be a psychological reason why a person is drawn with his or her back to the viewer.

- **Age**

We do not have any hypotheses or any clinical observations at this time how the apparent age of the drawn person might be correlated with any other variable. However, we will investigate a large sample of drawings to see if there are any statistical differences among various groups we are studying.

- **Clothing**

Are non-patients more likely to draw clothing than patients? Are special costumes rare? By collecting information on the type of clothing and, in fact, whether clothing is drawn at all we may be able to have some additional characteristics to separate one group from another.

- **Apple Tree**

Apple trees with brown trunks, green tops, and red apples seem more numerous in the non-patients’ pictures than in the patients’. This combination also seems to be more common in pictures done just before discharge from the psychiatric hospital than in those done shortly after admission. We are interested in the number of apples and in what seems to be an unusual placement of them by some artists, in that the apples are placed on stems around the perimeter of the tree top, rather than being integrated into the branches as they actually grow.

- **Environmental Details**

We are curious about the types of additional material people draw after they have made the three essential components. Are some groups more likely to add fantastical details than others? Are natural elements more common than man-made
ones? How much do imaginary items figure in this particular drawing? Are more details correlated with higher scores on intelligence tests?

- Other Features

Do seemingly random marks correlate with a diagnosis of psychosis or organic mental disorder? Is writing and/or numbers correlated with severe psychotic disorders such as schizophrenia or mania? Pfister noted the presence of writing in the work of people with arteriosclerosis and paresis (in Anastasi & Foley, 1941, p. 195). The inclusion in art of writing and numbers drew the attention of a number of authors. Dax (1953) thought that writing was associated with mania (p. 34). Guttmann and Maclay (1937) observed the art of patients with schizophrenia contained a mixture of writing and drawing, a characteristic also noted by Amos (1982, p. 136), Carstairs (in Pickford, 1967, p. 167), and Prinzhorn (1972, p. 233). However, without a control group one cannot say that such findings are necessarily pathological.

Maclay, Guttmann, and Mayer-Gross (1938) found that writing and numbers were frequently included in spontaneous doodling. In their comparison of patients and non-patients Anastasi and Foley (1944) concluded “Thus among the normal Ss, the writing usually consisted of the title of the picture, or labels on parts, whereas the abnormal frequently inserted irrelevant words or phrases, numbers, letters, or long, rambling passages” (p. 193).

Other Hypotheses

The Content Scales may suggest other questions to investigate. Once we have tallied several hundred pictures in each major diagnostic category we will be able to use Hammer’s (1981) suggestions about studying “rare” signs. Some important features occur infrequently but when they do, they seem to be associated with a particular disorder. Therefore, using a conventional way of studying group differences would not yield any statistical differences in the appearance of these rare signs. So, according to Hammer, “to test these hypotheses adequately, only instances where the sign occurs should be included” (p. 176). We will be able to test such hypotheses using our Content Tally Sheet.
Chapter 6

PATTERN MATCHING

“I can’t tell you what art is, but I know it when I see it.”

Many art therapists who learned their craft on the job would probably agree that, although they may have some difficulty explaining what they look for in the art of a particular diagnostic group, they know diagnostic clues when they see them. We know now that our professors recognized diagnostic information in art because they had seen many examples over the years. Automatically and reflexively they made mental comparisons, not only of the work of their patients but of any art they had ever seen. This pattern-matching process enabled them to look at a drawing for the first time and tease out salient characteristics.

Patterns Beyond Words

The pattern matching process is complex and sometimes better taught through exposure than didactic means. For example, French bank tellers are taught to recognize counterfeit currency by being given many examples of both good and bogus bills. They are not given a list of specific attributes but are told which bill is which. The overall pattern is one which each person deciphers for him or herself. The process seems beyond language. But, in our experience, it does not have to be. We can now say more confidently that what we look for in patients’ work are patterns of formal variables which, when taken as a whole, are more alike than not.

A pattern can be recognized even if several attributes in that pattern vary in degree or in different directions. For instance, the pattern of PPAT drawings we recognize as being done by people with major depression is, among other things, generally less colorful and uses less space than the general pattern of the control group. Some of these drawings have only one color for the entire drawing and use little space. For an example of this see the picture in the Appendix for Rating 1 on Implied Energy (Scale #3). Other drawings may have more colors and may use comparatively more space such as the picture for Rating 1 on Details of Objects and Environment (Scale #10). These two examples are not identical but they share other attributes such as a general lack of environmental details and color used for outlining only. In addition, they are logical and have reasonable problem-solving strategies. As a group, these drawings, along with the pictures for Rating 1 on Prominence of Color (Scale #1), Rating 1 on Color Fit (Scale #2), and Rating 1 on Space (Scale #4), look more like each other than they do like the
ones done by people with mania. For examples of drawings done by people with mania or hypomania see the pictures for Rating 5 on Prominence of Color (Scale #1), Rating 5 on Implied Energy (Scale #3), and Rating 5 on Space (Scale #4).

Returning to the example of training bank tellers to recognize counterfeit currency we can now draw another parallel. Since each counterfeiter would come up with a slightly different “product,” only by recognizing the over-all pattern of imperfect copies can tellers be prepared for a new set of minutely different attributes.

By looking for a pattern within a certain range of variations in continuous variables we can examine the statistical distributions of the scores on each scale of the FEATS. Then, we can analyze whether these variables are truly independent in all disorders. This approach, we think, will yield more statistical confirmation of our hypotheses.

Problems with the Dictionary Approach

The process of matching a pattern of formal elements to a psychiatric disorder is completely different from the decoding system many art therapy students seek. Sigmund Freud startled his patients by pointing out that dreams, jokes, and slips of the tongue have meanings below the surface. The theories of Freud and Carl Jung have generated myriad volumes on symbolic meaning. Much of this work has been distilled into symbol or sign dictionaries. While some of these dictionaries may appear to be authoritative, we urge caution in their use.

It is tempting for a beginner to want to apply a dictionary approach to understanding pictures. But none of these books or manuals will give the firm answers one might hope for. The reason is the complexity of symbols themselves. Interpretation gets complicated by the double, triple, and sometimes contradictory meanings of symbols. Trying to find a specific meaning of a particular part, sign, or color destroys the overall Gestalt of a picture because it takes no account of the context in which that material appears or how it relates to any other aspect of the drawing or painting. This is probably why many art therapists abandon the idea of finding universal meanings and focus instead on the client’s associations.

However, the symbolic meaning of one feature of a picture is of a different type and order of information than is the kind of information contained in how a person draws. This is the distinction the sociologist Erving Goffman makes when he contrasts “expressions given” with “expressions given off” (Goffman, 1969). Other writers have made similar distinctions between that which is under more or less conscious control and awareness and that which is not (Gantt, 1998). Our contention is that when our patients draw it is likely that the symptoms they are experiencing at the time will be captured on paper. This material is not symbolic. This is the crux of our approach: such material does not have multiple meanings but it does provide useful information especially about a person’s state at the time of the drawing.
We do not mean to imply that there is always a clear dividing line between symbolic and non-symbolic material. Sometimes, we interpret even supposedly straight-forward information incorrectly. For example, in some instances, an apparent blink of the eye is actually a wink and is therefore a deliberate act (see Clifford Geertz’s explanation of this in his discussion of “thick” and “thin” culture, 1973). But, that is where context comes in. We can distinguish between behavior that looks to be the same (wink or blink) when we see it in context. Behavior is stripped of its actual meaning when it is removed from its matrix.

Janie Rhyne, an art therapist, cautioned that any distinction between form and content was incorrect — form is subject matter. We would say that she was correct but for our purposes, we like to say form is information, however, it is information that is usually monitored much less than content. Trained artists are notable exceptions to this general rule because they pay careful attention to matters of stylistic differences.

### PRINCIPLES FOR UNDERSTANDING PICTURES

- No sign is pathognomonic
- Context is vital
- The timing of collection is crucial
- Symbols may have multiple & contradictory meanings
- Form is information

### No Pathognomonic Signs

A dictionary approach is tempting but fraught with problems. Physicians know that there are no pathognomonic signs in medicine. That is, there are no single symptoms such as a rash or a fever that are, by themselves, indicative of a specific disease. Certain symptoms we had associated with a particular psychiatric illness can be features of other disorders as well (but not always the most prominent ones). For example, hallucinations which have been considered a cardinal feature of schizophrenia can be found in alcoholic hallucinosis, dissociative disorders, and toxic conditions. Similarly, no single sign in a drawing tells the entire story.

It is crucial to remember that explanations based on a medical or physical condition take precedence over ones based on symbolic interpretation. This same principle is stressed in the DSM. Also, the time of collecting the drawing is critical;
once the acute symptoms subside because of the disorder’s natural course or because of medication effects, the pictures will be more like those of the control group.

Specific Patterns

With a reliable rating instrument we can now conduct studies on our archival drawings to see if our clinical impressions are empirically supported. Readers must remember that no feature mentioned below is found exclusively in that particular group. We are concerned with probabilistic statements when we talk about statistical verification. Thus, we will have individual exceptions to each pattern.

Also, it is important to keep in mind that the illustrations in this manual were selected for their examples of the range of each variable. In a future publication, we will be able to show more typical examples of each diagnostic group.

The Diagnostic Groups

- Non-patient

One of our biggest limitations in our work to date is a large scale, representative study of non-patients’ drawings. Due to our geographic location we have relatively few minority group members. Also, many in our control group are associated with the hospital or university so they are, on the whole, better educated than a truly representative sample. Therefore, we need to expand our collection of control group drawings to be on a sounder scientific footing. However, our patient sample is drawn from the same area so there are relatively few minority group members in it also.

Keeping in mind the limitations of our available sample, we can now describe the pattern we have seen thus far in the drawings of our non-patient group. As a group, these drawings have an average amount of energy, color, and details (that is, neither too much nor too little of these variables). The required items (the person, the tree, and the apple) are recognizable and placed in an integrated composition that suggests a three-dimensional space. The problem-solving strategy is reasonable rather than fantastic or illogical, and the person is shown actually picking the apple from the tree.

This accords with other writers’ observations. Urban (1963) considered the following characteristics to be typical of “normal” figure drawings: central placement, relative symmetry, pleasing to look at, consistent line quality with rather steady pressure, and normal proportions with some suggestion of movement or animation. According to Groth-Marnat (1990), when doing the Kinetic House-Tree-Person drawing:
a healthy person would be expected to integrate the three objects into a coherent interaction. The objects would be neither too separate and distant nor overly enmeshed and colliding into one another. Their size and placement, while expressing individual differences between one client and the next, would be appropriate. (p. 387)

- **Major Depression**

The drawings of people with major depression have less color and fewer details, and use less space than those of the control group. There is little or no suggestion of an environment but the person, tree, and apple are recognizable and distinct from each other. The problem-solving process is adequate in that the person is usually shown reaching for the apple, although he or she does not always grasp it. The person is often drawn as a stick figure. However, drawings collected just prior to discharge show that many who draw stick figures on admission can do fuller figures.

The amount of space used seems to be directly related to available energy and degree of depression. We have plans to do computer scans of a sample of our drawings to see if there is a statistical correlation between degree of depression and use of space. One of the difficulties in conducting research on depression is its range (from “major depression, severe with psychotic features” to dysthymic disorder) and its comorbidity with other disorders. Whether the FEATS and the PPAT will be useful in determining some subtypes remains to be seen.

Examples of the pattern for major depression are the pictures for Rating 1 on Implied Energy (Scale #3); Rating 1 on Space (Scale #4); and Rating 1 on Details of Objects and Environment (Scale #10). These drawings can be compared with the picture for Rating 3 on Person (Scale #12). The latter drawing has scores similar to these examples on Prominence of Color and Person but lower scores on Problem-solving. It was drawn by a person given a diagnosis of schizophrenia upon admission; the diagnosis was changed to bipolar affective disorder (mania) at discharge.

- **Organic Mental Disorders**

When the individual elements are unrecognizable in a PPAT it was most likely drawn by a patient with an organic mental disorder (OMD). While there might be only one or two colors used they are more likely to be the warm colors (red, orange, and magenta) than the cool ones (turquoise, dark blue, green, or dark green). The color is used to outline forms rather than color them, and those lines are often broken or sketchy. As a group, the drawings are more likely than those of other groups to have considerable rotation and perseveration.

Readers must keep in mind that this general group is quite heterogeneous. Some of the disorders are acute and some are chronic with a deteriorating course.

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56 Gantt & Tabone, FEATS Rating Manual
The drawings in our files come from people with acute exacerbations of their conditions so we do not necessarily have examples from different stages of the illnesses. A profitable study could be done following patients with various chronic conditions over a several-year period to see which scales measure the greatest changes. Another group that should be studied over a prolonged period are those patients with acute, closed head traumas or different types of strokes to see how the location of the brain damage affects the PPA Ts.

Examples of OMD include the following drawings: Rating 1 on Integration (Scale #5); Rating 1 on Realism (Scale #7); Rating 1 on Developmental Level (Scale #9); and both drawings for Ratings 1 and 3 on Perseveration (Scale #14).

- **Schizophrenia**

Much of the historical literature about the art of psychiatric patients described work done by patients with schizophrenia. Now that the DSM has a more narrow definition of this disorder some people who would have been diagnosed with schizophrenia in the past may now be given a diagnosis of bipolar or dissociative disorder. We need to rethink some of the ideas about the art of this group.

There are two important subgroups in schizophrenia and we see different patterns in those groups. Patients with acute flare-ups tend to draw more illogical and bizarre drawings with unexpected elements; they use many colors and ones that often are clashing or unrealistic. But patients with chronic schizophrenia seem to make pictures with fewer details, less realistic people, and less color. Their problem-solving is poor. In the future, we could devise studies to see if the negative symptoms of schizophrenia (such as withdrawal and affective flattening) are more likely to be correlated with low scores on Problem-solving, Prominence of Color, and Details of Objects and Environment, and the positive symptoms (hallucinations and disorganized speech) with low scores on Logic and Integration.

Drawings by patients with schizophrenia include the pictures for Rating 3, Color Fit (Scale #2) and Rating 3 on Realism (Scale #7). The person who did the picture for Rating 3 on Person (Scale #12) was given a diagnosis of schizophrenia upon admission but bipolar affective disorder, mania at discharge. The drawing for Rating 3 on Logic (Scale #6) was done by a person with schizoaffective disorder. These last two examples are good ones to keep in mind because they illustrate that the information we must deal with is not always clear-cut. Using our archive we may be able to determine how the pictures reflect the long-term course of a disorder and what clues in earlier pictures are consistent with that course.

- **Bipolar Disorder, Mania**

The considerable range of behavior in this disorder must be carefully considered when trying to describe any general pattern for this group. At the hypomanic end
of the spectrum the drawings are more likely to be difficult to discern from non-patient pictures. These pictures have an integrated composition, a higher than average amount of energy and details, and a variety of lines. On the whole, they seemed more creative that those of the other groups. In our pilot studies some drawings by non-patients were classified as belonging in the manic category. (One striking example was that of a medical student.) Kay Redfield Jamison, a researcher in bipolar disorder, in describing hypomania in her keynote speech at the 1995 Annual Conference of the American Art Therapy Association, read the symptoms from the DSM and said “Who wouldn’t want to have this condition!” Jamison’s book, *Touched with Fire: Manic-Depressive Illness and the Artistic Temperament* (1993), gives an excellent discussion of the complexities of this disorder and its prevalence in creative people. She states,

> Many of the changes in mood, thinking, and perception that characterize the mildly manic states—restlessness, ebullience, expansiveness, irritability, grandiosity, quickened and more finely tuned senses, intensity of emotional experiences, diversity of thought, and rapidity of associational processes—are highly characteristic of creative thought as well. (p. 105)

Typical of hypomania are the illustrations for Rating 5 on Prominence of Color (Scale #1); Rating 5 on Space (Scale #4); and Rating 5 on Details of Objects and Environment (Scale #10). Surprisingly, the person who drew the picture for Rating 5 on the Implied Energy Scale (Scale #3) had an admission diagnosis of major depression which was changed to “neurotic” depression (not actually a DSM category) at discharge. This person would be an interesting one to follow over several years to see how the drawings change with clinical course.

As the degree of mania increases, the problem-solving processes get more fantastic and unrealistic and the details get more abundant. But, ironically, at the height of mania the pictures seem to have less color, fewer details, and more fluid lines. There seems to be less content rather than more because of the extreme distractibility of the person who quickly finishes one drawing and goes on to the next and the next.

Mania may develop into a full-blown psychotic episode. When that happens the drawings may be difficult to distinguish from those done by patients with acute schizophrenia. The scores on the Logic Scale may decrease and there may be bizarre additions to the content. An example of a drawing done by a person with severe mania with psychotic behavior is the one for Rating 1 on Logic (Scale #6).
Border Cases & Other Considerations

The four disorders we have emphasized here are the most distinct and recognizable of psychiatric illnesses. Even though they have been recognized for centuries there are still controversies about whether they are discrete entities or have some overlap with other conditions. Any classification system is plagued with such problems. In addition, some patients are treated for disorders that mask the underlying causes. For example, a person treated for substance abuse may have an underlying depression. On the other hand, alcohol abuse can depress central nervous system functions. The person who did the picture for Rating 5 on Logic (Scale #6) was treated for substance abuse. Her drawing is more like those of the depressed group. But, the drawing for Rating 5 on Line Quality (Scale #11) seems to belong with drawings done by people in the manic group. The person who did that picture was also treated for alcohol abuse. We can use the FEATS to study the long-term effects of severe alcohol abuse. The picture for Rating 1, Integration (Scale #5) was done by a man with dementia brought on by alcoholism.

We may be able to pick out certain patterns in the drawings when we are dealing with a single Axis I disorder. But what is the effect of additional diagnoses? How are the Axis II disorders manifest in art? What about the effect of normal aging on any of the disorders? Certainly, there are enough questions here to keep art therapy researchers occupied for some time.
Afterword

FUTURE RESEARCH

This rating manual is the result of blending two different approaches to the use of drawings—the one used by psychologists who looked for personality attributes and nomothetic principles and the one used by art therapists and psychoanalysts who sought idiographic information about their clients and patients that would be helpful in therapy. We wanted to develop research tools built on clinical observation and to thereby strengthen the connection between clinical practice and investigation. But we also wanted to make a reliable and valid instrument. We have a long way to go to reach this goal. Our studies on inter-rater reliability have been promising. The most pressing step is to conduct a large-scale validity study ourselves and to encourage others to replicate our work.

In constructing the FEATS we tried to avoid some of the blind alleys encountered by previous researchers such as using a molecular or sign-based approach, failing to separate state and trait variables, trying to find a single dimension that was presumably higher in patients than non-patients, and espousing an interpretive approach before extensive work was done on description. Some of the Gordian knots of projective drawing research might have been untied earlier if more drawings had been collected from more subjects over a longer period of time instead of during a single assessment session. Watching dramatic changes occur in a patient's art over a brief period of days or weeks should convince anyone that "You are what you draw" is a facile and overly simplistic statement.

Our methods enable us to study group differences economically, to gauge therapeutic response, and to monitor the course of a disorder over time. The dimensional aspect of the FEATS makes it an exquisite tool for measuring change of any kind. It has utility with different age groups and different cultures (provided some concession is made in the instructions if apple trees are not familiar).

How much we might be able to study about personality characteristics remains to be seen. In this area, our approach has severe limitations. A single drawing is a tiny sample of a person's possible responses. Consequently, the amount of information we can obtain is considerably less than what one might get from administering the Diagnostic Drawing Series (DDS) (Cohen, Hammer, & Singer, 1988), Edith Kramer's assessment (Kramer & Scher, 1983), the Kwiatkowska Family Art Evaluation (Kwiatkowska, 1978), or the Ulman Personality Assessment Procedure (UPAP) (Ulman, 1965, 1975). These and other
less directed assessments, such as the one used by Judith Rubin (1978), collect more material by virtue of the greater number of drawings or sculptures they require.

**Possible Extensions**

If other researchers want to extend our work will they find the variations in formal elements we see in the PPAT in other types of drawings? The answer will come only with extensive research. But we can outline some important considerations for that research. First, one must not compare drawings to paintings. In a drawing it is acceptable to leave considerable white space or paper showing. This would certainly affect measurements on the Space Scale. Second, different drawing materials may not be comparable. Pastels and felt-tip markers may yield different results. However, this does not rule out correlational studies; it just means that the type of drawing materials used should be treated as an important variable until proven otherwise. Third, artistic experience and/or talent may be a confounding factor. An artist may repeat a drawing he or she has done before (especially when asked to do a “free” drawing). The result may be a picture which appears to be relatively unaffected by illness. A second drawing done within the same session may be considerably different. Perhaps the two drawings cannot be compared. Fourth, correlation studies are necessary to see if other drawings would yield as much diagnostic information as the PPAT if the same scales were applied. Some of the FEATS scales may be limited in their utility. The Problem-solving Scale may be used with few other drawings. Other scales (Details, Color Fit, Logic, Person) would apply only to drawings which were intended to be realistic or contain people. The ones that might be used with abstract or non-representational art would be Prominence of Color, Space, Implied Energy, Integration, and Line Quality.

The possibilities for other research studies are considerable. Some of the ones we have considered are studies of how art mirrors or documents:

- Response to medication
- Degrees of depression
- Pseudodementia compared to dementia
- Stages of Alzheimer’s disease
- Degrees of mental retardation
- Depression in substance abuse disorders
- Changes over the age span (a normative study by decades)
- Creativity and mania
- Stages of mania
- Differences between inpatient and outpatient groups
The Necessity of Predictive Hypotheses

According to Ruscio,

We often blur the crucial distinction between the generation and testing of hypotheses. In the context of discovery, our outstanding pattern-recognition and reasoning abilities are indispensable. We can detect potentially relevant environmental cues and formulate sophisticated hypotheses about underlying causal relationships. However, unaided judgment can fail us in the context of verification. We do not routinely subject our cherished beliefs to rigorous tests, and we often accept the first preferred explanation as fact. Particularly if this explanation is interesting or entertaining, confidence may become unshakable. (emphasis in the original, Ruscio, 1998, p. 45)

The challenge for art therapists (as well as any other professionals hoping to demonstrate their field’s scientific credibility) is to develop and verify predictive hypotheses. We hope the FEATS will be a model for this kind of work.
GLOSSARY

Atomistic - An approach or method that is based on adding up individual elements.
Dementia praecox - An old term for schizophrenia.
Developmental level - Presumed stages of cognitive growth and maturation that children go through as they age.
Endogenous depression - A depressive disorder presumed to be due to internal or biological causes.
Exogenous depression - A depressive disorder presumed to be the result of external causes such as a reaction to the death of a family member.
Horror vacui - A “horror” of vacant spaces; pictures in which all the otherwise empty spaces are filled with detail or ornament. [See Prinzhorn (1972): “Whole sheets are filled with scribbles to the very edge as if a horror vacui gave the drawer no rest until every empty place was covered or, more positively, as if every empty space spurred the drawer into activity (p. 42).” Prinzhorn states: “We have not been able to determine empirically whether the horror vacui must be taken literally as anxiety in the face of empty spaces or whether we are speaking simply of an uninhibited urge to spill out playfully traces of one’s own experiences” (p. 233).]
Idiographic - Characteristics belonging to an individual that make that person unique.
(Contrast with “nomothetic.”)
Isomorphic - Having the same or similar form as something else.
Molecular - An approach to understanding projective drawings based on adding up the individual parts or signs. (The same as “atomistic”; contrast with global characteristics or formal elements.)
Nomothetic - Characteristics that define group membership.
Organic gap - A break in a draw ÓD†$ne that defines a circle or other geometric figure.
Organicity - Characteristic of those behaviors or variables common to patients with organic mental disorders, dementias, delirium, or brain damage.
Paresis - A condition caused by the disease of syphilis when the organism causing the disease reaches the brain. Also called general paresis.
Pathognomonic - A sign, variable, or characteristic that is indicative of a particular disease
Perseveration - Repetition of a motor act or graphic element that seems beyond conscious or voluntary control.

HISTORICAL WRITERS

Prinzhorn, Hans - An Austrian art historian and psychiatrist who collected and studied the art of patients in European psychiatric hospitals in the early 20th Century. Author of Artistry of the Mentally Ill (1972).
Simon, Paul Max - A 19th-Century French psychiatrist who conducted early studies on the art of psychiatric patients.
Lombroso, Cesare - A 19th-Century Italian psychiatrist, criminologist, and anthropologist who studied the relationship of creativity and psychiatric illness. Author of The Man of Genius (1888).
REFERENCES


66 Gantt & Tabone, FEATS Rating Manual


Appendix
DIRECTIONS FOR RATING PICTURES USING
THE
FORMAL ELEMENTS ART THERAPY SCALE ©
(FEATS)

All pictures were drawn according to the same instructions: “Draw a person picking an apple from a tree.” The artists were given the same materials—12 colors of felt-tip markers (the scented Sanford ® “Mr. Sketch” ® Instant Water Color Markers) and white drawing paper (12 by 18 inches). The marker colors are red, orange, yellow, brown, black, green, dark green, turquoise, blue, magenta, pink, and purple.

The following examples are patient drawings collected from several different inpatient units in a psychiatric hospital. They have been selected to illustrate the two ends and the middle of each of 14 ordinal scales. All the drawings were done by individuals sixteen years of age and older.

The drawings in this manual are horizontally oriented in order to provide a consistent format. However, each person who draws a picture chooses how to orient his or her paper.

Marking the FEATS Rating Sheet

Each scale is designed to measure more or less of a particular variable. You should look at the degree to which a picture fits each scale by comparing the picture you are rating and the three examples selected to illustrate the range of that variable. You may mark between the numbers on the scale (ex., a 2.5 or a 3.5). In some cases, you may not be able to identify the variable to rate. In such instances, you should mark zero as the instructions for each scale state.

Approach each picture as if you did not know what it is supposed to be. Do not worry whether your rating is the same as another rater’s. You should concentrate on giving your first impression to the variable being measured.
# SCALE #1 - PROMINENCE OF COLOR

How much color is used? Is the color only used to define an item or shape or is it used to color in the item or shape?

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>This variable cannot be rated. The person did not do the drawing or the person did not use the required materials.</td>
<td>0</td>
</tr>
<tr>
<td>Color is used only to outline the forms or objects in the picture, or to make lines; none of the forms are colored in.</td>
<td>1</td>
</tr>
<tr>
<td>Color is used for outlining most of the forms or objects, but only one form or object is filled in (such as a tree trunk or a person's body). [For small elements such as an apple, it may be difficult to decide whether it is just outlined or filled in as well as outlined.]</td>
<td>2</td>
</tr>
<tr>
<td>Two or more (but not all) forms or objects are colored in.</td>
<td>3</td>
</tr>
<tr>
<td>Color is used for both outlining the forms and objects and filling them in.</td>
<td>4</td>
</tr>
<tr>
<td>Color is used to outline the forms and objects, to color them in, and to fill in the space around the forms (for example, a completely colored sky).</td>
<td>5</td>
</tr>
</tbody>
</table>

Gantt & Tabone, FEATS Rating Manual
SCALE #1 - PROMINENCE OF COLOR

Rating 1

Rating 3

Rating 5
SCALE #2 - COLOR FIT

How well do the colors fit the objects in the drawing?

Given the colors in the set of the markers, several are suitable for drawing the person's skin (black, brown, pink, yellow, orange, or red) and might relate to an ethnic group identification. However, turquoise, dark blue, green, dark green, magenta, or purple are not appropriate colors for parts of the body (such as face, arms, or hands), an entire person, or a stick figure. Apples may be red, yellow, green, or dark green.

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>This variable cannot be rated. The person did not use the specified materials, or the colors are difficult or impossible to distinguish from each other.</td>
<td>0</td>
</tr>
<tr>
<td>The entire picture is drawn in only one color, and that color is turquoise, dark blue, purple, magenta, orange, yellow, or pink.</td>
<td>1</td>
</tr>
<tr>
<td>The entire picture is drawn in only one color, and that color is red, green, dark green, brown, or black.</td>
<td>2</td>
</tr>
<tr>
<td>Some colors (but not all) are used appropriately.</td>
<td>3</td>
</tr>
<tr>
<td>Most of the colors are used appropriately.</td>
<td>4</td>
</tr>
<tr>
<td>All the colors are appropriate to the specific objects in the picture.</td>
<td>5</td>
</tr>
</tbody>
</table>

Gantt & Tabone, FEATS Rating Manual
SCALE #3 - IMPLIED ENERGY

Look at the way in which the picture was drawn, and imagine how much energy and effort it would take if you drew in the same manner. Consider the energy that is necessary to switch colors.

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>This variable cannot be rated; or, the person did not do the drawing.</td>
<td>0</td>
</tr>
<tr>
<td>The drawing appears to be done with the least amount of energy possible to do the task.</td>
<td>1</td>
</tr>
<tr>
<td>The drawing appears to be done with relatively little energy.</td>
<td>2</td>
</tr>
<tr>
<td>The drawing appears to be done with an average amount of energy.</td>
<td>3</td>
</tr>
<tr>
<td>The drawing appears to be done with a considerable amount of energy.</td>
<td>4</td>
</tr>
<tr>
<td>The drawing appears to be done with an excessive amount of energy.</td>
<td>5</td>
</tr>
</tbody>
</table>

Gantt & Tabone, *FEATS Rating Manual*
SCALE #3 - IMPLIED ENERGY

Rating 1

Rating 3

Rating 5
SCALE #4 - SPACE

How much space does the drawing occupy in relation to the whole piece of paper? Make an estimate of the total amount of paper covered. Remember that you can mark between the numbers on the scale (ex., if one-third of the space is used, the rating would be 2.5).

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>This variable cannot be rated; or, the person did not do the drawing.</td>
<td>0</td>
</tr>
<tr>
<td>Less than 25% of the space on the paper is used for the entire picture.</td>
<td>1</td>
</tr>
<tr>
<td>Approximately 25% of the space is used.</td>
<td>2</td>
</tr>
<tr>
<td>Approximately 50% of the space is used.</td>
<td>3</td>
</tr>
<tr>
<td>Approximately 75% of the space is used.</td>
<td>4</td>
</tr>
<tr>
<td>100% of the space is used.</td>
<td>5</td>
</tr>
</tbody>
</table>

Gantt & Tabone, *FEATS Rating Manual*
**SCALE #5 - INTEGRATION**

How integrated is the composition? Look at the overall balance and relationship of the elements to each other.

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>This variable cannot be rated because the individual elements cannot be identified or separated from each other.</td>
<td>0</td>
</tr>
<tr>
<td>The picture is not at all integrated and seems to have no overall composition; none of the items or elements of the picture seem related to each other.</td>
<td>1</td>
</tr>
<tr>
<td>There are at least 2 elements in the picture which may be close to each other, but they are not visually related.</td>
<td>2</td>
</tr>
<tr>
<td>There is a visual relationship between 2 elements in the picture.</td>
<td>3</td>
</tr>
<tr>
<td>There is a visual relationship between 3 or more elements in the picture.</td>
<td>4</td>
</tr>
<tr>
<td>The composition is well integrated and well balanced, and elements may overlap each other (ex., a tree may overlap a horizon line which is drawn the width of the paper).</td>
<td>5</td>
</tr>
</tbody>
</table>

Gantt & Tabone, *FEATS Rating Manual*
SCALE #5 - INTEGRATION

Rating 1

Rating 3

Rating 5
SCALE #6 - LOGIC

Do the components of this picture fit the task? Remember that this is supposed to be “a person picking an apple from a tree.”

It is important to distinguish between this scale and the next one on realism. An individual element may be recognizable, but it is bizarre or illogical in this particular picture. For example, there may be a Christmas tree in the picture instead of an apple tree. This would rate a 4 on the scale if it were the only bizarre or illogical element in the picture. However, sometimes an element which at first appears to be bizarre is used by the artist in a humorous fashion. If the total effect seems to be intentionally humorous or satirical, do not rate it as illogical.

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>This variable cannot be rated because individual items cannot be identified.</td>
<td>0</td>
</tr>
<tr>
<td>The picture is not logical at all, or it has more than 3 bizarre items that do not fit the task.</td>
<td>1</td>
</tr>
<tr>
<td>The picture has 3 bizarre items that do not fit the task.</td>
<td>2</td>
</tr>
<tr>
<td>The picture has 2 bizarre items that do not fit the task.</td>
<td>3</td>
</tr>
<tr>
<td>The picture has 1 bizarre item, but it is generally logical.</td>
<td>4</td>
</tr>
<tr>
<td>There are no bizarre or illogical elements in the picture.</td>
<td>5</td>
</tr>
</tbody>
</table>

Gantt & Tabone, FEATS Rating Manual
SCALE #6 - LOGIC

Rating 1

Rating 3

Rating 5
SCALE #7 - REALISM

Can you recognize all the elements in the picture? The more realistic and three-dimensional the elements are, the higher the rating would be.

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>The picture is a mass of lines and/or shapes and has no visually identifiable items in it.</td>
<td>0</td>
</tr>
<tr>
<td>There are some elements which might have been intended by the artist to represent a person, an apple, or a tree; however, they are no more than suggestive of these elements.</td>
<td>1</td>
</tr>
<tr>
<td>The items are recognizable but simply drawn (ex., a lollipop tree with a single line for a trunk).</td>
<td>2</td>
</tr>
<tr>
<td>The items are somewhat complex (ex., a tree with a trunk, branches, and leaves).</td>
<td>3</td>
</tr>
<tr>
<td>The items are relatively realistically rendered (ex., the tree has a distinct trunk, branches, twigs, leaves, and a suggestion of texture in the trunk).</td>
<td>4</td>
</tr>
<tr>
<td>The items are drawn with a great deal of realism (ex., a tree that has shading to indicate a three-dimensional trunk).</td>
<td>5</td>
</tr>
</tbody>
</table>

Gantt & Tabone, *FEATS Rating Manual*
SCALE #7 - REALISM

Rating 1

Rating 3

Rating 5
## SCALE #8 - PROBLEM-SOLVING

How effective is the solution for getting the apple out of the tree?

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>The tree, apple, and/or person is missing; or, these items cannot be identified.</td>
<td>0</td>
</tr>
<tr>
<td>The person does not have the apple in hand, or there are no apples in a container or on the ground.</td>
<td>1</td>
</tr>
<tr>
<td>The person has the apple in hand, but it is not apparent how he/she got it (i.e., it doesn’t look as if the person had reached for the apple); or, the apples appear to be falling into a container, or falling on the person or the ground.</td>
<td>2</td>
</tr>
<tr>
<td>The person appears to have picked the apple, but the solution is not reasonable (ex., giving the person an excessively long arm, or drawing a small branch with the apple on it coming straight out of the middle of the trunk).</td>
<td>3</td>
</tr>
<tr>
<td>The person is on the ground, or some other reasonable type of support (ex., a ladder, or a rock) and is reaching for the apple.</td>
<td>4</td>
</tr>
<tr>
<td>The person is on the ground, or some other reasonable type of support (ex., a ladder, or a rock), or is standing on the ground with arm extended, and the apple is actually in hand. (That is, the person is shown in the process of picking the apple as the directions for the picture state).</td>
<td>5</td>
</tr>
</tbody>
</table>

Gantt & Tabone, *FEATS Rating Manual*
SCALE #8 - PROBLEM SOLVING

Rating 1

Rating 3

Rating 5
How would this picture be rated according to Lowenfeld’s developmental levels? Determining the developmental level is usually done with children’s drawings. However, many people stop drawing in adolescence; therefore, many adults will draw in the style of adolescents, not having developed their artistic skills any further. The scale is used to give a rough estimate of the developmental level. If children’s drawings were being studied, we would need a more finely gauged scale to rate them accurately.

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>This variable cannot be rated because the individual elements cannot be identified.</td>
<td>0</td>
</tr>
<tr>
<td>The drawing consists solely of scribbles or masses of lines and shapes.</td>
<td>1</td>
</tr>
<tr>
<td>The drawing is like those of four- to six-year-olds (ex., no baseline, the person’s arms appear to come from the head or neck, objects are composed of geometric shapes).</td>
<td>2</td>
</tr>
<tr>
<td>The drawing is like those done by latency-age children (with a baseline and/or a skyline; objects are lined up on the baseline).</td>
<td>3</td>
</tr>
<tr>
<td>The drawing is like those done by adolescents (with overlapping of objects and with realistic sizes for each object in relation to the others).</td>
<td>4</td>
</tr>
<tr>
<td>The drawing is an “adult” drawing and shows some artistic sophistication or training.</td>
<td>5</td>
</tr>
</tbody>
</table>

Gantt & Tabone, *FEATS Rating Manual*
SCALE #9 - DEVELOPMENTAL LEVEL

Rating 1

Rating 3

Rating 5
### SCALE #10 - DETAILS OF OBJECTS & ENVIRONMENT

How many extra items are there in the drawings? How detailed are the various items?

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>This variable cannot be rated because individual items cannot be identified.</td>
<td>0</td>
</tr>
<tr>
<td>There is nothing but a person, a tree, and/or an apple, and these items are drawn simply with little detail (ex., a tree with a single line for the trunk and a rounded form for the top).</td>
<td>1</td>
</tr>
<tr>
<td>In addition to the person, tree, and apple, there is a horizon line, or there is some suggestion of grass.</td>
<td>2</td>
</tr>
<tr>
<td>In addition to the person, tree, and apple, there is a horizon line and/or one or two additional details (ex., flowers, sun).</td>
<td>3</td>
</tr>
<tr>
<td>In addition to the person, tree, and apple, there are a number of details such as clouds, birds, another tree, or accessories such as belts or hair bows.</td>
<td>4</td>
</tr>
<tr>
<td>In addition to the person, tree, and apple, there are abundant and inventive details such as fences, houses with shutters, and special clothing details (ex., a pattern on a shirt, or hats with ribbons or hat bands).</td>
<td>5</td>
</tr>
</tbody>
</table>

Gantt & Tabone, *FEATS Rating Manual*
SCALE #10 - DETAILS OF OBJECTS & ENVIRONMENT

Rating 1

Rating 3

Rating 5
**SCALE #11 - LINE QUALITY**

How much control did the artist have when drawing the lines in the picture? Consider the "average" of the whole picture.

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>This variable cannot be rated.</td>
<td>0</td>
</tr>
<tr>
<td>In general, the lines appear to be drawn erratically with no apparent control.</td>
<td>1</td>
</tr>
<tr>
<td>The lines appear to be drawn with a shaking hand.</td>
<td>2</td>
</tr>
<tr>
<td>Some lines are continuous and some lines have gaps in them, or are made of a series of dots or dashes.</td>
<td>3</td>
</tr>
<tr>
<td>The lines are under control.</td>
<td>4</td>
</tr>
<tr>
<td>The lines are quite fluid or flowing (even excessively so).</td>
<td>5</td>
</tr>
</tbody>
</table>

Gantt & Tabone. *FEATS Rating Manual*
**SCALE #12 - PERSON**

Does the person look like a person? In making your rating consider the size of the person. Smaller figures may not have as many distinct body parts as larger ones but they still may suggest three-dimensional bodies that are well proportioned.

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>This variable cannot be rated; there is no part of the drawing you can identify as an attempt to draw a person or a part of a person.</td>
<td>0</td>
</tr>
<tr>
<td>A part or parts of the drawing might suggest a person (ex., a vertical line that might suggest a body or a horizontal line that might suggest an arm), but it is difficult to be certain that the artist meant this to represent a person.</td>
<td>1</td>
</tr>
<tr>
<td>There is only a hand or a face or some simple shape suggesting part of a human form or body, but not an entire body.</td>
<td>2</td>
</tr>
<tr>
<td>The person is drawn as a stick figure with at least a circle for the head.</td>
<td>3</td>
</tr>
<tr>
<td>The person is drawn as a stick figure with facial features, or is drawn with a head and torso, but with some missing parts (ex., hands or feet).</td>
<td>4</td>
</tr>
<tr>
<td>The person is drawn with articulated body parts (ex., feet, hands with fingers, waist, and neck); the figure looks three-dimensional.</td>
<td>5</td>
</tr>
</tbody>
</table>

Gantt & Tabone, *FEATS Rating Manual*
SCALE #13 - ROTATION

How much rotation is there? Rotation is tilting an object or person relative to an imaginary vertical axis. Score only the person or the tree on this scale. Decide which of these elements appears to tilt more and use that one to determine the score according to this diagram.

CRITERIA

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>This variable cannot be rated because there is no identifiable person or tree to measure.</td>
<td>0</td>
</tr>
<tr>
<td>There is a great deal of rotation; the tree or person is upside down, or the person or tree is at a right angle to the vertical axis of the drawing.</td>
<td>1</td>
</tr>
<tr>
<td>There is a considerable amount of rotation.</td>
<td>2</td>
</tr>
<tr>
<td>There is a moderate amount of rotation.</td>
<td>3</td>
</tr>
<tr>
<td>There is a slight amount of rotation.</td>
<td>4</td>
</tr>
<tr>
<td>There is no rotation; both the person and tree are vertical.</td>
<td>5</td>
</tr>
</tbody>
</table>

Gantt & Tabone, FEATS Rating Manual
SCALE #14 - PERSEVERATION

Does it seem that any of the lines or elements were drawn repeatedly and without conscious control? For example, there may be many little loops or connected circles that might be apples placed in a ring around the top of the tree. An element may be repeated a number of times; however, this is not perseveration if it appears to be intentional. For example, the drawing on the lower right-hand side rated “5” has many apples but it appears as if the artist had control over them. In the drawing on the upper right-hand side rated “1” it seems that the artist did not have control over the number of apples. Note how a row of apples seems detached from the branches and follows the contour of the person, the tree trunk, and a line that looks like a root near the bottom of the tree. The examples for ratings “1” and “3” on the left-hand side show motor perseveration while those for “1” and “3” on the right-hand side show repetition of a single graphic element.

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>This variable cannot be rated.</td>
<td>0</td>
</tr>
<tr>
<td>The picture has a great deal of perseveration (ex., a line is drawn</td>
<td>1</td>
</tr>
<tr>
<td>over and over until a hole is worn in the paper.)</td>
<td></td>
</tr>
<tr>
<td>The picture has a considerable amount of perseveration.</td>
<td>2</td>
</tr>
<tr>
<td>There is a moderate amount of perseveration (such as many little</td>
<td>3</td>
</tr>
<tr>
<td>marks that appear to be multiple stems on one apple); or, there is</td>
<td></td>
</tr>
<tr>
<td>only one area where a line is drawn over and over.</td>
<td></td>
</tr>
<tr>
<td>There is a slight amount of perseveration.</td>
<td>4</td>
</tr>
<tr>
<td>There is no perseveration.</td>
<td>5</td>
</tr>
</tbody>
</table>

Gantt & Tabone, FEATS Rating Manual
SCALE #14 - PERSEVERATION

Rating 1

Rating 3

Rating 5
FORMAL ELEMENTS ART THERAPY SCALE (FEATS)© RATING SHEET
Linda Gantt, Ph.D., ATR-BC, & Carmello Tabone, M.A., ATR

The FEATS uses scales that measure more or less of the particular variable. Look at the
degree to which a picture fits the particular scale by comparing the picture you are rating with
the examples in the illustrated rating manual. You may mark between the numbers on the
scales. Approach the picture as if you did not know what it was supposed to be. Can you
recognize individual items? If you have a picture that is hard to rate, do your best to compare
it to the illustrations and the written descriptions. Do not worry whether your rating is the
same as another rater’s. Concentrate on giving your first impression to the variable being
measured.

<table>
<thead>
<tr>
<th>#1 - Prominence of Color</th>
<th>Color used for outlining only</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Color used to fill all available space</th>
</tr>
</thead>
<tbody>
<tr>
<td>#2 - Color Fit</td>
<td>Colors not related to task</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>Colors related to task</td>
</tr>
<tr>
<td>#3 - Implied energy</td>
<td>No energy</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>Excessive energy</td>
</tr>
<tr>
<td>#4 - Space</td>
<td>Less than 25% of space used</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>100% of space used</td>
</tr>
<tr>
<td>#5 - Integration</td>
<td>Not at all integrated</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>Fully integrated</td>
</tr>
<tr>
<td>#6 - Logic</td>
<td>Entire picture is bizarre or illogical</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>Picture is logical</td>
</tr>
</tbody>
</table>


This is a revised version of the rating sheet for the Formal Elements Art Therapy Scale, © 1990, Linda Gantt.
This rating sheet may be reproduced in quantity by researchers. For other uses, written permission is needed.
<table>
<thead>
<tr>
<th>#7 - Realism</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Quite realistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not realistic (cannot tell what was drawn)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#8 - Problem-solving</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Reasonable solution to picking apple</th>
</tr>
</thead>
<tbody>
<tr>
<td>No evidence of problem-solving</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#9 - Developmental Level</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Adult level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two-year-old level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#10 - Details of Objects and Environment</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Full environment, abundant details</th>
</tr>
</thead>
<tbody>
<tr>
<td>No details or environment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#11 - Line Quality</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Fluid, flowing lines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broken, &quot;damaged&quot; lines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#12 - Person</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Realistic person</th>
</tr>
</thead>
<tbody>
<tr>
<td>No person depicted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#13 - Rotation</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Trees &amp; people, upright, no rotation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pronounced rotation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#14 - Perseveration</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


This is a revised version of the rating sheet for the Formal Elements Art Therapy Scale, © 1990, Linda Gantt. This rating sheet may be reproduced in quantity by researchers. For other uses, written permission is needed.
### Instructions for Coding:
Approach the picture as if you did not know what it was supposed to be. Can you recognize the individual items? Place a check for all items you see in the picture. If there is no category for an item try to describe it in the section called "Other Features" (Section 13). If there are two or more persons in the picture designate the person on the left as Person #1, the next person to the right as Person #2, and so on.

#### 1. Orientation of Picture
- **Horizontal**
- **Vertical**

#### 2. Colors Used in the Whole Picture

<table>
<thead>
<tr>
<th>Color</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue</td>
<td>Turquoise</td>
</tr>
<tr>
<td>Red</td>
<td>Purple</td>
</tr>
<tr>
<td>Green</td>
<td>Dark green</td>
</tr>
<tr>
<td>Brown</td>
<td>Black</td>
</tr>
<tr>
<td>Pink</td>
<td>Magenta</td>
</tr>
<tr>
<td>Orange</td>
<td>Yellow</td>
</tr>
</tbody>
</table>

#### 3. Person (If this is marked skip to Section #9.)
- Cannot identify any part of the drawing as a person
- (If this is marked, score Section #3 & 8)
- Only arm or hand seen reaching for or grasping apple

#### 4. Color Used for Person
Check all colors used for the person(s) (or arm or hand) including the clothes. If you cannot identify the person do not code this section.

<table>
<thead>
<tr>
<th>Color</th>
<th>Person #1</th>
<th>#2</th>
<th>#3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turquoise</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dark green</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brown</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purple</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pink</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magenta</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orange</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yellow</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 5. Gender
- Cannot tell (ambiguous or stick figure)
- Definitely male
- Might be male
- Definitely female
- Might be female

#### 6. Actual Energy of Person
(The categories are not mutually exclusive - ex., person could be sitting and reaching toward apple.)

<table>
<thead>
<tr>
<th>Person #1</th>
<th>#2</th>
<th>#3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sitting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standing on implied or actual ground</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standing on box, ladder, or other object</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reaching toward nothing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reaching down or up toward apple or object</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floating (feet higher than base of tree with no groundline or visible support for feet)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hanging (appears suspended from tree or branch)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jumping up (may have action lines)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jumping or falling out of tree</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Climbing tree without ladder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flying</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (if you cannot use one of the above categories describe it as best you can):</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 7. Orientation of Person’s Face
How much can you see of the person’s face?

<table>
<thead>
<tr>
<th>Person #1</th>
<th>#2</th>
<th>#3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannot tell</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front view - no features</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front view with at least one feature (ex., eyes)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Profile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Three-quarters view</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Back of head</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 8. Approximate Age of Person

<table>
<thead>
<tr>
<th>Person #1</th>
<th>#2</th>
<th>#3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannot tell (ambiguous or stick figure)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baby or child</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adolescent or adult</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

### 9. Clothing

<table>
<thead>
<tr>
<th>Person</th>
<th>#1</th>
<th>#2</th>
<th>#3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No clothes (stick figure or hand)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nude</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some suggestion of clothes (may be a line indicating neckline or hem; may be same color as person; may be a sleeve or suggestion of sleeve if only hand is shown)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Well-drawn clothes done in different colors than person (ex., street clothes or work clothes, dress, jumpsuit)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Costume (specify):</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 10. Apple Tree

If you cannot identify any part as an apple tree, a branch, or a stem, check the first box and skip to Section #11. Count the total number of apples you can see, whether they are in the person's hand, on the ground, in the tree, or in a container.

<table>
<thead>
<tr>
<th></th>
<th>#1</th>
<th>#2</th>
<th>#3</th>
</tr>
</thead>
<tbody>
<tr>
<td>No identifiable apple tree or branch or stem</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Only one apple in the picture:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Only a stem or branch with one apple on it, no tree trunk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trunk and top visible (may run off edge of paper) with one apple</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-10 apples</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than 10 apples</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apples placed on perimeter of top*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Code if the apples are placed around edge of tree top, on stems sticking out from edge of top, or only at the ends of branches rather than in the tree.

### 11. Color of Apple Tree

<table>
<thead>
<tr>
<th></th>
<th>#1</th>
<th>#2</th>
<th>#3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trunk:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brown</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (specify):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top (may be distinct leaves or lollipop top or rounded form):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green and/or dark green</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (specify):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apples:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yellow</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green/dark green</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (specify):</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 12. Environmental Details

If you cannot identify any details in the categories below check the first box and skip to Section #12.

<table>
<thead>
<tr>
<th></th>
<th>#1</th>
<th>#2</th>
<th>#3</th>
</tr>
</thead>
<tbody>
<tr>
<td>No identifiable environmental details</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural details:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sun, sunrise, sunset</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moon</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grass or horizon line</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flowers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tree (other than apple tree)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clouds, rain, wind</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mountains or hills</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lake or pond</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stream, river, or creek</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sky (filled in or sky line)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rainbow</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Animals:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dog</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bird</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cow, sheep, farm animal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Butterflies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (specify):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Imaginary items, machines, or animals (specify):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inanimate items:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sign</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>House</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walkway, path or road</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Car, truck, or wagon</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (specify):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ladders</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baskets, boxes, or containers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apple pickers or sticks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (specify):</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 13. Other Features

<table>
<thead>
<tr>
<th></th>
<th>#1</th>
<th>#2</th>
<th>#3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing (not a signature or on a sign)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Numbers (not a date or on a sign)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geometric shape(s)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seemingly random marks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (specify):</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INDEX

The names of the individual FEATS Scales are capitalized.

A

abstract art, 29, 61
abstract designs, 36
abstract memory, 27
abstract thinking, 35
action, 10, 18, 55
actual energy, 33
Actual Energy Scale, 33, 43, 44, 47, 49
acute disorders, 56
acute symptoms, 55
acute schizophrenia, 32, 58
Adam & Eve, 14
adjustment disorders, 20
admission, 13, 45, 49, 50, 55, 56, 57, 58, 62
adolescence, 36, 39, 42
adolescent(s), 9, 14, 16, 35
adulthood, 42
adults' drawings, 38, 39, 45
affect, 21, 24, 27, 30, 32
affective disorders, 21
African-American, 15
age, 8, 9, 10, 17, 33, 38, 39, 42, 45, 47, 50, 60, 61
age, 8, 9, 10, 17, 33, 38, 39, 42, 45, 47, 50, 60, 61
age, 8, 9, 10, 17, 33, 38, 39, 42, 45, 47, 50, 60, 61
age, 8, 9, 10, 17, 33, 38, 39, 42, 45, 47, 50, 60, 61
age, 8, 9, 10, 17, 33, 38, 39, 42, 45, 47, 50, 60, 61
Arieti, S., 35
art, 1, 2, 3, 4, 6, 7, 8, 9, 10, 12, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 28, 29, 32, 34, 35, 36, 38, 39, 40, 41, 43, 45, 48, 51, 52, 57, 59, 60, 61
art materials, 5, 12, 29
art therapist(s), 1, 2, 3, 4, 6, 7, 9, 15, 16, 18, 21, 29, 30, 31, 33, 44, 52, 53, 54, 60, 62
art therapy, 2, 7, 13, 14, 15, 23, 29,
art therapy assessment, 1, see also art-based assessment
art therapy literature, 25, 26, 27, 28, 30, 32
art training, artistic training 15, 36, 38, 39, 61, see also trained artists
art-based assessment, 5
arteriosclerosis, 51
artist(s), 4, 5, 6, 8, 9, 13, 14, 16, 25, 29, 30, 32, 33, 35, 36, 39, 40, 41, 42, 47, 49, 50, 61
artistic, 25, 36, 38
ability, 5, 35, 36
talent, 61
temperament, 58
training, 38, 50
artists from tribal cultures, 39
assessment(s), 1, 5, 8, 13, 14, 19, 29, 37, 60, 61, see also art therapy assessment
atomistic, 29, 63
attention deficit/hyperactivity disorder (ADHD), 42
autism, 42
Axis I disorders, 7, 9, 16, 20, 45, 59
Axis II disorders, 7, 10, 20, 45, 59

B

Bender Visual Motor Gestalt Test ("Bender"), 8, 27, 41, 42, 45
Benson, J., 6, 23, 34, 35
Bergland, C., 10
bias, 3
Bieliauskas, V., 41
Billig, O., 35
bipolar disorder, 7, 28, 31, 33, 56, 57, 58
bipolar disorder, mania, 20, 21, 26, 56, 57, see also mania, hypomania
bizarre, 35, 36, 57, 58
bizarre color, 27, 31
black, 12, 48, 49
blue, 12, 48, 49, 56
Boas, G., 2
body image, 18, 41
brain injury, 32, 34, 43
brain-damaged, 21, 41
broken lines, 27, 40
brown, 12, 48, 49
Buck, J., 6, 22
Burns, R., 37
Burton-Bradley, B., 35

Gantt & Tabone, FEATS Rating Manual
C

Carpenter, W., 38
Cameron, N., 38
Carstairs, 32, 35, 43, 51
categorical scales, 47
Caucasian, 15
Cauthen, N., 34
categorical scales, 47
Chapman, L., 2
Chapman, J., 2
Caucasian, 38,
categorical scales, 47
child study movement, 38
checklist, 8, 21, 22, 23
chromatic H-T-P, 21
chronic conditions, 56
childish, 38, 21
child-like, 38, 21
childhood, 21
children, 9, 12, 14, 16, 22, 25,
28, 41, 42, 43
children's art, 21, 38, 39, 41
drawings, 6, 8, 22, 33, 38,
45
paintings, 22
chromatic H-T-P, 30
chronic conditions, 56
chronic psychiatric illnesses, 15
chronic schizophrenia, 31, 38,
39, 40, 57
Church, R., 9
clang associations, 21
classification, 2, 3, 7, 8, 17, 18,
20, 24
classification system, 59
clinical
conditions, 3
course, 58
experience, 2, 9, 17, 22, 33
observations, 8, 25, 28, 38,
41, 43, 48, 50, 60
score, 28
setting(s), 1, 4, 8, 22
techniques, 2
trials, 13, 14
clothing, 1, 10, 47, 50
coding, 10, 19, 22, 47, 48
Cohen, B., 2, 6, 23, 60
collecting the drawings, 1, 12,
54
college students, 39
color(s), 6, 10, 12, 13, 16, 25,
26, 29, 30, 31, 32, 47, 48,
49, 55, 57, see also specific
names of colors
color blindness, color-blind, 7,
30, 32
color choice, 7, 32

color names, 32, see also names
of specific colors
color perception, 32
color preferences, see color
choice
color use, 1, 4, 6, 7, 25, 29, 31,
32, 48
composition, 10, 27, 35, 55, 58
conduct disorders, 62
depression, 3, 18, 25, 34, 56,
58, 59, 61, 63, see also major
depression
depressive symptoms, 45
derealization, 10, 21
description, 4, 7, 8, 20, 24, 60
details, 1, 6, 10, 14, 22, 25, 26,
30, 39, 40, 43, 47, 50, 51,
56, 57, 58
details of objects and
environment scale (scale
#10), 26, 28, 39, 44, 52, 55,
56, 57, 58, 61
developmental level, 25, 38, 39,
63
developmental level scale
(scale #9), 38, 44, 57
diagnosis, 2, 3, 4, 5, 7, 8, 11,
18, 20, 24, 25, 35, 41, 51,
56, 57, 58, 59
diagnostic and statistical
manual (DSM), 4, 6, 7, 8, 11,
16, 18, 20, 24, 25, 26, 27,
28, 29, 30, 35, 37, 38, 54,
57, 58
diagnostic category/categories,
2, 3, 6, 9, 11, 17, 20, 22, 28,
51, see also names of specific
disorders
diagnostic drawing series
(DDS), 60
diagnostic group(s), 5, 7, 19,
21, 23, 24, 33, 36, 37, 38,
39, 45, 52, 55
diagnostic information, 1, 2, 4,
6, 14, 17, 19, 22, 23, 52, 61
different cultures, 60, see also
cultural influence
discharge, 13, 14, 49, 50, 56,
57, 58, 62
disorganization, 35
disorganized speech, 57
disproportionate, 41, 43
dissociation, 10
dissociative disorders, 54, 57
dissociative identity disorder, 62
distortion, 41
disturbances of higher cortical
functioning, 27
doodles, 43

D

DAP, see Draw-A-Person Test
dark blue, 48, 56
dark or darker colors, 26, 31
dark green, 12, 49, 56
dawning realism, 36
dawning realism, 36
dawning Realism, 36
dawning realisim, 36
dawning realism, 36
dawning realism, 36
dawning Realism, 36
dawning realism, 36
dawning realisim, 36
dawning realism, 36
dawning Realism, 36
dawning realism, 36
dawning realisim, 36
dawning realism, 36
dawning realisim, 36
dawning realism, 36
dawning realisim, 36
dawning realism, 36
dawning realisim, 36
dawning realism, 36
dawning realisim, 36
dawning realism, 36
dawning realisim, 36
dawning realism, 36
dawning realisim, 36
dawning realism, 36
dawning realisim, 36
dawning realism, 36
dawning realisim, 36
doodling, 51, 43
Dörken, H., 5, 23
Draw-a-Man Test, 6
Draw-a-Person Test (DAP), 14, 16, 39, 49
drawing(s), 1, 2, 4, 5, 6, 7, 9, 10, 12, 17, 29, 30, 31, 34, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, see also
figure drawing(s), projective
drawing(s) directed, 1, 10, 11, 19, 25
free, 6, 45
spontaneous, 1, 6, 19, 25, 29, 51
drawing ability, 50, see also
artistic ability
drawing paper, 12
Dudley, H., 34, 40
dysthymic disorder, 56

eating disorders, 62
ECT, see electroconvulsive
therapy
education, 39
elderly, 42, 45
electroconvulsive therapy, 13, 15
Elkisch, P., 22
Elliott, L., 31, 39
Endicott, J., 45
energy, 10, 13, 24, 25, 26, 30, 33, 34, 55, 56, 58, see also
Implied Energy Scale
environmental details, 1, 10, 50, 52, see also details, Details of
Objects and Environment Scale
ethnic groups, 9, 15, 16
Evans, C., 22, 24, 41
exogenous depression, 31, 63
expressions given/expressions
given off, 53

figure drawing(s), 14, 22, 23, 24, 34, 39, 40, 41, 55
figure(s), see human figure, stick
figure
fingerpainting(s), 13, 24, 29, 33, 36, 49
flight of ideas, 26
fluctuations, 4, 13, see also
changes
Foley, J., 29, 31, 32, 33, 34, 35, 37, 38, 39, 40, 41, 42, 43, 48, 51
form, 21, 30, 35, 54
formal, 22, 23, 24, 30
element(s), 8, 13, 17, 20, 53, 61, 63
features, 3
variable(s), 19, 25, 29, 33, 47, 52
Formal Elements Art Therapy
Scale (FEATS), 1, 4, 5, 8, 9, 16, 18, 19, 24, 25, 26, 27, 28, 29, 33, 37, 38, 39, 44, 47, 48, 53, 56, 59, 60, 61, 62
fragmentation, 35
Freud, S., 53
Fruchter, B., 43
Furth, G., 12

G

Gantt, L. I, 8, 9, 17, 18, 20, 26, 27, 37, 43, 44, 45, 46, 53
Garfinkle, L., 31, 35, 36, 38, 40, 41, 43
Geertz, C. 54
gender, 10, 14, 47, 48, 49
general paresis/paretics, 38, 39, 43, 63, see also paresis,
syphilis
generalizations, 3, 15, 29, 39
genius, 39
German Expressionists, 32
global
attributes, 28
characteristics, 5, 23, 63
formal characteristics, 8, 22
measures, 23
variables, 1, 4, 14, 23
Goffman, E. 53
Goldworth, S., 40, 41
Gonzalez, R., 10
Goodenough, F. 6, 22
Goodman, R. 17, 18, 44
Gould, P., 1
grandiosity, 26, 58

graphic characteristics, 25
graphic equivalent (of
psychiatric symptoms), 1, 16, 22, 23, 24, 25, 26, 27, 29, 30, 35
Gravitz, M., 39
green, 12, 32, 48, 49, 50, 56
Groth-Marnat, G., 2, 4, 23, 30, 36, 41, 42, 45, 55
group
characteristics, 11
differences, 12, 50, 51, 60
Guilford, J., 43
Guttmann, E., 43, 51

H

hallucinations, 18, 21, 27, 35, 54, 57
Hammer, E., 14, 30, 40, 48, 51
Hammer, J., 2, 6, 23, 60
hand, 49
Handler, L., 22
Harris, D., 6, 22
Harrower, M., 38
Harway, N., 34
Hassman, O., 35
head injuries, 38, see also brain
damage, brain injuries
Heidelberg Clinic, 29
Hirsh, S., 34
Hispanic, 15
historical literature, 20, 28, 29, 57
Holmes, C., 34
horror vacui, 34, 63
hospital, 10, 13, 14, 15, 24, 45, 50, 55
hot pink, 12, 49
hotter colors, 48, see also warm
colors
House-Tree-Person Test, (H-T-P), 4, 6, 13, 24, 30, 37, 41, 49, 55
human figure(s), 14, 24, 34, 41
humor, 14, 35
hypomania, hypomanic, 33, 37, 38, 53, 57, 58

I

idiographic, 60
illogical, 31, 35, 36
Implied Energy Scale (Scale #3), 25, 26, 28, 33, 34, 39, 44, 47, 52, 53, 56, 58, 61

Gantt & Tabone, FEATS Rating Manual
independent variables, 34, 53
inhibition, 48
inpatient, 7, 9, 10, 14, 20, 61
insomnia, 25
instructions, 1, 5, 6, 8, 10, 12, 13, 15, 60
integration, 4, 6, 10, 24, 25, 34, 35
Integration Scale (Scale #5), 27, 34, 44, 57, 59, 61
intelligence, 5, 36, see also IQ
interpretation(s), 2, 24, 53, 54
inter-rater reliability, 8, 43, 44, 45, 46, 47, 48, 60
interval, 25
IQ, 17, 20, 42
isomorphic, 24, 25, 63
J
Jamison, K., 38, 58
Jolles, I., 6, 22
Jones, L., 22
Jones, N., 5
judges, 9, 13, 14, 17, 18, 21, 22, 24, 43, see also raters
Jung, C., 53
K
Kahill, S., 2, 23
Kahn, M., 5
Karpov, P., 31, 38
Kaufman, S., 37
Kijak, A., 2
Kilpatrick, D., 34
Kinetic Family Drawing, 37
Kinetic House-Tree-Person, 37, 55
Kirchner, J., 39
Kirkham, S., 41
Klopf, W., 2
Koppitz, E., 6, 22
Kraepelin, E., 7, 20
Kramer, E., 60
Krugman, A., 40
Kwiatkowska, H.Y., 4, 6, 23
Kwiatkowska Family Art Evaluation, 60
L
lack of color, 26, 31, see also less color
Lacks, P., 8
latent material, 4, see also symbolism
learning disabilities, 42
Lehmans, H., 5, 9, 13, 23, 24, 30, 33, 36, 41, 49
less color, 30, 31, 52, 56, 57, 58
Levy, B., 4, 5, 23, 24
Lewinsohn, P., 34
limitations, 13, 15, 55, 60
line quality, 4, 33, 40, 41, 55
Line Quality Scale (Scale #11), 26, 27, 40, 44, 59, 61
Lipe, A., 25
literature, 8, 19, 28, 30, 32, 38, 40, 41, 42, see also art therapy literature, historical literature reviews, 23
lithium, 28
Logic Scale (Scale #6), 35, 44, 57, 58, 59, 61
logical, 52
Lombroso, C., 29, 36, 38, 39, 63
longitudinal, 5, 15
loosening of associations, 27, 35
Lorand, 41, 42
Lownfeld, V., 5, 12, 36, 38, 39
Lynn, B., 34, 40, 42, 43
M
MacGregor, J., 9, 39
Machover, K., 6, 23, 34, 36, 40
Maclay, W., 43, 51
magenta, 12, 48, 49, 56
major depression, 7, 18, 20, 21, 25, 26, 30, 31, 33, 39, 48, 52, 56, see also depression, depression
mania/manic, 17, 18, 20, 21, 25, 26, 28, 31, 33, 34, 35, 36, 37, 38, 39, 40, 42, 48, 51, 53, 55, 57, 58, 59, 61
many colors, 26, 57
Marco, L., 32
Marzolf, S., 39
Mason, J., 34
materials, 5, 10, 12, 13, 15, 16, 29, 61, see also art materials
Mayer-Gross, W., 43, 51
Mead, L., 39
meaning(s), 2, 4, 14, 53, 54
medical explanation, 7
medical model, 7
medical or physical condition, 5, 54
medication, 9, 13, 14, 15, 25, 55, 61
Meneses, J., 2
mental retardation, 17, 20, 61
mentally retarded, 41
mescaline, 43
Mills, A., 2
minority group(s), 15, 55, see also ethnic group
Mohr, F., 1, 9, 34
molecular, 60, 63
monochrome, 48
mood, 1, 13, 18, 21, 26, 30, 58
mood disorder(s), 9, 18, 21, 31, 33, 37, 45
Morroneillo, S., 42
motor control, 24
motor perseveration, 8, 42, 43
movement, 37, 43, 55
“Mr. Sketch” markers, 12
multiple diagnoses, 8
Munley, M., 9
N
Neale, E., 2
negative symptoms, 57
nominal scales, 47
nomothetic, 1, 23, 60, 63
non-patient(s), 6, 9, 10, 13, 15, 24, 25, 28, 32, 33, 36, 38, 39, 41, 45, 48, 49, 50, 51, 55, 58, 60
non-psychotic, 14
non-representational, 6, 10, 61
norm, see norming
normal, 18, 31, 38, 39, 40, 43, 51, 55, 59, see also control groups, controls
normal distribution, 33, 45
normative study, 8, 9, 48, 61
norming/norms, 25, 28, 39
number of colors, 13, 48, 49
numbers, 3, 28, 49
numbers (in drawings), 27, 51
O
O’Reilly, J., 6, 23
obsessive-compulsive disorder, 42
Ogdan, D., 23, 24, 39
oil pastels, 31
omissions, 41
one color, 48, 49, 52, see also monochrome
orange, 12, 48, 49, 56
ordinal, 23, 25
organic gap, 40, 42, 63
organic mental disorder(s), 7, 9, 17, 20, 32, 33, 36, 38, 39, 40, 41, 45, 48, 51, 56, 63, see also delirium
organic patient(s), 33, 34, 40, 41, 42, 43
organicity, 40, 41, 43, 63
Oskamp, S., 2
Oster, G., 1
Ostow, M., 37, 38
outline, 30, 31, 56
outlining, 52
outpatient, 14, 61

Painting(s), 2, 5, 22, 24, 29, 31, 32, 34, 39, 53, 61, see also fingerpainting(s)
Palacios, M., 31, 39
palm trees, 16
paranoid, 34
paranoid schizophrenia, 40
paresis, 38, 39, 51, 63
pastels, 13, 31, 61
pathognomonic, 54, 63
patient group(s), 8, 10, 13, 15, 49
patient(s), 1, 4, 5, 6, 7, 9, 10, 12, 13, 15, 17, 18, 19, 21, 24, 25, 28, 29, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 45, 47, 48, 49, 50, 51, 52, 53, 55, 56, 57, 58, 59, 60, 62
pattern(s), 17, 21, 22, 24, 32, 43, 52, 53, 54, 55, 56, 57, 59, 63
pattern match/matching, 9, 11, 21, 52
Pearson, T., 38
Pelto, V., 6, 23
pencil, 5, 12, 29
perseveration, 8, 27, 32, 41, 42, 43, 45, 56, 63
Perseveration Scale (Scale #14), 8, 27, 42, 44, 45, 57
person (in the picture), 10, 13, 14, 16, 34, 35, 36, 37, 41, 42, 47, 48, 49, 50, 55, 56
"person picking an apple from a tree" (PPAT), 1, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 25, 31, 34, 35, 37, 38, 39, 42, 45, 47, 48, 49, 52, 56, 57, 61
Person Scale (Scale #12), 26, 27, 41, 44, 46, 56, 57, 61
personality disorders, 7, 10, 20, 62
personality traits or characteristics, 1, 4, 60
pervasive developmental disorder, 42
Pfister, O., 32, 34, 40, 43, 51
Pianetti, C., 31, 39
Pickford, R., 32, 35, 36, 43, 51
pilot study/studies, 9, 16, 17, 18, 20, 21, 22, 38, 44, 58
pink, 12, 49
portability, 16
post-drawing interview, 49
PPAT, see "person picking an apple from a tree"
practice effect, 13, 14
primary process, 27, 35
Prinzhorn, H., 29, 34, 38, 50, 51, 63
problem-solving, 16, 24, 30, 37, 52, 55, 56, 57, 58
Problem-solving Scale (Scale #8), 10, 26, 27, 37, 44, 56, 57, 61
projective drawing(s), 2, 4, 6, 8, 14, 16, 22, 24, 28, 29, 39, 60
Prominence of Color Scale (Scale #1), 10, 26, 27, 30, 33, 34, 44, 48, 52, 53, 56, 57, 58, 61
proportion, 36, 55
pseudodementia, 61
psychiatric disorders, 4, 12, 41, see also names of specific disorders
psychiatric patients, see patients psychiatrist, 7, 9
psychoactive drugs, see medication and mescaline
psychoanalysts, 1, 60
psychoanalytic theory, 2
psychological literature, 25, 28
psychological state, see state psychologists, 1, 2, 6, 60
psychemetric, 23
psychomotor agitation, 25, 26
psychomotor retardation, 26
psychosis, 9, 38, 51
psychotic, 28, 32, 45, 51, 58
psychotic features, 56
purple, 12, 49

R
rare signs, 50, 51
rating(s), 4, 22, 35, 36, 38, 43, 44, 45, 47
rating instrument(s), 1, 10, 13, 23, 35
rating system(s), 1, 6, 22, 23
ratio scale, 25, 34
Realism Scale (Scale #7), 26, 27, 36, 44, 57
realistic, 6, 29, 36, 37, 57, 61
reality, 24, 36, 37
red, 12, 32, 48, 49, 50, 56
regression, 41, 48
Reiner, E., 6, 23
Reitman, F., 32, 34, 35, 43
reliability, 1, 7, 23, 43, 45, 47, see also inter-rater reliability
reliable, 1, 19, 23, 45, 55, 60
religious prohibitions, 16
Renfroe, J., 32
representation(s), 36, 37, 38, 50
representational, 10
representative sample/study, 15, 28, 39, 48, 55
repression, 48
research, 1, 2, 3, 4, 5, 6, 7, 8, 11, 12, 14, 15, 24, 25, 28, 29, 30, 39, 47, 48, 56, 60, 61
researcher(s), 1, 7, 8, 25, 30, 34, 45, 48, 58, 59, 60, 61
response to medication, 9, 61
response to treatment, 1, 60
Reyher, J., 22
Reznikoff, M., 41, 43
Rhoten, V., 34
Rhine, J., 54
Risquez, F., 5, 9, 13, 23, 24, 30, 33, 36, 49
Roback, H., 2, 34
Robertson, J., 32
Robinson, V., 6, 23, 34, 35
Rorschach literature, 30
rotation, 8, 27, 41, 42, 45, 56
Rotation Scale (Scale #13), 8, 27, 41, 44, 45
Rubin, J., 61

Gantt & Tabone, FEATS Rating Manual
Russell-Lacy, S., 6, 23, 34, 35

S

Saltz, L., 34
sample, 7, 8, 9, 10, 15, 16, 19, 25, 28, 29, 31, 33, 34, 36, 45, 46, 50, 55, 56, 60
sampling, 15
Sandman, C., 34
Sapag, 38
Scher, J., schizophrenia/schizophrenic, 7, 8, 57
Schnadt, F., self, 14, 21, 41
Schube, P., self-criticism, 32
scientific, 49
scientifically trained adults, 38
scientifically trained artists, 54, 56, 63
Scnadt, P., 40
Schuch, P., 23
self, 14, 21, 41
self-criticism, 32
self-esteem, 26
sadness, 27, 41
Senile dementia, 43, see also paresis and organic mental disorders
severe mental illness, 4, 21
sex, 17, 42, 47
sexual offenders, 14
sexual orientation, 14
shading, 6
Shaffer, J., 38
Sheehan, D., 34
Sheppard-Pratt Art Rating Scale (SPAR), 10
Sigg, 43
sign(s), 2, 5, 6, 8, 15, 23, 24, 27, 29, 40, 41, 42, 43, 49, 50, 53, 54, 63
Silver, R., 2, 6
Simon, P., 29, 36, 38, 39, 63
simplification, 27, 41
Singer, S., 2, 6, 23, 60
single color(s), 10, 32, see also color and specific color names
single drawing vs. several drawings, 60
single picture, 13
size, 29, 34, 36, 56
sleep disorders, 20
Smitheman-Brown, V., 9
socio-economic group or level, 15, 39
split(s), 10, 12, 25, 26, 30, 32, 33, 34, 35, 36, 61, 63
Space Scale (Scale #4), 2, 26, 33, 44, 52, 53, 56, 58, 60, 61
specific color(s), 1, 10, 29, 32, 47, 48
Spitzer, R., 45
Stafford, J., 40
standardized drawing, 1
standardized method, 5
standardizing, 12, 15
state(s), 1, 4, 8, 9, 11, 13, 16, 53, 58, 60
statistical differences, 8, 50, 51
statistical distribution, 53
statistical outliers, 8, 11
statistical tests, 25, 29, 48
stick figure, 56
stroke, 32, 57
substance abuse disorder(s), 45, 59, 61
suicidal, 25, 50, 62
Suinn, R., 2
Swensen, C., 2, 23
symbolic, 4, 14, 30, 53, 54
symbolism, 4
symbols, 36, 53, 54
symptoms, 1, 7, 8, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 28, 29, 30, 37, 38, 45, 53, 54, 55, 57, 58
syphilis, 36, 37, 38, 63, see also paresis

T

Tabone, C., 26, 27
Taulbee, E., 2
temporal fluctuation(s), 16, 24
terapy, 1, 12, 19, 30, 47, 49, 62
therapeutic response, 9, 60
Thomas, C., 22, 38, 39
thought disorder, 21, see also schizophrenia
time limit, 13
timing, 13, 54
Tomblen, D., 41, 43
tombstones, 14
toxic conditions, 54
toxicity, 62
trained artists, 54, see also artistic training
trait(s), 4, 9, 60

trauma-related material, 62
tree(s), 6, 7, 14, 16, 34, 36, 37, 41, 42, 48, 50, 55, 56, 60
tremor, 40
turquoise, 12, 49, 56

U

Ulman, E., 4, 5, 23, 24, 60
Ulman Personality Assessment Procedure (UPAP), 60
"unholy trinity", 39
universal meanings, 53
unrealistic, 32, 37, 57, 58
unreliable, 4
unusual placement, 50
Urban, W., 6, 40, 55

V

valid, 5, 23, 45, 60
validity, 1, 2, 19, 45
validity study, 8, 20, 37, 45, 46, 60
variable(s), 1, 4, 6, 8, 10, 11, 14, 19, 22, 23, 24, 25, 28, 29, 30, 33, 34, 35, 37, 41, 45, 47, 49, 50, 52, 53, 59, 60, 61, 63
vascular (multi-infarct) dementia, 21
Velek, M., 32
verification, 55, 62
Vermont College of Norwich University, 18, 44
Vernier, C., 40

W

Wadeson, H., 31, 35, 40
Wahner, T., 22
warm colors, 56, see also hotter colors
Webersin, A., 34
weight loss or gain, 25
Welsh, M., 42
Werblowsky, J., 39, 40, 43
West Virginia University, 15
Wiederholt, J., 34
Wilkinson, A., 40
Williams, K., 17, 18, 33, 44
worms in apples, 14
writing (in drawings), 27, 51
yellow, 10, 12, 48, 49

Zimmerman, J., 31, 35, 36, 38, 40, 41, 43
Zingerle, H., 35