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ABSTRACT

This manual presents a system for categorizing stated esthetic responses to paintings. It is primarily a training manual for coders, but it may also be used for teaching reflective thinking skills and for evaluating programs of art education. The coding system contains 33 subdivisions of esthetic responses under three major categories: Cue Attendance, Hypothesis Generation, and Evaluative Judgmental. The categories are defined with reference to reproductions of three paintings and are followed by exercise sheets and answer sheets on which the appropriate responses are explained. An appendix explains how to compute an individual's response uncertainty score based on his responses to these paintings or other works of art. (Author)

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Research and Development Memorandum No. 95

A MANUAL FOR CODING DESCRIPTIONS,
INTERPRETATIONS, AND EVALUATIONS
OF VISUAL ART FORMS

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Stanford University
Stanford, California

December 1972

The colored reproductions used in this manual
are produced and distributed by Barton Cotton, Inc.,
1405 Parker Road, Baltimore, Maryland 21227. The
pictures are included here even though the color
and a good deal of the contrast are lost in micro-
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Introductory Statement

The Center's mission is to improve teaching in American schools. Too many teachers still employ a didactic style aimed at filling passive students with facts. The teacher's environment often prevents him from changing his style, and may indeed drive him out of the profession. And the children of the poor typically suffer from the worst teaching.

The Center uses the resources of the behavioral sciences in pursuing its objectives. Drawing primarily upon psychology and sociology, but also upon other behavioral science disciplines, the Center has formulated programs of research, development, demonstration, and dissemination in three areas. Program 1, Teaching Effectiveness, is now developing a Model Teacher Training System that can be used to train both beginning and experienced teachers in effective teaching skills. Program 2, The Environment for Teaching, is developing models of school organization and ways of evaluating teachers that will encourage teachers to become more professional and more committed. Program 3, Teaching Students from Low-Income Areas, is developing materials and procedures for motivating both students and teachers in low-income schools.

This manual was developed during 1970 and 1971 in the Heuristic Teaching program (now the program on Teaching Effectiveness). It instructs the reader in the use of a system for classifying statements about paintings. The new materials and approach it presents, however, should be of interest not only to art teachers but also to educational researchers and psychologists who are interested in studying the development of response uncertainty or complexity.

Abstract

This manual presents a system for categorizing stated esthetic responses to paintings. It is primarily a training manual for coders, but it may also be used for teaching reflective thinking skills and for evaluating programs of art education.

The coding system contains 33 subdivisions of esthetic responses under three major categories: Cue Attendance, Hypothesis Generation, and Evaluative Judgmental. The categories are defined with reference to reproductions of three paintings and are followed by exercise sheets and answer sheets on which the appropriate responses are explained. An appendix explains how to compute an individual's response uncertainty score based on his responses to these paintings or other works of art.

Three judges (graduate students in art education) coded 100 protocols like those used in the manual to evaluate the content validity and the rater reliability of the categories.

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Some Suggestions For Using This Manual

There are three major divisions of categories in the coding system presented in this manual: Cue Attendance categories, Hypothesis Generation categories, Evaluative Judgmental categories.

To facilitate finding the categories in each of the three sections, clip off diagonally the upper-right corners of the pages in the Cue Attendance section, leave the corners of the pages in the Hypothesis Generation section intact, and clip off the lower-right corners of the pages in the Evaluative Judgmental section.

In some cases answer sheets face the sheets to be coded. Use a blank sheet of paper to mask the answers while you are working.

There are two tables of the category system in the manual. One is on p. 8; the other precedes the last page of the manual. It is suggested that you clip out the second table and tape it to the outside edge of the last page, making it a fold-out page that you can easily refer to as you read the rest of the manual.

Three colored reproductions of paintings are included. The first of these, Chagall's "The Green Violinist," should be referred to as you familiarize yourself with the characteristics of responses that express the recognition of uncertainty. The second, Pickett's "Manchester Valley," is to be used when you are learning the Cue Attendance categories. The third. Chagall's "I and My Village," is to be used in conjunction with the Hypothesis Generation and Evaluative Judgmental categories.

A MANUAL FOR CODING DESCRIPTIONS, INTERPRETATIONS,

AND EVALUATIONS OF VISUAL ART FORMS

Bette C. Acuff and Joan Sieber-Suppes

INTRODUCTION

This manual is intended for two audiences. It is intended for
persons in the field of art and art education who are interested in char-
acterizing or evaluating esthetic responses. For this reader, the manual
may offer some new ideas concerning curriculum and evaluation in art.
The manual is also intended for psychologists who wish to characterize
and quantify the subjective uncertainty, or complexity, of esthetic
responses.

Why is esthetic inquiry an area in which a person can, or should,
respond in an uncertain way? Perhaps this question can be answered better
by example than by definition.

It takes only a brief incursion into the literature of art history
to learn that art is judged by many criteria and valued for a multitude
of reasons. Esthetic value is defined in many ways. For example, the
impressionist painter Renoir said, "For me, a picture must be pretty,
must be a pretty thing, yes, pretty." But Monet, a fellow impressionist,
saw painting as the creation of semblances for light and atmosphere through
the use of gradations of color and value. Van Gogh used flaming colors

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and strong brush strokes to reveal his own inner agitations and his profound sympathy for the tragic elements in existence. His conception foreshadowed the esthetic of the German Expressionists: the concept of empathy. This esthetic emphasized the revelation of the artist's inner psychic state and the evocation of emotion in the viewer. Kandinsky said in 1912, "Everything is permitted." Abandoning the demands of representation, he created non-objective forms that embodied "spiritual content" (Kandinsky, 1912). Kandinsky believed that the purpose of art was to convey this spiritual content, and that color was a particularly powerful vehicle for evoking spiritual awareness in the spectator.

The components of esthetic properties are many--line, color, shape, light, texture, medium, technique, perspective--but the importance of art is not limited to the success with which they are used. For instance, Elliot (1957) has said that, in many cases, the documentary value of the work of early American artists outweighs its esthetic merit. In short, art is not judged by the extent to which it is decorative background, or even by the extent to which it is esthetically pleasing. An understanding of art requires knowledge of many kinds--technical, historical, and psychological--coupled with one's personal responses. To those who are educated to understand it, art offers a way of reflecting on human existence: "man's hopes and fears, his ambitions and emotions, his religious and political beliefs, his ethics and humanitarianism, his failures and achievements, and his relations to other people and to nature [Simon, 1970, p. ix]."

Understanding or appreciating art, then, might be taken to mean somehow applying to art productions the kinds of knowledge just mentioned. The exact somehow (or somehows, assuming that perceivers of art differ in

the way they appreciate it) is no doubt very complex, defying comprehensive
and detailed description. For the instructor who wants to teach students
to understand art and to gain personally from their responses to it,
there are only intuitive guidelines for teaching and evaluation. The
notion of behavioral objectives, or of any objective criterion for judging
the ade;uacy of learning, is relatively new in these realms. Likewise,
the psychologist wishing to study the conceptual complexity of a person
who is responding to a work of art \ 11 find it difficult to discover in
the psychological literature any satisfactory conceptual or methodological
tools for the task.

Granted, there have been any number of well-thought-out suggestions
on teaching art and evaluating students' performance in art (see, for
example, "E   uation of Art Teaching" by the Committee on the Functio1. of
Art in General Education, 1939). Likewise, some psychological instruments
have been devised to examine some characteristics of persons' responses to
art. Child (1962), for example, explored the relationships between per-
sonality variables thought to be relevant to esthetic perception in a
series of studies with undergraduate college men untrained in art. For two
tests of esthetic judgment he found correlations of .32 and .37 with a
behavioral measure of tolerance for unrealistic experiences. A verba'
measure of tolerance for complexity yielded correlations of .21 ard .25.
Positive correlations between esthetic judgment and broad, inclusive
scanning patterns (as defined by Gardner, 1959), independence of judgment,
and regression in service of the ego were found. Positive correlations
of .36 and .24 were found for intuition vs. sensation, with intuiticn de-
fined as an orientation toward understanding an object in full for its own

sake, as opposed to a willingness to tolerate purely external or sensory
apprehension of it.

Subsequent studies by Child (1964) with secondary students con-
firmed positive relationships between the ability to make esthetic judg-
ments and independence of judgment and tolerance of complexity. No
relationship between esthetic sensitivity and regression in service of
the ego was established.

Barron's (1953) research illustrates the far-reaching relation-
ship between preference for complex art production and other measures
of personality. For doctoral candidates and seniors in medical school,
respectively, preference for complexity was correlated with measures of
IQ .42 and .41; with breadth of interest, .33 and .39; with sense of
humor, .39 and .33; and with cathexis of intellectual activity, .42
and .29.

The value of these findings notwithstanding, the existing liter-
ature falls short of offering a comprehensive measure of the extent to
which persons utilize their relevant knowledge in their perception of
art productions. Moreover, it does not offer a model for providing
learning experiences that maximize the richness of art experience.

Measuring Response Complexity

Our purpose here is to present a procedure for coding responses
to art that we consider a simple but credible way of assessing a person's
understanding of art. The measure is objective. It is open-ended in
that the individual responds as he wishes to quite general questions:

"How many different things do you actually see in this picture?" "What might this picture be about?" The first question asks for a description of visual cues; the second asks for hypotheses about the significance of the art production. A system for coding responses to each type of question was adopted from the work of Wilson (1966). A list of the categories appears on pages 8 and 146.

The number of an individual's responses in each category is recorded. This information is then entered into a formula, such that the more response categories an individual uses and the more nearly equal h use of each category, the higher his uncertainty score. Thus, a very low score would be earned by an individual who noted many details about color but ignored other cue categories except for a simple remark about texture. A relatively high score on cue attendance would be earned by someone who took note of color, line, surface qualities, literal objects, expressive qualities, pervasive quality, symbolic aspects, etc. A person who uses only a single response category receives a score of 0, irrespective of how many responses he makes in that category. A person who uses every category equally receives the maximum score, even if he uses each category just once. Thus, a score is not based simply on the total number of responses that are made. What earns a high score is the complex response in which many kinds of knowledge are brought to bear. Every response to an art production is codable in this system.

Before describing the coding system in detail, let us discuss the origin of this measure of response complexity, its psychological significance, and its implications for art education. The measure of response complexity used here is derived from communication theory (Shannon &

Weaver, 1949) and is analogous to the information theory measure of un-
certainty

$$H = \sum_{i=1}^{n} p_i \log_2 \frac{1}{p_i},$$

where there is a set of n possible different signals or messages a perceiver
might receive.[1] The perceiver of the signals knows how many different
kinds of messages he might receive (n) and the probability of receiving
each kind of signal (p). Using this formula we calculate the uncertainty
of the message. This message reaches a maximum when all the values of p_i
are equal, and when they are equal it increases with the number of alterna-
tive classes to which the signal could belong. Thus, when a perceiver
approaches a source of information that can convey any of the wide range
of different points of information, we call the source of the information
a high uncertainty source. Psychologists (Berlyne ¹⁰ ⁻ Miller, 1956;
Broadbent, 1958; Lanzetta, 1963) have, by analogy, developed the concept
of subjective (or psychological) uncertainty. The greater the number of
kinds of information an individual is prepared to receive, the greater his
state of subjective uncertainty, or the more complex his way of perceiving
phenomena.

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[1] H is the uncertainty score. i represents the individual classes
of information that may capture the viewer's attenti⁻⁻ (for instance, colors,
lines, textures, expressive qualities, etc.). $p_i \log_2 \bar{p}_i$ = the probability
value of the occurrence of i, based on the total number of categories to
which it is possible to attend (i.e., the probability that the viewer will
note color as opposed to line or texture, etc., out of a possible 33 cate-
gories), multiplied by $\log_2$ of that value.
    To calculate the uncertainty score (H) a viewer₁ receives when he
evaluates a painting, we sum ($\sum$) the values of $p_i \log_2 \bar{p}_i$ for all the
categories of information to which the viewer has attended (i.e., we sum
the values for color, line, texture,₁etc.).
    A table of values of $p_i \log_2 \bar{p}_i$ and a step-by-step procedure for
calculating the uncertainty score are presented in Appendix C.

As we remarked earlier, art can convey a wide range of kinds of information. We have partitioned these kinds of information into the categories shown in Table 1. At this point, how many categories of art information exist is problematic. Presumably, all categories could be collapsed into one, termed "attributes of art objects," or expanded indefinitely, depending upon the number of subdivisions one considered appropriate. However, the partitioning illustrated in Table 1 seemed to us most reasonable, since it utilizes those categories salient in contemporary criticism of art, and since it consists of mutually exclusive categories that may be identified reliably by trained observers. Some art productions are more complex than others.

Regarding the perceiver of art, there is, likewise, wide variety in the complexity--the subjective uncertainty--of individuals' perceptual responses to art. Viewers differ in the number of facets of art to which they can respond. Some respond only to the color and form of pictures, for example, while others respond to a far richer set of information. The greater the subjective uncertainty of an individual's response, the closer he approximates our notion of "one who understands art" or gains from art much of what it has to offer.

Increasing Response Complexity

What is the limit to the mount of uncertainty an individual can handle? Miller (1956) presents evidence that persons cannot quickly grasp more than five to nine pieces of information (that is, cannot maintain it in short-term memory) unless the information is "chunked," or organized mnemonically. Individual differences in characteristic level of subjective

Table 1

The Category System, With Codes

CUE-ATTENDANCE CATEGORIES
  (Primarily Descriptive)

HYPOTHESIS-GENERATION CATEGORIES
  (Primarily Interpretive)

I.   MATERIAL ATTRIBUTES
    (M)   Material
    (T)   Technique
    (SQ) Surface Quality

II.   LITERAL ATTRIBUTES
    (LO) Literal Object
    (LC) Literal Content

III. SENSORY ATTRIBUTES
    (C)   Color
    (L)   Line
    (SH) Shape
    (LT) Light

IV.   ORGANIZATIONAL ATTRIBUTES
    (CR) Comparative Relationship
    (PO) Principle of Organization

V.   EXPRESSIVE ATTRIBUTES
    (EQ) Expressive Quality
    (US) Unique Schemata
    (PQ) Pervasive Quality

VI.   CONTEXTUAL ATTRIBUTES
    (AF) Art Form
    (H/C) Historical/Cultural
    (ST) Style

VII. MEANING ATTRIBUTES
    Literal Reference
    (HA)   Hypothesis - Action
    (HT)   Hypothesis - Thoughts
    (HS)   Hypothesis - Sensations
    (HNO) Hypothesis - Nature of
                 Object
    (HC)   Hypothesis - Context
    Affective Reference
    (HAF) Hypothesis - Affect
    (HSF) Hypothesis - Subjective
                 Feeling
    Symbolic Reference
    (HSA) Hypothesis - Symbolic
                 Aspect
    (HTH) Hypothesis - Thematic
    (HF)   Hypothesis - Fantasy

VIII. CONTEXTUAL ATTRIBUTES
    (HAR) Hypothesis - Artist
    (HST) Hypothesis - Style

EVALUATIVE-JUDGMENTAL CATEGORIES
  (Primarily Evaluative)

IX.   AFFECTIVE, OBJECTIVE RESPONSES
    (AJN) Affective Judgment,
           Not Supported
    (AJS) Affective Judgment,
           Supported
    (OEN) Objective Evaluation,
           Not Supported
    (OES) Objective Evaluation,
           Supported

uncertainty are experimentally modifiable. By the use of learning para-
digms such as imitation (modeling) and operant conditioning, persons can
be taught to increase the number of relevant responses they can make to a
given stimulus (Maltzman, 1960). For example, an individual might be
taught to increase the number of solutions he can generate to problems.
Or, he might be taught to increase the number of stimulus attributes he
can discern and then to infer relevant solutions or explanations on the
basis of these attributes. Persons who have received such training increase
their level of pre-decisional information search (Sieber & Lanzetta, 1966).

If persons can be trained to increase the number of responses they
make to problems, either by observing others making a large number of
responses or by themselves being encouraged to generate many responses,
might not the richness of one's perception of art be increased? A recent
experiment (Suppes & Acuff, in preparation) has illustrated that responses
to art can be enriched in this fashion. In summary, the experiment con-
sisted of discussing paintings in relation to the various categories in
Table 1, and organizing the information under these categories (thus pro-
viding a mnemonic device for chunking). Children were given practice in
viewing, comparing, and discussing a wide range of pictures in terms of
these categories. A significant increase in the complexity of student
responses was noted.

Thus, this coding system has been used not only to conceptualize
the complexity of an individual's responses to art, but to offer a struc-
ture and a rationale for a curriculum in art. It is not, however, the
purpose of this manual to discuss the research and development that has
ensued from this coding system. Rather, it is to provide training in

both the use of the category system and the computation of the uncertainty measure, and to provide evidence concerning the reliability and validity of the measure.

A Rationale for the Category System

Esthetic inquiry. Esthetic inquiry is the mode by which we come to know art forms and to understand their significance. The problem that promotes the inquiry is one of construing meaning, of determining what the presented qualities and relationships of the work denote--those qualities and nuances of experience to which they refer in the ideational and emotional realms. What is experienced in the process is affected by the state of the perceiver. It is relative to his knowledge of art, to his sensitivity and taste, to the amount of information he is able to extract from his confrontation with the work. Whatever meaning the viewer creates-- what he knows--is based on what he knows about the work, and about other works of art. Thus, the process of esthetic inquiry requires the perceptual and verbal skills of art criticism, historiography, and philosophy.

In formulating our category system, we have taken the art critic as a model. In the process of conducting his inquiry, the critic attends --he scans the work for visual information and attends to evoked images, emotions, or ideas; he analyzes the relationships between bits of information from both sources; he describes the products of his attention; he interprets by synthesizing his descriptions with some speculations, from which he forms a number of hypotheses about the work's meaning, or its "theme." Finally, he may evaluate the work: he will rate its excellence in terms of certain criteria which he enumerates (Feldman, 1967; Smith, 1968). His hypotheses and his evaluations are validated by referring to

the qualities and configurations presented in the work, by discussing
ideas with peers, or by gaining historical information or critical in-
sights from reading or other sources.

Thus, to appreciate a work of art esthetically is to appreciate
it as an object whose contemplation is accompanied by a sense of height-
ened feeling emanating from the qualities embodied in its forms and
relationships. It is also to appreciate the work's significance, since
it enables us to perceive afresh, or for the first time, particular
aspects of reality.

Presentational and representational characteristics of art. The
visual art form is a material object that presents a configuration of
visual qualities to perception. The presentational character of a paint-
ing is what is immediately perceivable: those qualities that call atten-
tion to the painting as an object, or to its surface. We perceive visual
configurations as angular or sinuous in outline, as composed of open or
closed shapes, as flat or three dimensional, as brilliantly colored or
subdued in tonality, as simple or complex.

Each of the constituents of a work of art is also representational
or referential. The feeling or idea projected through the use of these
constituents is the work's representational dimension.

Presentation and representation are related: the qualitative
character of the work (its presentation) affects its expressive character
(its representation). Presentation is what is displayed; it is what exists
in the work by virtue of its unique organization of qualities. Repre-
sentation is outside the work itself; it is within the perceiver. It is

those referents in human experience that can be associated with the qualities and images displayed by the work.

In our category system, we have conceived of several classes of components that may be perceived: material attributes, sensory attributes, their expressive qualities, and their formal relationships. Material attributes grow out of the physical properties of the materials used and the particular techniques the artist used in transforming the materials into a medium of expression. For example, the impasto surface of a Hans Hofmann painting calls attention to a variety of material attributes. Hofmann's unique and personal style of handling thick paint--sculpting, scraping, and scumbling it--forcefully presents the physical qualities of the materials as a strong expressive component in his work.

Sensory attributes are exemplified by gradations of color intensity; by the structural characteristics of various shapes (i.e., squareness and angularity, or flowing, curved outlines); and by distinctive textural properties such as roughness, softness, and fuzziness. The expressive qualities of sensory attributes are exemplified by the "heaviness" of a dark color, the "pulsating" of a brilliant one, or the "tension" expressed by a group of diagonally intermeshed lines. Formal relationships are arrangements of sensory qualities whose juxtapositions yield the total visual configuration of the work.

These qualities and relationships, as well as subject elements--people, objects, events depicted--are interpreted by the viewer as signs that are vehicles for meaning. These signs can suggest or evoke a concept or feeling, if the conceptions of the interpreter are rich enough to enable him to establish a connection between the pictorial sign and its referent.

Look at the violinist depicted in Picture 1. The animation expressed by the central figure results from the inter-lay of presented formal relationships and the associations evoked in the perceiver by the subject elements. The particular combination of sensory qualities--bright purple, orange, and green colors; diagonal lines on the coat front; the diagonal tilt of the head, arms, legs, feet, violin, and violin bow--taken together suggest the motion and activity we associate with the playing of a lively tune. The presented relationships represent the sensations of sound, action, vitality, and life. To become aware of the organic relationships between elements of the central figure, cover the orange violin. Notice the changed relationship between the purple and green, and the overall dullness that results from the omission of the orange accent. Not only is the total visual character of the painting altered, but the expressive character is altered as well: the sad-eyed face of the violinist now becomes more dominant, and the feeling evoked is one of melancholy rather than light-hearted animation.

Classifying Responses to Paintings

Complete perception of a painting includes the noting of as many attributes as possible. The astute viewer perceives many patterns (a color pattern, a shape pattern, a line pattern), and responds to the relationships between them. At the same time, he responds with a variety of associations evoked by the representational elements of the painting. A complete synthesis of perceptions and associations with the emotion evoked by that experience constitutes the gestalt that is unique for that person with that painting at that moment.

A painting may be described from the surface outward--that is, from its more concrete aspects (e.g. color, shape) to aspects that "emerge" from its combinations of visual qualities and representations (e.g. symbolism). Statements about the aspects of a painting may be classified. The pattern of classification of a person's statements describes the person's viewing pattern and the kinds of inferences and judgments he makes as a result of his viewing and his past experience. More specific- ally, a person's statements indicate his focus of attention (the attributes he notes) and his characteristic style of attending (the way he interprets what he notes). They indicate whether he sees a depicted person liter- ally, as a man, woman, or child; expressively, as a device connoting an emotion, such as grief or joy; or symbolically, as representing an idea or complex of ideas, such as peace, justice, or brotherhood. And they show whether the viewer's response is predominately descriptive, inter- pretive, or evaluative in nature.

Viewers also vary along a simplicity-complexity dimension in verbal- izing their perceptions. Some viewers structure their remarks to reflect an overall apprehension of the work's qualities: "I see bright colors." Others name members of a class: "I see red, blue, and green." Still others relate pictorial details or qualities to a class of things, or to an inference about meaning: "I see lots of bright colors: he's used bright yellow, intense blue, and orange-red for the houses, while the animals and people are bright pink. This expresses the quiet tranquillity of village life. Notice the absence of people, the muted colors, the many horizontal lines and shapes, and the careful way the houses and vegetation are drawn. All these tend to convey a sense of stillness and order."

THE GREEN VIOLINIST

Marc Chagall, Contemporary

Picture 1

Keeping in mind these ways of characterizing responses to art, we have formulated a category system based on five dimensions of response:

1. The kinds of attributes noted (color, line, objects, expressive qualities).

2. The kinds of information the viewer perceives as conveyed by the attributes (literal, expressive, symbolic).

3. The way the viewer uses this information (for description, interpretation, evaluation).

4. The emotional tone that the viewer perceives as embodied in the configuration or as evoked in himself.

5. The complexity of the viewer's response.

Descriptive (cue attendance) categories are ordered as if the viewer were noting characteristics of the painting from its "skin" outward: Material Attributes, Literal Attributes, Sensory Attributes, Organizational Attributes, and Expressive Attributes. The two Contextual Attributes categories classify remarks that display a viewer's knowledge of the cultural context of the work.

Interpretive (hypothesis generation) categories are ordered according to the predominant mode of reference the viewer employs in synthesizing visual cues: the literal mode, the affective mode, or the symbolic mode. Hypothetical statements incorporating historical information are included next under "Contextual Attributes."

Evaluative categories are ordered with respect to whether a judgment is subjective or objective, and whether the evaluation is supported or not supported by objective criteria.

Responses are categorized as either simple or complex. For example, "I see lots of big shapes, and many bright colors" would be a simple response. On the other hand, "This composition makes use of large shapes

contrasted with a variety of small ones--notice the small figures at the bottom, in the central area, and at the top. They function by contrast to make the large angular shapes of the central figure stand out forcefully," would be a complex response.

Some categories of response are superseded by others in certain instances. Examples of the coding procedure for these instances are given in the general explanation accompanying the particular categories. Some complex responses are double coded, i.e. coded for more than one category. Double coding is explained under the Literal Object category and the Literal Reference category.

EXPLANATION OF FORMAT AND KEY CONCEPTS

The Programmed Format

The rest of this manual is programmed. The key ideas presented in the text are followed by exercises. You, the reader, are expected to do the exercises and to choose the answer you think is correct. The page that follows the exercise shows correct responses and explains how they were selected. If your choice is not correct, you will be directed to reread a previous explanatory section.

For example, a statement may be made about an artist whose painting has been shown:

Jackson Pollock was a painter of the abstract-expressionist movement who was dubbed by critics the "father of action painting."

ENCIRCLE THE NUMBER OF YOUR CHOICE.

1. False

2. True

3. I don't know. It is possible that I could find out if I could read some biographical information about the artist

GO TO THE NEXT PAGE TO SEE IF YOUR CHOICE IS CORRECT.

IF YOU ENCIRCLED:

1. No. If you had more information about Pollock, you would know

    that this statement is true. Had you been given biographical in-

    formation and stil' made this choice, you would be instructed to

    reread the information. Since you were not given this information,

    and you did not have enough information to select answer two, the

    correct answer for you is answer three. Read the entry for answer

    three.

2. Right! You must be a connoisseur of modern art. Read the entry

    for answer three and then go on to the next page.

3. Excellent! You have given the appropriate response to a situation

    in which you don't possess enough information to know if a state-

    ment is true or false. You have expressed "warranted uncertainty."

    (See the next page for a definition of "warranted uncertainty.")

NOW YOU SEE HOW THE PROGRAM WORKS. YOU WILL FIND FURTHER EXAMPLES IN
THE NEXT SECTION.

Key Concepts

Uncertainty. The manual was designed as part of a program to
help teachers and children deal with uncertainty. The term "uncertainty"
refers to the state of an individual who has either no immediate response,
or a variety of alternative responses from which to choose when he is
confronted with an unfamiliar, ambiguous, or problematic situation. The
value of developing strategies for dealing with uncertainty is readily
apparent in view of the major social problems and the rapid changes that
contribute to the complexity of life today. A person not only must deal
with much information in making decisions, he must see how his decisions
are interrelated, and must also consider the effect of new information on
his prior decisions.

Warranted uncertainty. The distinguishing of problematic from
non-problematic situations, and the expression of appropriate uncertainty
with regard to problematic situations is termed "warranted uncertainty."
An example of the expression of warranted uncertainty about the painting
shown in Picture 1, "The Green Violinist," would be: "I don't know what
the artist means to communicate in this picture. I can't figure out why
the man is flying above the large figure, or why the violinist appears to
be suspended above the house. I suppose the artist could be trying to
make a comment on folk culture, or perhaps he is attempting to illustrate
an old folk saying. I wonder where I could find out what this painting
might mean?"

Notice that the expression of warranted uncertainty has three
stages. First, the individual recognizes a problem for which he does not
have an immediate response: "I don't know what the artist means. . . ."

Second, he entertains several alternative explanations or interpretations: "I suppose he could be trying to. . . ." Third, he is willing to search for more information to arrive at a solution: "I wonder where I could find. . . ."

Cue attending and hypothesis generation. Two of the behaviors illustrated above contribute to the development of subjective response uncertainty. These are attending to cues and generating hypotheses. When a person seeks information about the situation directly or from memory, he is said to be attending to cues. When he makes a tentative, plausible explanation about the meaning of a particular set of cues he is generating a hypothesis. The ability to attend to cues and to generate hypotheses is essential to understanding a work of art.

The following descriptive remarks about "The Green Violinist" indicate that an individual is attending to cues: "I see a variety of grayed colors used in the background. They contrast with the dark purple coat and hat of the violinist in the foreground." These observations serve as a base for making inferences and judgments. Statements that propose explanations or construe meanings are hypotheses: For example, "I think the artist is trying to create a mood of nostalgia for village life. The violinist is playing the 'Song of Life,' which is both melancholy and gay. The actions of the people and animals show some of life's homey and mundane aspects."

Evaluation. Evaluation is a critical process that yields a judgment about (a) the significance of the cues, (b) the adequacy of various possible solutions and (c) the value of the art object as a solution to

an artistic problem. In the last case, the value is judged according to

some particular criteria of excellence. Examples of the three types of

evaluation follow.

> "I see two floating figures, a misty background painted
> in soft colors, strange size relationships, and unnatural
> colors used for the hands and face of the violinist.
> These elements give the painting a dream-like quality."

> "I don't think that what I just said is a good explana-
> tion of the meaning of the painting, because it does not
> account for what the man at the top is doing."

> "I think this is an excellent painting because the dis-
> tribution of warm and cool colors creates the sensation
> of vibrant life suggested by the action of the figures.
> Bold and energetic outlines delineate the figures. The
> artist has integrated color relationships and line
> qualities to enhance his chosen theme of life's vitality
> and energy. It is the coherence of sensory and repre-
> sentational elements that is the mark of a successful
> painting."

TO SEE WHETHER YOU UNDERSTAND THE CONCEPTS PRESENTED ABOVE, DO THE
EXERCISES THAT FOLLOW. THEY ARE A SAMPLE OF THE PROGRAMMED FORMAT.

LOOK AT PICTURE 1, "THE GREEN VIOLINIST." SEE HOW THE ARTIST APPLIED THE
PAINT IN THE BACKGROUND. NOW READ THE STATEMENTS BELOW. DECIDE WHICH
ONE EXPRESSES WARRANTED UNCERTAINTY. ENCIRCLE THE NUMBER OF YOUR CHOICE.

1. "It's obvious the artist used a dry brush technique in applying oil
   paint in quick strokes to create a rough texture."

2. "I'm not sure how the artist applied the paint. It looks as if he
   wiped the paint on with a soft cloth in some parts of the sky, but
   in places in the center of the painting it looks as if he used a
   stiff-bristle brush and stroked the paint on while the brush was
   fairly dry. I'm not sure whether he used oil or tempera. The sur-
   face isn't shiny, as sometimes happens when oil is used. I would
   have to look at the original painting or read about the artist's
   technique before I could say for sure."

3. "I think the artist used oil paint. He used grayed colors and ap-
   plied them with quick strokes of a fairly well loaded, stiff-bristle
   brush."

WHEN YOU HAVE CHOSEN YOUR ANSWER, GO ON TO THE NEXT PAGE.

IF YOU ENCIRCLED:

1. Not so fast. Are you sure this is the only way the artist could have achieved the effect he did? The person who gave answer one has not observed the painting carefully enough to be able to make such a definite statement about the technique and medium used by the artist. Reread the explanation of warranted uncertainty on page then try again.

2. Very good! You are right. Notice that the expression of warranted uncertainty is accompanied not only by a statement indicating that the observer is not yet sure of an answer, but also by speculations indicating that he is willing to entertain a variety of ideas about answers ("It looks as if. . . ."). This observer is also ready to search for more information before committing himself to a final answer ("I would have to look. . . .").

3. Both of these statements could be true. However, the observer doesn't tell us what he sees in the painting which makes him think oil paint or a stiff-bristle brush was used. He has not indicated the process of basing inferences on cues taken from visual information. Reread the explanation and example of warranted uncertainty on pages 19 and 20. Then try the exercise on the previous page again.

DID YOU CHOOSE CORRECTLY? GO ON TO THE NEXT PAGE.

THE STATEMENTS BELOW APPLY TO "THE GREEN VIOLINIST." DECIDE WHICH ARE EXAMPLES OF CUE ATTENDING AND/OR HYPOTHESIS GENERATION. IN THE SPACE PROVIDED AT THE LEFT, WRITE THE ABBREVIATED FORM OF YOUR ANSWER.

CA - Cue Attending   HG = Hypothesis Generation

1._____"I dig this painting! It really makes me feel happy!

2._____"The artist makes much use of curved and straight lines. Both kinds of lines form a variety of triangular shapes. I see a pattern of triangles at the bottom--the roofs; in the center-- the shapes within the purple coat; and at the top--the roofs."

3._____"This painting is about someone's memories of childhood in a village. The images are jumbled together, as in a dream or memory, with no regard for naturalistic size relationships. I think it's a happy memory or dream--look at the man flying through the air as if he hadn't a care in the world, and the perky dog who looks as if he were smiling at the violinist."

4._____"I think this is a surrealistic painting about the artist's childhood memories."

HAVE YOU MADE YOUR SELECTIONS? CHECK YOUR ANSWERS ON THE NEXT PAGE.

1. This is neither cue attending nor hypothesis generation. It is a subjective expression of the feelings of the viewer. Reread the cue-attending and hypothesis-generation examples, then try again.

2. CA. This person is cue attending. He has noted the type of straight and curved linear elements used to structure the painting. He has also noted some of the shape relationships which result from the combination of these elements.

3. CA, HG. This person is cue attending and hypothesizing. He makes inferences about meaning ("This painting is about someone's memories. . . . I think it's a happy memory. . . ."). He supports his inferences by describing the cues that contributed to such interpretations ("images are jumbled together . . . man flying through the air. . . ."). Try to find an example of cue attendance alone or hypothesis generation alone if you have not yet done so.

4. HG. This person is hypothesizing about meaning while identifying style. He has brought his past experience with surrealistic paintings to bear upon his perception of Chagall's painting.

DID YOU FIND AN EXAMPLE OF BOTH CUE ATTENDANCE AND HYPOTHESIS GENERATION? GOOD! NOW THAT YOU ARE FAMILIAR WITH THE KEY CONCEPTS, YOU ARE READY TO LEARN HOW TO CODE DESCRIPTIVE STATEMENTS INTO THE CATEGORY SYSTEM. IN THE SECTION THAT FOLLOWS YOU WILL FIND CUE ATTENDANCE CATEGORIES AND PRACTICE EXERCISES THAT WILL ENABLE YOU TO DEVELOP YOUR CODING SKILL.

CUE-ATTENDANCE CATEGORIES

I. Material Attributes

This category includes remarks about the materials used, the method

of application or arrangement of the materials, and the visual and tactile

qualities that result from the combination of materials and technique.

(M) Materials. The M coding is used for statements that refer to

the materials used in the construction of the work, or that classify the

total work in terms of materials or medium used.

> "he used cut-outs here . . . this is an oil painting . . . a
> watercolor . . . pencil drawing . . . paper . . . paint . . .
> transparent medium . . . opaque."

(T) Technique. The T coding is used for statements that indicate

awareness of the manner of application or the process employed when the

materials were combined.

> (in terms of media) "the paint was dabbed on in little dots
> . . . painted with thin paint . . . first he drew the shapes,
> then he painted them in very carefully . . . brushed on . . .
> put on with a knife. . . ."
>
> (in terms of formal devices) "made the shapes overlap . . .
> juxtaposed . . . placed side-by-side . . . close-up . . .
> side-view or profile . .   this figure has been cut off by the
> edge of the picture . . . the wall comes into the picture on
> this side, and goes out on the other side . . . the chair cuts
> the painting into two parts. . . ."

(SQ) Surface quality. The SQ coding is used for statements that

indicate awareness of the surface effect achieved by the combination of

materials and techniques, either in terms of the textural quality of the

total surface, or in terms of the textural qualities represented in

specific objects or areas.

> (total painting surface) "looks pebbly . . . grainy . . .
> velvety . . . shiny and smooth . . . dull and flat . . .

> rough . . . hard . . . soft . . . matt . . . glossy . . .
> encrusted . . . relief . . . embossed . . . dirty. . . ."
>
> (areas or objects depicted) "the sky has a texture that
> looks rough . . . the waves look rough . . . the face is
> made of wood . . . looks like leather . . . velvet coat . . .
> silky dress . . . designs carved into that piece of wood
> . . . pattern on the wall . . . rough bark on the tree. . . ."

Frequently a viewer will use adjectives that refer to both surface qualities and sensory attributes, such as color and line. The coding of such responses is explained later.

II. Literal Attributes

This category covers statements about the subject matter depicted, with no indication of any expressive function in the work. Objects and environments are interpreted merely as literal representations of their counterparts in life, not as symbolic of a mood or an abstraction.

(LO) Literal object. The LO coding is used for statements that name the objects or people depicted.

> "many men . . . children . . . some hats . . . a coat . . .
> tree . . . hills . . . sky . . . she's wearing a brown hat
> . . . a man in the front. . . ."

(LC) Literal context. The LC coding is used for statements in which context is regarded as a literal record that places the subject matter with regard to time, location, events, or situations. Such statements indicate that the viewer does not realize that depicted content may function as an artistic device to symbolize ideas or feelings.

> "it's in England . . . long ago . . . a city like Boston or
> Chicago . . . at night . . . in winter . . . it's windy . . .
> cloudy . . . a storm . . . sunny day . . . a village scene
> . . . an accident . . . a movie. . . ."

MANCHESTER VALLEY (1914-1918)

Joseph Pickett. Contemporary

Picture 2

THE STATEMENTS BELOW ARE EXAMPLES OF THE TYPES OF CUE ATTENDING DESCRIBED THIS FAR. THEY REFER TO PICTURE 2, "MANCHESTER VALLEY." TO THE LEFT OF EACH REMARK, WRITE THE ABBREVIATION FOR THE CATEGORY IN WHICH YOU WOULD CLASSIFY EACH REMARK.

M = Material   SQ = Surface Quality   LC = Literal Context

T = Technique   LO = Literal Object

_____ "I think the artist used tempera paints."

_____ "There are trees, houses, railroad tracks, a river, a flag."

_____ "It's a scene in a small village."

_____ "There is a textural feeling to the painting."

_____ "It looks as though he brushed the sky on with big, swoopy

strokes of the brush."

_____

(SHOW TOTALS BELOW THIS LINE.)

CHECK YOUR ANSWERS ON THE NEXT PAGE.

M   "I think the artist used tempera paints."

(Material: Tempera is a material.)

LO   "There are trees, houses, railroad tracks, a river, a flag."

(Literal Object: The respondent has named actual objects.)

LC   "It's a scene in a small village."

(Literal Context: A location is named.)

SQ   "There is a textural feeling to the painting."

(Surface Quality: A total surface effect is noted.)

T   "It looks as though he brushed the sky on with big, swoopy strokes

of the brush."

(Technique: The manner of paint application is described.)

NOW YOU ARE READY TO TACKLE A MORE COMPLEX TASK. SINCE PEOPLE FREQUENTLY
GIVE MUCH MORE ELABORATE DESCRIPTIONS THAN THE ONES YOU HAVE JUST READ,
WE DEVISED A MEANS OF GIVING SOME CREDIT TO PEOPLE WHO ARE "COMPLEX CUE
ATTENDERS."

AN EXPLANATION OF ..IS CODING PROCEDURE FOLLOWS.

Procedures for Coding Simple and Complex Responses

1.   Break the protocol into sentences or phrases that appear to be
coherent units of thought. (The term protocol refers to the written tran-
scription of all spoken remarks made by a person during an interview or
conversation. In this manual, a protocol consists of the transcription
of the remarks made about a specific picture by a subject.) The following
protocol may be divided into three major units by using brackets at the
margin and large parentheses within the body of the text:

> "There are trees, houses, railroad tracks, a river, a flag.)
> The artist has painted a dull gray sky to show that it's a
> blustery Spring day.)(I see lots of buildings and a little
> train puffing along. . . .")

2.   Next, break each sentence or phrase into coding units, by using short
slash marks:

> "There are trees,/houses,/railroad tracks,/a river,/a flag.)
> The artist has painted a dull gray/sky/to show that it's a
> blustery Spring day.)(I see lots of buildings/and a little
> train puffing along. . . .")

A coding unit may consist of a noun, a noun and qualifiers, an ad-
verbial phrase, or a short complete sentence (as in the compound sentence,
"I see lots of buildings. . . ." written above). These divisions will vary
in length according to the character of the response. If a response is a
simple one, enumerating such concrete categories as Literal Object, Color,
Line, or Shape, the coding units will be short ones--usually a noun and
its accompanying adjective or article. If the response is a complex one,
referring to abstract or relational categories such as Comparative Relations,

Principle of Organization, or Pervasive Quality, the coding units are more likely to be composed of whole phrases. Examples of coding complex cue-attendance responses are given later in this section. Procedures for coding complex hypotheses are given in the section on hypothesis generation categories.

3.   Write category abbreviations above the coding units: (Note: "C" denotes color.)

$$\Big\{ \text{"There are trees,}^{LO}/\text{houses,}^{LO}/\text{railroad tracks,}^{LO}/\text{a river,}^{LO}/\text{a flag.}\Big)$$

The artist has painted a dull $\overset{C}{\text{gray}}/\overset{LO}{\text{sky}}/$ to show that it's a blustery $\overset{LC}{\text{Spring}}$ day.$\Big)\Big($ I see lots of $\overset{LO}{\text{buildings}}/$ and a little $\overset{LC}{\text{train}}$ puffing along. . . ."$\Big)$

4.   Write the totals for each category for each thought unit in the

.rgin next to the bracket for that section:

$5LC$ $\Big\{$ 'There are $\overset{LO}{\text{trees,}}/\overset{LO}{\text{houses,}}/\overset{LO}{\text{railroad tracks,}}/\overset{LO}{\text{a river,}}/\overset{LO}{\text{a flag.}}\Big)$

$LO,C,LC\Big\{$ The artist has painted a dull $\overset{C}{\text{gray}}/\overset{LO}{\text{sky}}/$ to show that it's a blustery $\overset{LC}{\text{Spring}}$ day.$\Big)\Big($ I see lots of $\overset{LO}{\text{buildings}}/$ and a little

$2LO$ $\Big\{$ $\overset{LO}{\text{train}}$ puffing along. . . ."$\Big)$

5.   Total the number of times each category is mentioned in the entire protocol:

$5LC$ $\Big\{$ "There are $\overset{LO}{\text{trees,}}/\overset{LO}{\text{houses,}}/\overset{LO}{\text{railroad tracks,}}/\overset{LO}{\text{a river,}}/\overset{LO}{\text{a flag.}}\Big)$

$LO,C,LC\Big\{$ The artist has painted a dull $\overset{C}{\text{gray}}/\overset{LO}{\text{sky}}/$ to show that it's a blustery $\overset{LC}{\text{Spring}}$ day.$\Big)\Big($ I see lots of $\overset{LO}{\text{buildings}}/$ and a little

$2LO$ $\Big\{$ $\overset{LO}{\text{train}}$ puffing along. . . ."$\Big)$

$8LO$
LC
C

6. Record the totals on a tally sheet. There is a sample tally sheet in

Appendix B. With these data you can compute the viewer's uncertainty score.

Simple cue attend. Sometimes a person descr.bes what he sees in con-

siderable detail, using adjectives and auxiliary phrases: that is, he

elaborates his enumeration of the things he notices. The elaboration may

be analyzed into component categories, coded, and tallied in the simple

column for each relevant category (see tally sheets in Appendix C).

C, LO "a $\overset{C}{\text{gray}}/\overset{LO}{\text{sky}}$ . . ."

LO, LC "the $\overset{LO}{\text{man}}/$in the $\overset{LC}{\text{village}}$ scene . . ."

$2LO, C$ "a $\overset{LO}{\text{man}}/$wearing a $\overset{C}{\text{green}}/\overset{LO}{\text{suit}}$ . . ."

C, SQ "I see a lot of bright $\overset{C}{\text{colors}}/$and rough $\overset{SQ}{\text{surfaces}}$ . . ."

---

3 C	(Notice that the number of simple cues is totaled in the
4 LO	left margin. Numbers appearing before the category code
LC	indicate the number of simple cues. The code with no number
SQ	before it represents one simple cue.)

Complex cue attend. These kinds of responses indicate that a person

can articulate conceptual connections between pictorial elements and their

relationships. Complexity points are given only when the elaboration

mentions pictorial elements that illustrate or refer to the main category.

Two examples of complex cue attends follow:

Type A: Names and differentiates a class. When a person names a

class of objects, and then differentiates or elaborates the class by

pointing out examples of that class represented in the painting, the

following procedure is followed: give a simple point to the class refer-

ence and complexity points for the pictorial references. Numbers that

appear in parentheses after the category code indicate complexity points

for a complex cue attend.

$$\scriptsize{\mathcal{L}O}$$

$\mathcal{L}\mathcal{C}(\mathcal{E}$ "I see three people . . ./two boys listening, and a man . . ."

as opposed to:

$3\,\mathcal{L}O$

$3\,\mathcal{L}\mathcal{D}$ "I see three people . . ." (simple class reference)

or:

$\mathcal{L}\,O$

$\mathcal{L}O$ "I see people . . ." (simple class reference)

A more complex example of the same type of response is:

"I see lots of buildings:/ there's a large building to the

right,/a little green house to the left,/two red houses in

the lower center,/a small yellow/house/and two gray/brick/

buildings in front. . . .")

$\mathcal{L}O\,(7)$
$6\,\mathcal{C}$
$2\,5Q$

(The totals at the left mean:
$\mathcal{L}O\,(7)$ 1 simple LO, with 7 complexity points
$6\mathcal{C},\,2\,5Q$ 6 simple C, 2 simple SQ)

To review: The numbers before the category code indicate the number

of simple points for the category; the numbers in parentheses after the

category code indicate the number of complexity points for the category.

Type B: Names a class, cites pictorial instances from other classes.

When a response names a class, then elaborates the first class named by

citing pictorial instances from other classes, the elaborations are double

coded as follows:

$SQ(5)$ "Everything has a texture:/ the rocks/and the water,/and the

$5\,\mathcal{L}O,\,\mathcal{C}$ sky;/the green/tree leaves,/the grass. . . .")

Notice that the LO's mentioned are coded as simple points in their

own category and coded as complexity points for the SQ category, as they

not only represent objects, but also exemplify the texture mentioned at

the beginning of the response.

The numbers in parentheses precede the LO code, and follow the category to which they refer, e.g., SQ. This rule is always followed: complexity points in parentheses follow the category to which they refer, whether noted in the margin, or in the body of the text being coded.

FOR PRACTICE IN CODING, GO TO THE NEXT PAGE.

CODE THE FOLLOWING STATEMENTS ABOUT PICTURE 2, "MANCHESTER VALLEY," USING
THE CODING PROCEDURE DESCRIBED ON THE PRECEDING PAGES. REMEMBER TO DIVIDE
THE PROTOCOL INTO THOUGHT UNITS, USING BRACKETS AND PARENTHESES. THEN
BREAK THOUGHT UNITS INTO CODING UNITS, USING SLASH MARKS. WRITE THE
CATEGORY ABBREVIATION ABOVE EACH CODING UNIT. WRITE TOTALS FOR EACH
CATEGORY TO THE LEFT OF THE BRACKET FOR EACH THOUGHT UNIT. TOTAL THE
POINTS FOR EACH CATEGORY FOR THE ENTIRE PROTOCOL UNDER THE LINE AT THE
BOTTOM.

M = Material   SQ = Surface Quality   LC = Literal Context

T = Technique   LO = Literal Object

    "This is a little village scene."

    "The picture has lots of pattern and texture: the tree branches

form a wavy pattern; the fences, railroad ties and roofs make

another pattern."

    "The water looks frothy to the right: you can see little ripples

on the surface; but it's smooth under the bridge--you can see

reflections and it looks shiny."

_____

    (TOTALS)

GO TO THE NEXT PAGE TO CHECK YOUR ACCURACY.

LC {"This is a little $\overset{LC}{\text{village}}$ scene." }

(Literal Context: A location is named, with no recognition of metaphorical function.)

$2 SQ(4)$ { "The picture has lots of $\overset{SQ}{\text{pattern}}$/and $\overset{SQ}{\text{texture}}$:/ the tree $\overset{(1)\ LO}{\text{branches}}$
$4 LO$ form a wavy $\overset{(1)\ LO}{\text{pattern}}$,/and the $\overset{(1)\ LO}{\text{fences}}$,/$\overset{(1)\ LO}{\text{railroad ties}}$,/and
$\overset{(1)\ LO}{\text{roofs}}$ make another pattern." }

(Coded as 2 SQ, since pattern and texture are not synonymous in Picture 2. This statement explicitly says that the tree branches form one pattern, while the three other types of objects form another. The LO's that are the pictorial instances of pattern (SQ) are double coded in the LO category.)

$3 SQ(2)$ { "The $\overset{LO}{\text{water}}$/looks $\overset{SQ}{\text{frothy}}$ on the right:/ you can see little
$4 LO$ $\overset{(1)\ LO}{\text{ripples}}$ on the surface;/but it's $\overset{SQ}{\text{smooth}}$/under the $\overset{LO}{\text{bridge}}$--/
you can see $\overset{(1)\ LO}{\text{reflections}}$/and it looks $\overset{SQ}{\text{shiny}}$." }

(This is a little complicated. In the elaboration, "you can see little ripples . . .," the word "ripples" is cited as pictorial evidence to support the classification of the surface quality, "frothy." "Ripples" is double coded--as a complexity point for SQ, and as a simple LO point. Another adjective, "smooth," refers to a different surface quality of the water, and is given an SQ point. "Reflections" is an LO--pictorial evidence for the SQ, "smooth"--and is double coded as a simple LO point and as a complexity point for SQ. "Shiny" is coded as a simple SQ, since it is a parallel adjective to the adjective "smooth.")

(TOTALS)

HOW DID YOU DO? A BIT CONFUSED? AS YOU PRACTICE, YOU WILL BECOME MORE EXPERT. IF YOU MISSED MORE THAN THREE CODINGS, HOWEVER, YOU SHOULD RE-READ THE PAGES THAT EXPLAIN THE CODING PROCEDURE. CORRECT YOUR ERRORS, THEN GO ON TO THE NEXT PAGE.

III. Sensory Attributes

This category refers to formal or plastic elements used. The qualities referred to are visual (presentational) rather than expressive (representational). However, statements about sensory attributes may often include words that indicate awareness of the surface properties or expressive character of the attributes. When a person mentions the expressive or surface qualities possessed by a sensory attribute, credit is given by coding the remark in the appropriate category. This procedure is explained in the following pages.

(C) Color.   Statements or words which refer to primary or secondary characteristics of color are coded C. The primary characteristics of color are hue, value, and saturation.

Hue: the basic color name.

I see blue . . . the house is yellow-orange . . . many colors . . . a few colors. . . .

Value: the lightness or darkness of a hue; tints and shades.

this is all light yellow and orange . . . a dark blue . . . tints of red . . . shades of brown . . . tones of green . . . pale green. . . .

Saturation: the amount of a basic hue in a particular color mixture.

everything is done in bright colors . . . it's dull . . . not very bright colors . . . this is grayed . . . very muted hues . . . an intense yellow. . . .

GO TO THE NEXT PAGE TO PRACTICE COLOR CODING.

CODE THESE STATEMENTS ABOUT PICTURE 2, "MANCHESTER VALLEY." FIRST, READ THE WHOLE PROTOCOL THROUGH TO GET AN IDEA OF WHICH GROUPS OF SENTENCES SEEM TO BELONG TOGETHER--THAT IS, WHICH SENTENCES SEEM TO REFER TO THE SAME CATEGORY. THIS GROUPING OF SENTENCES IS HELPFUL AS A PRELIMINARY STEP TO CODING, ESPECIALLY IF THE SENTENCES ARE COMPLEX, REQUIRING DOUBLE CODING. REREAD. BREAK EACH SENTENCE OR GROUP OF SENTENCES INTO CODING UNITS, USING SLASH MARKS. WRITE CATEGORY CODES ABOVE THE CODING UNITS. WRITE THE TOTALS FOR EACH CATEGORY TO THE LEFT OF EACH SENTENCE OR GROUP OF SENTENCES. TOTAL THE CODE POINTS FOR EACH CATEGORY AT THE BOTTOM.

M = Material   C = Color

T = Technique   LO = Literal Object

SQ = Surface Quality   LC = Literal Context

> "I see lots of greens: the middle is yellow-green, the hills
>
> in the back are dark green. The trees are 'a yellow-green tint,
>
> while the train and the field are blue-green.
>
> The river bank and the trees, roofs, and fences are all
>
> dark. The large house is mustard-green color. It looks like
>
> brick; so do the two red houses."

_____

(TOTALS)

GO TO THE NEXT PAGE.

40

C / (') /
"I see lots of greens: / the middle is yellow-green, the

$C(5)$ ⎰ LO (') LO
4 LO ⎱ hills in the back are dark green. / The trees are a yellow-

(') LO LO (2) ⎞
green tint, / while the train and the field are blue-green. ⎠

(Simple C point is used for the class reference, "greens." All
other mentions of colors--"yellow-green" (hue), "dark-green"
(value), "yellow-green tint" (value), etc.--are coded as color
complexity points. Pictorial references to "hills," "trees,"
etc. are coded as simple LO points.)

(')LO (')LO / (')LO /   (')LO
$C(4)$ ⎰ The river bank / and the trees, / roofs, / and fences / are all
4 LO ⎱ C
  dark.⎠

(Notice the structure of this sentence. The color reference
is at the end of the sentence, and the pictorial references
all precede it. Complexity points are given for all pictorial
references which refer to "dark.")

LO C $3SQ$
3 LO ⎰ The large house / is mustard-green color. / It looks like brick; /
3C, 3SQ ⎱   2C / 2LO
  so do the two red / houses."

(The sentence is easy: a simple LO and a simple C coding.
Two color and two surface quality points are given for the reference
to the two houses.)

$5C(9)$ (TOTALS)

$11 LO$

$3 SQ$

IF YOU MADE MORE THAN THREE CODING ERRORS, REREAD THE SECTION ON COLOR
CODING BEFORE GOING ON TO THE NEXT PAGE.

(C) <u>Color</u>. <u>The secondary characteristics of color are quality,
temperature, distance, and weight.</u>

Adjectives are frequently used with color words which describe the
surface qualities or expressive qualities of the color mentioned. In this
manual, <u>surface quality</u> refers to the physical appearance of the hue--an
appearance associated with a tactile sensation, or with the reflection or
absorption of light by the hue. <u>Expressive quality</u> refers to physical
sensations, spatial placement, or emotional states associated with a
particular hue.

<u>Quality:</u> the effect of the medium used on the appearance of
<u>the hue.</u>

"the *C*/red/ is *SQ*/dry /and chalky . . . *C*/green/ looks *SQ* juicy . . . *C* yellow
SQ shimmers . . . a *SQ*/shiny/ *C* blue . . . a *SQ*/wet/ *C* pink. . . ."

<u>Temperature:</u> the appearance of warmth or coolness of the hue as
<u>it appears in the context of other hues used in the composition.</u>

"*EQ*/cool/ *C* blue . . . violet *C*/*EQ* looks hot . . . red *C*/is *EQ* flaming . . .
EQ fiery . . . *EQ*/warm/ *C* yellow . . . *EQ*/icy/ *C* blue. . . ."

<u>Distance:</u> the apparent placement in depth as a result of the
<u>hue.</u> Warm or bright hues tend to advance visually; cool or
dull hues tend to recede. Dark or light values may advance or
recede, depending upon their visual context. When the effect
of depth due to color differences is indicated, the remark
should be coded as follows:

"the *C*/red/ *LO*/building/ looks *EQ* close up . . . *C*/blue/ *LO*/sky /looks like it's
EQ far away . . . yellow *C*/looks like it's *EQ* in front . . . the orange *C*/
EQ comes out at you. . . ."

<u>Weight:</u> the visual weight expressed by a hue by virtue of its
<u>value or opacity.</u> Dark or opaque hues may appear to be more
solid than others, while light or transparent hues appear to be
vaporous and light weight.

"The *EQ*/heavy/ *C* brown in the corner . . . the *EQ*/misty/ *C* blue/ looks like

42

it's floating . . . the yellow looks filmy, like it's a thin

veil/blowing in the breeze. . . ."

GO ON TO THE NEXT PAGE FOR PRACTICE IN CODING SURFACE AND EXPRESSIVE
QUALITIES ASSOCIATED WITH COLOR.

THESE STATEMENTS REFER TO PICTURE 2, "MANCHESTER VALLEY." SOME REMARKS
INCLUDE MENTIONS OF EXPRESSIVE QUALITIES; OTHERS MENTION SURFACE QUALITIES.
BREAK THE STATEMENTS INTO THOUGHT UNITS AND CODE THEM.

M = Material   LO = Literal Object

T = Technique   C = Color

SQ = Surface Quality   EQ = Expressive Quality

"The river is warm looking: it looks very tranquil under the

bridge. The gray above the green house to the left is rough--

looks rocky or gravelly. So does the patch of brownish green

to the right above the train."

_____

(TOTALS)

CHECK YOUR CODING ON THE NEXT PAGE.

"The river is warm looking -- it looks very tranquil under the
bridge."

("Warm looking" describes the appearance of temperature of the
river surface; therefore, we code it EQ. "Tranquil" refers to
an emotional state associated with the appearance of the river
surface; therefore, we code it EQ.)

"The gray/above the green house to the left is rough--looks
rocky/or gravelly.")

("Rough," "rocky," and "gravelly" are adjectives referring to
surface qualities, therefore, we code all three as simple SQ.)

"So does the patch/of brownish green to the right/above the
train.")

(We infer from the foregoing sentence that the speaker means
the patch of brownish green is also rough; therefore, we give
an SQ point for patch, while classifying it LO.)

(TOTALS)

NOW LET'S REVIEW THE DIFFERENCE BETWEEN SIMPLE AND COMPLEX CUE ATTENDS.
GO ON TO THE NEXT PAGE FOR SOME PRACTICE.

THE FOLLOWING STATEMENTS REFER TO "MANCHESTER VALLEY." SOME ARE SIMPLE
CUE ATTENDS; OTHERS ARE COMPLEX. REMEMBER TO DOUBLE CODE COMPLEX
STATEMENTS, USING THE PROCEDURE EXPLAINED PREVIOUSLY.

M = Material   C = Color

T = Technique   SQ = Surface Quality

LO = Literal Object   EQ = Expressive Quality

LC = Literal Context

> "I see red, lots of greens, blacks, and yellow-greens."
>
> "I see greens on the trees, grass, houses, and the train."
>
> "There is much pattern; the trees create one type of pattern,
>
> while the houses create another type of pattern."
>
> "I see lots of objects: houses, trees, train, a bridge, rocks."
>
> "Some red houses, a light-colored river with dark banks,
>
> lots of green hills."

_____

(TOTALS)

CHECK YOUR CODING ON THE NEXT PAGE.

$+C$ $\left\{\right.$ $\overset{C}{\text{"I see red,}}/\overset{C}{\text{lots of greens,}}\overset{C}{\text{black,}}$ and $\overset{a}{\text{yellow-greens."}}$

(These are coded as a simple cue attend which m ntions isolated color areas.)

$C(4)$ $\left\{\right.$ $\overset{C}{\text{"I see greens}}/\text{on the }\overset{(1) \text{ } LO}{\text{trees,}}/\overset{(1) \text{ } LO}{\text{grass,}}/\overset{(1) \text{ } LO}{\text{houses,}}$ and the $\overset{(1) \text{ } LO}{\text{train."}}$
$4 LO$

(This is a complex cue attend in which a class is named and differentiated, citing pictorial evidence of the literal object category to illustrate the class.)

$SQ(2)$ $\left\{\right.$ $\text{"There is much pattern;}/\overset{SQ}{\text{the trees}}\overset{(1) \text{ } LO}{\text{create one type of pattern,}}/$
$2 LO$ $\text{while the houses}\overset{(1) \text{ } LO}{\text{create another type of pattern."}}$

(This is a complex cue attend in which a class is named, and pictorial instances of another class are cited.)

$LO(5)$ $\left\{\right.$ $\overset{LO}{\text{"I see lots of objects:}}/\overset{(1)}{\text{houses,}}/\overset{(1)}{\text{trees,}}/\overset{(1)}{\text{train,}}/\overset{(1)}{\text{a bridge,}}/\overset{(1)}{\text{rocks."}}$

(This is a complex cue attend in which a class is named and differentiated.)

$4C$ $\left\{\right.$ $\overset{C}{\text{"Some red}}/\overset{LO}{\text{houses,}}/\overset{C}{\text{a light-colored}}/\overset{LO}{\text{river}}/\overset{C}{\text{with dark}}/\overset{LO}{\text{banks,}}/$
$4 LO$ $\overset{C}{\text{lots of green}}/\overset{LO}{\text{hills."}}$

(This is a simple cue attend which mentions several different categories.)

$9C(4)$ (TOTALS)
$11 LO(5)$
$SQ(2)$

(L) <u>Line</u>. The L coding is used for statements which indicate an awareness of line as an identifiable element in the composition, separate from the shape it delineates, and for statements which indicate awareness of attitude, degree of curvature, and the length or the width of line.

<u>Contour or boundary awareness</u>:

"the outline is . . . the edge of the shape is . . . is outlined in . . . edge stands out. . . ."

<u>Attitude of line</u>:

"he used horizontal . . . vertical . . . diagonal . . . lines. . . ."

<u>Degree of curvature</u>:

"the house is made of straight lines . . . many curved lines . . . swervy lines . . . swirls . . . zig-zag lines. . . ."

<u>Length, width variation</u>:

"lots of little short lines . . . thick . . . stubby . . . slender . . . lines. . . ."

TURN TO THE NEXT PAGE FOR PRACTICE IN CODING.

THE FOLLOWING STATEMENTS ARE MADE ABOUT "MANCHESTER VALLEY." DIVIDE
EACH INTO CODING UNITS. CODE, AND ADD THE CODING POINTS.

M = Material   LC = Literal Context

I = Technique   L = Line

LO = Literal Object   C = Color

> "I see a lot of vertical and horizontal lines in this painting:
> the trees, the houses and their details, the fence, bridge,
> and the train."

> "There is a great variety of line: thick and thin lines used
> for the trees; lines of varying length; some curved and some
> straight."

(TOTALS)

CHECK YOUR CODING ON THE NEXT PAGE.

$2L\ (6)$
$6\ LO$

"I see a lot of vertical and horizontal lines in this painting: the trees, / the houses / and their details, / the fence, bridge, and the train.")

(The class references, "vertical and horizontal lines," are exemplified by the pictorial references to six literal objects; therefore, the six complexity points for line and the six simple LO points.)

$L\ (5)$
LO

"There is a great variety of line: / thick / and thin lines used for the trees; / lines of varying length; / some curved / and some straight.")

(This is a complex cue attend. The viewer mentions pictorial evidence for line--"trees," an LO category--but also differentiates the class by enumerating different kinds of line.)

$3L\ (6)$ (TOTALS)
$7\ LO$

TURN TO THE NEXT PAGE FOR MORE EXAMPLES OF THE LINE CATEGORY.

(L) Line (Continued). References to line quality, intensity, or contrast with the field, or a feeling of movement that results from the use of line should be coded C, Color; SQ, Surface Qualities; EQ, Expressive Qualities; or CR, Comparative Relationships, as shown in the following examples. For definitions and examples of Expressive Qualities and Comparative Relationships, see the sections on Expressive Attributes and Organizational Attributes which follow.

Quality:
"the lines/are fuzzy/and sof⁺ . . . the railroad ties/are bold, black/lines . . . the trees'/outlines/are delicate . . . some of the lines/are graceful in feeling . . . heavy/and droopy.
. . ."

Intensity or Contrast:
"some lines/are very dark . . . light,/indistinct/lines . . . you can hardly see/the lines . . . the yellow/lines (stand out against)the green."

Movement:
"some of the lines/(on the trees)/look like they're moving to the right . . . lines/going around and around . . . active/ line . . . quiet/line. . . ."

GO TO THE NEXT PAGE FOR CODING PRACTICE.

CODE THESE STATEMENTS ABOUT "MANCHESTER VALLEY." REFRESH YOUR MEMORY ABOUT THE DISTINCTION BETWEEN EXPRESSIVE AND SURFACE QUALITIES OF LINE BEFORE YOU BEGIN CODING.

LO = Literal Object   L = Line

M = Material   EQ = Expressive Quality

C = Color   SQ = Surface Quality

"The curved lines in the trees, smoke, sky, and flag impart a

feeling of movement. . . ."

"The bold black lines used throughout are visually exciting. . . ."

"The delicate tracery made by the leaves of the yellow-green

trees is like embroidery."

_____

(TOTALS)

CHECK YOUR CODING BY REFERRING TO THE NEXT PAGE.

$L', \diamond \gamma LO$ | "The curved lines/in the $^{(1) LC}$ trees,/$^{(1) LO}$ smoke. $^{(1)LO}$ sky,/$^{(1) \wedge O}$ and flag impart a
EQ
εQ | feeling of movement. . . .")

(The class reference to curved lines is exemplified by citing pictorial references--four literal objects. There is one additional code; the viewer associates movement with the use of line, so code the last segment EQ.)

L, C $\{$ "The ^{EQ} bold/^{C} black/$^{\wedge}$ lines used throughout/are visually ^{EQ} exciting. . . ."
$2EQ$

(Bold and exciting are adjectives which refer to expressive attributes of lines; therefore, we code them EQ. The color and line classifications are simple.)

$EQ, L(I), LO, C$ | "The ^{EQ} delicate/$^{\wedge}$ tracery/made by the $^{(I) LO}$ leaves/of the yellow-green, ^{C}
LO, EQ | ^{LO} trees/is like ^{EQ} embroidery. . . .")

(This is a bit more complicated: the adjective "delicate" describes an EQ, while "tracery" is interpreted as a synonym for line. The pictorial evidence cited for "delicate tracery" is the LO, "leaves." The phrase, "is like embroidery" indicates that the viewer perceives the lines (tracery) as evoking the quality of embroidery; therefore, we classify it EQ.)

$3L(5)$ (TOTALS)
$\cdot LO$
$2 C$
$\forall EQ$

GO ON TO THE NEXT PAGE.

(SH) Shape. The SH coding is used for words or statements that
identify shapes or describe the dimensions or characteristic structural
attributes. Responses that indicate awareness of filled space or area,
rather than the boundary that forms the shape, are classified in this
category.

> SH   SH   SH   SH   SH   SH   SH
> "rectangles, triangles, orbs, square, cube, sphere, block,
> SH   SH   SH
> dome . . . the circles are many sizes . . . geometric shapes,
> SH   SH   SH
> abstract shapes . . . straight-sided shapes . . . convex,
> SH   SH   SH   SH   LO
> concave . . . open, closed . . . box-shaped . . . the hand
> SH   LO   SH   SH / LO
> is curved . . . the tree is 'Y' shaped . . . a skinny tree
> SH / LO   SH / LO   SH
> . . . a muscular/man . . . an angular/body . . . a dynamic
> shape. . . ."

(LT) Light. The LT coding is used for responses that indicate
awareness of artistic devices used to show the effect of light on the
surfaces of objects represented in the picture. This classification is
not to be confused with remarks that describe the effect of light on the
surface of the painting itself, or light words used as descriptive
adjectives in conjunction with color, such as "shiny blue." The latter
are classified under SQ, Surface Qualities.

> LT   LT   LT
> "looks shaded . . . shows sunlight . . . strong shadows/on the
> LO   LT   LO   LO   LO
> hills . . . shadow/of his cane/on the water . . . the sun/is
> LT   LO   LT   LT
> shining/through the trees . . . it glows . . . it is lighted
> up. . . ."

CODE THE FOLLOWING STATEMENTS ABOUT "MANCHESTER VALLEY."

M = Material   C = Color

I = Technique   SH = Shape

LO = Literal Object   L = Line

LC = Literal Context   LT = Light

"I see triangles, rectangles, and parallelograms of various

sizes . . . even the railroad ties are small, thin

rectangles. . . ."

"the rectangular shapes contrast with the curved shapes of

the trees, hills, and river. . . ."

"it's a foggy day . . . there are no strong shadows or bright

patches of sunlight anywhere. . . ."

(TOTALS)

CHECK YOUR CODING BY READING THE NEXT PAGE.

3 SH | "I see triangles,^{SH}/rectangles,^{SH}/and parallelograms of various

$SH(I),LO$ { sizes . . . /even the railroad ties$^{(I)\ LO}$/are small thin^{SH}

rectangles. . . .")

(The first statement is easy, with simple SH points for the names of shapes. The second statement refers to a literal object as a pictorial reference for the shape classification; therefore, we cod $\sim$ SH (1), double coded for LO.)

$CR(2),2SH(3)$| "the rectangular shapes$^{(I)\ SH}$ contrast with^{CR} the curved shapes$^{(I)\ SH}$/of the

3 LO | trees,$^{(I)\ LO}$/hills,$^{(I)\ LO}$/and river.$^{(I)\ LO}$ . . .")

("Rectangular shapes" <u>contrast</u> <u>with</u> "curved shapes" is classified CR, Comparative <u>Relationships</u>, since the viewer has noted a comparison between rectangular and curved shapes. If you missed the CR, don't penalize yourself, since we have not really explained comparative relations. Note that the class reference "curved shapes" is elaborated by literal-object references; hence, the complexity points for snape, and the LO point.)

LC, LT { "it's a foggy day^{LC} . . . /there are no strong shadows^{LT}/or bright

LT | patches of sunlight^{LT} anywhere. . . .")

(Remember LC? Reread the explanation if you've forgotten this one. The reference to shadows and patches of sunlight indicate an awareness of light effects; hence, the two LT points.)

$6SH(4)$ (TOTALS)
$4LO$
$CR(2)$
LC
$2LT$

THAT WAS EASY, WASN'T IT? ARE YOU READY FOR MORE CHALLENGING TASKS? GO ON TO THE NEXT PAGE.

I\. Organizational \ttributes

This category of responses is indicative of a rather sophisticated level of perception. Descriptions coded in the two subcategories indicate that the viewer is able to recognize particular kinds of formal relationships between pictorial elements; that is, he is aware of the work as an organic complex of interrelated elements and visual qualities.

(CR) Comparative relationships. The CR coding is used for responses which indicate that the viewer has compared specific qualities or elements of a painting to each other in terms of some attribute. The statement strongly implies or explicitly states the basis of the comparison used. This:

$CR(2)2\kappa O$ "the man is silhouetted against the light blue / hills . . ."
(implies comparison of figure and ground in terms of color value)

But not this:

"the man is silhouetted . . ." (basis of comparison not clear)

\otice that statements which refer to comparative relationships are also double coded for the appropriate category in which the comparison is made. The phrase that states the type of comparison is underscored; the examples of the category compared are indicated by drawing arrows to them, as in the following examples.

Size:

$CR(?)\sim O$ {"this is bigger than the house over there. . . ."}

$CR(2)2SH$ {"the shapes in front are larger than the ones in the background. . . ."}

$CR(2) 2LO$ {"there's a big boat here, and all the other objects are

smaller. . . .")

Location:

This:

$CR(2) 2LO$ {"many people in the foreground, but only a few in the background."

But not this:

$2LO$ {"people here, and trees in the background. . . ."

Figure-ground:

$CR(1), SH$ {"the large shape stands out from the background. . . ."

Color:

$CR(2), 2C, LO$ {"the man's dark coat contrasts with the light background. . . ."

$CR(2), 2C$ {"this color is the complement of that one. . . .")

$CR, C / CR, C$ {"the colors contrast . . . the colors are related. . . .")

CR, C {"the colors go together, or harmonize. . . .")

Spatial divisions or relationships:

$CR(2), 2SH$ {"lots of space between these shapes, but not much between

these. . . .")

CR, SH {"most of the space is in the background, while the shapes in

front are all crowded together. . . .")

CR, LO {"the people are crowded together in the center, but there

is a lot of space around them toward the edge of the painting. . . .")

Line:

CR, LO ⊣ "there are parallel lines, at both top and bottom. . . ."

LS, $2LO$, LD "thin lines used in the background, / but the man in the center

is drawn with thick ones. . . ."

CR, $2LO$ { "the lines go at right angles to each other in the middle area,

but they parallel each other at the edges. . . ."

Shape:

$CR(2)$, $2SH$ { "the round shapes contrast with the rectangular ones. . . ."

$CR(2)$ $2SH$ { "large solid closed shapes played against open shapes. . . .",

Surface quality:

$CR(2)$, $2SQ$ | "the red / buildings look rough-textured, while the yellow ones
$2C$, $2LO$ |
appear to be smooth plaster. . . ."

Expressive quality:

$CR(2)$, $2EQ$, { "the man appears to be complacent and impassive, while his wife
$2LO$ |
looks nervous and excited. . . ."

$CR(4)$, $4EQ$, { "these shapes are very active and / full of motion, but the back-
SH |
ground is quiet / and serene-looking. . . ."

Note: Complexity points are given for CR only when the category of comparison is explicitly mentioned, or strongly implied.

THE NEXT PAGE IS A REAL CHALLENGE, BUT YOU ARE NOW SOPHISTICATED ENOUGH IN YOUR PERCEPTION TO CODE ALL THE STATEMENTS EASILY. GOOD LUCK!

CODE THE FOLLOWING STATEMENTS.   REFER TO "MANCHESTER VALLEY."

C   = Color   LO = Literal Object   EQ = Expressive Quality

L   = Line   LC = Literal Context   SQ = Surface Quality

SH = Shape   T = Technique   CR = Comparative
                                                         Relationship

"the dark waving trees are silhouetted against the light blue
sky. . . ."

"the light yellow-green area and the large yellow-green house
contrast with the darker green hills in the background. . . ."

"there are both light and dark value trees in the painting. . . ."

"you notice the two gray houses in front, but you don't notice
the little white houses in back. . . ."

_____

(TOTALS)

CHECK YOUR CODING BY REFERRING TO THE NEXT PAGE.

$''C$ $\leftarrow EG$, LO CR $\rightarrow ,'\;C$

$3\&2\ \;\&?$ "the dark waving trees are <u>silhouetted against</u> the light blue

$EG\ 2\&0$ $\Big\{$ $\;^{LO}_{\text{sky.\ .\ .\ ."}}$

(Notice that the CR complexity points are classified C, rather
than   LO, since the words "silhouetted against" imply color
rather than shape contrast.)

$\;^{C}$ $\;^{'SH}$ $\;^{C}$ $\;^{''\;O}$

$C\&\;3)$ $\Big\{$ "the light yellow-green area and the large yellow-green house

$3C, SH$ $\quad\;^{CR}$ $\;^{C}$ $\searrow^{(1)\;O}$

$2\&C$ $\;$contrast with the darker green hills in the background. . . ."

(Here the CR complexity points are given for a mixed comparison
which involves two LO's and one SH.)

CR $\overbrace{\quad\quad}$ $\searrow_{LO}C$ $\searrow_{''CO}$, LO

$3\&2,\&C$ $\Big\{$"there are <u>both light</u> and dark <u>value</u> trees in the painting. . . ."

$\&C$

(The CR is in terms of similarity and difference in value;
therefore, the complexity points are given for color. LO is
a class reference and is given one simple point.)

$2C$ $/$ $2\&0$

$\&?\ \&\sim?$ $\;$"you notice the two gray houses in front, but you don't notice

$\;^{2C}$ $\;^{.2\&0}$

$\&?\ \&\sim?$ $\Big\{$ $\;$the little white houses in back. . . ."

(This is an ambiguous response. Although there is mention of
"in front" and "in back," there is no explicit mention of a
basis for comparison, nor is there a strong implication that
the person knows that the reason the two gray houses are notice-
able is because of contrast in color or value. Therefore we
use simple LO and C points.)

_____

$\Sigma CR'\;7$ (TOTALS)

$\;C$

EG

$7\;LO$

$\sim^{14}$

(PO) Principle of organization. The PO coding is used for responses which indicate awareness that there is an organizational principle which governs the interrelationships of one or more qualities or elements in the painting. Not only is the viewer aware that component elements are related, but he can tell how they are related. He describes the master plan which unites the total composition or certain subsystems within the composition in visual terms.

Statements are coded as PO, with complexity points for pictorial references. Other categories subsumed under the PO statement are double coded as shown below.

In terms of the total composition:

PO(3), SH,   { "the composition is complex, / using many shapes, / lines, and
L, C   colors. . . .")

PO(l), SH   { "the composition is based on / a pyramid shape. . . .")

PO(l), SH   { "the painting is organized on the basis of / repeated horizontal
areas of various widths. . . .")

PO   { "the picture looks balanced and symmetrical. . . ."

PO(2),   { "the composition is asymmetrical, / using a few large shapes to
2SH   balance several small ones on the other side. . . .")

PO(2), SH, { "the painting is simple, / using only a few shapes / and
C   colors. . . ."

In terms of one quality or element:

(1) SH

POV SH | (principle of gradation) "the shapes are small in the center

PO

of the painting,/gradually getting larger and larger toward the

(1) L *PO*

PO(1), L | edge . . ./ the lines get straighter and straighter as they go

toward the edges of the picture. . . ."

(1)C

POV C { "the colors at the right side are gloomy and dark, becoming

PO

lighter and lighter as they go toward the left and top. . . ."

(1) SH *PO*

PO(1),SH, { (principle of repetition) "these long shapes/are repeated

EQ

EG over and over,/like a musical beat. . . ."

(1) L *(1) L*

(principle of alternation) "the curved/and straight lines/

PO

PO(2), 2L { alternate throughout the picture. . . ."

(1)C *PO*

(principle of variation) "the colors are varied from bright to

PO *C*

(1) SH *PO*

2(1),SH { dull,/ . . . the shapes are varied from large to small through-

out. . . ."

Complex cue attends. Occasionally the PO statement will be ac-
companied by complex statements which belong to other categories, such as
Comparative Relationships, Technique, or Color. Following are some ex-
amples with explanations of coding procedures.

PO and comparative relationships:

PO *(1) SH*

PO(2), 2SH | "the painting is organized by using opposing vertical/and

(1) SH *(1) SH*

hor zontal shapes:/ for example, the vertical shapes/of

(1) LO *(1) LO* *CR* *(1) SH*

CR(2), 2SH(6) | the houses/ and trees/ are contrasted with the horizontal

(1) LO *(1) LO* *(1) LO* *(1) LO*

C. O | shapes/of the fields,/ sky,/track-bed,/and train. . . ."

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In the example above, the coding records the hierarchical arrange-
ment of the categories included in the response. The PO is stated in
terms of shape; the CR is also in terms of shape, but with pictorial
reference complexity points for shape in terms of literal objects (fields,
sky, etc.).

PO and Technique/Color:

The complex response above was made by an eight-year-old girl. It
consists of three groups of statements which have to do with color rela-
tionships, but which also are pictorial evidence for a PO in terms of
color pattern. Each statement is bracketed and given a complexity point
for the major category, PO. Each statement is then coded in terms of
color complexity points and the other categories which apply.

This group of statements is coded as three shape complexity points
with regard to the major category, PO (see underlined phrase), and double
coded with regard to the SH and LO categories. Some of the response is
lined out, since it is redundant and cannot be coded twice.

CODE THESE STATEMENTS ABOUT "MANCHESTER VALLEY."

C = Color   LO = Literal Object

SH = Shape   PO = Principle of Organization

L = Line   CR = Comparative Relationship

> "the design is composed of vertical shapes opposed by
>
> horizontal ones: the houses and trees are vertical, while
>
> the stream, fields, and track and train are horizontal
>
> shapes. . . ."

_____

(TOTALS)

CHECK YOUR CODING BY TURNING TO THE NEXT PAGE.

$PO(2)\ 2SH(6)$
$6\ LO$

$$\begin{cases}\end{cases}$$

$\overset{PO}{}$ $\overset{(1)\ SH}{}$

"the design is composed of vertical shapes opposed by

$\overset{(1)\ SH}{}$ $\overset{(1)\ LO}{}$ $\overset{(1)\ LO}{}$

horizontal ones: / the houses / and trees are vertical, / while the

$\overset{(1)\ LO}{}$ $\overset{(1)\ LO}{}$ $\overset{(1)\ LO}{}$ $\overset{(1)\ LO}{}$

stream, / fields, / and track / and train are horizontal shapes. . . ."

(The PO is in terms of vertical and horizontal shapes, thus, two SH complexity points are given. A CR in terms of SH is subsumed under the PO. Pictorial evidence for SH is given by the LO's mentioned; therefore, LO's are double coded as SH complexity points and as LO's.)

$PO(2)$
$2SH(6)$
$6\ LO$

(TOTALS)

CODE THE FOLLOWING STATEMENTS ABOUT "MANCHESTER VALLEY."

C = Color   SH = Shape   PO = Principle of Organization

L = Line   T = Technique   CR = Comparative Relationship

                   LO = Literal Object

"there are a series of horizontal areas in this painting:

they are different widths and different colors. . . ."

"the black areas by the stream are noticeable because the

stream is light gray. . . ."

_____

(TOTALS)

TURN TO THE NEXT PAGE TO CHECK YOUR CODING.

$PO(1), SH$

$2CR(2), C, SH$

"there are a series of horizontal areas in this painting: they are different widths and different colors. . . ."

(The PO is viewed in terms of "horizontal areas": i.e., shape. Since there is no specific number of shapes mentioned, only one complexity point is given for "series." The shapes are compared in terms of width and color, so two CR points are given, with complexity points for each category of comparison.)

$CR(2), 2C$

LO

"the black/areas/by the stream are noticeable because the stream is light gray. . . ."

(This is a CR, with the basis of comparison--value contrast-- explicitly stated. The LO for stream is given only once, although the word is repeated.)

$PO(1)$ (TOTALS)
$2 SH$
$3 CR(4)$
$3 C$
LO

THAT WAS DIFFICULT. HOWEVER, IF YOU REREAD THE EXAMPLES AND THINK CARE-
FULLY, YOU WILL BE ABLE TO IMPROVE YOUR CODING SKILL. IF YOU MISSED MORE
THAN FIVE CUES OR MISCODED MORE THAN FIVE, YOU SHOULD REREAD THE SECTION
ON PRINCIPLE OF ORGANIZATION AND CORRECT YOUR ERRORS BEFORE GOING ON.

V. Expressive Attributes

This category classifies statements indicating an awareness that the visual qualities and representational devices presented in the work function to express feeling or meaning.

(EQ) Expressive quality. The EQ coding is used for responses which indicate that the viewer recognizes that visual elements function as signs or analogs for feeling-states, physical actions, or sensations.

>   C   EQ   EQ
> "the blue in the back/ looks spooky/ or gloomy. . . ."
>
>   C   SQ   C   EQ
> "the gold/ looks syrupy/ . . . brown/ looks mysterious. . . ."
>
>   L   EQ
> "the squiggly lines/ look like they're dancing. . . ."
>
>   L   SQ   EQ   L
> "curved lines/ are soft/ and feminine/ . . . zig-zag lines/ are
>   EQ   EQ   EQ   SH
> nervo_s-looking/ . . . lyrical . . . poetic . . . shapes/
>   EQ   EQ   SH
> are stolid/ and menacing . . . the triangular shapes/ look
>   EQ   EQ
> active/ and moving. . . ."

Note that "syrupy," which is descriptive of a physical property, is classified urder SQ. In making distinctions between SQ and EQ, those attributes which could be felt if the surface of the object depicted were touched are coded SQ; EQ applies to the presence of psychological states or personal intent inferred from the qualities presented. The inferences are of the type made when we judge a person's mood by his gestures or facial pressions.

GO TO THE NEXT PAGE FOR PRACTICE IN CODING EXPRESSIVE QUALITIES.

CODE THE FOLLOWING.   REFER TO "MANCHESTER VALLEY," IF NECESSARY.

C = Color	LO = Literal Object	EQ = Expressive Quality
L = Line	LC = Literal Context	SQ = Surface Quality
SH = Shape	CR = Comparative Relationship	M = Material

"the colors are warm and rich. . . ."

"the green area around the big house looks as if it would feel
soft and tickley. . . ."

"the black accents are bold and dark: the trees are delicate
and lace-like. . . ."

"the sky is a little dreary and dismal. . . ."

"the rocks look solid and secure. . . ."

_____

(TOTALS)

CHECK YOUR CODING ON THE NEXT PAGE.

$C, 2EQ$ { "the colors/are $\overset{C}{\text{warm}}$/and $\overset{EQ}{\text{rich}}$. . . .")

("Warm and rich" describe qualities of color which are not physical properties (SQ), but are analogs for physical sensations [warm] and a quality of sumptuousness, intensity or vividness [rich]: therefore the EQ classification.)

C, SH, LO { "the $\overset{C}{\text{green}}$/$\overset{SH}{\text{area}}$/around the big $\overset{LO}{\text{house}}$/looks as if it would feel
$2SQ$ $\overset{SQ}{\text{soft}}$/and $\overset{SQ}{\text{tickley}}$. . . .")

(The adjectives "soft and tickley" are tactile sensations related to physical properties; hence, the SQ classification.)

$C, 2EQ, LO$ { "the black $\overset{C}{\text{accents}}$/are $\overset{EQ}{\text{bold}}$/and dark: /the $\overset{LO}{\text{trees}}$/are $\overset{EQ}{\text{delicate}}$/
EQ and $\overset{EQ}{\text{lace-like}}$. . . .")

(Bold and delicate describe the "gesture" of the trees and the aggressive quality of the black color; hence, the EQ classification. Dark is not coded, since it is an adjective referring to a color property--value--of the black, and thus is redundant.)

$LO, 2EQ$ { "the $\overset{LO}{\text{sky}}$/is a little $\overset{EQ}{\text{dreary}}$/and $\overset{EQ}{\text{dismal}}$. . . .")

("Dreary 1 dismal" refer to moods or feelings associated with the sky's appearance; hence, the EQ classification.)

$LO, 2SQ$ { "the $\overset{LO}{\text{rocks}}$/look $\overset{SQ}{\text{solid}}$/and $\overset{SQ}{\text{secure}}$. . . .")

("Solid and secure" refer to physical states; hence, the SQ classification.)

$3C$ (TOTALS)
$7EQ$
SH
$4LO$
$4SQ$

TURN TO THE NEXT PAGE.

(US) Unique schemata. The US coding is used for responses which acknowledge that the work contains unusual or novel representations that depart from literalness and result in a total configuration that resists interpretation. A response coded US acknowledges ambiguities, paradoxes, and logical contradictions.

US2'
2SH
{ "shapes are all bent and twisted, so it looks sort of unreal. . . ."

US(1'
LO
{ "those creatures are unusual and strange, as if from another world. . . .")

US(1)
LO
{ "something strange here: things don't seem to go together. . . ."

US(1),LO
{ "as in a dream, when things don't make sense. . . ."

US(1),w
C,~0
{ "that's unusual: you don't usually see a man with a green face. . . ."

US(2)
2LO
{ "I notice these houses and people are upside down: I wonder why?"

Notice that the US is considered in terms of the pictorial details noted which give rise to the mention of the US. The words that describe the specific Unique Schemata are underlined, and US is written above them. Complexity points are given for these pictorial details and responses are double coded in terms of the categories mentioned.

(PQ) Pervasive quality. The PQ coding is used for responses which indicate that the viewer has classified the total effect of the work. In contrast to EQ and US responses, in which the viewer is noting the characteristics of a few plastic or representational elements, a PQ response indicates that he is noting the expressiveness of the whole composition.

Pervasive Quality descriptions .nay refer to the following types of characteristics:

> (physionomic characteris_ics inferred from gestures of facial expressions) "menacing . . . a threatening feeling . . . pleasant . . . mysterious . . . alive . . . confused . . . bold . . . wild. . . ."

> (motive moods associated with certain complexes of cues attende·) "holiday mood . . . gay . . . sad . . . moody . . . depressing . . . tranquil . . . peaceful. . . ."

> (kinesthetic sensations of movement, tension, or position perceived ·ia the muscles) "stable, still . . . turbulent . . . lots of motion . . . active . . . dynamic . . . swirling . . . flows . . . writhe . . . wriggles . . . fluttering . . . throbbing . . . exploding . . . feeling of floating in space . . . suspended . . . tense and restrained. . . ."

CODE THE FOLLOWING.   SOME REMARKS ARE PQ STATEMENTS; OTHERS ARE US STATE-
MENTS.   THERE ARE OTHER CATEGORIES   TOO.   LOOK AT "MANCHESTER VALLEY."

M = Material	SH = Shape	LC = Literal Context
T = Technique	L = Line	CR = Comparative Relationship
SQ = Surface Quality	LT = Light	PO = Principle of Organization
C = Color	LO = Literal Object	US = Unique Schemata
L = Line	EQ = Expressive Quality	PQ = Pervasive Quality

"the houses look almost flat, rather than three-dimensional . . .
not drawn correctly. . . ."

"the train is drawn the same way . . . almost child-like. . . ."

"this is a very folksy-looking scene: quaint. . . ."

"the way the light-colored shape comes down between the hills
at the left is strange . . . it's hard to tell what the area is
supposed to be: sky or water. . . ."

"a very warm, inviting country scene . . . it's rather happy and
at the same ti e nostalgic in feeling. . . ."

_____

(TOTALS)

CHECK YOUR CODING BY REFERRING TO THE NEXT PAGE.

75

US(2) {"the houses look almost flat, rather than three-dimensional
2SH, LO | . . . not drawn correctly. . . ."

LO, T <"the train is drawn the same way . . . almost child-like. . . ."

(The US is described in terms of shape, but the pictorial refer-
ence is an LO, "houses." Therefore, the complexity point is
given for the pictorial reference, LO. Another complexity point
is given for the train as a pictorial reference. The "child-
like" manner of rendering is coded T, Technique.)

{"this is a very folksy-looking scene: quaint. . . ."

(The expressiveness of the total configuration is summed up with
"quaint"; hence, the PO classification. The preceding phrase
is an elaboration of the idea of quaintness. It is not coded,
since it makes no reference to pictorial details.)

"the way the light-colored shape comes down between the hills at

US(I)SH,C {
3 LO   the left/is strange . . . it's hard to tell what the area is

supposed to be: / sky/or water?")

(The US is in terms of the strangeness of the shape, so the
complexity point is given for shape, as the pictorial reference.
The last part of the statement is a speculation about what the
area could represent, and could be coded as an hypothesis, but
we will learn about that coding system later. For the time
being, we simply code the two LO's: sky and water.)

2PQ(I)LC {"a very warm, / inviting /country scene/. . . it's rather happy,

2 EQ   and at the same time nostalgic in feeling. . . .")

(The scene (LC) is described by two EQ's: it is the pictorial
reference for the viewer's associations of two feeling states,
"happy" and "nostalgic" . . . two PQ's.)

2US(3)   (TOTALS)
3 SH
5 LO
T
C
LC
2 EQ

VI. Contextual Attributes

This category refers to statements that show awareness of the art for·
as a reflection of cultural influences: as a product of a particular
historical evolution, a particular "school" or artistic trend, or a par-
ticular artist.

(AF) Art form.   The AF coding is used for statements that identify
the type of art form at a generic level in terms of mode of expression;
statements that classify the work in terms of the subject matter that is
the vehicle of expression: and statements that refer to the format of the
work.

> (mode of expression) "a sculpture . . . painting . . .
> drawing . . . etching   . . woodcut . . . print. . . ."
>
> (subject matter) "landscape . . . portrait . . . abstraction
> . . . figure . . . still life . . . comic art . . .
> caricature. . . ."
>
> (format) "mural .   . easel . . . panel . . . ceiling . . .
> miniature. . . ."

(H/C, Historical, Cultural. The H/C coding is used for responses
that indicate knowledge and awareness of the temporal or cultural context
in which the work was done; and statements regarding the where for whom,
and why of the work's construction in social terms.

> "it was painted in England in the 19th century. . . ."
>
> "this is a social comment on the 20th century. . . ."
>
> "this painting is a record of the invasion of. . . ."

(ST) Style.   The ST coding is used for references to the character-
istics of the work which identity a particular manner of rendering. Some
statements describe features of the work that suggest a chronological
placement.

(style of rendering, general) "looks photographic . . .
painterly . . . linear . . . planar . . . well-delineated
. . . very detailed . . . naturalistic . . . realistically
painted . . . expressively portrayed . . . classically
drawn . . . abstract. . . ."

(style of rendering, particular artist) "like Van Gogh did
. . . like Picasso . . . like Chagall. . . ."

(chronology) "old fashioned . . . modern. . . ."

CODE THE FOLLOWING, FINDING THE AF, H/C AND ST REFERENCES. THERE ARE
OTHER CATEGORIES, TOO. REFER TO "MANCHESTER VALLEY."

M = Material	C = Color	PO = Principle of Organization
T = Technique	L = Line	EQ = Expressive Quality
SQ = Surface Quality	SH = Shape	US = Un.que Schemata
LO = Literal Object	LT = Light	PQ = Pervasive Quality
LC = Literal Context	AF = Art Form	CR = Comparative Relationship
	ST = Style	H/C= Historical, Cultural

"a very quaint little painting. . . ."

.

"like the work of a 'primitive' folk artist of the last

century. . . ."

"notice the ca   lly detailed treatment of the trees and

buildings. . . ."

_____

(TOTALS)

CHECK YOUR CODING ON THE NEXT PAGE.

PQ, AF ⟨"a very quaint, little painting. . . ."⟩

> (The viewer not only classifies the art form, but also describes its pervasive character.)

$ST(2, -2)$ ⟨"like the work of a 'primitive' folk artist, of the last

$H/C, T$ | century. . . ."⟩

"notice the carefully detailed treatment, of the trees, and buildings. . . ."

> (Style is identified, the work is placed chronologically, (H/C); and the particular technique which led to the statement about style is illustrated by two pictorial references: hence, the complexity points for pictorial reference are coded with ST, and T is coded as a simple point. There is a dilemma here, since the mention of Technique is included in the citing of pictorial evidence. If the ST statement had not preceded the T statement, complexity points for the two LO's mentioned would have been coded with T; however, we consider the T statement superseded by the ST statement, and award the complexity points to the ST category.)

PQ (TOTALS;
AF
$ST(2)$
$2LO$
T

YOU HAVE NOW LEARNED ALL THE CATEGORIES FOR CUE ATTENDANCE. THE NEXT GROUP OF CATEGORIES ARE THOSE WHICH CLASSIFY HYPOTHETICAL INFERENCES ABOUT ACTIONS AND EVENTS DEPICTED IN PAINTINGS.

HYPOTHESIS-GENERATION CATEC. ES

VII. Meaning Attributes

This category classifies different kinds of inferences made about

various aspects of a painting. Statements which indicate an awareness of

the representational function of images and objects, or the evocation of

particular emotional responses or mental images in the viewer are clas-

sified under "Literal Reference," "Affective Reference," or "Symbolic

Reference."

Literal reference. The viewer advances a plausible explanation or

inference based on observation of the literal aspects of images preser.ted.

The images are related to empirical, everyday experience. The interpre-

tation does not indicate any recognition that the subject matter might

function to express abstract ideas or universal concepts. Under the

heading are five divisions: action, thought, sensation, nature of object,

and context.

(HA) Hypothesis-action. The HA coding is used for hypotheses re-

lating to past, present, or future action on the part of individuals or

groups portrayed.

> > HA   HA   HA
> "he's walking/. . . he walked over there/and picked up the
> >   HA   HA
> pieces/. . . she's feeding the birds/. . . he's sitting
>
> down. . . ."/
>
> (Statements which do not imply a specific plan, intent, or
> purpose that is to be realized through future actions, but do
> imply continuing or future actions are also coded HA.)
> >   HA   HA
> "he's going out to sea/. . . they'll all go to dinner soon . . .
> >   HA
> they're going into the forest over there/. . . they're going
> >   HA
> to the village."/

(If the purpose for going is given, the statement is coded
as in the double coded examples below.)

(HT) Hypothesis-thought. The HT coding is used for hypotheses
ascribing thoughts or intentions to individuals portrayed, with emphasis
on the literal or mundane, rather than on the fanciful or imaginative
content.

> HT HT
> "she's thinking sad thoughts/. . . he's thinking about having
>
> HT HT
> dinner . . . he's making up a story/. . . he's composing a
>
> song. . . ."

(Statements which imply a plan, intent, or specific purpose
to be realized through future actions are also coded HT.)

> HT
> "he's going to go on a trip to see his aunt/. . . he's going
>
> HT HT
> out to hunt deer/. . . he's going to go out to catch some more
>
> HT
> fish/. . . she's planning to go shopping later. . . ."

Double-coding. Some statements have both an action and a thought

component. They are to be analyzed into components and coded thus:

> HT
> "they're going to build some more houses in the forest /
>
> HA HA
> so they'll leave the village/. . . they're going to the village/
>
> HT HA HT
> to find some shelter . . . he cut down the trees/to build a
>
> HA HT
> house/. . . he's pointing out to sea/ telling them a story
>
> HA
> about his days as a sailor/. . . he's playing a tune on his
>
> HT
> violin/about the days long ago. . . ."

I AND MY VILLAGE

Marc Chagall, Contemporary

LOOK AT PICTURE 3, "I AND MY VILLAGE." THE FOLLOWING STATEMENTS ARE
ABOUT THAT PAINTING. BREAK THE STATEMENTS INTO THOUGHT UNITS AND CLASSIFY
EACH THOUGHT UNIT IN A HYPOTHESIS-GENERATION CATEGORY.

HA = Hypothesis-Action   HT = Hypothesis-Thought

ine animal seems to be talking to the man, telling him he's a

kindly master."

"The man is coming from the fields, where he's been harvesting

the crops."

"He's going home to dinner."

"The green-faced man is looking the animal in the eye, thinking,

'I'm his master--he'll obey me.'"

"The animal is looking back. as if he may not do the man's

bidding."

"The man wants to give the animal the branch to eat."

_____

(TOTALS)

CHECK YOUR CODING BY TURNING TO THE NEXT PAGE.

$2HA,HT$ { "The animal seems to be talking to the man, telling him he's $\overset{HT}{}$ a kindly master." }

(This example fits the double-coding model: it has both an action and thought component. Telling is considered an action, and the thought content of what the animal is telling is classified as HT.)

$2HA$ { "The man is coming from the fields, where he's been harv sting the crops." }

(This is straightforward classification of actions.)

HA { "He's going home to dinner." }

(Although one could interpret this as a plan to go home to have dinner, the phrasing gives slightly more weight to the action component; therefore, the HA classification.)

HA,HT { "The green-faced man is looking the animal in the eye./thinking, 'I'm his master--he'll obey me.'" }

(The HA classification is obvious; the thought preceded by the word, "thinking" is classified HT.)

HA,H - { "The animal is looking back,/as if he <u>may</u> <u>not</u> do the man's bidding." }

(The second part of this statement is classified HT, since the wording implies a plan or intent.)

HT { "The man wants to give the animal the branch to eat." }

(An intent of the man is described; hence, the HT classification.)

$7HA$
$4HT$ (TOTALS)

FREQUENTLY INDIVIDUALS GIVE AN HYPOTHESIS, THEN DO SOME CUE ATTENDING TO
ESTABLISH THE REASONS FOR THEIR INFERENCE. THESE KINDS OF COMPLEX
HYPOTHESES ARE DESCRIBED ON THE NEXT PAGE.

Coding of Simple and Complex Hypotheses

Simple. If the elaboration is a description of HA, HT, or if it is adverbial, it is coded as shown below.

HA "He's talking very fast to the man. . . ."

HA "He looks like he's sitting there very calmly. . . ."

HT "Some of the people are thinking happy thoughts. . . ."

Complex. If the elaboration cites pictorial evidence in support of the hypothesis, it is coded as shown below.

$HA(3)3LO$
HC
$3HA$
"You can tell they haven't just arrived/in a new land,/because there is already a house/and some trees planted/and some tree stumps on the left . . .)(well, they just don't fall off/and disappear,/they look like they've been sliced off by someone."

Coding procedure for LO mentioned in a cue attend and then again in a complex cue attend or hypothesis. Within the same individual's response, if he mentions LO's in a cue attend, then mentions them again in a complex cue attend related to another category, or as pictorial evidence in a complex hypothesis, do not give LO credit for the second mention, but do give complexity points for the category to which they relate. See the example below.

$5LO$ "a man in the front/by a woman,/some buildings,/trees,/fence posts. . . .")

$T,C(4)$ "he uses a lot of/dark colors . . ./like . . . for the man,/and woman,/and the trees,/and the fence posts. . . .")

$5LO$ "a man in the front/by the woman,/some buildings,/ rees,/fence posts. . . .")

"this shows a typical family scene long ago, because there is
the man and the woman and children all together, walking slowly
in the park. . . ."

Hierarchical arrangement of cues and hypotheses. In sor ^ complex
responses the hypothesis is accompanied by several abstract cue attend
categories (e.g. EQ, PO, CR) as well as concrete ones (e.g. LO, C, SH).
There is no hard and fast rule to govern coding of these complex responses.
In some cases, the hypothesis will take precedence over a cue attend
coding. In others, the cue attend is coded along with the hypothesis
classification Examples of both types of coding are given throughout
this section. The decision of whether or not to subsume cue attends
under a hypothesis classification grows out of a careful analysis of the
text in question.

DOCUMENT RESUME

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ABSTRACT

              An overview of the basic system of education in
Turkey from preschool to the university level is included in this
booklet. A brief discussion of educational history stresses the
significance of the placing of schools under control of the Ministry
of Education in 1924 in an effort to promote national integration,
and the importance of the adoption of Latin script in 1928 as the
written medium of the Turkish language. Emphasis is upon the
educational system as a continuously reforming institution attempting
to meet the educational needs and to play a more effective role in
Turkey's development. Reform is directed toward making education more
responsive to the demands of the country's changing economic and
social scene. Educational structure, problems, school organization,
administration, and financing are discussed for the various levels as
well as teacher education. Tables are included on the structure of
the educational system, universities, major higher education
institutions, and teacher training institutions in Turkey. (SJM)
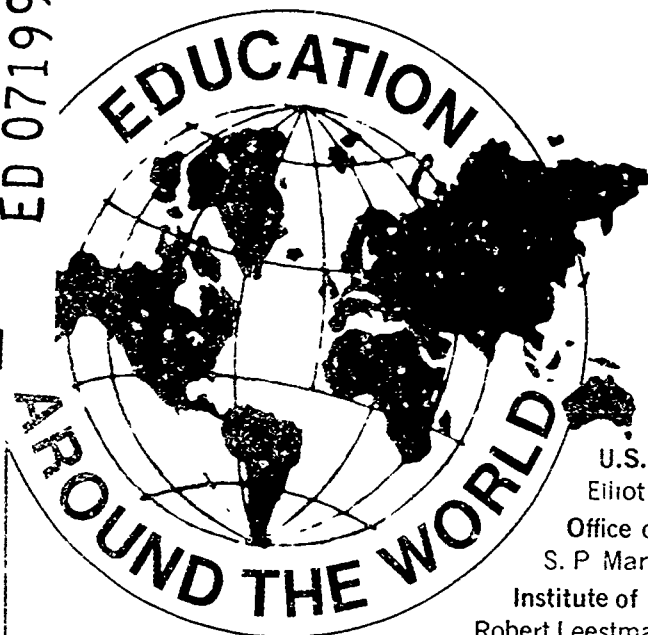
The Educational System of

TURKEY

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Elliot L. Richardson, *Secretary*
Office of Education
S. P Marland, Jr., *Commissioner*
Institute of International Studies
Robert Leestma, *Associate Commissioner for International Education*

THE COUNTRY AND THE PEOPLE

Location: Approximately 97 percent lies in Asia at the eastern end of the Mediterranean Sea. and approximately 3 percent in Europe at the southeastern corner of the Balkan peninsula.

Size: 296,184 square miles

Main Subdivisions: 67 provinces, further subdivided into districts and villages

Official Language: Turkish About 8 percent of the people speak either Kurdish, Arabic, Greek, Armenian Caucasic languages, Ladino, or Yiddish

Population: 35 million (estimated 1970)

People: Turks, Kurds, Arabs, Greeks, Armenians, and Jews

Literacy Rate: 55 percent (estimated 1970)

Religion: 98 percent Muslim, 2 percent Jewish and Christian

THE BASIC SYSTEM

Education has historically been accorded an important and respected place in Turkish society. This has never been more the case than at the present time.

History

Over the centuries a system of schools had developed in Ottoman Turkey that generally included two types: (1) Those which were basically religious, and (2) those established to train Government officials and administrators.
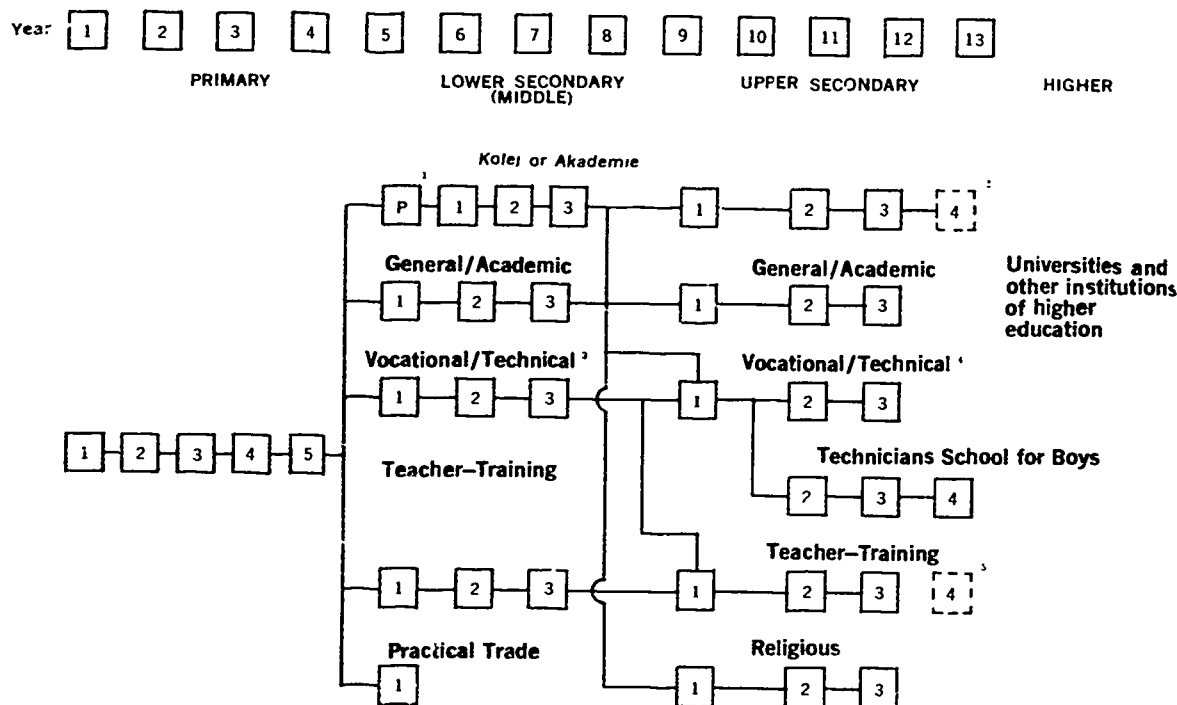
The seeds of a modern educational system were sown in the late 18th century and in the 19th century when the European (particularly French) educational ideas which had been introduced into Turkey were seized upon as the means of mod-

ernizing the country. Many of the educational institutions established during this period were based on European models that have served as the foundation of the present system. Evidence of this European influence can be seen in Turkey's present educational system, which dates from the founding of the Turkish Republic (*Turkiye Cumhuriyeti*). Recently, American educational influence has added a new dimension to the development of Turkish education.

Mustafa Kemal Ataturk, founder of the Turkish Republic, like the modernizers of the 19th century believed strongly in the importance of education as a vehicle to create a modern nation based on the Western model. In 1924, in an effort to promote national integration within the newly established Republic, all existing schools were brought under the control of the Ministry of Education. Another significant step, and one of un-

TURKEY: 1970

TURKEY

········· Railroad
----- Road

Structure of the Turkish Educational System

Year: 1 2 3 4 5 6 7 8 9 10 11 12 13

PRIMARY   LOWER SECONDARY (MIDDLE)   UPPER SECONDARY   HIGHER

Kolej or Akademie

P 1 2 3   1 2 3 4

General/Academic   General/Academic   Universities and other institutions of higher education

1 2 3   1 2 3

Vocational/Technical [3]   Vocational/Technical [4]

1 2 3   1 2 3

1 2 3 4 5   Teacher—Training   Technicians School for Boys

2 3 4

Teacher—Training

1 2 3   1 2 3 4

Practical Trade   Religious

1   1 2 3

[1] One or 2 years of preparatory language study in cases where the language of instruction is not Turkish.

[2] In some cases there is a 4th year of upper secondary.

[3] Includes agricultural, boys' and girls' technical, commercial, and health schools. Students who complete this program may enter a vocational/technical school or a teacher—training school at the upper secondary level.

[4] Includes agricultural, boys' and girls' technical, commercial, health, hotel and television schools.

[5] A preparatory year is required for those planning to enter a higher normal school.

paralleled psychological dimension in the continuing process of change and development in Turkey, was the adoption of the Latin script in 1928 as the written medium of the Turkish language, replacing the Arabic script which had been used for centuries. The use of the less complicated (and thus more easily learned) Latin script served to promote the spread of literacy to segments of the population which had heretofore been illiterate, and to bring Turkey into closer contact with the West.

I n the decades since the establishment of the Turkish Republic, the educational system has been subject to continuous reform in an effort to meet the country's educational needs and to play a more effective and relevant role in its overall development. The inter.ive review and reform which Turkey is presently undergoing is directed toward making education more responsive to the demands of the country's changing economic and social scene. As the industrialization of Turkey proceeds, so will its need for managers, skilled workers, and people trained in modern science and technology. Guided by the principles of educational reform established by the Strategy and Coordination Commission for National Educational Reform, working groups (reform subcommittees) have prepared draft proposals calling for reorganization of the elementary/secondary program and for reform at the university level.[1] New higher education institutions are also being planned which will meet the country's immediate and projected manpower needs as determined by the State Planning Organization.

Structure

The current Turkish educational system, administered centrally under the Ministry of Education, consists of a 5-year primary cycle and a secondary

[1] See Strategy and Method in Educational Reform. Strategy and Coordination Commission for National Education Reform. Ankara, June 1971. Also, Reform Subcommittees: A Summary Report of their Activities and Terms of Reference. Ankara: Ministry of Education, 1971.

Table 1.—Enrollment by level and/or type of school: Primary and secondary levels, 1970–71 [1]; higher education level, 1968–69 [a]

Primary	1,992,112
Secondary	
General schools	750,675
...	234,214
Normal school	64,193
Technical and vocational schools for boys	70,522
Technical and vocational schools for girls	33,457
Trade and tourist schools	28,489
Total	1,187,589
Higher education	
Universities	67,741
Higher training institutions	41
Total	70,231
...	4,172,743

Source: Figures for 1970-71 are from *Report on the Development of Education During the 1970-1971 School Year.* Presented to the ... Session of the International Conference on Education by the Ministry of Education 1971. (Does not list enrollment statistics for higher education.)
— Figures for 1968-69 are from *UNESCO Statistical Yearbook, 1970*

cycle that is generally 6 years in length (3 years of middle (*orta*) school, and 3 years of upper secondary school), but which may be 5 or 7 years depending on the school and the program of studies. The secondary cycle includes specialized vocational/technical, teacher-training, professional, and theological programs in addition to the standard academic course of study. Higher education is offered in a variety of universities and higher institutes. The length of the course varies with the type of program. Preprimary schools open to children aged 4 to 6, are available in the urban areas and are generally private. These institutions are financed by the individual or organization sponsoring them, principally through fees. They are authorized and inspected by the Ministry of Education, which has established regulations regarding their operation. The State provides special schools for children who are physically handicapped or have special learning problems.

Turkish schools may be either public (state) or private. Public education is free at every level but private schools usually charge fees to meet expenses. Private schools are generally of three types: (1) Schools for Turkish nationals, (2) schools for Turkish minority groups (primarily Armenian, Greek, and Jewish), and (3) foreign schools for both foreign and Turkish students. The private schools for Turkish nationals are required to follow the regulations and curriculums established for state schools. Foreign and minority schools are allowed to establish their own regulations and curriculums, but these must be approved by the Ministry of Education.

In addition to those schools sponsored by the Ministry of Education, special schools and training programs, generally at the secondary and higher levels, have been established by certain other ministries. Agriculture, Defense, and Health to meet their own personnel needs.

Because the urban concentration of children presents a particular problem in Turkey, the Government is trying to make education compulsory for students at least at the primary level, and if it to all of the more populous areas. To provide education to children from village areas and to maintain the establishment of separate schools, centrally located primary and secondary boarding schools have been established.

Illiteracy among adults is receiving attention through special adult programs, which include basic literacy training and vocational training (agricultural courses in rural areas and arts and crafts in urban areas), set up by the Ministry of Education's General Directorate of Adult Education. Additional basic literacy and adult education programs have been established by various other ministries and by voluntary societies.

Language of Instruction

Turkish is the official language of instruction in all public (state) schools and the required language of instruction in all primary schools. At all levels, subjects concerning Turkish language and culture must be taught in the Turkish language by Turkish nationals.

With the exception of those subjects which must be taught in Turkish, each foreign or minority school uses its particular language as the language of instruction.

Turkish is also the medium of instruction at the higher education institutions except the Middle East Technical University where the language is officially English, although many of the courses are taught in Turkish. Latest information indicates that the University of the Bosphorus (formerly Robert College) will continue to use English.

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[2] Approximately 70 percent of Turkey's population is rural.

Grading System

The Turkish grading system at the primary level is based on a 1 to 5 scale with 3 as the passing mark. At the middle and upper secondary levels it is based on a range of 1 to 10 with 5 as the passing mark, with the exception of Robert Academy which uses a scale of 0 to 100, with 60 as the passing mark. Grading systems at the higher institutions vary, including letter-grading systems as well as scales of 0 to 100, with 50 as the passing grade, and 0 to 10, with 5 as the passing mark.

Academic Calendar

The academic year generally begins in late September or early October and extends through May or early June, with some variation between urban and rural areas. It is divided into two administrative sessions at both the primary and secondary levels. A morning and an afternoon session make up the school day except in those schools where overcrowded conditions make a split shift necessary. School is in session 5½ days a week, with Saturday afternoons and Sundays as weekly holidays.

Institutions of higher education usually organize the academic year into two semesters, the first extending from October or November through January, and the second from March through June or July.

Legal Basis

The legal basis [3] for a uniform system of education was established in 1924 when all schools were placed under the control of the Ministry of Education. The Government's commitment to centralized control of education was reemphasized in Law No. 789 of 1926 which defined the principles of educational organization and required Ministry of Education authorization for opening and operating all educational institutions. The Constitutional Law of 1924 proclaimed that primary education was to be compulsory for all Turkish citizens and free in all state schools. The principle of free compulsory primary education was restated in the 1961 Constitution.

Primary education had received specific attention in the Provisional Law on Primary Education of 1913 (which set forth the principles on which primary education was to be organized),

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[3] All Tur. sh legislation, including education legislation, appears in *ustur* (collection of laws). Published on an annual basis by the Turkish Government, this collection contains all the laws passed during the preceding year.

and in the Regulations of 1915, 1926, and 1929 (which established the principles governing the activities of primary schools and defined the aims of primary education). Law No. 822 of 1920 stipulated that secondary education was to be provided free in state schools, and Law No. 2765 of 1933 stipulated that all technical and vocational schools were to be attached to the Ministry of Education.

Law No. 4936 of 1946, which established the legal status and autonomy of the universities, also played a role in shaping Turkish education. Universities and other institutions of higher education not granted full legal autonomy under Law No. 4936 operate under other specific legislation.

Administration

Education at all levels, except in autonomous universities and in schools under the sponsorship of ministries other than the Ministry of Education, is organized and administered centrally under the Ministry of Education which exercises supervision and control over all schools, including private and religious. Regulations governing the operation of all schools and the curriculums they follow are determined by the Ministry, which must approve all textbooks and teaching materials. The Ministry of Education must also approve the curriculums of schools and educational programs established by other ministries.

The Minister of Education is assisted by the Under Secretary for Public Education, the Under Secretary for Technical and Vocational Education, and the National Council of Education, which serves as an advisory body on such matters as school timetables and curriculums. Responsibility for cultural affairs has been transferred to the recently created Ministry of Culture.

At the provincial level, the administrative officer is the Director of Education. He is appointed by the Minister of Education and is attached to the Office of the Provincial Governor.

Educational planning is the responsibility of both the Ministry of Education and the State Planning Organization.

Financing

Public education at all levels receives its major support from the central government which is responsible for all educational expenses from the building of schools to the paying of teachers' salaries. Primary education, however, does receive some local support, chiefly for the construction and maintenance of schools. Private schools are

financed through fees, income from property and investments, and gifts and donations. They also receive some state assistance. Universities, supported in large part by the state, also have various sources of income, including fees, gifts, and income from university property and investments. Specialized institutions of higher education are supported by the sponsoring ministries.

In 1968, a total of 3.895 billion Turkish lira was budgeted for education (15 Turkish lira = $1). This amounted to approximately 3.4 percent of the Gross National Product, and 20.2 percent of total Government expenditure.[4] According to the Second Five-Year Development Plan (1968-72), educational and health expenditures were expected to be increased by another 13 percent.

International and regional organizations provide some financial assistance to Turkey's educational development. In 1956 the Government of Turkey, in cooperation with the United Nations and UNESCO, established the Middle East Technical University. The U. S. Agency for International Development (AID) has also provided assistance to almost all areas of educational development in Turkey, including adult education, business and public administration education, the development of instructional materials, educational research and planning, English language training, higher education, literacy training, school construction, and vocational and technical education.[5]

PRIMARY EDUCATION

Primary education, free in all state schools, usually begins when a child reaches age 6. The primary cycle consists of a 3-year lower stage and a 2-year upper stage, with attendance compulsory until a child either completes the 5-year program or becomes 14. All state primary schools are coeducational. Children may attend either public or private schools and parents are responsible for their children's attendance where schools are available. Educational facilities are much more limited in rural areas, particularly the eastern provinces, than in urban areas.

The aims of primary education are to promote the harmonious development of children, provide them with useful knowledge, and prepare them for secondary education. The curriculum currently

in use was introduced in 1968-69 and is geared to instilling a sense of Turkish nationality, with much attention paid to the Turkish language and other national symbols. It includes art, civics, domestic science, drawing and manual work, geography, history, mathematics, music, natural science, physical education, study of the environment, and Turkish language. In addition, some rural schools offer agricultural subjects. Religious instruction is provided to students at the option of their parents.

Children generally attend class for 32 hours per week, with some variation between urban and rural schools. Promotion for the first 4 years is based on attendance and on receiving passing grades from the teachers. At the end of the 5th year, pupils must sit for a primary school leaving examination. In order to pass, a student must receive a grade of at least 4 (on a 5 to 1 scale) in Turkish language, and at least 3 in all other subjects. Those who are successful receive the primary school-leaving certificate (*ilkokul diplomasi*) permitting them to enter the secondary level.

In 1969 approximately 92.2 per cent of all primary school-age children (6 through 11 years of age) were attending school.

SECONDARY EDUCATION

The purposes of secondary education in Turkey are to provide students with a common general culture and civic education which will fit them to function as individuals and as members of society, and to prepare them for various professions and functions or for higher education. In order to achieve these goals, the secondary cycle is divided into a lower and an upper level, and is offered in general/academic, vocational/technical, professional, religious, and teacher-training institutions (discussed under Teacher Education). The primary school completion certificate is required for entrance into any type of secondary school.

In 1969, 31.7 percent of all children 12 through 14 years of age were attending lower secondary school, and 16.1 percent of those 15 through 17 years were attending upper secondary. Of the total number receiving secondary education, approximately 4 percent were attending private schools.

General/Academic

Lower secondary (middle) school.—Following primary education, the 3-year middle school (*ortaokul*) program forms the transitional stage, leading into the upper secondary level. Middle

[4] *UNESCO Statistical Yearbook, 1970.*

[5] A list of AID's education projects in Turkey appears in: E. Frank Price. *A.I.D. Educational Assistance to Turkey.* (Mimeograph) July 1970.

schools are coeducational and free in state schools. Pupils atter d class 32 hours per week, following a curriculum which includes agriculture or commerce, chemistry, civics, design and manual work, foreign language, geography, history, mathematics, music, natural science, physical education, physics, religion (optional), and Turkish language and literature.

Promotion from year to year is based on passing periodic tests and the final examinations at the end of the academic year. Those who pass the examination at the end of the 3d year receive the middle school diploma (*ortaokulu bitirme diplomasi*).

Upper secondary school (lise).—Upper secondary education is offered in a *lise* (also called *kolej* or *akademi*) which, in the case of a state school, is free and coeducational. In most cases students are admitted to a *lise* on the basis of the middle school diploma; however, certain private and specialized ones do require their applicants to take competitive entrance examinations. The 3-year program of study is a continuation of the middle school and prepares students for the universities. The 1st-year curriculum includes chemistry, foreign language, geography, history, mathematics, national defense, natural science, physics, Turkish language and literature, and optional subjects such as art, music, and a second foreign language. In the 2d year, students elect to follow either the science or the literature branch. The former emphasizes chemistry, mathematics, natural science, and physics, and prepares students for science or engineering at the universities. The latter is geared to literature, the humanities, and the social sciences; here art, foreign language, geography, history, logic, philosophy, sociology, and Turkish language and literature receive more attention.

Students attend class for 32 hours per week, and are promoted on the basis of satisfactory work during the year and passing final examinations. Those who successfully complete the *lise* receive the state *lise* diploma (*lise bitirme diplomasi*). Issued by the Ministry of Education, this diploma is usually required for admission to the universities.

In addition to the regular 3-year *lise*, some schools offer a 4-year program of study. The Turkish Government, however, recognizes no difference between the 3- and 4-year *lise*.

Pupils planning to continue their higher studies abroad may attend foreign secondary schools where the language of instruction, except in the study of Turkish language, literature, and social studies, is the language of the particular foreign country. Most of these schools require 1 or 2 preparatory years of specialized language training before pupils can proceed to the regular 6- (or 7-) year secondary program.

Vocational/Technical

Lower secondary schools.—Vocational education on the lower secondary level is offered in agricultural, boys' and girls' technical, commercial, health, and teacher-training schools. These schools admit pupils who have completed the primary program to a 3-year course of study which is intended to provide them with a marketable skill or to enable them to continue their education at the upper secondary level. The curriculum is similar to that followed by the general middle schools, with the addition of a certain number of required hours of practical training. Those who complete this cycle may continue their education in an upper secondary vocational / technical, professional, or teacher-training school. It is very rare for a graduate of a vocational/technical middle school to continue his education in a *lise*. Plans are presently underway to convert all lower secondary vocational/technical schools, with the exception of agricultural and health schools, to general middle schools.

Practical trade schools were established in 1969 to meet the country's immediate need for skilled workers. They provide students who have completed their primary education with the minimum basic skills necessary to hold a job in any one of the following fields: Auto mechanics, fitting, radio repair, toolmaking, turning, and welding. The curriculum is organized according to the specialized skills, with 80 percent of the time devoted to practical training. After his training has been completed in one skill, a student may proceed to others or may join the work force.

Upper secondary schools.—Upper secondary vocational schools admit students who have completed a middle vocational or general school. The course of study may be 2, 3, or 4 years in length, depending on the type of program, and is intended to prepare students to join the work force. Schools of this type include agricultural, commercial, health, teacher-training, theological, and vocational/technical institutions as well as professional schools specializing in hotel services and tourism. Completion of most of these programs gives access to higher level institutions where students may continue in their field of specializa-

tion.[6] Students who complete commercial, theological, and vocational/technical secondary schools may also enter teacher-training institutions. (See section on Teacher Education.)

TEACHER EDUCATION

Primary School Teachers

Primary school teachers are trained in secondary-level normal schools. Those designed to prepare village primary school teachers admit students who have completed their primary education to a 6-year program of study, and are generally boarding schools; those designed to prepare urban primary teachers admit students who have completed the middle or lower secondary cycle to a 3-year program. In the 6-year program (for future village teachers), the curriculum of the first 3 years is similar to that offered in the standard middle schools; and the curriculum of the second 3 years includes both general education and professional training. In the 3-year program (for future urban teachers) the curriculum also consists of general education and professional training. Upon completing either program, students are awarded diplomas and are eligible to enter teacher-training institutions for middle school teachers or commercial teacher-training schools; or after completing an additional year of study, they may enter higher normal schools.

Middle School Teachers

Teachers for middle schools must complete a 3-year teacher-training course open to graduates of a *lise* or secondary-level teacher-training normal school. The program of studies includes specialization in art and handicrafts, foreign language, history, literature, mathematics, music, physical education, science, and social science, along with educational subjects. Diplomas are granted to those who successfully complete the program.

Upper Secondary School (*Lise*) Teachers

Lise teachers receive their education in either the universities or in 4-year higher normal schools

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[6] James S. Frey lists the following as terminal secondary schools: Agricultural; applied forestation; "cutting out" specialization; finance vocational; hotelkeepers'; land register and road building; meteorology vocational; post, telegraph, and telephone vocational; state railways vocational; and veterinary. (In: *Turkey: A Study of the Educational System of Turkey and Guide to the Academic Placement of Students from Turkey in United States Educational Institutions.* Washington, D.C., 1971. (Manuscript))

established for this purpose. These schools, which also prepare teachers for the secondary-level teacher-training schools, are open to those who have received their secondary school-leaving certificate. Students who have completed a secondary-level teacher-training school may be admitted after completion of a year of preparatory studies. During the 4-year program students receive professional training at the normal school while following a regular course of study at a university which includes agriculture, foreign language, history/geography, literature, mathematics/physics, natural science, and philosophy.

Vocational/Technical Teachers

Teachers for secondary-level technical and vocational schools are trained in men's and women's technical higher teacher-training schools. Students who have completed a secondary vocational/technical school are accepted into programs which are generally 4 years in length, with specialization in the subject they wish to teach.

Commercial teacher-training schools admit to se who have completed their secondary education at either a *lise*, a commercial secondary school, or a secondary-level teacher-training school. They complete a 4-year program specializing in commercial subjects.

Teachers for religious secondary schools (*Imam Hatip* schools) or teachers of religion in other secondary schools are trained at the Higher Islamic Institutes which are open to students who have completed a *lise* or a religious secondary school.

HIGHER EDUCATION

Enrollments

Approximately 6 percent of those individuals between the ages of 18 and 21 were attending an institution of higher education in 1969.

Universities

The recent establishment of the University of the Bosphorus has brought the number of Turkey's universities to nine. All organized or established since the founding of the Republic in 1923, these universities vary in type and administrative structure. The University of Istanbul was reorganized in 1924, and again in 1933, from an institution whose origins date back to 1453. Then followed the founding of the Technical University of Istanbul in 1944, the University of Ankara in 1946, Aegean University in 1955, Middle East Technical University in 1956, Ataturk University

Table 2.—Universities of Turkey, with location and faculties: 1970-71

University	Location	Faculties
Aegean University (Ege Universitesi)	Izmir	Agriculture, Economic, and Commercial Sciences, Medicine, and Science
University of Ankara (Ankara Universitesi)	Ankara	Agriculture, Education, Languages and History Geography, Law, Medicine, Pharmacy, Political Science, Science, Veterinary Medicine, and Theology
Ataturk University (Atatürk Universitesi)	Erzurum	Agriculture, Letters and Science, and Medicine
University of the Bosphorus (Bosphorus Universitesi) [1]	Istanbul	Administrative Sciences, Arts and Sciences, and Engineering
Hacettepe University (Hacettepe Universitesi)	Ankara	Graduate Studies, Health Sciences, Medicine, Science and Engineering, and Social and Administrative Sciences (A Faculty of Agriculture is planned.)
University of Istanbul (Istanbul Universitesi)	Istanbul	Business Administration, Chemistry, Dentistry, Economics, Forestry, Law, Letters, Medicine, Pharmacy, and Sciences
Middle East Technical University (Orta Doğu Teknik Üniversitesi)	Ankara	Administrative Science, Architecture, Arts and Sciences, and Engineering
Technical University of the Black Sea (Karadeniz Teknik Üniversitesi)	Trabzon	Civil Engineering and Architecture, and Science
Technical University of Istanbul (Istanbul Teknik Üniversitesi)	Istanbul	Architecture, Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Mining Engineering, and School of Technology

[1] As of September 1971

in 1958, Black Sea Technical University in 1963, and Hacettepe University in 1967. In September 1971, Robert College (an American institution founded in 1863) was reorganized as a Turkish national university and renamed the University of the Bosphorus. It is operating during a 3-year transitional period under special legislation and Law No. 4936. With the exception of Ataturk University and the Technical University of the Black Sea, which come under the direct authority of the Ministry of Education, Turkey's universities operate as administratively autonomous institutions under Law No. 4936 or other specific legislation.

Organization.—Turkey's universities have been strongly influenced in organization by those of Europe (particularly France and Germany) and the United States. They are organized into faculties, and in most cases are administered by a rector, a senate, and a university council. Many faculties have specialized institutes and higher schools attached to them. Middle East Technical University and Hacettepe University are organized along American lines, the former headed by a board of trustees and the latter by a president.

Admission requirements. — Universities admit students who have completed a *lise* and who hold

Table 3.—Major higher education institutions other than universities, by field of study and type of institution: 1967–68

Type of institution	Turkish name	Location
ECONOMICS AND COMMERCE		
Academy of Economics and Commerce	Iktisadi ve Ticari Ilimler Akademisi	Ankara
	Iktisadi ve Ticari Ilimler Akademisi	Eskişehir
	Iktisadi ve Ticari Ilimler Akademisi	Istanbul
	Iktisadi ve Ticari Ilimler Akademisi	Izmir
College of Economics and Commerce	Özel Ankara Iktisadi ve Ticari Ilimler Yüksek Okulu	Ankara
	Özel Yüksek Iktisat ve Ticaret Okulu	Ankara
	Galatasaray Özel Yüksek Iktisat ve Ticaret Okulu	Istanbul
	Özel Iktisadi ve Ticari Ilimler Yuksek Okulu	Istanbul
	Özel Iktisadi ve Ticari Bilimler Yüksek Okulu	Istanbul
	Özel Iktisadi ve Ticari Ilimler Yüksek Okulu	Izmir
FINE AND APPLIED ARTS		
School of Applied Arts	Tatbiki Güzel Sanatlar Yüksek Okulu	Istanbul
Academy of Fine Arts	Güzel Sanatlar Akademisi	Istanbul
MUSIC		
State Conservatory	Devlet Konservatuvarı	Ankara
	Devlet Konservatuvari	Istanbul
	Devlet Konservatuvarı	Izmir
RELIGION		
Institute of Islamic Studies	Yüksek Islâm Entitüsü	Istanbul
	Yüksek Islâm Entitüsü	Konya

Table 3.—(Continued)

Type of institution	Turkish name	Location
TEACHER TRAINING		
Commercial Teacher-Training College	*Ticaret Yüksek Öğretmen Okulu*	Ankara
Educational Health Institute	*Gevher Nesibe-Sc̦lik Eğitim Enstitusü*	Ankara
Teacher-Training College	*Yüksek Öğretmen Okulu*	Ankara and
	Yüksek Öğretmen Okulu	Istanbul
Teacher-Training Institutions	*Eğitim Enstitüsü*	Baca-Izmir
	Eğitim Enstitüsü	Bursa
	Eğitim Enstitüsü	Capa-Istanbul
	Eğitim Enstitüsü	Diyarbakir
	Eğitim Enstitüsü	Erzurum
	Eğitim Enstitüsü	Samsun
	Eğitim Enstitüsü	Trabzon
	Gazi Eğitim Enstitüsü	Ankara
	Necati Eğitim Enstitüsü	Balikesir
	Selçuk Eğitim Enstitüsü	Konya
Technical Teacher-Training College (for men)	*Erkek Teknik Yüksek Öğretmen Okulu*	Ankara
Technical Teacher-Training College (for women)	*Kiz Teknik Yüksek Öğretmen Okulu*	Ankara
Technical Teacher-Training College (for men)	*Erkek Teknik Öğretmen Okulu*	Istanbul
TECHNOLOGY		
Aegean School of Engineering and Architecture	*Ege Özel Mimarlik ve Mühendislik Yüksek Okulu*	Izmir
College of Civil Engineering and Architecture	*Özel Mühendislik ve Mimarlik Yüksek Okulu*	Istanbul
Engineering College	*Istanbul Yüksek Teknik Okulu*	Istanbul

Table 3.—(Continued)

Type of institution	Turkish name	Location
	OTHER	
Academy of Social Service	Sosyal Hizn etler Akademisi	Ankara
College of Health Administration	Sağlik Idaresi Yüksek Okulu	Ankara
College of Nursing	Florans Nightingale Yüksek Hemşire Okulu	Sisli-Istanbul
Merchant Marine College (under the jurisdiction of the Ministry of Transport)	Yüksek Denizcilik Okulu	Istanbul

a state *lise* diploma or a diploma or certificate recognized as its equal by the Turkish Ministry of Education. According to recent information, graduates of religious and commercial upper secondary schools may now be considered for admission to the universities after passing special *lise* equivalency examinations. In addition, the Middle East Technical University has opened its entrance examination to graduates of agriculture and trade secondary schools as well. Students seeking admission to the universities are also required to take entrance examinations. A Ministry of Education-sponsored national entrance examination is used by all universities except the Middle East Technical University, which administers its own.

Program requirements.—Programs of study generally consist of a fixed required sequence of courses determined by each faculty. Some faculties provide electives as well. Class lecture is the principal method of instruction, with some practical and laboratory work required depending on the course of study. Independent research leading to a thesis is also necessary in some faculties, generally at the graduate level. Promotion from one semester to the next depends upon completing the required courses and passing the examinations. Regulations concerning class attendance and examinations are usually determined by each faculty. Hacettepe and Middle East Technical Universities have adopted credit-hour systems similar to those used in the United States.

Diploma and degree programs.—The license

(*lisans*) diploma in most faculties is granted after 4 years of study. In the faculties of architecture, engineering, and veterinary medicine this degree usually requires 5 years. Aegean and Ankara Universities offer 5-year programs leading to a license in agriculture, as do Ankara and Hacettepe Universities for a license in pharmacy. The doctor of dentistry and of medicine degrees require 6 years of study except at Hacettepe University, where the latter requires 7 years. Five-year higher license (*yüksek lisans*) degrees are offered by Ankara University in the Faculty of Science and by Hacettepe University in the Faculties of Health Sciences, Science and Engineering, and Administrative Sciences. The latter institution also offers a 6-year program leading to an engineering diploma (Mühendislik diplomasi) in the Faculty of Science and Engineering. Both Hacettepe and Middle East Technical Universities award master's degrees requiring 1 to 3 years of study beyond the license, as did Robert College. The doctor's degree (*doktora*) generally requires 2 to 3 years beyond the license or beyond the master's degree, where the latter is offered.

Other Higher Education Institutions

In addition to the universities, a number of other higher education institutions operate under the control of the Ministry of Education or other ministries, and offer various specialized programs.

Admission requirements.—Admission to specialized institutions of higher education is also based on completion of the upper secondary level, and,

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in some cases, competitive entrance examinations. Most of these institutions accept graduates of secondary vocational technical and professional schools if the secondary program they completed is appropriate to the program of study they wish to follow, at the higher level. The program of studies varies from 2 to 5 years in length, depending upon the type of course, and also, i.e., which is less for those who successfully complete a program.

Foreign ... standard and applied art ... are one cause of study the parties to ... decorating which are best from ... a course of art. Sta is leading to the course degree is offered by the academies of fine arts in connection with an administrative program ... counterpart to the doctor's degree. In addition to these academies there are schools of courses of economics and commerce ... and selected works ... that contain several programs of specialized study. The Islamic Institutes are open to students who have completed religious secondary school. Their 4-year programs prepare the country's religious leaders as well as train teachers for secondary religious schools. Schools of architecture and engineering offer programs which are generally for 4 years (in some cases, 5 years for evening students). The Istanbul Engineering College also offers a master of science degree following a total of 5 to 6 years of study.

SELECTED GLOSSARY

Turkish	English
Anaokuiu	Nursery school
Doktora	Doctor's degree
Eğitim enstitusii	Teacher-training institute. The 3-year program prepares middle school teachers.
Erkek sanat ortaokulu	Boy's middle trade school
Erkek teknik yuksek oğretmen okulu	Men's technical teacher-training college (generally a 4-year program)
Fakultesi	Faculty of a university
Hazirlik	Special preparatory language training program offered to students before they enter a secondary school whose language of instruction is not Turkish

Turkish	English
Ilkokul	Primary school (grades 1 to 5)
Ilkokui diplomas	Diploma awarded at the completion of the primary cycle
...	... and theological schools
...	Upper secondary girls' vocational institute
Normal ...	Girls secondary school
Kiz teknik yuksek oğretmen okulu	Women's technical teacher-training college — generally a 4-year program
Kolej	Secondary level school, usually in a foreign language
Lisans	License, higher education degree, usually requiring 4 years of study
Lise	Upper secondary general academic school, grades 9 to 11
Lise bitirme diplomasi	Diploma awarded upon completion of the lise
Oğretmen okulu	Upper secondary level teacher-training school
Oğretmen ortaokulu	Middle level teacher-training school
Ortaokui	Middle school (grades 6 to 8)
Ortaokulu bitirme diplomasi	Diploma awarded upon completion of middle school
Sağlık okulları	Public health schools
Sanat enstitüsu	Upper secondary-level boys' trade schools
Tarım okulları	Agricultural secondary schools
Ticaret lise	Upper secondary commercial schools
Ticaret ortaokulu	Lower secondary commercial schools
Ticaret ve turizm yuksek oğretmen okulu	Training college for teachers
Yuksek lisans	High license (generally requiring one year of study longer than the lisans)
Yüksek mimar mühendis	High architectural engineering degree
Yüksek mühendislik	High engineering degree
Yüksek oğretmen okulu	Teacher-training college. Four-year program prepares teachers for the lises.

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