

SCHIZOPHRENIC REACTIVITY
TO EXPERIMENTALLY IMPOSED MONOTONY

by

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TABLE OF CONTENTS

CHAPTER	PAGE
I. SOME THEORETICAL CONSIDERATIONS	1
Concerning Schizophrenia	1
Concerning Boredom	22
II. THE PROBLEM	35
III. THE EXPERIMENT	40
The Subjects	40
Description of the Procedure	43
The Observational Technique	53
Testing the Hypotheses	56
IV. THE CONCLUSIONS	79
Summary of Results	79
Some Additional Findings and Areas for Future Study	81
Interpretation of Results	84
BIBLIOGRAPHY	87
APPENDIX	i

SOME THEORETICAL CONSIDERATIONS

Concerning Schizophrenia

This investigation grows out of an interest in the nature of chronic schizophrenia. Schizophrenia, whatever one may say of its etiology, its biology, or its dynamics, is at least (and without any commitment to what else it might be) a state of consciousness that reveals itself in an attitude toward the world. It is discoverable only because there are other states of consciousness possible, which is to say that we know that there is such a thing as the schizophrenic state because we are not all of us always in it. If there were no possibility of being sane, the discovery could never be made that insanity existed.

States-of-Being. We have spoken of schizophrenia and sanity as states, and as states of consciousness. These terms are used synonymously to refer to what is more properly called a state of being. A state-of-being is conceived to be a basic manner or quality of existence which is differentiated from all others. It is, in effect, a denial that there is only one way that man can exist in the world. It states that there are many possibilities of a basic man-world relationship which differ from each other not in degree but in kind. Two of these are sanity and schizophrenia. Others are anger, fear, sleep, and so on. Whenever the quality of the whole

relationship toward the world changes, we speak of a different state of being.

It is hypothesized that man's total consciousness is involved in the transition from one state of being to another, which is to say that a change in state of being is not just a change in attitude toward an object or a class of objects, but a change in the basic relationship to the world. The world appears different and the self in the world seems different. A state of being is not the figural aspect of man's consciousness, but its ground. It is a kind of underlying attitudinal disposition toward the world that is independent of and prior to the particular objects in it, including even the person himself as he sees himself as an object in the world.

This change in the quality of the world is convenient to examine in two aspects, the cognitive and the behavioral. Man, when he changes his state of being, not only "knows" the world as a different place, but he behaves on the basis of this new knowledge; this new world is accompanied by belief in its being the world of fact. He acts in the world which is given to him in his state of being, not in some kind of objectively "real" world, nor even in the world as it usually appears to him.

Home States. For most of us there is a usual attitudinal relationship to the world within which we identify ourselves and live out a continuous history. There are, of course, times that we are "not ourselves," times that our

normal, familiar, habitual attitude toward the world and our lives in it departs. This occurs when we are captured in a transitory emotional episode, or (as happens every day of our life) when we go to sleep. But always we return to the state of being in which the world, and our continuous history in it has its usual meaning. This is the state of being sane, the attitudinal relation to the world within which we identify ourselves in respect to the world and live out a meaningful history in it. Sanity is our "home state" from which we make occasional expeditions into other possible ways of being, but to which we always return with a sense of regaining the substantial and the real.

Clinical observation would lead us to believe that some people have states of being other than sanity as their home state. Some people strike the observer as habitually angry, which is to say that their usual relationship to the world is an angry one. It certainly would seem evident that there is at least one other state of being possible for man which may become his home state---that is the state of schizophrenia.

We can identify people by referring to their home state. When we speak of the sane man, we mean the man whose home state is sanity; when we speak of the schizophrenic, we mean the man whose home state is schizophrenia. It is in this use of the terms that we speak of a sane man leaving the state of sanity temporarily (for instance, to enter the state of anger), but since his home state does not change, since anger is for

him a temporary state even when he is in it, he is still a sane man. These remarks are intended only as clarification of the terminology: "sanity" is a state of being; it is the home state of most people; the sane man can be in other states of being without changing his home state, and so long as his home state is sanity he can properly be referred to as a sane man. The sane man in anger is no less in anger for being a sane man; the term "sane man" simply identifies him in relation to his home state, and this does not change the quality of whatever state he happens to be in.

Characteristics of Home States. We will concern ourselves with three characteristics of home states which we term their centrality, habitualness, and persistence. The term centrality refers to the position the home state occupies in relation to the other states of being possible for an individual. The home state is central to other possible states of being in that man can be precipitated immediately and directly from the home state into any of the other states possible for him. We may reflect on our own experience to verify this. We pass directly from sanity to sadness or joy, anger or fear. Although we sometimes experience an increasing affect as we progress into the new state (as, for instance, from annoyance, to some anger, to rage) there is no necessary interposition of a transitory state, for we sometimes find ourselves angry "before we know it." It is hypothesized that all peripheral states (i.e. those not

the home state) are immediately available from the home state. But centrality means more than this. It also implies that there are some states which are not central, some states from which every possible state of being for a given individual are not available. In other words, as far as the peripheral states are concerned, this availability of every other possible state in some cases demands that the person return to the home state. There are some peripheral states which are not central to all other states of being. We may reflect on our own experience again to find such examples. One cannot pass from anxiety to sleep without first "returning home," however briefly, to his usual relation to the world. Likewise, there is no contiguity between anger and resignation, or between love and boredom. This may be represented topologically by stating that the home state is a region such that all other regions to be represented are contiguous to it but are not necessarily contiguous to each other.

In addition to being central, the "home-state" is habitual. The term "habitual" is used here with none of the implications of "having been rendered accustomed to through repetition." Rather, the connotations are "characteristic condition, form, aspect, or mode of being." More specifically, it is meant that the "home-state" is habitual in that it is the state in which man finds himself at times when no special demands are made on him. It has been observed (see, for instance, Kleitman) that for animals low in the evolution-

ary scale, the "home-state" seems to be sleep in that such animals, when not actively aroused by the demands of the environment in relation to their bodies (and vice versa) simply sleep. Such animals would seem to have no "simply-awake" state; their relation to the world is quite simple and is usually easily reducible to biological demands. In contrast, man remains awake with the attitude that only when he's awake does life go on, and that this "going on" is important. He may have many attitudes toward sleep, ranging from seeking solace and refreshment in it to actual dread of giving up consciousness for even a short time, but he always sees it as secondary to the main business of life which is carried on when he is awake. He does not wake to satisfy needs so that he may go to sleep again. Rather he sleeps in order to wake again. In order to make habitual his "home-state" it is biologically necessary that he sleep. A "home-state" is habitual in that it demands no explanation in its specific instances. Thus, when a man is angry, bored, joyful, or any of the other, the question as to why is always legitimate and is always to be sought for in the concrete circumstances of his life and his relations to the world. When a man is simply "sane," or being himself, to ask why makes sense only as a generic question as to how it comes about that the state we call sanity is a possibility for man at all, and it is foolishness to seek it in this or that particular circumstance of an individual's life. The very biocultural

conditions which are necessary for man's existence are the same conditions which are necessary, without omission or addition, for his being in a "home-state" habitually.

The other characteristic of a "home-state" with which we shall concern ourselves is its persistence. We have spoken of how other states are transitory. For most of us other states of being besides sleep and the "home-state" of sanity are rare. We experience an occasional object-directed affect ---we are angry with George or sorry for Mary---but it is with great infrequency that we are swallowed up in anger or in depression so that it characterizes our whole relation to the world. According to our theory, the other possible states of being are known to man in his "home-state" by their boundaries, which are represented to him through the experience of affect. Thus one can feel angry and be in the state of sanity; but it is nevertheless true that at other times sanity is displaced by anger. Even on those occasions when this displacement occurs, the anger persists only for a time and gradually dissipates itself and is once more displaced by "sanity." From our "home-state" of sanity we try to manipulate our environment to guard the persistence of sanity or to make available to us special states of being that we seek, but despite such manipulations we are ultimately unable to "will" ourselves from one state to another. We can only be certain that in the long run we will return to the "everyday" world. The "home-state" is the persistent possibility

to which return is made with a sense of regaining the substantial and the real.

Sanity: The Natural Home State. It is hypothesized that sanity is man's "natural" home state, and that another state can become his home state only under special conditions. We call the home state of sanity "natural" because it would seem to be the universal end-product of maturing in man. Those activities which drop out of man's relationship to the world as he grows from infant to child to adult are precisely those which are inconsistent with being in a sane state. Piaget has shown us in some detail how the child's conception of the world is not just less differentiated and accurate than the adult's, but is qualitatively different. These qualitative differences drop out because they are inconsistent with sanity. In fact, some theorists look upon non-sane states as fixations at or regressions to a childhood level. One need not agree with this formulation to see the similarity between some childish behavior and some non-sane behavior in adults. That which is characteristically childish is not only non-adult, but also non-sane. Under the variant conditions of many cultures, children mature into a state of sanity. It is the natural end of the maturing process.

The state of sanity is seen as central to all possibilities for man; it is postulated that the state of sanity is central to all other humanly possible states of being. When one of the peripheral states is "adopted" as the home state,

the horizon of possibilities does not expand. The possibilities for man are fixed in terms of what is possible for him from the natural home state of sanity. He may not achieve new possibilities for himself by shifting his home state. But on the other hand, he may, by adopting a new home state, constrict his horizon and make impossible for himself certain states of being which were originally possibilities. Thus sanity is conceived to have a kind of "natural economic" centrality in that it is the only state from which man can recognize and potentially act on all of his possibilities. The "adopted" home state shifts the centrality to a less economical position.

Sanity as a State of Being in Care. Heidegger identifies sanity as a way of being in the world, as a being "in care." The boundaries of "being-careful-of" and "caring-about" are wider than the horizon of man in his sane state. To speak topologically, sanity is a region within the larger region care. Perhaps the best brief characterization of "being-in-care" is to say simply that "things matter." Those activities in which the sane man engages which don't matter to him always require a special attitude of degradation and irreality. The characteristic that is common to all our permanent and abiding relationships to the world is that they do matter. To borrow Husserl's terminology, the noesis

"in care" corresponds to the noema "it matters."* The sane man discovers how much the world matters and how strongly he cares only as he approaches the boundaries of care and is tempted to throw his care for the world to the winds. He occasionally seeks a temporary escape from care through wild excitement, joy, anger, and drunkenness. He thus learns what the quality of his usual relationship to the world is by experiencing what it is he gives up when he leaves this usual relationship.

By reflection, we discover that certain possible experiences are open to the man in care, which would not be possible to him if he were not in care. An example of such an experience is "feeling a fool." The experience which is pointed to by the phrase "to feel a fool" is a special kind of embarrassment which arises when one feels that he has been discovered (or when he discovers himself) overestimating or underestimating the gravity of some situation. Being in care implies a respect for the nature of the world as it is given in its full physical and cultural implications. It carries with it the possibility of making mistakes, because what is beyond the thoughts of a person, "independent reality," is given a primary validity. Some mistakes, however, make

* Noesis and noema are terms used by phenomenologists to distinguish the mental act from its object. Noesis refers to the intending of an object and noema to the object intended. Noesis is a class name which subsumes all such intentional acts as perceiving, recollecting, imagining, expecting, and so forth. Noema corresponds roughly to what Koffka calls the "psychological environment."

one feel a fool. These mistakes are the ones which result from a defection in "caring about" the primary validity of the world. When one discovers himself, for instance, taking as "reality" the constructions of his thoughts when the reality is quite simply something else, he experiences the degradation of his consciousness and becomes aware of a defection of "caring" about the world. One "feels a fool." It is hypothesized that this experience is not possible for one not in care of the world. It is presented as an example of how the natural home state of sanity makes available certain other states which are not available if one is not in sanity.

Schizophrenia: An Adopted Home State. Schizophrenia has already been identified as a state of being which may, by adoption, become the home state of an individual. It is not our purpose here to inquire into the dynamics of the process which we have called adoption, but rather to examine the consequences of the adopting of schizophrenia as a home state. In so far as schizophrenia becomes a home state, we may examine it in terms of its centrality, habitualness, and its persistence.

In so far as the schizophrenic state is central, it would follow that, itself being a possible state of being for man, it must be first regarded as a peripheral possibility for the sane man. This is to say that it is a possibility

that there are peripheral states of being which are available to a sane man but which become unavailable to the schizophrenic. In a modified form this statement is one of the hypotheses of this study.

The habitualness of the schizophrenic home state is discovered not in the fact that schizophrenic patients often act irrationally, but in the fact that, like the man who is sane or the simple animal who sleeps, the schizophrenic patient relates to the world in a distinctive way when no special demands are made to him. It is a common observation that the greater the demands that are made on the schizophrenic, the more irrational his behavior becomes. On the other hand, when few or no demands are made on him, he tends to become immobile, and to act, if at all, in such a way that it makes no difference to anyone else what he is doing. To ask why a person is at a given moment acting irrationally is to ask for an answer in terms of the concrete circumstances of his life. On the other hand, to ask why a person is, at a given moment schizophrenic, can be answered only in terms of why schizophrenia is a possible habitual state for man.

With regard to the persistence of the home state of schizophrenia, observation shows us that the schizophrenic occasionally leaves his home state (for anger for instance) but that such episodic excursions lead him nowhere except back to his schizophrenia. For him, it is the persisting possibility to which he always returns, so long as it remains

his home state.

Schizophrenia: A Unique State of Being. An attempt will be made to examine the unique quality of the schizophrenic state under three headings: (1) how the schizophrenic experiences the world; (2) how he experiences himself in the world; and (3) how he behaves in the world. We have already suggested that the state of schizophrenia was outside the boundaries of care; in the following paragraphs we will attempt to explicate in more detail what the consequences of this position are.

One consequence of being habitually not "in care" is what various authors have called the "immediacy," the "timelessness," or the "concreteness" of schizophrenia. The phenomena referred to by these terms are well known. Storch notes that

The main difference between the ideation formations of highly developed thought (and the thought of schizophrenics) consists in the circumstance that our developed ideas have been to a great extent detached from the perceptual foundations in which they originate.....Another characteristic of the construction of ideas in schizophrenics which stands in close relationship with the one just discussed is the indefinite manner in which boundaries are determined and discriminations made in the contents of consciousness.....Inner experiences are indefinitely bounded off, fluctuating, and undifferentiated.....Man at high levels of development experiences this sort of undifferentiated total complex usually only in the sphere of "sensory perceptions.".....The Freudian mechanism of condensation and distortion has its foundation in these complexes.....For the schizophrenic, the world of objects is often no longer composed of separate things, each distinct from the other, as it

is for us: the world of inner experiences is not organized in relatively isolated groups; in place of abstract ideas, there are "perceptual analogies of ideas," diffuse complex qualities. The mental constants which render possible the formation of definitely circumscribed representations of persons and things, the complete circles of experience, clear-cut concepts, are all wanting.

Although Storch focuses his attention on the representational character of thinking, it is clear that he recognizes that the schizophrenic world itself is a world which is given in flux, in its sensory immediacy, and with a very different kind of signification than is the sane world. "The mental constants which render possible" the sane world are the consequences of being "in care" of the world. The concreteness and immediacy of the schizophrenic are possible precisely because there is no framework which mediates the world's concreteness and gives it a possible signification beyond and more important than its sensory givenness. The "timelessness" of schizophrenia is closely related to its concreteness and is another aspect of its immediacy. Werner points out that

In case of a serious degeneration of the distance between object and subject, the individual is actually thrust into a stream of events bereft of any device by means of which he can articulate his present existence in relation to his past and future. Pinned down as he is to the momentary situation, he may be said to be a situative cross-sectional being.....only "that which is momentary" exists for him.

For man in the state of sanity, the world is a world of

objects whose signification lies in their potentiality for action in regard to them, action which is goal-directed and hence is structured in time. The schizophrenic state is timeless not in the sense that subjective time is not experienced (one need only discuss this with a schizophrenic patient to become convinced that he does have a "time sense") but in the sense that time as a necessary and important structural dimension of his world is lacking. This results in a radical shift in certain self-world relationships: waiting, hurrying, continuing, beginning, ending, persisting, and all such self-world relationships which are structured by time are possible in the schizophrenic state only in a radically different manner.

The schizophrenic seems to be consistently "not himself," at least from the point of view of the sane man. His identity and history seem to emerge not from his relation to the common world of man; it would seem that his identity and history are to him not the thread and meaning of life, but questions that are held by him in quite a different regard. They are not the commonplace axioms of his existence. Who he is and what his relation to the world is are particularly likely to be areas of delusional thinking. But more important to us than the mere fact that he misidentifies himself (which all of us do to some degree when our feelings of self-importance fluctuate) is his attitude toward this question. The sane man can have only one attitude toward it, which is

that his identity in the world is determined outside his consciousness, that it exists as something real in the world. One who observes the schizophrenic becomes shortly convinced that he can hold many attitudes about his identity, that he may be whimsical, imaginative, angrily insistent, or simply not interested. These do not alter his schizophrenic state, but are simply the intentional acts that are available to him which may take self-identification as their object. Sometimes he doesn't care what his relation to the real world is and it simply stops there; at other times he tries to enforce an identity on the world which has nothing to do with reality. Once again he simply is not interested, doesn't care, what the reality of the relationship is. In regard to this second possibility, that of delusional misidentification of the self by the schizophrenic, two observations would help us understand its quality. In the first place, delusional thinking has been thought of by psychoanalytic theorists as "restitutional" rather than "regressive." This would seem to be true in the sense that delusional misidentification of the self is directed toward the world in that it arises from a recognition of the danger of correct identification for a preservation of the schizophrenic state, and denies it by giving it an untrue answer. The second observation is that even the most startling, bizarre, and elaborate delusions are empty of the wealth of detail which reside in a real relationship to the world, and seldom become elaborated in the process

of day by day living. Both of these observations tells us that the schizophrenic does not look upon the meaning and purpose of life as does the sane man. Heidegger speculates that the sane man is "in care," that he is careful of the world, that its unfolding history is important to him. The schizophrenic state, whatever else it may be, is not a state of being "in care."

It would seem to be a sound speculation that the schizophrenic recognizes that there exists another possible habitual relationship to the world. This possibility presents itself to his consciousness in more or less fullness, but it may be speculated that since "sanity" represents a rival "home-state," that the persistence of the schizophrenic state may be challenged by this possibility. In other words, sanity may present itself as a dangerous possibility to the schizophrenic very much as insanity presents itself to the sane man. Many excellent examples of how the state of sanity presents itself to schizophrenics are to be found in the autobiographies of two remitted schizophrenic women--- that of "Renee" and that of "Jane Hillyer." For instance "Renee" says

Little by little I brought myself to confide to my friends that the world was about to be destroyed, that planes were coming to bomb and annihilate us. Although I often offered these confidences jestingly I firmly believed them.....None-theless, I did not believe the world would be destroyed as I believed in real facts. Vaguely, I had some misgivings that this belief was linked to my own personal fear, that it was specific and not generally held.

"Jane Hillyer" reports

I seemed dual; struggling against the truth, crying out against fate, pleading, praying; and at the same time cool and almost surgical in my analysis of the situation.....I looked at the mirrored figure (herself). It seemed all eyes. I called it by name. "Do you know," I said, "do you know you are insane? Do you know what that means?.....You will disappoint them all..... Everyone will know soon. They will shut you upDo you know it's you that's mad, you, and not anyone you are reading about. Do you understand?".....The figure looked long into the mirror. "Yes, I know; I know," it replied meekly, "I know it's 'me' that's mad. I won't forget."

Both of these women report that they experienced some kind of boundary which necessitated a total shift from sanity to schizophrenia, and that through the schizophrenia the possibility of another relationship to the world existed for them. Schizophrenia was not experienced as simply a continuation of their life, but as something new within which they had some vague understanding that "reality" went on without them. It adds to our definition of schizophrenia to recognize that it is bounded by sanity, and that the sane state exists as a possibility---probably a "mere possibility"---for the schizophrenic.

To understand schizophrenic behavior, it will first be necessary to examine in general the meaning of action. There is a familiar distinction between private experience and public behavior. In common sense this distinction is clearly recognized, with inner experience given a kind of basic validity while outer behavior is given the status of mere

appearance. Thus, for the common-sense man in the every-day world, whether a person is "really" crazy or only acting so is to be decided on the basis of whatever clues there are to the inner intentions and mental state of the person. In like manner when the question is reversed. The normal-acting person is sometimes suspected of only simulating normality, and of "really" being quite irrational. The effort then becomes one to find clues as to the private, and presumably hidden, consciousness of the person. Nor is this distinction confined to the everyday world and to common sense. It is to be noted how often clinical psychologists and psychiatrists pride themselves (or praise others) on their ability to pierce through the external actions of a person to an understanding of his true motives and feelings. On closer analysis, of course, this distinction becomes a somewhat less obvious matter. The intentions of a person, a quite private matter, belong intimately to his public behavior. It is only in a reflective act that the person says to himself, "I want such and such, I plan it thus, and I do it so." More often he says nothing at all to himself about the matter, but goes ahead and acts on the thought and not on its reflection. In such situations there is neither outer nor inner, public nor private; there is only a simultaneously experienced and behaved action in the world.

The clarity of the contrast between private experience

and public behavior is directly proportionate to how remote the thought is from its execution. When thoughts present themselves to consciousness on which we have not the slightest intention of acting ever (as in day dreams) what is outer and what is inner, what is private and what is public, what is ideation and what is behavior, is very clear to us. Now when, as in sanity, we are "in care" of the world, when we act toward our social and physical conditions as if they were important, as if they held the meaning of our existence, then inner and outer tend to merge. But in schizophrenia there is a different state of affairs. Action is always "action in the world," along paths that lead to goals that are valuable for a person in an important relation to the world. It takes on a perverted character to one whose "home-state" is a relation to the world which is one of "no care" for its paths and goals. Action is an important part of "being in the world" if one is sane. Through it one not only maintains life, but "lives out one's destiny," or "develops one's potentialities," or "becomes somebody." For the schizophrenic, action cannot have these generic meanings. For him, action would seem to be chiefly used in maintaining his mental state rather than in relating to the world.

The point of the foregoing analysis has been to prepare the way for the statement that most of what is called "schizophrenic behavior" has no necessary connection with the schizophrenic state, and accompanies it only as action in the world

which is necessary to permit the individual to live out his life without leaving the schizophrenic state. In a word, schizophrenic behavior is conceived of as analogous in the schizophrenic's adjustment in the world to some characteristic avoidance mechanism in a non-psychotic person. Action in the world is for the sane person a means of advancing to still further action, for the schizophrenic it is a tool meant to thwart demands for further action. If our thinking is correct, it would be expected that the normal person experiences barriers that thwart action with dissatisfaction, frustration, restlessness. The schizophrenic, on the other hand, should be dissatisfied when the possibility of going into action is presented to him and should relax when action is thwarted. In a modified form, this statement is one of the hypotheses of this study.

Summary: Schizophrenia Differentiated from Sanity.

Schizophrenia is a persistent, central, and habitual way of being in the world which presents itself to man as an alternative possibility to sanity. It is related to the world chiefly through inaction rather than through action. In it, the world is presented outside the boundaries of care and those sane experiences which depend on the noema "the world matters" are not available to the schizophrenic. In schizophrenia the world presents itself immediately as concrete and timeless; the future and the past, as dimensional aspects

of the world, have no structural meaning for the schizophrenic.

Concerning Boredom

This investigation is primarily concerned with the signification of the experience of boredom and the relationship that exists between boredom and schizophrenia. Some analysis of the concept "boredom" is here in order. This analysis is focused on boredom as an experience---as a way that consciousness relates itself to the world---bracketing its biology and its dynamics.

An Example of Boredom: It is always useful to have before one, if only as hypothetical, an example of the conscious state being studied. Therefore, before we proceed to an analysis of boredom, let us put ourselves into a hypothetical situation.

Imagine yourself, if you will, at a dull lecture which somehow you have had the misfortune to attend. Not only is the content of no interest to you, but the lecturer himself is as dry as an old stick. You have given up all hope that it will get better as it goes along. The man obviously has nothing to say and tries to rephrase it in as many ways as he can think of. You're here; you're stuck with it. What else is there to do but wait till he's through. So you wait and wait and wait. And he goes on and on and on. "Well, it can't last forever," you say to yourself and glance at your

watch. It's obviously wrong---surely you've been here more than ten minutes! You are disturbed; you shift to a more comfortable position and close your eyes, but this only makes more room in your head for the interminable drone of his voice. You open your eyes quickly and start counting to yourself, forcing yourself to count slowly. You can't remember if you skipped from nineteen to thirty---you don't remember saying any of the twenties. You give it up and start to look at your watch, but instead you turn to your neighbor and ask him what time it is. He points to a clock over to one side. Yes. You've been here precisely thirteen minutes and forty-eight, forty-nine, fifty seconds. You keep your eyes on the second hand ponderously creeping around the dial, very much as you might press a sore tooth just to see how much it would hurt. You sigh and look back to the lecturer. You start listening, but what you hear is not what he is saying, but how his voice drops, always in the same way, how he draws out his M's, how many times he says "somewhat." You start to count them but lose track as a sudden vacancy of thought occurs. For a moment you think, see, hear, feel nothing, or rather everything as an undifferentiated mass. And then this too passes and you are right back where you started and there is only an hour and a half to go. You are bored.

The Example Analyzed. With this example before us we can begin to analyze the necessary conditions, the boundaries,

and the signification of being bored. The first thing that strikes one is that there is a defection of interest. The person may even actively seek to interest himself in first this and then that aspect of the situation. But it is of no use. To "snap out of" boredom, to "get interested" in something are efforts as foredoomed to failure as is the effort to "cheer up" when engulfed by melancholy. We are, as our example says, stuck with it. Whatever escape presents itself to us we find ourselves too inert to pursue; it would seem "hardly worth while" to get up and leave the lecture, to spend the time doing some necessary planning, or even to catch a nap. All possibilities are equally insipid and there is nothing to do but wait for the end. This defection of interest becomes particularly clear in those fits of boredom that come suddenly in the midst of an activity which we ordinarily find very interesting. Indeed at times we are unable to imagine anything that wouldn't be a bore---nothing in the world either available or imaginable strike one as being at all interesting. This we recognize as some defection in ourself. We say, "I guess I'm just bored," much as we might say, "I guess I'm just in a mood." We are willing to degrade our consciousness before we are willing to degrade the world, except in those little situational boredoms like our lecture. Something should be interesting and we have the feeling that it lies outside the lecture hall. When, however, we are faced by the problem that this "something interesting"

does not lie outside either, it becomes an insistent, nagging demand that surely someplace something should be perceived as worth while, but we are unable to find it. The bored man waits for himself to change, so that the world will again be right.

Waiting. The "waiting" of boredom differs in its object from some other kinds of waiting: it is a waiting for the end of the present state of affairs. In so far as the present state of affairs is figural, one waits for it to end. In so far as the present state of affairs is displaced by the figure of a future state of affairs, one waits for the latter to begin. The first of these we call persistence, the second patience. Where an order of succession has become routinized or is given as necessary it is sometimes difficult to distinguish the two, as for instance, whether one waits for winter to end or spring to begin may be a difficult matter to determine because the one so necessarily implies the other. Even in such examples, however, the one or the other is parenthetical, an after-thought. Other examples make this difference very clear. One waits for the music to begin; unless the pause becomes too long; then with a sense of reorienting oneself, one waits for the delay to end. Ordinarily we wait for sleep to come, but sometimes we wait for wakefulness to end. The young man waits for the night to fall, the old man for the day to end. Waiting for a beginning signifies that what really matters is what is to come, that the "here-now" is unimportant. Waiting for the end signifies that whatever may come, the "here-

now" is important and must be disposed of, endured, lived through. That which is most interesting, important, striking, or impressive becomes figural. If it is in the future, we wait with anticipation or with apprehension for its beginning, if it is in the present we wait with longing or regret for its end.

The meaning of waiting consists in more than its relationship to beginning and end, however. Waiting is not a consciousness of waiting. It is in the first place an action in the world, as unreflective as any other action. It uses the body as a mere instrumentality, holding it in readiness, either for a very specific signal in regard to a very specific action, as for instance the runner waits for the starter's gunshot, or for a general opportunity to accomplish unformulated and unspecified acts, as when one lingers over his coffee in a favorite cafe "to see what develops." But in either event it is in the world of paths and goals, the world of cause and effect, the world of instrumentality. It is the more general noetic form out of which "watching for" and "listening for" emerge. That it is a postponement of action does not make it any the less a kind of action, a path to a goal.

One becomes aware of himself as waiting in a reflective act, very much as he becomes aware of himself as running, eating, or pushing down typewriter keys. He can be aware of himself doing these things and at the same moment continue

doing them, because they are actions in the world. He can become aware of himself as waiting and continue waiting in the same moment. He cannot, however, be daydreaming and simultaneously be aware of himself as daydreaming, likewise with remembering, or planning, for these acts do not work through the instrumentality of the world to produce their effects. The world is experienced as a process, a "happening," a "going on" in which the body participates through action, and one of its possible actions is to postpone action, to wait.

There is one other way that waiting can exist in an unreflective consciousness and this is in emotion. Just as one may run away as an act of prudence on the one hand, or flee in terror on the other, so one may wait for the opportune moment to act, or, being plunged into the magical world of emotion waiting can take on a different quality.

We have examined three ways in which waiting can be experienced: as an action in the world of instrumentality; as emotive behavior; and, in a reflective act, as an experience of oneself as waiting. This last possibility may exist in two forms, either as "I am waiting for something" or as "I am waiting because of something." The former is to reflect on oneself waiting for a beginning, the latter is to reflect on oneself waiting for an end. Waiting posits a world of change, of process, of "happening." But process is not given merely through succession but is constituted in instrumental-

ity. What this means is that if there were never a time to act, there would be no such thing as waiting. If man could not act on the world to instrument his plans, waiting could not exist as a psychological structure. When man waits interminably, in effect he denies the world of instrumentality and he is acting in a world of emotion. In boredom he waits interminably in a world of mere instrumentality, which is no more the world of process than is a world of no instrumentality. An instrument to be such must exist in relationship to a goal. Something that is just "pure instrument" without object is no instrument at all. Instrumentality, as a quality of the world, can however, present itself in emotion as the physiognomy of the world, just as the world, having as one of its qualities that effect follows cause, can, in emotion, take on the physiognomy of inevitability. The emotive behavior in either example is to wait, but in the face of inevitability one waits for the future to move in, while in the face of mere instrumentality one waits for the present to expire.

The bored man's attitude toward the world is reductionistic, devaluing, degrading. Nothing seems worth doing. Everything is "nothing but": it is mere instrument, having no value in itself, and having no valuable goal from which it could derive value. Everything is the "same," because everything is nothing in itself, just mere instrument. Notice how, in the example of the man bored by the lecture, nothing that

he fixes his attention on can hold him for long. The emptiness of time in boredom is the emptiness of monotony, the sameness of everything. Notice how a difficult situation may keep one from being bored, while if it is made easy it much more quickly becomes boring. If it comes without effort, it becomes just another available instrument. Instruments are what is at hand. Goals, the worth while, exists in the future. This point is worth fuller treatment.

The world exists for the person as full of objects surrounding one, and of objects farther away. Some things are "at hand"---Heidegger's Zuhande---and available for use. These are the useful objects, the instruments by which we effect the valuable objects in the distance. There are two ways that man can experience the "at hand." One way is the way we have indicated; they can exist for him as instruments deriving their value from what one may do with them to reach the desired objects of the future. The other way is for him to discover in them a valuableness for their own sake. In this latter attitude, the future disappears for a little while as the present, the "at hand," reveals itself as valuable. We experience this attitude rather rarely as fascination, as an aesthetic experience, etc. It is an immediacy, in which the usual value of things at hand (that is the value they derive as instruments appropriate to the objects of the future---the Vorhande) disappears. For instance, when one contemplates the perfection of form and vividness of color of

a vase, the fact that it is a useful thing in which to put flowers disappears. Mostly, however, the vase is for us simply a thing into which to put flowers, useful if one has flowers in his hands, otherwise just one of the things at hand that one notes without really looking at. We give it a name, and that's "what it is." It is man's nature to dismiss the easy, the available, unless it leads to something else not immediately present that is desirable. It is this we refer to as mere instrumentality.

In emotion the world is given in immediacy. The instrumental character of the world disappears as some quality of the world emerges from the given immediacy to permeate it. Thus, in fear the quality of danger floods the world; in anger hatefulness floods the world; in boredom mere instrumentality floods the world. The Vorhande disappear as such and the goals of man become useless. One can dismiss an instrument as useless, but when the whole world seems to consist of nothing but useless instruments for which even the reason for their existence has disappeared, one is overcome with boredom. Boredom is not futility; boredom is not frustration; boredom is not impatience. These distinctions are important, though they can not be developed fully here. In impatience, the Vorhande rather than disappearing as such are enhanced as such; one cannot get out of the present fast enough, so strongly does the future beckon. In frustration, the difficulty of the world becomes enhanced; one is tied to

the present as the future become unattainable. In futility the world loses its desirability; one withdraws rather than waits. The impatient man says, "I want it now"; the frustrated man says, "Why can't I get it?"; the futile man says, "Why should anyone want it?"; the bored man says, "It's the same as everything else."

The Phenomenology of Boredom. Boredom, like any other conscious state, reveals itself to reflection in a dual aspect. To be bored is to discover something about oneself and at the same time to discover something about the world as it is experienced. It has its noesis and its noema. It is a discovery about oneself in so far as one cannot become interested in anything, and it is a discovery about the world in so far as nothing in the world presents itself as interesting. Neither noesis nor noema can be given phenomenological priority. They exist as a simultaneously experiencing and experienced reality. But they may present themselves one at a time to reflection. Thus, one may examine separately "being bored" from "the world as boring." This will be our procedure, in summary of the preceding observations, dealing first with the "world as boring," and then with "being bored."

The world of boredom is the magic world of emotion. It is a world in which instrumentality as such disappears, and in which mere instrumentality emerges as the permeating quality of the world. The world is empty and endless because

everything appears as a mere instrument; everything has the status of a mere vase when there are no flowers to be picked. Nothing is quite real, because everything requires a goal, is nothing in itself but a means. The Vorhande present themselves as mere Zuhande; there is a mere expanse of Zuhande leading to more Zuhande and so on without end. Everything is the "same" precisely because only one aspect of the thing presents itself; and everything is tiresome because the aspect that presents itself is a requiredness for something else to complete it. It is a dissatisfying, annoying world. As an object in the world, one experiences himself with nothing to do, because there is nothing to be done; everything presents itself as an opportunity to do, but since its meaning is lacking, since it is mere path without goal, it presents itself as an opportunity to do nothing. One experiences the emptiness of time, not, as James suggests, because the past is empty, but because the future is empty. There are no goals, no landmarks, by which time could be marked off. The world offers no way out. It is there, devalued, interminable and empty.

The bored man is in an emotional state. He acts finalistically: his emotive behavior is a denial of the difficulty of the world of sanity, and he changes it by degrading his consciousness in an act which eliminates at one stroke the difficulty of the world. This consciousness is not a joke that he plays on himself, but is accompanied by belief. He acts in the world as if there were no difficulties and in

so doing posits, and experiences a world in which difficulty has disappeared. In boredom, man effaces the difficulty of the world by denying the necessity of ever doing anything in a world where nothing is worth doing. His emotive act is to wait for something worth doing in a world where one instrument merely leads to another instrument. In boredom, one waits for something to do---and this never presents itself. It is only in a reflective act that he discovers that he waits for the end of his waiting.

Boredom is a state of being, and as such can be experienced unreflectively, can be lived. The man "in boredom" is not one who experiences himself as bored. It is only in a reflective act that this appears to him. It is only as he approaches the boundaries of boredom that he experiences the affect we call "being bored." One is at first annoyed and dissatisfied, weary and repelled by empty time, then gives oneself to the boredom and becomes inert in it. One frets and makes little false starts toward action in boredom, because instrumentality always demands "being done with" as a hammer invites being picked up, or a chair invites being sat in. In boredom, we pick up the hammer, and there is nothing to do with it so we put it down; we sit in the chair, and then get up. We are restless; surely there must be something to do, we think. We even may ask for suggestions, but nothing satisfies.

In presenting the hypotheses of this investigation we

will indicate why boredom is a possible state of being only for the sane man, the man in care of the world.

THE PROBLEM

A statement of the purpose of this investigation has been anticipated in several instances of the preceding presentation; it now remains to formulate clearly the problem of the investigation and the specific hypotheses to be tested. The central problem of the investigation can be formulated as follows: what light can be thrown on the apparent inactivity of chronic schizophrenic patients from an investigation into their reactions to monotony? An answer to this question requires that we first determine what schizophrenic reactivity to monotony is. We need to know not only how schizophrenics act when faced with monotony, but also what distinguishes their reaction to that of other people in comparable circumstances. It is the analysis of this problem that has led us to the proposition that boredom is not a possible state of being for the schizophrenic. This proposition is easily translatable into a testable statement of fact, and in this form offers itself as the first hypothesis of our investigation:

HYPOTHESIS I: An experimentally imposed situation which produces the experience of boredom in non-schizophrenic subjects will not produce an experience of boredom in schizophrenic subjects.

We have arrived at this prediction through the theory that the experience of boredom is an emotional solution to a difficult world which is not possible for the person not "in care" of the world. From our examination of the concept "in care," a development of the distinction between Vorhande and Zuhande followed. It was noted how the schizophrenic "immediacy" of experience grew out of the disappearance of Zuhande as such, that is, that objects became something in their own right, rather than as mere means to future goals. It was noted that this occasionally also happened with the sane person in moments of fascination and aesthetic experience. Fascination, as a state, presents an interesting reversal of boredom in that instrumentality as such disappears not to be replaced by mere instrumentality but to be replaced by a world of no instruments. In fascination a thing is "itself" and never a means to something else. It is such a striking experience because so often it takes for its object a thing which is hardly ever experienced except as a means to something else, e.g. the flicker of a flame. Repetition is as much a part of fascination as it is a part of monotony, and one is equally inert in one as the other. From this it would follow that fascination is a possible state of being which presents itself as an alternative to boredom to the sane man, and as a possible reaction to imposed monotony for the schizophrenic, which should be available to him the more easily since he lives in "immediacy."

HYPOTHESIS II: An experimentally imposed situation which produces the experience of boredom in non-schizophrenic subjects will produce an experience of fascination in schizophrenic subjects.

The schizophrenic who is put into a situation in which the world is limited to repetition, experiences each unit of the repetition as a thing separate from the things before. While monotony and repetition induce the experience of boredom in non-schizophrenics because something at hand is perceived as leading to nothing but the same over again, for the schizophrenic "sameness" does not exist because it is not important enough for him to compare. It is the expectation of sameness that bores; being captured by a single object, whether it is merely a unit in a chain of repetition or not, with the expectation that it will not necessarily lead to anything else is the condition for fascination.

The remaining two hypotheses of the investigation are peripheral to our central problem, but in their own setting they are equally important. An experimentally imposed situation of monotony and repetition restricts action to a postponement of action. This restriction of the possibilities of action comes, for the non-schizophrenic, with the demand that there is something important to do, but what that "something" is disappears into the world outside the situation which becomes vague, undifferentiated, and tends to lose its meaning

of "really attainable." Man's relation to the world through action is an unreflective one. When there is something to be done but it isn't clear what it is that should be done, and further, when waiting does not present itself as an instrumentality to lead to a clarification of what is to be done, restlessness ensues. Restlessness is an unreflective attempt to act in a constricting world. Not only boredom, but any condition where action is thwarted will lead for the non-schizophrenic to restlessness. With the schizophrenic the matter is quite different. He does not act in the world, but toward the world. There is no demand on him that he participate in the "going-on"; he maintains himself against participation by acting. If action is thwarted for him, there is really no thwarting. As was developed in the previous chapter, the schizophrenic is thwarted by the demand that he act, and not by the demand that he do nothing. Restlessness should be present in him when it appears to him that he might not be able to avoid acting, rather than when (as with the non-schizophrenic) it appears to him that he might not be able to act. From this follows the hypothesis:

HYPOTHESIS III: An experimentally imposed situation which produces the experience of boredom in non-schizophrenic subjects will lead to an increasing restlessness in their behavior and a decreasing restlessness in the behavior of schizophrenic subjects.

The final hypothesis to be tested is also related to the different status of action for the schizophrenic as compared to the non-schizophrenic. There is only one circumstance in which the sane man regularly permits himself to do nothing without the nagging feeling that he is wasting time: that is when he retires for sleep. Meaningless waiting leads to sleep whenever the urging necessity of finding something to do disappears. Thus, it might be expected that in some cases and at some times, due to an experimentally uncontrollable factor the same conditions that produce boredom in an individual might also produce sleepiness in him, provided that the demand "to do something" was absent or not strong. In the schizophrenic, on the other hand, sleep is not bounded by a world in which things need to be done. Sleep is not a solution to meaningless waiting, first, because the problem doesn't exist, and secondly because he does not give up his participation in the world in sleep. Sleep is not for him a temporary retirement from a world of urgency which suggests itself whenever urgency disappears. This difference leads to the following hypothesis:

HYPOTHESIS IV: An experimentally imposed situation which produces an experience of boredom in non-schizophrenic subjects may also produce in them an experience of sleepiness, but will not produce an experience of sleepiness in schizophrenic subjects.

THE EXPERIMENT

To test the hypotheses it is necessary to introduce schizophrenic and non-schizophrenic subjects into a situation which will restrict activity to waiting and which is repetitious enough to produce satiation rather quickly. It was further necessary that these subjects be observed in this situation by reliable, competent observers, and that they should make a record of what they had seen. The recorded observations then become the data with which an attempt will be made to test the hypotheses.

The Subjects

In order to control the factors centering around the importance and derived interest that the task might assume by contrast to the routine of daily life, it was decided that since the schizophrenic subjects would be institutionalized the non-schizophrenic subjects should also be chosen from among people who had much the same kind of routine life. It was also felt that a demonstration that schizophrenic subjects differed from other psychiatric patients in the predicted directions would be more impressive, and would rule out the chance that the same results could have been obtained by comparing any group of psychiatric patients with a group

of non-psychiatric patients. The distinctions of psychiatric diagnosis in a practical situation are necessarily far less definite and hard and fast than the kinds of distinctions which can be made theoretically. It was foreseen that some patients diagnosed as schizophrenic might not be in what is here called the "schizophrenic state," while some diagnosed as non-schizophrenic might be in such a state. Nevertheless it was felt that if the analysis was valid, the tests would not be totally obscured by this factor. Rather than run the risk of biasing data by selecting patients by our own criteria, we preferred to run the risk that psychiatric diagnosis would not distinguish between people who were in a schizophrenic state from those who were not.

A total of forty subjects were used in the experiment, twenty in the schizophrenic group and twenty in the non-schizophrenic group. All subjects were neuropsychiatric patients at Winter Veterans Hospital at Topeka, Kansas. All were male and they ranged in age from twenty-one to forty-nine years. The median age for each group was thirty-one years. Schizophrenic patients at this hospital are to be found almost entirely on three sections, two of these sections being for the chronic cases while the third is for the acute cases. For the sake of administrative convenience, all of the schizophrenic subjects were taken from one of the chronic sections. The subjects were chosen from among the patients simply on the basis of availability. The ward physicians

indicated which of the patients they felt were sufficiently in contact to follow the simple directions of the experiment. Appointments were not arranged in advance but the available patients were approached simply in the order of their ward number---that is, all available patients were taken from the first ward before preceding to the second, etc. In this way the entire section was canvassed until a total of twenty schizophrenic patients had been observed in the experimental situation. In addition to the psychiatrists' screening out of cases that could not follow instructions, the only other criteria of the sampling procedure were that patients were to be forty-five years of age, or younger, were not suffering from organic brain damage or disease, and that they indicate their willingness to cooperate with the experimenter. They were permitted to refuse if they wished to, and no pressure was applied to force compliance. The same criteria were used in the selection of the non-schizophrenic group, though one erroneously selected patient whose true age was forty-nine is included in the data. The non-schizophrenic patients were selected from the same section of the hospital as the schizophrenic patients, but this procedure only yielded ten patients. The other ten patients were obtained by canvassing two other sections of the hospital for five patients from each. Through three years' familiarity with the hospital population, the experimenter is convinced that this procedure yielded a representative sample of chronic

schizophrenic patients for the one group and a representative sample of non-schizophrenic neuropsychiatric patients for the other group. Table I lists the twenty patients of the schizophrenic group by code number, together with certain identifying data; Table II does the same for the non-schizophrenic group.

Description of the Procedure

The Mental Maze. The experimental task used to induce the experience of boredom was a mental maze of the kind devised and described by Peterson. It is called a mental maze because there is no material, spatial structure involved; it consists simply in a series of choice points which are presented verbally and responded to verbally. The subject traverses the maze by successively choosing the "correct" member of pairs of alternatives until he has reached the end of the list arranged by the experimenter. He has no way of knowing if a choice has been correct or not until he has discovered the principle of the maze; in the case of wrong choice he is always returned to the beginning of the maze; in the case of right choice he is always presented with the next choice point until he successfully traverses the maze. The maze used in this experiment consisted of a series of ten letter-pairs. The experimenter knew the correct response, in as much as it was his arbitrary decision which made one letter the "right" response, while the other one was "wrong." The

TABLE I

SCHIZOPHRENIC GROUP*

Code Number	Diagnosis	Age	IQ
1	Paranoid Type	25	122
3	Paranoid Type	34	---
5	Chronic Undifferentiated Type	27	107
7	Paranoid Type	32	106
9	Hebephrenic Type	29	81
11	Paranoid Type	34	---
13	Catatonic Type	36	80
15	Paranoid Type	34	109
17	Paranoid Type	30	---
19	Hebephrenic Type	31	---
21	Chronic Undifferentiated Type	39	84
23	Simple Type	44	---
25	Catatonic Type	45	126
27	Chronic Undifferentiated Type	29	97
29	Paranoid Type	29	98
31	Paranoid Type	26	138
33	Chronic Undifferentiated Type	28	---
35	Paranoid Type	38	---
37	Chronic Undifferentiated Type	30	---
39	Simple Type	28	78

* All diagnoses in the schizophrenic group were Schizophrenic Reaction; only the type is indicated separately for each patient.

TABLE II

NON-SCHIZOPHRENIC GROUP

Code Number	Diagnosis	Age	IQ
2	Emotional Instability Reaction	45	109
4	Passive-Dependent Reaction	41	---
6	Manic-Depressive Reaction, Depressed Type	41	110
8	Dissociative Reaction	28	97
10	Sociopathic Personality Disturbance	33	---
12	Emotional Instability Reaction	28	---
14	Emotional Instability Reaction	30	---
16	Psychogenic Gastrointestinal Reaction	49	---
18	Inadequate Personality	29	---
20	Psychogenic Musculoskeletal Reaction	39	---
22	Conversion Reaction	21	---
24	Paranoid Personality	31	---
26	Anxiety Reaction	36	---
28	Asthenic Reaction	28	---
30	Anxiety Reaction	45	96
32	Hypochondriacal Reaction	42	---
34	Antisocial Personality	23	101
36	Schizoid Personality	30	---
38	Passive-Dependent Reaction	38	---
40	Anxiety Reaction	40	121

experimenter presented the first letter-pair, then depending on whether the correct or incorrect choice was made would either go on to the next letter-pair or back to the beginning of the maze (which in the case of an error in the first letter-pair meant that that same pair was represented until the correct choice was made). There was no trickery involved in the maze; the one member of a pair was always right, the other always wrong. It was perfectly possible to traverse the maze by making ten successive correct choices, and in no other way was it possible. In order to assure that only by learning the correct response to each choice point could a subject traverse the maze, the order of presentation within each letter-pair was randomized. For instance, in the letter-pair "M-T" whether "T" or "M" was presented first varied from trial to trial and depended on a preestablished randomized order of presentation. Thus, the subject could not learn the maze by learning that all of the correct choices were first, or last, or that some such order as first, last, first, first, last, etc. was a way through the maze.

As Peterson's data show, this maze is difficult for college students, and it proved to be equally difficult for the subjects of both of our groups. Obviously, the difficulty does not lie in memorizing a series of ten letters. Rather, it lies in discovering that this is the requirement of the task. The subject does not know any of the facts of the structure of the maze, or even that it is a maze. He is

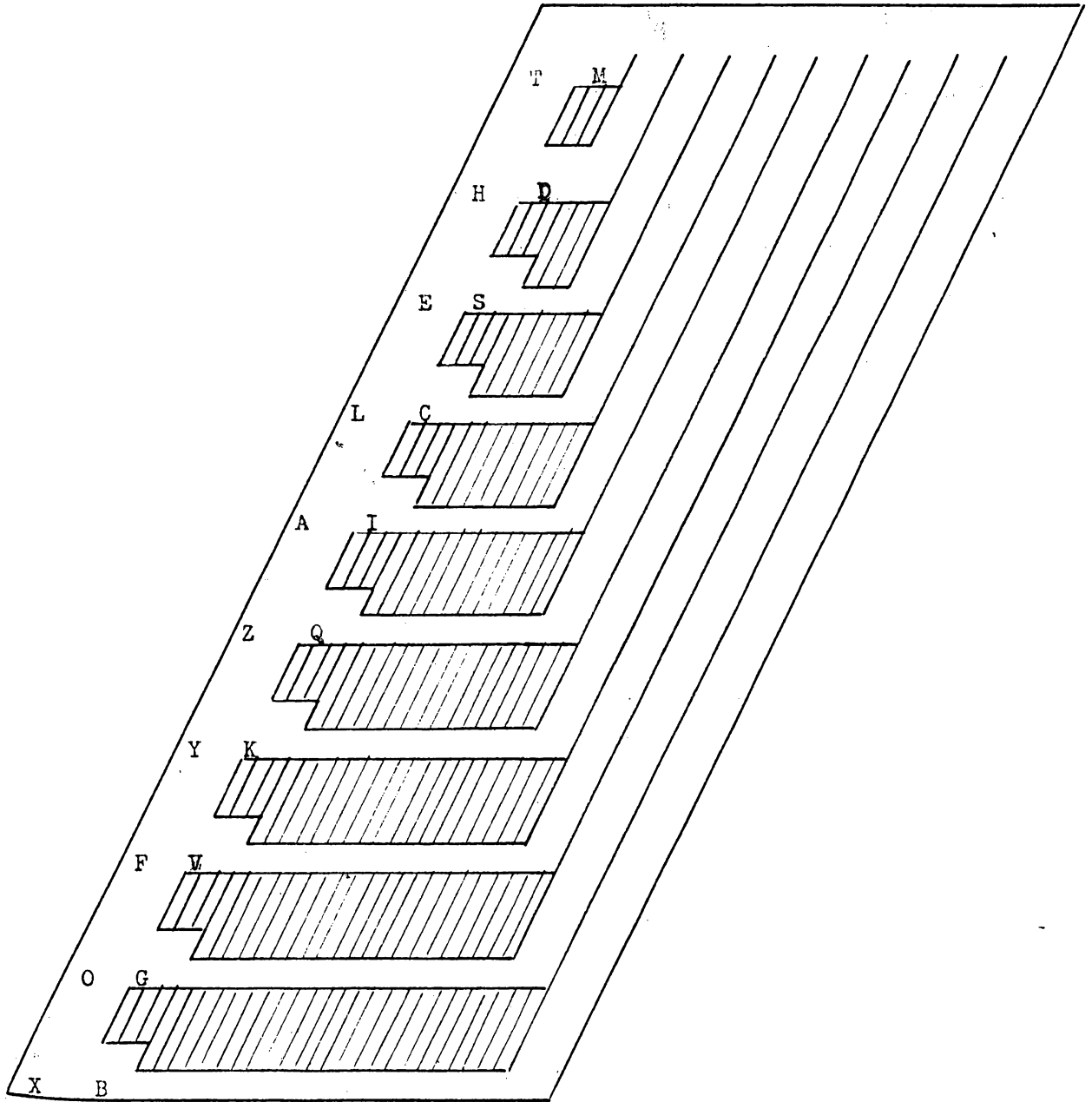
simply instructed to make a choice after each presentation of a pair of letters. From his point of view, the procedure is puzzling. He does not know what is required of him in any meaningful sense, he only knows that he is requested to make a choice between two letters, then another choice, then another, and another, and so forth apparently without end. His situation is very like that of the "naive" rat who wants out of where he is, and doesn't know that the experimenter has a plan in mind which he is supposed to discover. "Right" and "wrong" choice, "going back to the beginning," "getting almost to the end," these are all in the experimenter's mind and the subject knows nothing of them. Learning is not possible until he first discovers that there is something to be learned. If he should stumble through the maze to its end purely by chance, then he is given an additional clue in the experimenter's statement, "You have gotten through it successfully. It should be easier the next time." And the experimenter begins again to present the choice points. This procedure was stopped only when thirty minutes of constant repetition elapsed, unless criterion learning (three successive successful trials without intervening errors) was reached before the time limit expired. In no case was criterion learning reached or even approached by any of our subjects.

The maze used with all subjects in the experiment is diagramed in Diagram I. It is to be noted that an additional clue was offered to the correct path in that the choice of

DIAGRAM I

THE MENTAL MAZE

beginning



end

correct letters leads to the spelling out of the phrase "the lazy fox." The incorrect member of each pair was chosen from the alphabet so that no letter would be used more than once anywhere in the maze, and so that the letters of a pair were sufficiently different in sound to be easily distinguishable as they were pronounced by the subject. All of these arrangements were made with the idea in mind that the presentations by the experimenter should be made quickly and without errors; pilot study demonstrated that this was a tedious task for the experimenter as well as the subject, and careless errors and "losing the place" could be somewhat overcome by these arrangements.

The Procedure. The subject was brought into an ordinary office, such as he had seen many times before at the hospital, and introduced to the observer, who sat over in one corner of the room. The observer's presence was explained in this formula: "Mr. _____, this is Mrs. _____, who is helping me. She will write down some of what goes on here so that I can study it later." Prior to coming into the room, the patient had been asked if he would take part in an experiment which had nothing to do with his treatment at the hospital, but which might help psychologists understand people better. He was asked this question again at this point, and if at either time he indicated an unwillingness to take part, he was immediately released to his usual activities. No fuller

explanation was given at the time to any patient, though if he insisted on answers after he had been tested he was told that the experiment was aimed at finding out how people reacted to long periods of relative inactivity. Very few subjects bothered to inquire into the experimenter's purpose, for reasons that will soon become clear. In all, only three subjects refused to take part in the experiment, and they were all schizophrenics. In addition, two schizophrenic subjects and one normal subject did not complete the thirty minutes, indicating that they would not continue after from seven to twenty minutes. Neither these three cases, nor any other, were discarded.

After the subject had been introduced to the observer and had indicated for the second time his willingness to be a subject, a short, informal, open-end interview was conducted in which the patient was permitted to express himself on whatever seemed to be interesting or urgent to him. This interview was opened with a question as to what it seemed like to him, to be taking part in a psychological experiment. This interview was allowed to run for approximately ten minutes, and its purpose was to permit the experimenter and observer to form some impressions of the social behavior of the patient which could serve as a baseline from which to judge the effects of the experimental procedure. During this interview the patient did most of the talking, and if he seemed disinclined to talk an effort was made to give whatever

help seemed necessary to make him comfortable enough to make a few spontaneous remarks. The initial interview was not held to any specific time limit, the experimenter proceeding to the maze when it seemed to him that as much had been accomplished by the interview as easily could be. The observer kept no record of this interview, but simply kept in the background, watching and listening. Occasionally the subject would direct remarks to the observer, or otherwise try to include her into the situation, at which times the observer would respond with a smile, nod, or a word or two. She tried to maintain an attitude of friendly distance. She tried throughout the experiment to keep in the background, without rebuffing the subject.

At the conclusion of this initial interview, the experimenter introduced the maze with the following formula:

"Now, the reason I've asked for your help is this; I am doing an experiment from which I hope to learn something that will help psychologists understand people better. I am doing this experiment with all kinds of people. You were chosen simply because you were on the ward; other people from your ward either have been or will be doing this too. What we are doing has nothing to do with your treatment in the hospital. What I want you to do is actually not very complicated. Here it is: I will name to you two letters of the alphabet; I want you to choose one of them and tell me what your choice is. After you have told me your choice I will again name two letters to you, and once again I want you to tell me your choice. Then once again I will name two letters and you are to choose one, and so on. You are simply to choose one of the letters every time I name two to you. You are simply to make a choice each time and see where it goes from there. You will see how it goes and how to make it come out. Have I failed to make anything clear?"

At this point the experimenter allowed the patient to ask any questions about the experiment that he had, but nothing beyond a restatement of the instructions already given him was answered. Questions about purpose were put off with the statement that the subject might ask more about that after we had finished. The experimenter presented without further explanation the first choice of the maze.

The letter-pairs were read to the subject from a previously prepared chart. The experimenter tried to keep the presentation even, regular, and moderate in voice pitch, loudness, and emphasis. He tried to avoid pauses between the subject's choice and the next presentation. The patient was allowed to take his own pace in responding, but if a pause took too long, the presentation was repeated with a note of insistence in the voice. Often subjects would attempt to talk about something else or to ask questions that were obviously designed at avoiding a continuation of the experiment. The experimenter would redirect their attention to the choice, politely but as firmly as was necessary. Questions like "How much longer does this go on?" were left unanswered. Only if the patient said that he did not wish to continue was the experiment stopped, and then it was stopped without any urging from the experimenter to continue.

At the end of thirty minutes of continuous presentations and choices the experimenter indicated that time was up and allowed the patient a few moments to relax and make any

spontaneous comments he might wish to. Then another interview was conducted, also without leading questions, but held more or less closely to the experience that the subject had just undergone. This interview usually lasted about fifteen minutes. The aim here was to get the patient to verbalize what was going on in his mind---what his ideas and feelings were---during the experiment. At the conclusion of this interview the patient was taken back to his ward by the experimenter. This complete procedure was followed for each of the forty subjects of the experiment.

The Observational Technique

In order to conserve time, two observers were used in the experiment; but only one for any given experimental session. Each of the observers was used for ten schizophrenic and ten non-schizophrenic subjects so that any observer influence on the data could be discovered. The observations of the two observers was considered to be equivalent, and this assumption was tested in regard to the specific hypotheses of the study. This assumption seemed a reasonable one to make in view of the training of the observers. The two women who acted as observers had completed two years of graduate work in psychology and had spent about the same length of time as observers on the Midwest Child Observation Project, having been trained and getting experience in the observation of behavior in a field setting such as is described by Wright

and by Barker in the various publications originating from the project. They were given no additional training for the observations in this study, but were told that the purpose of their observations was to test the hypotheses of this experiment (which were described to them) and that the data which would be most valuable to the experimenter would be observations about the subject's reaction to the task presented him. Though it was hardly necessary, they were warned about not making inferences in regard to the usual state of the person, or his personality characteristics, but to deal only with the behavior that they observed as related to the present situation. They were not told which of the patients were schizophrenic and which were not.

Each experimental session consisted of three parts: the initial interview, the mental maze, and the final interview. The observer's function differed in these three periods. During the initial interview the observer simply watched, making no notes at the time nor any written observations later; as has been said, the purpose here was simply to afford the observer and the experimenter a brief acquaintance with the subject under non-experimental conditions so that any special behavior during experimental conditions would become more apparent by contrast. During the mental maze, the observer's task was to make notes that would permit her to write a behavioral account of the period. During the final interview she took on the additional function of

recorder, trying to get a verbatim account of the subject's verbalizations. Immediately after each experimental session, the observer spent the next hour or two in filling in and writing up her notes. In addition to the behavioral account of the subject's reactions to the mental maze and the recording and account of the final interview, the observer was asked to make a summary statement of the subject's behavior, characterizing in a few phrases what the maze meant to him and how he dealt with it. In doing this the observers were encouraged to report inferences about the inner experience of the patient provided that the inference was what presented itself to them in the data rather than something remote, sought out, and arrived at through some analytical process. They were, further, to assign a name to the state of the person that seemed to them to best characterize the reaction. They were not given a list of names from which to choose, but were given the freedom to apply the name that seemed to best characterize the reaction of each subject individually. This application of a name was also done by the experimenter for each subject individually, immediately after each experimental session, independently of the observers' choosing of a name.

The raw data of the study consists of these behavioral accounts of the reaction to the maze for each individual subject, the record of the final interview, the summary statement of the observer together with the name that he

assigned to the reaction, and the name which the experimenter assigned to the reaction. A transcription of this data, in its original raw form is to be found in the Appendix. The observational records were not seen by the experimenter until several days after the completion of the experiment, and by that time editing the accounts could consist of no more than the deletion of a few highly inferential remarks.

Testing the Hypotheses

It is felt that the most impressive demonstration of the hypotheses of this experiment is to be obtained from a reading of the raw data. To see, through the eyes of the observer, subjects caught in boredom one after another if they are not schizophrenic, and then seeing schizophrenic subjects in the same situation going through the seemingly endless repetition unbored, is almost as convincing as are the demonstrations of the necessary conditions for a negative after-image from the actual experiencing of the phenomenon under these conditions. Likewise with the hypotheses about fascination, sleepiness, and restlessness. A more formal, if less impressive, testing of the hypotheses is described in the following paragraphs.

Demonstration That the Task Induces Boredom. All four of the hypotheses demand for their testing that the task be boring for the non-schizophrenic group. In how far this was

successful can be seen from the following analysis. By referring to the summary statements of the observers, we note that the words "bored," "boredom," "satiating," "satiated," "disgusted with the task," occur in sixteen of the twenty statements for the non-schizophrenic subjects. Eight of these are from the observations of Observer A, the other eight from the observations of Observer B. However, in assigning a single name to characterize the total reaction, only eleven of the sixteen cases were so designated (divided five and six between the two observers). The other five cases were designated as "Sleepiness" twice, "Tension" once, "Anger" once, and "Determination to Endure" once. According to our observers, then, the task was boring in some degree to 80% of our non-schizophrenic subjects and their reactions were chiefly characterized by boredom in 55% of our subjects. The experimenter himself, before knowing what his observers' statements would be, called nine of the twenty non-schizophrenic subjects bored. All nine of these were among the eleven which the observers had described as having reactions chiefly characterized by boredom. The other two reactions so characterized by the observers were called, by the experimenter, "Sleepiness." At this point three independent judges were called in to read the observational records, but were not shown either the observers' summary statements or the experimenter's designation of the reaction. These judges were then asked to "sum up in a few words or phrases for each

subject of this experiment what it seems to you he was experiencing, what the task meant to him, what his attitude or reaction to it was; then, sum up your summary into a single word---give a name to his reaction." The only information which the judges had was that the mental maze was described to them, and the procedure of the experiment. These judges were graduate students in psychology. One or another of them mentions "boredom" or its equivalent in eighteen of the twenty non-schizophrenic records, the sixteen in which the observer also mentioned boredom or its equivalent plus two others, both of which the observer characterized as "Determination to Endure." Judge J-1 thought that the behavior of twelve of the twenty non-schizophrenic subjects was best characterized as "bored," "boredom," "restless boredom," or "empty boredom." Nine of these twelve are also characterized as bored by both the experimenter and the observer. Case No. 16 which he calls "restless boredom" no one else sees as bored. Likewise with case No. 36, which he calls "empty boredom." With Case No. 28 he is in better agreement, for although no one else characterizes the reaction as boredom, the observer mentions that the subject was "soon bored by the whole thing." An analysis of the other two judges' statements reveals that there is unanimous agreement between experimenter, observer, and the three judges that nine of the twenty cases are chiefly characterized by boredom. The experimenter characterized no others besides these nine as

observer A characterized one other subject as bored, and Judge J-2 agreed with him while everyone else called this subject sleepy; exactly the same situation holds for one subject with observer B. Judge J-2 characterized a total of eleven subjects as bored, and in his selections was in complete agreement with the observers. Judge J-3, in addition to the nine cases on which there was unanimous agreement, characterized one other subject as bored, and though this subject was not selected by anyone else as being chiefly bored, both the observer and one other judge mention boredom in summarizing the observations. This information is summarized in Table III. It is to be observed that the greatest source of disagreement is the distinction between sleepiness and boredom. If the two are equated and both called boredom then there are seventeen of the twenty cases on which there is unanimous agreement, and on the other three cases there is four-out-of-five agreement. If this equation of sleepiness and boredom is accepted, then the statement can be made that, of the twenty non-schizophrenics, thirteen were bored, according to perfect agreement between two people who watched the experiment and three others who read a behavioral account of it. Of the remaining seven, there were only two who in some respects, or to some degree, or at one period of time, did not strike any of these five people as bored, though with almost perfect agreement their reactions were judged to be best characterized by some other name.

TABLE III

Characteristic Reaction
of Non-Schizophrenics to Monotonous Task

This table is a summary of data to be found in the Appendix. The groupings into the various categories are explained in the text. B - Boredom; F - Fascination; A - Anger; D - Determination; ? - Other.

Subject No.	Designation by				
	Experi- menter	Observer	Judge J-1	Judge J-2	Judge J-3
2	B	B	B	B	B
4	D	?	?	D	?
6	B	B	B	B	B
8	F	F	F	F	F
10	B	B	B	B	B
12	B	B	B	B	B
14	B	B	B	B	B
16	D	D	B	?	?
18	B	B	B	B	B
20	B	B	B	B	B
22	B	B	B	B	B
24	A	A	A	A	A
26	B	B	B	B	B
28	B	B	B	B	B
30	B	B	B	B	B
32	D	D	D	?	D
34	B	B	B	B	B
36	D	D	?	D	?
38	B	B	B	B	?
40	A	?	A	A	B

TABLE IV

Characteristic Reaction
of Schizophrenics to Monotonous Task

This table is a summary of data to be found in the Appendix. The various categories are explained in the text. B - Boredom; A - Anger; F - Fascination; P - Passivity; ? - Other.

Subject No.	Designation by				
	Experi- menter	Observer	Judge J-1	Judge J-2	Judge J-3
1	F	F	F	F	F
3	A	A	A	A	A
5	F	F	F	F	F
7	P	?	P	P	A
9	F	F	F	F	F
11	F	F	?	F	F
13	P	P	F	?	P
15	B	B	B	?	B
17	?	?	?	?	?
19	P	P	P	B	B
21	F	F	F	F	F
23	P	F	P	?	?
25	A	?	A	?	?
27	F	F	F	F	F
29	A	A	A	A	A
31	F	F	F	F	F
33	F	F	F	F	F
35	A	?	?	?	?
37	P	P	P	P	?
39	F	F	F	F	F

From the preceding analysis it would seem safe to make the following two conclusions: the experimental procedure would seem to yield a situation within which non-schizophrenic people tended to become bored, though other reactions were possible to them; secondly, that the observer who perceives another person as bored in such a situation is probably making a perception that another observer would agree with. Using this same data, we will now proceed to a testing of the first two hypotheses.

Testing the First Hypothesis. Table IV presents the name of the reaction applied by the experimenter, the observer, and the three judges for each of the subjects in the schizophrenic group. Of the twenty cases, there are five in which there is any mention of boredom at all (Subjects No. 15, 19, 27, 31, 37). Referring to the summary statements of the observers and the three judges given in the appendix, it is discovered that there are no additional cases in which boredom, or any of its synonyms, is mentioned without being chosen as the most applicable name. In other words, there are a total of five cases in which boredom is noted at all. We will examine each of these separately. Case No. 15 would seem to be a clear-cut case of boredom. Only judge J-2 used a different name to characterize the reaction---"Supercillious"---and judge J-3 qualifies the name by calling it "Bored Superiority." There would seem to be four-out-of-five agreement that Subject No. 15 was bored by the experiment. Subject

No. 19 is characterized as bored by Judges J-2 and J-3. The other judge calls his reaction "Relaxation," the observer calls it "Waiting passivity" and the experimenter uses the word "Immobility." This case is very hard to classify into a "bored" or "non-bored" dichotomy. As with many of the subjects, the final interview is of no help: he says nothing spontaneously, confines himself to "yes" and "no" answers, seems willing to accept almost any suggestion made to him, but does not elaborate. The experimenter is of the opinion that this subject displayed a characteristic schizophrenic reaction to repetition in that his relaxation and inactivity was undisturbed by it, and that what the two judges were reacting to when they called his reaction boredom was the statement in the behavioral account that the patient responded to the experimenter's questions and statements "in a bored and disinterested way." It is to be noted that whatever it was that led the observer to make this description, it was not enough to lead her to naming the reaction "boredom," a name she had used on six other occasions. It is felt that there is insufficient agreement to classify this person as either bored or not bored, and in the testing of the first hypothesis, Subject No. 19 is thrown out as an indeterminate case.

The remaining three schizophrenic subjects for whom there is some mention of boredom are seen as bored by only one of the five persons making judgements. This is judge J-1,

who was also the greatest source of disagreement in the determination of boredom among the non-schizophrenics. It is worth our time to examine for a moment how this judge used the word "bored" and "boredom." As a name to designate the reaction of the subject, he uses "bored" or "boredom" either alone or in combination with a qualifying adjective 16 times. This is in comparison to 12 times each for the other two judges and for the observer, while the experimenter only uses the word 10 times. He uses the word "bored" unqualified for Subjects No. 6, 10, 14, 15, 20, 26, 28, 30, and 34; and the word "boredom" unqualified for Subject No. 22. These are all in perfect agreement with the decisions arrived at above as to which of the subjects were bored and which were not. However, of the six cases where judge J-1 uses a qualifying adjective with the word "boredom" only 1 is determined to be bored by our analysis of all the judgements made. Subject No. 38, whose reaction is labeled "restless boredom" by this judge is also called bored by the others, but Subject No. 16 ("restless boredom"), Subject No. 27 ("blissful boredom"), Subject No. 31 ("dreamy boredom"), Subject No. 36 ("empty boredom"), and Subject No. 37 ("in passive boredom") are all unanimously agreed to by the others as not being bored. Where judge J-1 uses the unqualified word "bored" or "boredom" he is in agreement with the others ten times out of ten; where he qualifies the word "boredom" he is in agreement with the others only one time out of six. There would be some

evidence for taking these qualifiers quite seriously as indicating that this judge did not mean what most people mean by boredom when he speaks of "blissful" or "empty" or "dreamy" boredom. The simplest procedure seemed to be to ask the judge what these kinds of boredom were, for him. We must take his second chance, of course, with a grain of salt, but nevertheless in each case he decided that the qualifier was the main characteristic of the reaction---which is to say that he, on being challenged to explain what he meant by "restless boredom," "blissful boredom," "dreamy boredom," "empty boredom," and "in passive boredom," decided that he meant, in the same order, "restlessness," "blissfulness," "dreaminess," "emptiness," and "passivity." These latter categories are taken as his final decision. It must be remembered that no categories were offered to the judges between which they were to make choices, but that the language of their characterizations is entirely their own. Except for this one judge there was a remarkable uniformity in the use of the word "boredom" and "bored," and the one judge differed only in that he combined "boredom" with a qualifier to denote other kinds of reactions. In accepting his decision not to use the word boredom in this way, we feel that we have gotten at his true intent better than we could have in lumping these qualified kinds of boredom with just plain boredom.

Thus, of the twenty schizophrenic subjects, one is seen as bored, one is indeterminate, and all the others are "not

bored." Throwing out the indeterminate case, the hypothesis that schizophrenic subjects will not be bored by an experimental procedure that bores non-schizophrenics would seem to be disproved as stated by finding one schizophrenic subject out of nineteen who was bored by the procedure. This exceptional case is considered misdiagnosed by the experimenter, but this opinion is neither here nor there in the formal testing of the hypotheses. In so far as the procedure was adequate to testing the hypothesis, it is disproved as stated, but we are left with an interesting finding. There is a very striking difference in the number of non-schizophrenics who were bored by the experimental procedure as compared with the number of schizophrenics who were bored by it. Through use of the chi square test we are able to reject the null hypothesis that no difference exists between schizophrenics and non-schizophrenics in their susceptibility to being bored by the experimental procedure (see Computation I in the Appendix).

Testing the Second Hypothesis. Hypothesis II states that our experimental procedure will produce an experience of fascination in our schizophrenic subjects. This hypothesis requires for its demonstration that schizophrenic subjects react to the experimental procedure with fascination instead of boredom, and that this reaction differentiates them from the non-schizophrenic group. The hypothesis will be tested by following the same line of analysis which was used in testing the first hypothesis.

Unfortunately, "fascination" does not seem to be as widely current a word as is "boredom." The experimenter used it to describe 10 subjects, the observers used it 8 times, and, lumping together "fascination," "fascinated," and "self-fascination," judge J-1 uses the term not at all, Judge J-2 uses it 3 times, and judge J-3 8 times. There is reason to believe that these differences represent a verbal difficulty rather than any real disagreement among the experimenter, observers, and judges. The reaction of Subject No. 1, for instance, is designated in the following ways: by the experimenter, "fascination"; by the observer, "sensuous enjoyment"; by judge J-1, "aesthetic appreciation"; by judge J-2, "fascination"; and by judge J-3, "self-fascination." These terms are used synonymously to denote something it is hard to find a word for; we have discussed how the sensuous and aesthetic qualities of objects emerge in fascination, and it is not surprising to find people speaking of these in groping for an adequate descriptive term. For the purpose of this analysis, therefore, the following terms, used by one or another of our judges or observers, are considered synonyms: "fascination," "fascinated," "self-fascination," "captured," "bemused," "bound," "sensuous enjoyment," "aesthetic appreciation," "blissfulness," "dreaminess," "unreflective enjoyment," "enraptured," "aloof amusement," "amusement," "amused superiority," "superiority," "unremitting interest," "detached interest." This equating is done not only because the words

words themselves are close in meaning, but also because the summary statements often elucidate that the word is used in this way. The most doubtful of the above would seem to be the equating of "fascination" and "superiority," but the observer who used this word to denote the reaction of Subject No. 11 states in her summary that "he became amused with the task itself" and gives no other indication of how the subject acted superior. Hard as it is to name, this reaction is very striking, and one need only turn to the behavioral records to pick out those subjects who manifest it.

By treating the above list of words as synonyms, the following results emerge. In the non-schizophrenic group, one subject (No. 8) is seen as fascinated by all five observers; one other subject (No. 4) is seen as fascinated by the observer and one of the judges; none of the other eighteen subjects are seen as fascinated by any of the observers, judges, or experimenter. In the schizophrenic group, 8 subjects (Nos. 1, 5, 9, 21, 27, 31, 33, 39) are seen as fascinated by all five observers, and Subject No. 11 is seen as fascinated by four of the five, only Judge J-1 (our usual source of disagreement) dissenting. This same judge is also the only one who sees any other schizophrenic as fascinated: he calls Subject No. 13's reaction "dreaminess." Using the same criterion (four out of five) that was used in determining which subjects were to be classified as "bored" and which as "not bored," the analysis yields 9 "fascinated schizophren-

ics," 11 "non-fascinated schizophrenics," 1 "fascinated non-schizophrenic," 18 "non-fascinated non-schizophrenics," and 1 non-schizophrenic for whom it could not be determined whether or not he was fascinated. 37 cases are determined by unanimous agreement, 2 by four-out-of-five agreement, and one case is indeterminate. The observations of Observer A contributed 6 observations of fascinated subjects; those of Observer B contributed 4.

Hypothesis II would seem to be proven: a task which elicits the experience of boredom in non-schizophrenics will elicit the experience of fascination in schizophrenics. With the quantified data arrived at, it is possible to reject, by the chi square method, the hypothesis that no differences exist between schizophrenics and non-schizophrenics in their susceptibility to boredom and to fascination as tested by our experiment (see Computation II in the Appendix).

Testing the Third Hypothesis. Hypothesis III would require for its demonstration some measure of restlessness to show that the task leads to an increasing restlessness in non-schizophrenics and a decreasing restlessness in schizophrenics. Once again, the decision was to use judges for this determination. A group of three judges who were unaware of the purpose of the experimenter were asked to read over the behavioral accounts and arrive at an estimate of restlessness according to the following scale:

- 0 Easy, direct, natural-appearing movements where the purpose is to accomplish something pertinent to the situation.
- 1 Relative immobility, not moving even where it would be more natural-appearing to do so.
- 2 Tiny, stereotypic movements, the body quiet but some small part such as a finger engaged in small motions not pertinent to the situation. E.g. finger tapping, head nods, etc.
- 3 More vigorous, uneasy, "nervous"-appearing movements, e.g. head scratching, eye rubbing, foot-jiggling. They usually begin and leave off suddenly.
- 4 Thrashing, shifting movements of the "large muscle" variety. Very sudden, uneasy and tense appearing.

They were instructed to apply one number from the above scale to characterize a whole block of time; it was recognized that any given subject might engage in all of these different levels of restlessness within a few minutes, and the aim was to get at the most characteristic level for a given block of time. Each subject was to be rated for restlessness according to this scale for the following three periods; the first five minutes of the maze, the middle twenty minutes of the maze, and the last five minutes of the maze. The judges were to read over the behavioral account for the maze behavior of each subject and then arrive at a group decision as to where this behavior fell on the scale for each of the three time periods. The judges' decisions are given in Table V. An examination of this table discloses that 14 non-schizophrenics as against 1 schizophrenic show some increase and no

TABLE V

Ratings of Restlessness

Subject No.	Schizophrenics		
	First 5 Minutes	Middle 20 Minutes	Last 5 Minutes
1	2	2	2
3	0	*	*
5	1	1	1
7	2	2	2
9	4	3	1
11	2	2	2
13	3	0	0
15	1	1	2
17	3	3	3
19	1	1	1
21	1	1	1
23	0	3	1
25	3	3	3
27	1	1	0
29	0	*	*
31	2	2	2
33	2	1	2
35	0	*	*
37	4	2	2
39	2	2	2

TABLE V (Cont'd)

Ratings of Restlessness

Subject No.	Non-Schizophrenics		
	First 5 Minutes	Middle 20 Minutes	Last 5 Minutes
2	0	3	4
4	0	3	3
6	1	4	2
8	0	1	1
10	1	3	4
12	2	3	3
14	0	3	4
16	1	3	4
18	2	2	3
20	1	3	3
22	0	3	3
24	4	4	4
26	2	3	3
28	0	3	1
30	1	3	4
32	2	4	4
34	4	4	4
36	1	3	2
38	2	4	4
40	2	4	*

* Three schizophrenics and one non-schizophrenic refused to continue with the task to the end of the thirty minutes. All analysis of restlessness is done after discarding these cases.

decrease in restlessness, while 4 schizophrenics as against 0 non-schizophrenics show some decrease but no increase. The surprising finding, however, is the large number of schizophrenics who show no change in their level of restlessness throughout the experiment. There are 10 such schizophrenics while only 2 non-schizophrenics fall into this category.

Although there would seem to be some suggestion that our hypothesis is correct, that non-schizophrenics do tend to become more restless while schizophrenics tend to become less restless, the statistical test of the hypotheses is prevented by the small number of cases who fall into the "decreasing restlessness" category. It is also evident that some of the increases and decreases may be artifacts due to applying a five-point scale to a variable that is not judged first hand but only through the eyes of another person who reports what he sees. Although we might feel considerable confidence in the gross differences found, we might feel that the finer distinctions between the points of the scale were over-refined for the method employed. It was therefore determined to recategorize the judges' estimates into only two levels: "high restlessness," which would lump together points 3 and 4 on the scale, and "low restlessness," which would lump together points 0, 1, and 2. Under this categorization, any increase should represent a behavioral change at least as pronounced as that between head nodding and vigorous head scratching.

Substituting L (low restlessness) for 0, 1, and 2, and H (high restlessness) for 3 and 4, eight possible patterns emerge in the classification of the three time periods. These patterns, together with the number of subjects in each group who exhibited them, are presented in Table VI. Once again the striking impression is that while non-schizophrenics tended to increase in restlessness, the schizophrenics tended to maintain a steady pattern of low restlessness. Only six schizophrenics showed, at any time, a high restlessness, and in four of these a decrease to low restlessness followed. There is only one case in which a schizophrenic showed increase in restlessness, and this was followed by a decrease. Once again, because of small numbers, we are unable to test the hypothesis as stated, but a modified hypothesis can be offered here which can be tested: experimentally imposing a situation which produces the experience of boredom in non-schizophrenics will result in an increase in restlessness in their behavior, if it is at a low level, but the same situation will produce no increase in the restlessness of schizophrenics if it is at a low level. This modified hypothesis is actually a logical derivative of our original hypothesis, adding only the condition that subjects who are not at a low level of restlessness in the first place are excluded from prediction. While the original hypothesis must go without statistical test, this narrower hypothesis can be tested by the chi square method (see Computation III

TABLE VI

Patterns of Restlessness

Pattern	Number of Subjects Showing Pattern		Total
	Schizophrenics	Non-Schizophrenics	
LLL	11	1	12
LLH	0	1	1
LHH	0	12	12
HHH	2	2	4
HHL	1	0	1
HLL	2	0	2
LHL	1	3	4
HLH	0	0	0
Totals	17	19	36

in the Appendix). We are able to reject the hypothesis that there is no difference between schizophrenics and non-schizophrenics in this respect.

Testing the Fourth Hypothesis. Hypothesis IV is tested by a direct examination of the behavioral records. The prediction was that sleepiness would be the reaction of only the non-schizophrenic subjects. Table VII indexes for each subject all mention by the observer of sleepiness, and its plain behavioral manifestations, such as yawning. It will be noted that 12 non-schizophrenics were observed to be sleepy, while only 1 schizophrenic was observed to be sleepy. Once again the exception among the schizophrenics is Subject No. 15. As stated, the hypothesis must be rejected. Once again, however, the striking difference between schizophrenics and non-schizophrenics in this respect is a finding in the direction, but lacking the universality, of the hypothesis. It is very clear that non-schizophrenics are more susceptible to sleepiness in this situation than are schizophrenics, and this can be statistically tested by the chi square method. We are able to reject the hypothesis that no difference exists between schizophrenics and non-schizophrenics in this respect (see Computation IV in the Appendix).

It should be pointed out that one case was responsible for the rejection of both Hypothesis I and Hypothesis IV. The reader is asked to consider the probability that of twenty randomly selected patients who bore the diagnosis of Schizo-

TABLE VII

Index of Sleepiness

Any mention of sleepiness or its behavioral equivalents in the behavioral records is indexed for each subject according to the time of the notation.

Schizophrenics		Non-Schizophrenics	
Subject No.	Time of Notation	Subject No.	Time of Notation
1	none	2	23, 25, & 30 minutes
3	none	4	none
5	none	6	18 & 23 minutes
7	none	8	none
9	none	10	none
11	none	12	3 & 9 minutes
13	none	14	28 minutes
15	10, 25, 28, & 29 minutes	16	none
17	none	18	5, 10, 22, 23, & 25 minutes
19	none	20	25 minutes
21	none	22	25 & 29 minutes
23	none	24	24 & 28 minutes
25	none	26	none
27	none	28	12, 17, 18, 22, 23, 26, & 30 minutes
29	none	30	13 minutes
31	none	32	none
33	none	34	21, 23, & 29 minutes
35	none	36	19, 21, 24, & 26 minutes
37	none	38	none
39	none	40	none

phrenic Reaction there would be one who was not in a schizo-
phrenic state as we have attempted to define and describe it.

THE CONCLUSIONS

Summary of Results

The findings of the experiment can be summarized as follows:

1. When psychiatric patients who are institutionalized are placed in a repetitious and apparently meaningless situation like a mental maze, the reactions of schizophrenic patients are distinguishable from those of non-schizophrenic patients on several counts. Although other reactions are possible to them, most of the non-schizophrenic patients tend to be bored and/or sleepy, and they tend to become increasingly restless as the situation continues. The schizophrenic patients tend to utilize other reactive possibilities, and are much more prone to becoming fascinated with the elements of the procedure. They seldom experience boredom or sleepiness in the situation. In contrast to the others they tend to maintain a level of low restlessness and immobility throughout the duration of the situation.

2. The specific hypotheses of the study are, for the most part, rejected in the universal and unexceptionable form in which they were stated, but when modified to represent directions and tendencies, the results support them. While the data does not support the statement that the mental

maze "will not produce an experience of boredom in schizophrenic subjects" there is a highly significant difference between the number of non-schizophrenics (13) and the number of schizophrenics (1) who were bored. Likewise with sleepiness where the proportion was 12 non-schizophrenics to one schizophrenic, though once again the unexceptionable statement that the maze "will not produce an experience of sleepiness in schizophrenic subjects" is not supported by the findings. Hypothesis II was demonstrated as stated. When it is recalled that fascination seems in many ways to be almost the direct opposite of boredom, to produce it in a normally boring situation might seem, from the point of view of common sense, to be a difficult task. It is an easy task if one uses schizophrenics. The hypothesis about restlessness seemed to be borne out, though the number of subjects was too small to test the significance of the result that, in a repetitious and apparently meaningless situation, restlessness would tend to increase in non-schizophrenics and decrease in schizophrenics. There were exceptions to this, but the tendency was quite obvious. The hypothesis, in its universal form, must be rejected; because of small numbers in some categories it is not testable as a hypothesis about tendency; but a modified form of the hypothesis is acceptable at a very high level of probability. When a subject enters the situation at a low level of restlessness, the restlessness tends to increase if he is non-schizophrenic, but to remain low if

he is schizophrenic.

Some Additional Findings and Areas for Future Study

A wealth of additional data lies in the behavioral records awaiting analyses, some of which may have been pertinent to the hypotheses being tested here. Certain unverified and untested impressions are sufficiently striking to require statement. In the first place, it is a puzzling thing that none of the subjects saw the maze for what it was, a puzzle to be solved. In some pilot work, in which the procedure was identical, solutions and attempts at solutions characterized the maze behavior of a large share of the non-schizophrenics tested. Although these people were bored, they would reattack the problem periodically and never gave up hope that they could do something about bringing it to an end. These people were "normals," or, of those who were institutionalized hospital patients, the majority had been hospitalized only a short time. In contrast, the non-schizophrenics of this experiment seemed to give up making something of the procedure fairly early, and settled into a repetitious pattern of choices that precluded a solution. Those who saw it as having any meaning at all which they could fathom, saw it as some kind of an endurance contest. It occurred to them that it might be a puzzle only at the beginning and they gave up this idea after only a few attempts to solve it. Although

no records were kept of the actual choices made each time, there are enough statements about the choices in the behavioral records to reconstruct in nearly every case how the "solutions" and the "learning" went. It will be noted that the fascinated subjects seem to do better than the others in getting to the end of the maze, though one can hardly speak of them as having learned it. This may be due only to the fact that they were not as rigid in any pattern of choice and thus, purely by chance, had an opportunity to reach the end of the maze. However, in the pilot work, two schizophrenics who were fascinated, did, in the course of an hour, successfully traverse the maze three times each, and in both cases there was a regular learning curve of decreasing time required for solution. In other words, there is some suggestion that in fascination learning goes on although it is not the intent of the person to learn. Further, there is some suggestion that this learning is of a different and lower level than the learning of the person who knows he is learning; it has a gradual character such as simpler animals display in a maze, rather than the sudden "insight" character which is typical of so much human learning. This unintentional learning in states of fascination offers itself as an important discovery which needs verification.

A second impression gained from the data has to do with what we have called the characterology of schizophrenic behavior. Simply stated, the impression is this: schizo-

phrenic patients who act quite irrational at first tend to act more rational as the experiment proceeds. Often the final interview makes much more sense than does the initial interview, but more particularly, behavior in the maze situation tends to become less and less bizarre. It would seem that a worth-while hypothesis to test would be that a "monotonous" situation would tend to reduce schizophrenic behavior, while a challenging one would tend to increase it. If verified, this finding would take on meaning from a consideration of the function of action in the schizophrenic state.

Another item of interest is to be found in the various "states" or "reactions" which the observer, experimenter, and the judges discovered as resulting from monotony. Examination of Tables III and IV discloses that not only boredom and fascination were seen with some reliability, but also anger, determination, and passivity. It is also to be noted that while anger occurs in both groups, determination would seem to be characteristic of the non-schizophrenic while passivity is characteristic of the schizophrenic. It is interesting to speculate if these states could be maintained over long periods of time, or if in the end, everybody would be reduced to satiety of one kind or another. The very variety of reactions suggests that repetition alone is not enough to produce satiety, but this could be tested much more adequately in a further study by increasing the time of the procedure and perhaps choosing an even less various task.

A final word must be said of the observational technique. Its success was beyond all expectations. That observers can be used to get at the inner states of people would seem to offer new hope to those who would verify phenomenological hypotheses about psychopathic conditions.

Interpretation of Results

It remains now only to reexamine the theory proposed in the light of our experimental findings. Should the theory be rejected or modified because of Subject No. 15, a man diagnosed "Schizophrenic Reaction," who was bored? In so far as we had a perfect test of our theory we would be bound to do so. In so far as we recognize that our test was not perfect, that we could not guarantee that Subject No. 15 was in a schizophrenic state when we saw him (or ever, for that matter), we may withhold final judgement until more adequate testing would increase the probability that the theory is wrong. This is especially the more prudent procedure in view of the merits which the theory would seem to possess. It predicted results which were shown to be on the whole, if not unexceptionably, correct. It would seem to make sense in the larger framework of phenomenological psychology. It suggested new problems for research.

We do not reject, in toto, the need for modification of our theory. The experiment has led us to the discovery of a previously unexplored way that waiting can exist in the world.

It can exist as "out-waiting" another, and as long as it maintains this structure it is not boredom. We have discovered that the immediacy of the schizophrenic state does not preclude the possibility of a kind of passive waiting, which also is not boredom.

What can man do about monotony, not the subjective monotony which he experiences in boredom, but the objective monotony that we present him with in an experimental situation? His first choice is to either endure it or end it. If he is able to easily end it he will usually do so. He can end it literally by refusing to continue, he can end it by consent of the experimenter by discovering what the approved way out is (e.g., by solving the maze), or he can end it by making it impossible for others to demand that he continue. This latter is the characterological way of manipulating others through "ill health," "stupidity," and "craziness," to mention but a few variations. On the other hand, various social forces may make it easier to continue, to endure the monotony. Then man has three choices as to how it can be endured. He can endure it by making something else of it, giving a meaning to it, making a path of it. The less opportunity there is for this choice, the more certainly will the subject experience boredom. The meaning that he gives to the monotony may be either hypothetical or fanciful. Thus a small boy can bounce a ball endlessly against a wall and dream about himself as a great athlete, with each stroke the stroke

of a champion. Or, in sorting fruit, a woman may form and test hypotheses about the condition of the stem in good fruit or the spreading of putrefaction as the bad fruit seems to be all in one spot. They both make something else of a monotonous activity, one by dreaming and the other by hypothesizing. Man can also avoid monotony if he becomes fascinated with it. He discovers tiny variations within the outward monotony which offer interest, not because of what they mean, but because of what they are. Thus one chooses letters for an experimenter and discovers what interesting sounds he can make of them. Lastly, if none of these are available or if none work, he must endure the monotony itself for what it is. An endless, meaningless, insidious, situation without goals and promising only more of the same. It has no place in his life, it points to nothing, it can be used for nothing, and its very uselessness reminds one that activities should be useful, they should be for something. He is in a situation of mere instrumentality and there is nothing to do but wait for the end. He endures the boredom.

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APPENDIX

	page
Summary Statements of Observers and Judges and Names Used to Characterize Reaction	ii
Behavioral Records	xvii
Computations	cxxiv

Summary Statements of Observers and Judges
and Names used to Characterize Reaction

1

Ex: Fascination

Obs: He revelled in the experience. Very relaxed and somehow sensuous, he seemed to be "feeling" himself into the maze. Sensuous Enjoyment

J-1: Unruffled self-sufficiency. He relaxed with the task and made it his own private aesthetic experience. Aesthetic Appreciation

J-2: Completely involved with the task in his egocentric way. Fascinated with the associations that he made to the task. Fascination

J-3: Interested in the task rather than the outcome. Narcissistic enjoyment of his own whimsy. Self-fascination

2

Ex: Sleepiness

Obs: He was disappointed and annoyed that the situation kept him from relaxing into a social situation with Tony. He got annoyed, then bored and sleepy. Bored

J-1: Alertness quickly changes to tenseness, then to relaxation. Sleepy

J-2: Anxious and tries hard. Baffled, frustrated, restless, then bored and angry. Bored

J-3: Afraid of failing at first, but then gives up and tries to relax but is annoyed by having to continue task when what he wants most is to go to sleep. Sleepiness

3

Ex: Anger

Obs: He seems very sure of himself and very suspicious of

others. He was very angry because Tony wanted him to do something that would make him look like a fool.
Angry

- J-1: Momentarily patronizing, then negativistic. Self-righteous Anger
- J-2: Angry!!
- J-3: At first tentatively willing, but sees no point in it and gets madder and madder. Angry

4

Ex: Determination to Endure

Obs: Tried to maintain his superiority by finding something to laugh at. Superiority

J-1: On top, then at a loss when his smug assumption proves wrong. Smugness

J-2: Determined to win.

J-3: Became amused and felt superior at having the upper hand. Surprized and puzzled when he didn't have it figured out right. Amused Superiority

5

Ex: Fascination

Obs: He seemed frightened at first, then realized there was nothing to fear if he just went along with the experimenter. Finally got mesmerized by the maze. Fascination

J-1: Tense control goes to alert relaxation, and finally to being captured. Captured

J-2: Resigned and mildly interested, as though willing to be distracted by this problem. Detached Interest

J-3: Involved enough to keep watching the problem unfold without wanting to do anything about it himself. Fascinated

6

Ex: Boredom

Obs: This obviously angry man resigned himself to the task and became dull and satiated. Boredom

J-1: Derision to anger to boredom. Bored

J-2: Bored and impatient, then disgusted. Tired disgust

J-3: Angry and weary. Weary

7

Ex: Immobility

Obs: From the first he avoided becoming involved in the task. It made no difference to him and he had nothing better to do, so he just went through the form of it. Indifference

J-1: Never involved, always distant, relaxed. Relaxation

J-2: Indifferent. Close to sleep. Passivity

J-3: Slow burning annoyance. Just does anything to get it over. Annoyance

8

Ex: Fascination

Obs: Childish fascination with the task, and a complete abandonment to it. Fascination.

J-1: Unremitting Active Interest

J-2: Eager, fascinated, very pleased with himself. Fascinated

J-3: Childishly, uncomprehendingly fascinated. Fascinated

9

Ex: Fascination

Obs: Almost panicky at the beginning, he became sedated by the task and took it as serious and highly interesting matter which fascinated him. He could have gone on and on with unabated interest. Fascination

J-1: Tried to leave situation, then captured by it and lost tenseness in this way. Bound

J-2: Extremely tense, but becomes more relaxed with the pleasure of playing this game, unbothered by any standards of success or failure. Periods of close attention alternate with periods of dreaminess. Unreflective Enjoyment

J-3: Confused and very disturbed, becomes quieted and dreamy, but with continued awareness of the task and interest in his own way of handling it. He has taken it into himself. Self-fascination

10

Ex: Boredom

Obs: Fidgety, restless and tired, he was kept going only by his strong desire to cooperate. Boredom

J-1: Alertness quickly changes to boredom. Bored

J-2: At first cautious and careful, then puzzled, then angry, then very tired. Tired

J-3: Tired and bored. Bored

11

Ex: Fascination

Obs: Tense and apprehensive at first, he became resigned, then amused with the choices and the task itself. Superiority

J-1: Alert and suspicious at first, he becomes relaxed. Relaxation

- J-2: His suspicion gradually fades and he feels an aloof amusement. Keeps at quite a distance. Aloof Amusement
- J-3: A little annoyed, and then more secure as he felt in control of the situation. Became amused and felt superior. Amused superiority

12

- Ex: Sleepiness
- Obs: Annoyed, bored and sleepy. Boredom
- J-1: Sleepy
- J-2: Frustrated and restless, then tired and disinterested. Tired
- J-3: Restless, bored, not following or caring about the task, and above all sleepy.

13

- Ex: Immobility
- Obs: He succeeded in avoiding entering the experiment by never really making a choice. Passive Resistance
- J-1: A dream. - Nothing was real for him. Dreaminess
- J-2: Comfortable, relaxed, amused, whimsical, nothing is important. Indifference
- J-3: He was out of contact; he did not understand what to do, so he let Tony make the choices for him. Passive and Confused

14

- Ex: Boredom
- Obs: Attempted to endure the ordeal, saw it as a test of

endurance, and became restless, bored and sleepy. Boredom

- J-1: Bored and sleepy. Bored
- J-2: Intense effort makes him weary and he ends up slumped into weariness. Weariness
- J-3: A kind of intentness to avoid mistakes changes to boredom and sleepiness. Bored

15

- Ex: Boredom
- Obs: Bored, restless, sleepy and disdainful. Boredom
- J-1: Boredom to small peak of anger to boredom. Bored
- J-2: Playful, then supercilious and ridiculing. Supercilious
- J-3: It is meaningless for him. He feels above it. It bores him but doesn't really bother him as long as he can demonstrate how much above it all he is. Bored Superiority

16

- Ex: Determination to Endure
- Obs: He was a very restless fidgety person. He came to grips with the experiment by selecting a pattern and sticking to it. His manner was one of grim determination. He focused completely on the task and all his energies were aimed at waiting it out. Determination
- J-1: Restless boredom
- J-2: Very ill at ease and embarrassed. Tries to keep things under control. Embarrassed
- J-3: Embarrassed, does not know how to respond, anxious to get it over. Uncomfortable

17

Ex: Puzzlement

Obs: The experiment made him restless and tense. He was disturbed by his lack of understanding of what he should do. He remained steadily intent on the task but was confused by it. Confusion

J-1: Attentive, nervously puzzled. Apprehensive

J-2: Tense. Worried. Feels the necessity of trying very hard. Anxious

J-3: Puzzled.

18

Ex: Sleepiness

Obs: Nervous and frightened at first, he gradually got satiated and relaxed into a half-asleep state. Sleepiness

J-1: Disinterested, bored and sleepy. Sleepy

J-2: Bored, indifferent, annoyed that demands are made on him while he is so sleepy. Sleepy

J-3: Disinterested and gets sleepy.

19

Ex: Immobility

Obs: Like somebody who is used to being bored, it doesn't bother him very much. He just goes on and on, automatically doing the minimum. Waiting Passivity

J-1: Disinterested, relaxed. Relaxation

J-2: Relaxed, uninterested, bored. Bored

J-3: Bored in a constant way, but not frustrated by it. Absorbed but at the same time disinterested. Disinterested boredom.

20

- Ex: Boredom
- Obs: Cooperative and socially adept, he did not allow his feelings of boredom complete expression. Boredom
- J-1: Eager alertness to boredom. Bored
- J-2: Attentive, then baffled by failure, decides to stop trying and becomes bored and resentful. Resentful boredom
- J-3: At first interest and little by little complete boredom.

21

- Ex: Fascination
- Obs: Apprehensive at first, he soon withdrew into a private world where he enjoyed himself tremendously. Fascination
- J-1: Captured
- J-2: Completely relaxed and playful. Amused. No feelings of success or failure. Amusement
- J-3: Timid at first, but later enjoying himself. Fascinated

22

- Ex: Boredom
- Obs: Tried to manipulate the situation socially, when this failed was annoyed, and ended up quite bored. Boredom
- J-1: Brief alertness to Boredom. Boredom
- J-2: Willing to comply, then angry, then bored. Bored
- J-3: Alert, uneasy, irritated, then bored.

23

Ex: Immobility

Obs: He attempts to overwhelm. His composure is broken by restlessness which is in turn replaced by placid withdrawal. Passivity

J-1: Pretensions to superiority disappear into relaxed apathy. Relaxation

J-2: Relaxation and composure, half-dreamy state where nothing is important. Blank

J-3: Unconcerned.

24

Ex: Anger

Obs: Chip on his shoulder, aggressive, hostile and impatient. Anger

J-1: Oscillating between anger and boredom. Angry

J-2: Hostile. Determined not to cooperate or be subjected to anything. Cannot maintain the anger and becomes sleepy. Awakened by seeing a weakness in the experimenter, he is again angry. Angry

J-3: A sort of "I'll outlast him" feeling. Angry and Stubborn.

25

Ex: Anger

Obs: Incapable of going beyond his original decision to choose M. Very frightened by his own anger. Frightened

J-1: Angry

J-2: Frightened and baffled. Afraid to experiment in the situation. Fearful and feels compelled not to express his anger. Fearful

J-3: Wanting to be angry, but not daring because he needs to please the experimenter. Concilliatory

26

Ex: Boredom

Obs: He seemed uninterested in the problem and felt imposed on when it did not arouse his interest. He became annoyed and bored. Boredom

J-1: Never involved, slightly angry, then bored. Bored

J-2: Uninterested, resigned. Boredom fluctuating with annoyance. Bored

J-3: Never too concerned with it but getting very tired of it.

27

Ex: Fascinated

Obs: Shiny-eyed engrossment, half-hypnotised by the choices, he was fascinated by the sounds. Fascination

J-1: Passive relaxed. Blissful boredom

J-2: Relaxed and playful. The experiment is seen not as important but as delightful. Fascinated

J-3: Enchanted, blissful, enraptured.

28

Ex: Sleepiness

Obs: Interested at first but was soon bored by the whole thing and gradually got very sleepy. Sleepiness

J-1: Relaxed and bored. Bored

J-2: Close to sleep, indifferent. Sleepy

J-3: Sleepy

29

Ex: Anger

Obs: It seemed meaningless to him, and he had no intentions of going through what he didn't want to do. He was angry. Anger

J-1: Contentious and negativistic. Indignant

J-2: Puzzled and angry. Angry

J-3: Upset by the monotony very quickly and ended it. Angry

30

Ex: Boredom

Obs: Hostility and resentment were evident, though held in. He was disgusted with the maze. I expected him to explode a couple of times and refuse to go on. Boredom

J-1: Annoyance to boredom. Bored

J-2: Angry and restless, then bored. Bored

J-3: Bored

31

Ex: Fascination

Obs: He was very much more relaxed during the maze than before or after it. I think he would have continued to give responses indefinitely. Fascination

- J-1: Dreamy Boredom
- J-2: Completely relaxed, having fun. Unreflective Enjoyment
- J-3: Critical, slightly hostile to the experimenter, but approved completely of the way he responded. Self-fascination

32

Ex: Determination to Endure

- Obs: Settled on a simple immediate solution and saw the situation as a physical endurance test rather than a mental problem. Tired and restless, but determined to outlast the experimenter. Determination
- J-1: Determined to come out on top. ?
- J-2: He was full of seething hostility and would not deign to show that he was bothered in any way. He was going to win or else! ?
- J-3: Hostile. Unwilling to admit defeat. Perservering

33

Ex: Fascination

- Obs: He relaxed as the experiment continued and became fascinated. Fascination
- J-1: A dreamy state of letting things go by. Completely captured by the rhythm of the task. Captured
- J-2: Completely relaxed, happy, and benign. Unreflective enjoyment
- J-3: Enraptured, Fascinated

34

Ex: Boredom

Obs: Obviously bored, restless and impatient throughout the experiment. He became disgusted and then sullen toward the end. Boredom

J-1: Irritated disgust ending in boredom. Bored

J-2: Cooperative initially, then annoyed, disgusted, bored, relieved at the end. Bored

J-3: Very disgusted and annoyed, a sort of "I'll get him" attitude and a sort of sufferance. Bored

35

Ex: Defiance

Obs: He had great faith in himself and no intentions of allowing another to influence him. Conceit

J-1: Haughty

J-2: Suspicious. Contemptuous

J-3: Stubbornly in command. Stubborn

36

Ex: Determination to Endure

Obs: He managed to endure the experiment by blanking out his mind and turning it into a test of "will power."
Determination to endure

J-1: Empty Boredom

J-2: Restless indifference as a method of coping with his annoyance. He wanted to prove himself. Determination

J-3: Blank Feeling

37

Ex: Immobility

Obs: In general his attention was on the task as he went along passively, though there were some indications that he secretly derided the whole procedure.
Passivity

J-1: Unbothered. In passive boredom

J-2: Relaxed. Indifferent to the outcome. Passivity

J-3: Wrapped up in himself so much he hardly notices the experiment. It becomes automatic for him. Uninvolved

38

Ex: Boredom

Obs: Bored, tense, but inhibiting, so that only occasionally does the restlessness suddenly break through. Very tense, but very rigid control. Bored

J-1: Restless boredom

J-2: Wants to get it over but is compliant enough to hold back signs of annoyance. Bored

J-3: Puzzled

39

Ex: Fascination

Obs: Relaxed in a brightly watchful way. Involved.
Fascination

J-1: Captured

J-2: Attentive but not thoughtful. Bemused

J-3: Fascinated

40

Ex: Anger

Obs: Under a great deal of tension he was less concerned with the maze than he was to appear calm. Completely satiated, he asked for a stop, and was ashamed of himself for having done so. Tension

J-1: Curious, then resentful, then bored, then angry. Angry

J-2: Frustrated by failure. Angry

J-3: Puzzled, weary, bored.

Behavioral Records

1

0 minutes

The patient seemed relaxed but he listened attentively to the instructions, and watched Tony with sharp eyes

1 minute

As the presentations began, he seemed to "prick up his ears," and assumed what appeared to be a very watchful attitude. Occasionally he glanced away as though to compare in his mind the two choices. There seemed to be no pattern to his choices.

2 minutes

As the presentations continued to return to the "M-T" choice a change occurred in his eyes as if in curiosity. The choices are made with irregular tempo, some quite quickly, some after ten or more seconds' deliberation, but always with an air of assuredness.

3 minutes

He leans forward, as if to attend more carefully. He seems to deliberate as he makes his choices, an air of abstraction on his face as if he is seeking to see in his mind's eye which choice is "correct." His face is quite expressive. There is a look of expectancy as Tony presents the choice, then a look of deliberation, which may be accompanied by a slight lifting of the eyebrow, or even a frown, before he chooses; then a straightening out of his face and a direct look at Tony as he clearly pronounces his choice.

5 minutes

There is nothing automatic about this procedure for him. He seems quite animated. He absently taps his thumbnails together as he waits but his hands are quiet as he gazes out into space for his answer. He gives an impression of stating a fact when he makes his choice, and there seems to be no doubt in him about his choices once they are made.

7 minutes

In the same way as before. He moves only in terms of the task, i.e. to lean forward as he gives his choice, to look away as he considers it, etc. His voice is quite lively, and he pronounces the letters as if he approved of their sounds.

9 minutes

The voice liveliness gets more and more striking. He speaks the letter names with care, exactness, and inflection changes.

12 minutes

He has taken to smoothing his mustache as he waits for the next choice--it is a soft, slow, sensuous movement with the finger tips. He seems relaxed and deliberate in all of his motions. He seems quite undistracted by other things going on, but concentrates on Tony or his moustache when he does not look at the blank wall to discover the choice he will make. His general position does not change, though his hands move freely to make little gestures as he tells Tony his choices.

17 minutes

Little change. He now seems to be mouthing his choices more. No pattern is seen. There is something about his voice that gives his choices a sound of assurance and importance.

21 minutes

He seems to be enjoying himself. He is quite animated in his responses, but he does not turn away to me. It seems to be something he is sharing with no one; even Tony is excluded. Perhaps "soberly eager" describes him best.

24 minutes

It now occurs to me that what I have been trying to say is that he pronounces the letters as if he were reading poetry that he liked. He seems very much alive to the task, but completely preoccupied with it.

26 minutes

Tony and the patient lit cigarettes, each from his own pack. The patient's handling of the cigarette was dainty and artistic and he rid himself of ash from the cigarette with delicate, smoothly-timed taps, as though he discovered the same sensuous enjoyment in the handling of the cigarette as he did in smoking it. Despite the byplay with the cigarette, there was no doubt that the important thing for him were the letter choices, and he interrupted himself in taking drags or knocking off ash whenever a new presentation came.

28 minutes

The patient correctly traversed the path of the maze. Tony indicated this and told him that they would begin again. The patient seemed hardly to notice what Tony was saying, and it made no difference in his behavior. He seems to have forgotten his cigarette, and continues to choose with a kind of animated absorption.

30 minutes

Tony indicated that the time was up and the patient bowed graciously and waited. He became alert to Tony again.

2

0 Minutes

Deferently, the patient listened to the instructions. There was an over-polite smiling and nodding. He seemed to be trying to cover up a great deal of nervousness, and when he finally realized that the demands to be made on him were not very great he seemed to loosen up and give a genuine smile.

1 minute

His attitude remains one of wariness, especially when the "M-T" choice recurs. This seems to puzzle him greatly, and he thinks a long time before responding to it.

3 minutes

Still giving soft, low, thoughtful answers. He seems less

worried by the repetition of the "M-T" choice. He is distracted by noises coming from the outside. He missed one presentation while attending to the noise of patients passing in the hall, and seemed embarrassed to have to ask for a repetition. Later he made a choice of a letter that wasn't presented, and when called to his attention, this also seemed to embarrass him.

5 minutes

A gradual but definite restlessness has begun. There was an uneasy kind of fidgeting as the early (and hence most frequently repeated part of the maze came up again and again. To the newer part of the maze he would give a kind of thoughtful attention.

7 minutes

The patient started going through his pockets, dividing his attention between that and the choices. Tony's offer of a cigarette was refused, but after all the pockets had been checked and rechecked, the patient asked for a cigarette. He did so with a kind of obsequiousness. The patient began saying under his breath one letter and then out loud the other of some of the letter-pairs.

8 minutes

His pace has slowed down. Although he seems to try to avoid the repetition by choosing first this letter and then that, no consistent pattern is observable.

11 minutes

The patient is restless and tired. He makes many mistakes in following the instructions. It is a fairly sudden change, as if he had given up. He taps his fingers, looks out the window, and seems to be trying to read what the observer is writing.

13 minutes

He seems more weary than restless now. He sighs frequently and he is repeating a sequence of two letters which goes on and on T, D, T, D, etc. He is slumped down in his chair and hardly moves at all.

15 minutes

For a time he seemed resigned to continuing indefinitely, but as he put his cigarette out in the ash tray, he did not respond for a full 30 seconds, and he looked directly at Tony with a deeply perplexed expression on his face. He continued to sit up as he gave his responses and a frown of annoyance settled on his face. He seemed very tense and his foot jiggled nervously.

18 minutes

He seemed to be answering reluctantly, and as Tony looked less and less at the patient, the patient looked more and more at Tony. There was unconcealed annoyance on his face.

20 minutes

He yawned loudly on two successive choices. After this he took another cigarette from Tony's pack without asking for permission and settled back, but with his foot giving an occasional swift kick, and his eyes darting around the room. His pace was very slow and he asked for repetitions several times.

23 minutes

He sat up rigidly again and glowered at Tony. He held this position through several choices, then back, slumped into his chair again. This time he fidgeted with his cigarette and swung his foot. He began yawning again, and this time his eyes really looked sleepy.

25 minutes

His attitude has changed again---this time to sleepiness. He seems uninterested in the task and anything else. He leans back, eyes half-closed, answering slowly, with many asks for repeats, and errors. When Tony points out to him that he has named a letter that wasn't presented to him, he seems to shake himself awake. His eyes are very red.

30 minutes

Sleepiness continued to the end of the experiment.

3

1 minute

The patient listened to the instructions in a calm, deliberative way. When the first choice was presented he asked for more explanation. When the instructions were completed again, he indicated that he would try it, but he seemed to have a lot of reservation about it. He made several choices without undue hesitation. He seemed to be holding judgment in reserve, willing to go along for a while to see what is going to happen.

2 minutes

The patient again asked for explanation of what "sense there was to it." Tony asked him to complete the experiment and after it was over he would be explained to him. The patient once again indicated his willingness but in a tentative kind of way. He held himself very straight in the chair, with his arms folded in front of him, and a slow, deliberative attitude became pronounced as he calmly appraised each choice as he made it.

3 minutes

He glanced inquiringly at me (the observer) and I smiled slightly in response. He seemed quite distant, uninvolved and tentative in his attitude toward the whole situation, though he continued making the choices as before.

5 minutes

"That's all." He said this quite definitely. Tony asked him what he meant and he responded that this was the whole alphabet they had gone through. Tony repeated the instructions briefly and began presenting the letters again. He fell in line once more, but he seemed to be getting angry in a cold, controlled way. He made several more choices and then without change of voice, expression, or posture, and completely without pause, just as if he were saying another letter he said, "We don't have to do this." Tony made another half-hearted attempt to get him to go on, but the patient was coldly angry, listened but simply repeated, "We don't have to do this." The experiment was stopped after 7 minutes.

4

0 minutes

The patient listened to the instructions with a smile of social ease on his face, but at the same time he was fidgeting, coughing a bit, and glancing around. He started his choosing with an M, and when the M-T choice was represented, he smiled a little as he repeated M. He continued choosing M over and over, his smile getting quite broad.

1 minute

The patient still has chosen nothing but "M." As Tony looks down at his paper, the patient catches the observers eye with a mischievous glint in his own, as if the observer and patient were sharing a joke on Tony.

2 minutes

Still nothing but M. A kind of contemptuous smile hovers on his lips. At times he kind of chortles as he pronounces the M.

4 minutes

Still nothing but M. Smoking leisurely, he seems quite at ease. He is putting a variety of inflections and emphases on the M, each with a kind of final sound, as if to say, "Enough of this silliness."

7 minutes

Still nothing but M. The humorous twinkle remains in his eye, but his voice has become flat and monotonous. He holds his hand up to his face and clicks his fingernails against his teeth. He still occasionally seeks to exchange a look with me.

9 minutes

Still nothing but M. For a while he examined first Tony and then me soberly. It seemed to require a little effort to keep on saying M, and he almost said T a couple of times.

10 minutes

After a quick look at me, he seemed to remember that he should be smiling and quickly plastered a smile onto his face that remained there fixed and very, very false-looking. He put his cigarette out slowly, making no response as he did so, apparently taking a breathing spell.

11 minutes

Still nothing but M. He kind of gasped on one occasion and swallowed hard. He held his hand to his throat as if it hurt, but continued the sickly smile.

13 minutes

Tony shifted his position and sighed. This seemed to amuse the patient and for a while his face and voice became brighter.

14 minutes

As new cigarettes were lighted the patient said, "I have an idea what you're getting at."

15 minutes

Still nothing but M. As the experiment proceeded the patient was studying Tony, and I realized that Tony was showing obvious signs of boredom and fatigue. This seemed to amuse the patient and he seemed to be playing games with Tony, responding so quickly that he was pushing Tony, rather than that Tony was asking a question which needed an answer.

18 minutes

Still nothing but M. It is very clear now that the patient is playing a game with Tony, demonstrating to him that he can take all that Tony can dish out and more. At each sign of fatigue or boredom from Tony, the patient visibly brightened.

20 minutes

Still nothing but M. Tony's eyes were glued to his paper,

and he began to rub them, and an audible snicker escaped the patient, though he himself was beginning to show signs of fatigue. He was getting increasingly restless, but would move very carefully and only when Tony was not apt to look up.

22 minutes

Still nothing but M. He is quieter and wearier. He wiggled his foot up and down in a restless little flurry and then sighed. Briefly the M's came out as sharp exclamations but soon leveled off to a flat, monotonous sound.

24 minutes

Still M. He caught my glance again with a flicker of a smile, and when he caught Tony looking at his watch he could not control a humorous twitch to his mouth. He seemed fatigued but determined to push Tony to a faster and faster pace.

26 minutes

The patient asked with a smile, "Do you want me to say 'T' so you'll stop?" Before Tony responded he continued, "Well next time I'll change it for you." He seemed in very good humor, chose the T and grinned broadly. He showed blank surprise when this led to hitherto undiscovered letter-pairs. He chose slowly and all of his show of "being on top" disappeared.

30 minutes

The patient seemed to never fully recover from the shock of discovering that he couldn't end the procedure by changing his choice to T. He was very much on the alert, very thoughtful and puzzled through the last few minutes.

5

1 minute

With downcast eyes, and brooding, thoughtful look the

patient listened to the letter-choices presented him. He answered quickly, without any change of expression or bodily movement. His voice was low, evenly pitched, and seemingly controlled with the utmost care. There seemed to be no puzzlement in him.

2 minutes

He seems very gloomy. He continues easily and quickly to make choices, occasionally hesitating, but about what I can't tell. His face looks sad, however.

5 minutes

A pattern seems to be formed in his letter choices. He goes from T to H to S and back to T again. He now looks at the wall straight ahead of him. His hands are clasped rather tightly; he looks as if he is deliberately holding himself in a relaxed-appearing position. He hardly moves, but there is an air of tension about him.

9 minutes

The pattern of choices continues. The pace is very fast and he speaks in a fast, clipped voice. He still looks at the wall in front of him and does not move. Hands now open on his lap, but held down rather than lying there.

10 minutes

The pace is slowing down. He talks as he makes choices: "However, that would be T." and "T goes to H goes to S."

12 minutes

The talking described above has become sub voce; there are lip movements but I cannot hear what he says. At one point he looks up, directly at Tony, as though to ask a question. He pauses quite a long time, but finally only gives his letter choice. After this he seems more relaxed and even the lip movements disappear.

14 minutes

He looks directly at Tony now, though not constantly, still shifting back to the wall. He makes his choices much more slowly and with an air of deliberation.

15 minutes

There is now an occasional pause of ten seconds or so before the response. At such times he seems to be deliberating, and when the choice is spoken it comes with an air of certainty.

18 minutes

He seems quite relaxed, and though he still looks sad this is overlaid with his preoccupation with the task. He still moves hardly at all, and he still repeats the old pattern over and over.

20 minutes

His hands lay loose in his lap, his facial expression changes slightly on occasion, in all he seems less guarded. No signs of fatigue or ennui.

23 minutes

He seems to feel free to move about as he wishes now. He sits up quite alertly and crosses his legs. His eyes are on Tony most of the time. He varies his inflection now so as to make his pattern begin with a rising inflection and close off with a drop.

25 minutes

He seems more restless, more shifting about in the chair, but he is responding as before.

28 minutes

He now seems ready to answer almost before Tony gets the letters out of his mouth. The pace becomes much quicker and he settles back and the restlessness disappears.

30 minutes

The patient is beginning to tighten up again after the experiment stops. He quit looking at Tony.

6

1 minute

After the first letter pair was presented the subject burst out with, "I don't believe in it." Urged just to make a simple choice, he finally said, "I don't know. Either one. I'll take M." Following the next presentations he continued saying, "I'll take M," or "I'll still take M." Soon he exploded, "I don't know why I should change. Just like a guy who takes a drink. He shouldn't mix the drinks. Why should I mix the letters." A little later he said, "If you keep that up it will be the same answer every time." He laughed boisterously after this remark. He snorted frequently and chewed his gum vigorously with a loud chopping noise.

3 minutes

Although the patient continued to choose M, he seemed to be considering longer before each choice as time went by. At one point, after several seconds silence, he seemed to be forming his lips to pronounce "T," but then said, "No. Still the same. I won't change M."

4 minutes

Tony apparently misheard one of the gum pops for a T, for he presented a new choice "D-H" before the patient had announced his choice. The patient was obviously surprized but made no comment as he chose "D." Tony represented "M-T" and this time the patient chose "T" for the first time.

5 minutes

The patient's manner has changed. He makes no side comments now, chooses regularly, and chooses any letter of any pair. His arms have remained crossed across his belly throughout the experiment. But, where before he kept looking at Tony,

his eyes are now down to the floor in what appears to be derisive contemplation.

6 minutes

He heaved a loud, deep long sigh before making a choice. His manner did not change otherwise.

8 minutes

He has given several of these great sighs, and the gum chewing has slowed down but at the same time gotten even louder. He seems to be deliberately trying to pop his gum at this point.

10 minutes

The yawns continue and a coughing fit seized him as he pronounced an "M." He seemed tired and was sticking it out with the worst of graces.

11 minutes

Abruptly he shifted to a preacher-like tonal quality. As he did so, he rubbed his hands across his face and ended up with them clasped behind his head. Sighing loudly, his glance shifted quickly for the first time in several minutes to Tony, and quickly looked away again.

12 minutes

He sighs with each choice now.

13 minutes

He sat up abruptly, putting his hands on his knees. His eyes shifted around the room, and he made a few choices in a quick, annoyed way. He settled back into his chair with a huge sigh.

15 minutes

His voice sounded explosive and angry. The gum chewing was

quite vigorous. Briefly he calmed down with a sibilant sigh, but soon he was reared back, hands hooked in pockets and an attitude of defiance and he pronounced his choices as if they were curse words. (I am not sure but on several occasions it seemed to me that he actually did say "damn" instead of "M.")

17 minutes

He vacillates between the angry, defiant behavior and a kind of tired, sighing, slumping defeat.

18 minutes

The patient roused himself from one of the "slumps" and said, "Falling asleep here." Moving around heavily he revived, rubbed his head, and laughed derisively at himself.

20 minutes

Tired disgust is the best description I can think of for the expression on his face. Groaning has replaced sighing. Now and then a few letters burst out like hostile expletives, and some he almost spits out.

23 minutes

Holding his head in his hands, he almost seems to be in pain. He stretches his arms high above his head and yawns widely, and then returns to his former position.

25 minutes

The patient has a kind of defeated attitude now. His responses are given with little groans and sighs, but there is nothing vociferous about them. He removed the gum from his mouth and looked at it a long time before putting it in the ash tray.

27 minutes

A kind of gloomy compliance was the patient's attitude to the end of the experiment. He still sighed and yawned occasionally, but with much less force than he had used earlier.

7

0 minutes

The patient listened to the instructions stolidly and silently, responding only to direct questions. He had a kind of glowering, close-mouthed attitude.

1 minute

Eyes lowered under heavy brows, twisting his fingers together with tense but smooth movements, he started answering the presentations without hesitation in a soft, low, well-controlled voice that was quite flat. Soon he clicked his fingernails against each other in a rather rhythmic way, dusting off his trousers between times, and appearing relaxed. He varied his responses frequently and no pattern could be detected in his choices.

4 minutes

There were a few quick, veiled glances at Tony that seemed to express puzzlement, but without any alteration in the smoothly spaced responses. Otherwise he looked off into space, and seemed rather detached and remote. This continued without variation, except a possible increase in the glowering expression of his face. All of his responses are given with a slight upward inflection, and they seem identical in tonal quality and pitch.

9 minutes

Tony shifted about and lit a cigarette, also offering one to the patient, which the patient ignored. A little later loud noises from the hallway disturbed the evenness of Tony's presentations. The patient didn't show the slightest awareness of any of these disturbances. He seemed to be considering each choice separately and still no pattern was perceived.

10 minutes

The patient chose "M" and stuck with it for a very long time, repeating it in a monotonous and entirely unvarying way; it had a round, full voiced quality in contrast to the flatter voice he had used previously. One leg was crossed

over the other and his foot swung back and forth rhythmically with his replies. He clicked his nails and rubbed his fingers in easy, light motions.

16 minutes

After six minutes of steady "M," the patient suddenly now paused briefly, but without changing his posture or looking at Tony, and chose a "T." He went back to "M" again after coming back to the T-M presentation, but his choices began to vary again in the patternless way that he had taken at the beginning of the experiment. His voice flattened out again, and unexpectedly he hiccupped and sat up almost as if he had been roused from a nap. He gave a deliberate long glance at Tony, and his eyebrows raised. Once he chose "T" from the L-C presentation and when Tony represented the choice he did not betray any awareness of having made a slip. Several times he stuck with the "M" for a few choices but would give it up again. Both feet were flat on the floor now, he seemed more directed toward Tony, his hands were clasped comfortably, one finger rubbing a knuckle over and over with easy pressure.

20 minutes

The patient seems to have completed a cycle of some kind. He went from flat behavior and voice into the rhythmical and fullvoiced "M" choosing again. He swings his foot, and the M finally becomes a sing-song.

25 minutes

After five minutes of choosing "M," the patient again quite suddenly changes back to varying his choices, his voice lost its sing-song, full tonal quality, he quit swinging his foot, and he seems to be considering the choices before he makes them. Still no pattern is discernible in his choices. His eyes are fixed on his hands as he clicks his fingernails and rubs his knuckles.

27 minutes

"M" again became a continued response, without interruption, even when the patient coughed loudly and clapped his hand to his mouth.

29 minutes

He recrossed his feet and gave up M. He continued to give, even, low, flat responses of varied choice to the end of the experiment.

8

1 minute

The patient seemed eager to start the task, and made his choice quickly with a look of anticipation on his face. When he became aware of the repetitive nature of the task, he laughed in what appeared to be embarrassment, and his look of anticipation changed to one of puzzlement. He varied his responses considerably from the very beginning, so that he received a wide variety of presentations from the very beginning. In going back to "M-T" he would pause and his puzzlement increase before making a choice. He seems to have eliminated the "M" response already. It appears that he is seeking a solution for the puzzle in its structure.

3 minutes

A puzzled smile over his face, his eyes danced around in tune to his thoughts. He seemed very much "all there" and having a good time in spite of his puzzlement.

4 minutes

He said, "I keep saying some of them over," and laughed heartily at himself. He leaned forward, propping his hands on his knees, completely involved in the task.

5 minutes

Whereas formerly the patient had sought out my eyes to exchange a smile with me, he now looked over at me only occasionally. He would smile broadly, in a way that seemed to indicate that we were sharing something highly enjoyable but quite surprising and puzzling. More and more, his eyes remain on Tony now.

7 minutes

His replies evened out in tempo and in pitch as the subject sat quietly engrossed. He held his chin cupped in his hands, his eyes were alight, and he appeared fascinated with the way things were going.

10 minutes

Things continued as above throughout this time. Every minute or two gross body shifting occurred, not in a particularly restless fashion, however. He seemed to lean closer and closer to Tony until he would almost lose his balance, then, with a little smile he would lean back more comfortably in his chair. The patterning of his choices seemed to indicate that he was trying to solve the problem, but he seemed more like someone who was discovering a pattern that came as a surprise to him.

15 minutes

There has been no let up in the apparent interest with which the patient appears to approach the task. His voice is even, soft and careful, and he moves very little. It looks like he is afraid that something will break if he moves too suddenly. He was a little perturbed at having mistaken a "Z" for a "C," but after the correction was immediately plunged back into his absorption.

15 minutes

His manner became droopy and dreamy. He seemed to be drifting away from awareness of every aspect of the situation except the sounds of the letters. Slow easy shifting of the body from one position to another occasionally occurred, but for the most part he did not move. His eyes rested on me for a while, but there was none of the "sharing-of-something" when our glance met that had been there previously. His eyes had a glazed, wondering look. He was definitely not bored.

17 minutes

Minutes at a time he was perfectly still, his arms crossed. He seems less thoughtful in making his choices, and a whole string of M's amused him into a delighted laugh. His

attitude seems to be one of playful fascination. He just keeps going on and on.

20 minutes

He seems lost in the task. His face is quite expressive of complete absorption and almost sensuous pleasure. I am convinced that he is not following a thoughtout pattern, despite recurrences in the choices he makes, but is rather caught up in the structure of the maze without quite understanding it, repeating and patterning for their own sake.

24 minutes

His fingers are clasped tightly around his knees and he sways from side to side in rhythm with the choices.

28 minutes

There has been no let up in the pace or in the interest of the patient; he giggles occasionally to himself and nods in satisfaction when a familiar sequence begins. Childish, playful, and fascinated he remained to the end of the experiment.

30 minutes

At the very end of the experiment the patient successfully completed the maze.

9

1 minute

Quickly after the first presentation, "M-T," the patient retorted "J-R" in a loud, confident manner. Tony asked him to choose either M or T, and the subject complied with an air of puzzlement. For the next few choices he seemed puzzled and tentative, giving his choices a rising, questioning inflection.

3 minutes

The patient soon seemed to regain his confidence, making his choices in a quick staccato fashion. He quickly repeated the letter pair and then made a choice. For instance,

"E-S, S!" This again did not last long before he was asking himself in wild words, "Which one of them? Which one of them?" his eyes roving rapidly from one thing to another, his body tensed as though ready to spring. On one occasion when the choice was finally made, it was with triumph and fervor. For a few seconds thereafter he seemed to be gloating in self-adulation.

5 minutes

Confused replies and repetitions continued. Sometimes the patient seemed to think that a mere echoing was all that was required of him but at other times he responded according to the instructions. He often broke out with questions like "which is it? Just any of them?" but these questions seemed directed to himself. He was very jumpy about noises in the hall and would interrupt the experiment to listen to footsteps.

7 minutes

Some decrease in the patient's agitation, with responses coming in an ordinary sensible way which lasted only briefly and was interrupted by someone turning the doorknob of the office from the outside. At this point the patient started talking wildly about his doctor and repeating questions the experimenter had asked him before the experiment began. Soon, however, the patient was again following the instructions of the experiment, though he seemed tense and his eyes were roving constantly.

10 minutes

The patient was now intent on examining a small paper box he had picked up as he responded in about the same manner. He seemed less ready to spring out of his chair at a moment's notice. He still made a few repetitions as responses, but these were much less frequent. On one occasion he had to be called back from what appeared to be a reverie.

12 minutes

He got out of his chair to place the paper box on a shelf across the room. He did this rather abruptly and it frightened me, though he did not seem aware of that. He immediately sat back down again and there seemed to be more restlessness in him now that he didn't have the box to

occupy himself with. As time passed he slowed down in the variety and intensity of movements and affective reactions. No pattern was apparent in his choices.

16 minutes

The patient much quieter and much less distractible. Picking a smoldering butt out of the ashtray, he tamped it out carefully with due respect for the overloaded condition of the tray. He fidgeted absently with a match folder on the desk. He accepted a cigarette from Tony and, after it was lit, really settled back in his chair for the first time. Thereafter, for quite a long string of choices between M and T, he chose M; at this time he seemed to be considering his choices, but having no particular difficulty in making up his mind. He soon switched to "T" and then went on to the other choices with no difference in his behavior.

19 minutes

The experiment seemed to be having a sedative effect on him. Gross body movements seemed to be gone, and instead he continuously rolled his cigarette between his fingers. His eyes remained on Tony almost all of the time.

23 minutes

His responses were coming with slow regularity and an even tone of voice. He seemed to want to put his cigarette out but as he would move his hand toward the ashtray Tony would present another choice and the patient would pull back his hand to give full attention to the choice. After he made the choice he would again move his hand to the ashtray, but again the new presentation would come to interrupt him. Finally, Tony indicated that he might put out his cigarette, which the patient did very quickly, and then looked back to Tony, waiting for the next choice.

25 minutes

Tony offered another cigarette which the patient took almost as if he didn't know what to do with it. After it was lit he rolled it slowly in his fingers and took an occasional, thoughtful drag. He brought his other hand up to his mouth and absently began tapping the fingers against his lips. He had a generally composed manner and fastened his attention on each choice as it was presented. He paused occasionally

and seemed to be seriously considering his choice. Occasionally satisfied sounds like "Aaah" escaped him, together with a look of bright interest and pleasure. For as much as a minute there would be no movement except the tapping of fingers against lips. Noises in the hall made no difference now; he seemed almost unaware of everything outside of the task.

27 minutes

Although still smoking, he dragged on the cigarette in easy, relaxed fashion, savoring it. He was introducing variety into his responses by use of intonation, pitch, inflection, etc., and he seemed to savor his pronunciation in the same way he savored the occasional drag on the cigarette. On one occasion he corrected himself by repronouncing the same letter in a different tone. He seemed entirely serious, but there was a satisfaction and pleasure in his seriousness.

30 minutes

The patient continued as before. He now leaned forward in his chair and, apparently in fascination, made reply after reply---looking at the floor a short time and then up at Tony. He seems almost hypnotized. A quizzical, interested half-smile remained on his face for the last few minutes. Nothing seemed able to break the spell. A single slip of an extraneous letter is quickly corrected without prompting. Even after Tony terminated the experiment, he seemed to remain in a kind of dreamy state.

10

0 minutes

As Tony gave the instructions, the patient looked directly at him with a serious and alert expression. He seemed willing to go along but was far from eager.

1 minute

Immediately started repeated "M" responses---over and over. At first, there was a slight, considering pause before each response, but they soon became mechanical. His tone was soft, serious and even. His eyes wandered around the room.

3 minutes

He seemed to be reading the title of some books on the bookshelf as he continued giving nothing but "M" in a very mechanical way.

4 minutes

He snorted slightly, settled back in his chair and continued M responses. His face remains the same, serious, and immobile, but his eyes shift about almost constantly.

5 minutes

He turned his cigarette lighter end over end on the desk top. Finally lights a cigarette in his long holder. Responses continue, steady and automatic: "M---M---M."

6 minutes

He twirls his cigarette holder between his fingers. Otherwise no change.

8 minutes

He carefully removed the still long cigarette from his holder and snuffed it out very carefully, then carefully tore it to shreds. He then turned his cigarette lighter end over end through his fingers. His gaze is fixed on his hands for the last two or three minutes as he manipulates these objects.

10 minutes

His voice became lower and flatter, and his mind seemed to be wandering as the pauses between responses grew. He sat up with a jerk, coughed and crossed his legs. His responses continued as before.

12 minutes

He was looking at Tony with a resigned expression. He cleared his throat and paused once, then smiled before he gave his response.

13 minutes

He was still twirling his cigarette holder almost all of the time. His gaze shifted back and forth between Tony and the holder. The rhythm settled into a constant and fairly rapid one. He took out another cigarette, and had some difficulty getting it lit.

15 minutes

For a brief time he sat quietly, looking directly at Tony. Then he held the cigarette holder to his lips without actually smoking, and moved it back and forth across his lips.

17 minutes

The patient coughs and chokes several times. Except for these interruptions, the responses continue in a flat, steady fashion. He gave his ear a couple of rubs, rested his head on his hand for a while and seemed quite tired, then rubbed the corner of his lip with his fingertip.

20 minutes

The pace had slowed considerably. The patient licked his lips almost constantly for a long time. He seemed almost on the point of saying "T" once but changed his mind and said "M." Thereafter the "T" response seemed to be always at the tip of his tongue and once or twice he pronounced it, but quickly corrected himself to M. He would smile slightly at these times.

22 minutes

No change in the flat, even way he gives his responses. The variations in pace that are observable now are actually quite minute and are observable only because his former responses had been so perfectly evenly paced.

24 minutes

His fingers remain busy. He started to say T, held up in the air the cigarette lighter he had been twirling as he corrected himself back to M, then he laid it on the desk and

rubbed his nose rather vigorously for a while.

26 minutes

He is much quieter now and he stares blankly into space.

27 minutes

He sits up suddenly, blinks his eyes rapidly, and lights another cigarette, again looking directly at Tony. His responses are now coming in a quick staccato fashion. But the tone is still flat. He coughed rapidly behind his hand between responses.

29 minutes

His breathing is noticeably deeper, his eyes are red, and he looks quite fatigued. He once opened his mouth as if to yawn, but instead let his breath out quietly. He coughed much more frequently, at one point it almost reached the proportions of a coughing fit.

30 minutes

Just before the experiment ended, the patient was rubbing his brows and shifting his feet in a very fidgety way.

11

1 minute

Replies were brief and softly spoken. He sat almost motionless. His mouth hardly moved as he spoke the letters. Facial expression was cold, apprehensive, and suspicious. He paused noticeably when choices were presented for the second time and his suspiciousness seemed to increase.

3 minutes

Tony didn't hear one response because of a noise outside, and when he asked the patient to repeat the choice, the patient did so in a rather sharp annoyed way, giving his

cigarette a quick, restless flick as he did so. The patient seemed very alert, his attention directed exclusively to Tony and the task. He impressed me as alertly waiting for something to change.

5 minutes

He put out his cigarette and folded his hands in front of him. For the next few minutes he sat quite rigidly except for slight finger movements. For a while he stared blankly at the ceiling as he gave his responses, occasionally directing a suspicious glance at Tony, especially when presented with a choice between T and M. His facial expression continued to appear stern, and he seemed tense and hostile. For a while he stared at the cigarette package on the desk as if it were an enemy.

8 minutes

For the first time a slight smile crossed his face and there was a noticeable change in his manner for the next ten minutes or so. His mind seemed to wander. His glance shifted fairly rapidly about the room. For a time he looked steadily at Tony and then he glanced away again to a picture on the wall. For the first time his attention seemed to be directed more to the letters than to Tony. A few times he repeated the two letters aloud in consideration before making his choice. There was a very slight smile as his eyes moved about the room. His expression was much more animated than it had been at any time earlier. Hostility and suspiciousness had disappeared.

12 minutes

He began to choose "M" over and over again, continuing this for about two minutes. This was accompanied by a blanking out of emotional expression. He seemed relaxed, but all animation was gone; his eyes held steadily to the wall.

14 minutes

His gaze began shifting around the room again. More animation. His fingers moved in a slow, easy, "pill-rolling" motion. The pauses before his responses became longer and longer, and his vocalizations more drawn out.

minutes

There was an exceptionally long pause before one response, during which he went to a great deal of trouble to restrain a smile. For the next thirty seconds or so he seemed to struggle to suppress this smile. It finally faded completely when it caught Tony's eye. His facial expression became blank.

minutes

Except for the little finger and head movements, the patient did not move since putting out his cigarette about ten minutes before. At this point Tony offered another cigarette to the patient and took one himself. While lighting the cigarettes the letter presentations and choosing continued almost without a break of pace. The patient's cigarette didn't very well lit and it died out as he held it in his hand. I don't believe he ever noticed this as he never moved the cigarette to his mouth.

minutes

His choices came much slower throughout the rest of the experiment. He seemed to become quite at ease during these long pauses but would seem to call himself back to the situation, and would direct flickering, hostile glances at me and Tony.

minutes

His eyes fixed on the light fixture, then on the floor, then on a picture, and so on slowly around the room. He would smile slightly as his gaze shifted, then as it slowly died his eyes would move on. When his eyes rested on Tony or me he would become stern again.

minutes

He began to lick his lips before each response. This was always done the same way. There was a smile hovering at his lips most of the time. He seemed to be attempting to suppress the smile again by staring fixedly at Tony, and the smile turned usually into a stern stare.

minutes

The patient licked his lips and didn't respond at one point. Tony asked him to repeat his choice. The patient replied, "I didn't hear it, maybe I didn't say it," and then gave his choice. If Tony hadn't asked him to repeat it, I have the feeling that the patient would have sat there all day waiting for Tony to make the next move. It seemed he had to bite his lip now to control his smile. He seemed to get it under control by gazing at the desk.

30 minutes

Tony indicated the task was over, saying, "well, that's it. How did it seem to you?" There was a long silence while the patient stared at Tony without moving. He had to remind himself that he was smiling again.

12

1 minute

The patient seemed quite tense, but eager to please. He responded quickly and immediately settled into a pattern of choosing T on the first choice and D on the second, repeating this without variation.

3 minutes

His responses are even, steady, and quick. His fingers move restlessly. He yawned. He sits forward in his chair, his back unsupported, and looks steadily at Tony.

4 minutes

Continues as before, looking steadily at Tony, leaning forward in his chair, choosing T, D, over and over. He blinks his eyes more frequently now, rubs at the corner of his mouth, swallows and purses his lips between each response.

5 minutes

He scratched his face and coughed. The tone of his voice became somewhat lower. Finger movements continue and he still looks directly at Tony.

6 minutes

His mind seems to wander as he glances out the window and then cursorily around from one thing to another in the room. His eyes blink rapidly now. I feel he is not really looking at or even seeing anything---just restless.

7 minutes

His lips hardly move as he responds and his voice is flat and tired. He twisted his head from side to side as if it were stiff from tension. He rubs at his face or behind his ears frequently.

8 minutes

He breathed deeply on one response. He closed his eyes wearily for a brief interval. He glanced off into space fleetingly.

9 minutes

He twisted his head to the side and then back facing Tony. He looked very sleepy and fatigued. He was distracted by a noise in the hall, looked toward the door and gave a heavy sigh.

10 minutes

He rubbed his chin, then looked down at his fingers as he clenched and unclenched his fist. He cleaned his finger nails, looking up at Tony most of the time. He seemed tired and listless. He swallowed with effort and picked at his fingers some more.

13 minutes

He continued pulling at his fingers in an aimless way. He still sits forward in his chair and seems unable to relax. The T D pattern has never changed. He swallows between almost every response, and it seems hard for him to swallow. His eyes close wearily several times.

14 minutes

His eyes dart quickly around the room, but rest on nothing. It seems that he is looking for something to focus his attention on, but sees nothing worth examining.

15 minutes

He took another deep breath. None of these restless activities has caused any break in the rapid tempo. His fingers still moved restlessly. He sat more quietly for a while after seeing Tony glance at his watch.

17 minutes

His finger twiddling was almost continual, and occasionally he would look down at his fingers, or around the room, but mostly his eyes remained on Tony. He named "T" once when the choice was between D or H, caught himself in this mistake, changed it to "D," then rubbed his eyes. Immediately after this he broke away from the T D pattern for the first time. His voice became louder.

18 minutes

He sighs very frequently and the steady pace has disappeared ---it is quite uneven now.

19 minutes

Tony crossed his legs and so did the patient, but he still has not leaned back in his chair. Tony did not hear one response and asked the patient to repeat it. There was a long pause during which he looked vacantly at Tony; then he gave a tired laugh and said, "I don't know what I said." His head dropped forward in a tired way after he made this concession. He returned to the T D pattern. He seemed extremely fatigued as he alternately rubbed the back of his neck and his eyes; however the tempo returned to the original quick, even pace.

21 minutes

From time to time his eyelids lowered wearily and he swallowed frequently and with effort. His voice pitch was much lower

and the quality lifeless and dull.

23 minutes

Tony offered the patient a cigarette. The patient reacted slowly as if he were in a kind of daze. He said, "I have one, thank you." Apparently he thought the experiment was over and asked, "What this is supposed to get you I'd like to know." He said this quickly and nervously, and gave a little laugh. Tony lit the patient's cigarette for him and presented another letter choice. The patient looked at Tony hard for a couple of seconds then deliberately put out the cigarette that had just been lit and gave his response.

26 minutes

The patient has been examining his fingers for almost the entire last few minutes. He does not look at Tony any more. He continues the T D pattern. His voice seems almost hoarse.

28 minutes

The patient suddenly shifted around in his chair, rubbed his neck hard, and his eyes drifted around the room again. He has difficulty remembering whether it is time to say T or D, and corrects himself frequently. On two occasions he asked Tony for a repetition.

30 minutes

Tony said, "O.K." The patient said, "That's it?" and when Tony nodded he seemed to be almost disinterested in everything, including his reprieve from the task.

13

0 minutes

Tony offered the first choice. The patient began repeating the two letters to himself, as if undecided which to take. He sat very quietly; his facial expression was serious and contemplative. As he repeated the choices over to himself,

gradually more sound came into his voice and finally he said one in full voice and repeated it. Tony asked him if this were his choice and he repeated the letter. He had chosen "M" and when Tony repeated the presentation, there was a quiet pause and the patient again repeated the two over to himself without sound, gradually making them louder, and once again Tony asked him if he had chosen.

3 minutes

The experiment progresses very slowly, about two choices per minute, and it is never clear that the patient has really made a choice, or if Tony takes his choice for him. Tony apparently has not observed that each time the patient agrees with Tony that one of the letters is the choice, he silently mouths the other one as Tony looks down at his paper. There are no body movements and the patient seems very quiet.

6 minutes

He is adding a little more verbalization, such as "T, let's see, T." This is said in a very soft, musing tone of voice. When given the choice between D or H he repeated "D or H" over and over, deliberating aloud. Then he stopped still without making a choice. He sat up erect in a quick motion, held his hands out in front of him with the fingers stretched out stiff. He appraised his hands carefully, first on one side, then on the other. Then he relaxed to his former position and began repeating "D or H" over and over very softly. Finally he ended up with a fairly emphatic "H," but even as Tony went on to the next pair his half-heard "D" escaped his lips.

9 minutes

Tony presented, "E or S." The patient paused, then started repeating all of the letters, thus: "M, T, D, H, E, S, T, E, H, T, M, E," etc. All of this in a soft, slow, dreamy way. Tony interrupted him and represented the choice rather firmly. The patient now repeated, "E or H." Several times, Tony told him the choice was between E or S and not E or H but the patient seemed to want to choose H. Finally the patient said, in a firm tone of voice, "Well, you see....." and then this drifted off into mumbling about how some people could talk and others couldn't.

12 minutes

Tony steered the patient back to the task. The patient repeated the letter again in a very soft voice, hesitating on his choice. After he had repeated "E" over and over a number of times, Tony finally snatched the "E" and accepted this as the choice. Tony presented "L or C" and the patient again began his soft repetition. When Tony pushed him to make a choice he laughed and said, "Does that mean---what?" Tony repeated "L or C," and the patient repeated it several times, turning it into L-T. Tony again corrected him and took the first letter he paused on as his choice.

15 minutes

Tony is now taking as the patient's choice whichever letter he pauses after. The patient is still drifting along in a dreamy, vague, uncertain way, never really complying with the instructions. He seems quite at ease, perhaps even enjoying himself. I think he is well aware of the spot that he has Tony in. He drifts off into word salads occasionally. On one occasion he considered between "H or D, D or H, H or truth, truth or M." Tony always allows this to go just a little way, and then restates the choice.

18 minutes

At one point, Tony spoke more firmly than usual after the patient drifted into a mouthing of incorrect letters and extraneous words. Tony said quite firmly, "L or C, which one?" The patient sat up and said, "Oh, C," in a firm loud voice. On the very next choice he was back to his "drifting," however. Presented with the choice, "M or T," he mumbled the two letters over several times, then asked softly, "What is M?" and repeated M several times. Tony took M to be his choice and presented the next pair. The patient backed away from this choice completely, and began talking about "talking."

22 minutes

Tony steered the patient back to the task. When Tony presented the next letter pair, the patient seemed for some reason to be surprized. He said "My, my." When Tony represented the pair he said, "Oh," in a strong firm voice and started repeating the letters. He paused on one and Tony took it for his choice. The patient has remained rather

quiet and relaxed in his body movements. Noises outside the room do not disturb him and his attention is focused on Tony and the task at hand part of the time, but most of the time he just seems to get stuck on his private thoughts.

25 minutes

The same slow, vague, indeterminate manner in the patient. He seems quite comfortable, and only when Tony insists firmly does he really comply with the instructions to make a choice.

30 minutes

The patient is the same as described.

14

0 minutes

The patient listened carefully to the instructions, put out his cigarette in a calm matter-of-fact way, coughed, and crossed his arms. He made his first choice readily.

1 minute

He immediately got on a repetitious "jag" of M responses. His responses were steady and even. He looked directly at Tony and seemed to be giving his entire attention to the task.

2 minutes

He crossed his hands over his knees and cleared his throat. His eyes blinked almost continuously. His voice seemed lively. When Tony offered him a cigarette he said, "No thanks" in an "aside" manner so as not to interrupt the procedure.

4 minutes

He folded his arms and settled back in his chair in a more

relaxed position. Still nothing but M responses.

5 minutes

He began exploring the possibilities of choosing a little more, taking T several times.

6 minutes: He is now settled into a pattern of responses: M M T D.

7 minutes

There was a restless shift of his legs. He licked his lips. He seemed to be tempted to look over in my direction but would pull his eyes away from me even as they turned toward me.

9 minutes

He clasped his hands over his knees, and changed his response once when he inadvertantly broke the pattern, in order to get back on it. He looks like someone who is very tense and at the same time is trying to appear relaxed.

10 minutes

He took two deep breaths and restlessly recrossed his arms.

11 minutes

His voice is flat and mechanical, the pattern repeating itself without change. He looks directly at Tony while Tony is looking at him, but when Tony's eyes are on his paper, the patient's eyes quickly glance around the room.

13 minutes

He folded his hands briefly over his knees and then moved them to his lap. He does not seem to know what to do with his hands. He still seems to be trying to act a calm which he does not feel. There is a lot of restless minor fidgeting with his foot, but then he sees it moving and it stops.

14 minutes

There is a lot of lip licking.

15 minutes

He folds his hands in his lap, then crosses his arms in front of him, then clasps his knees, holding none of these positions for more than a few seconds. His breathing is rather labored.

16 minutes

He still gives his attention to the task, the pattern remaining the same.

17 minutes

His responses are phrased like this: M, M, given in an even medium pitch. His voice raised slightly on the T and then lowered on the D, as if this were the end of a phrase. He still moved his hands around, and he coughed once.

20 minutes

He licks his lips very frequently now. The pace is much slower now, and he seems to be losing his place in the pattern, sometimes giving three M's instead of two, and seeming uncertain at the time. At one point he began rubbing his nose, caught himself, and folded his hands in his lap again.

22 minutes

A noise out in the hall seemed to offer him a real struggle whether he should attend to it or to Tony. His ears seemed to prick up at the noise but he seemed to pull himself with a will back to Tony.

24 minutes

He sighed heavily as he gave one response. Soon after that he cleared his throat. His tone was softer, and he spoke more slowly---his voice seemed strained.

25 minutes

Restless hand movements continue, together with lip-licking and occasional coughs and throat clearings.

26 minutes

At one point, he started to give a response and his voice apparently failed him. He uncrossed his legs suddenly and looked about quickly, recrossed his legs, clasped his hands firmly across his knee (his knuckles showed white) and gave the response.

27 minutes

He shifted his feet restlessly. He seemed to have gotten his second wind so far as voice was concerned.

28 minutes

He almost yawned at one response. His shifting around seemed to be less noticeable, but he seemed to be getting sleepy.

30 minutes

Tony said "O. K." The patient licked his lips and smiled vacantly at Tony. He seemed to be waiting for whatever came next. He refused an offer of a cigarette, saying "That's all I do is smoke," and then coughed a little. As Tony lit a cigarette the patient gave a deep sigh and collapsed back into his chair..

15

0 minutes

As the instructions were given, the patient leaned forward, listening carefully. The first choice was presented. The patient smiled in an interested way and asked, "What do you think about spelling the word "farmer" F, A, H, M, E, R?" He seemed to have something else he wanted to say about this, but Tony directed his attention back to the experimental situation. When the choice was represented the patient asked for some clarification, he didn't understand what he

was to do. The instructions were repeated, and the patient said, "OH---there's no word connected with it." Then he changed his posture slightly and looked seriously at the floor as he made his first choice. He finally chose M, and at the next presentation, after an equally long pause he took T.

5 minutes

His responses are given each time only after rather lengthy consideration. He speaks in a soft easy way, and the inflection of his voice is lively. His choices vary, and no pattern of choosing is observable. Sometimes he looks at the floor and sometimes at Tony.

6 minutes

His manner has changed somewhat, and the change came quite abruptly. He now chants the letters in a loud clear voice, drawling their names out with a rising inflection. There is a half-smile on his face, and he seems quite relaxed.

8 minutes

He began making a few restless movements---he pulled at his nose, rubbed his eyes, yawned quite loudly as he gave one response. He has given up chanting and speaks in the calm relaxed way that he used at first. He rubbed his eyes, and closed them for a short time as he continued responding.

10 minutes

The responses are still without pattern and are given with very little consideration now. He appears rather bored and somewhat sleepy, and the responses are handled mechanically. His voice has lost its lively tone and is quite dull and flat now.

14 minutes

His eyes are fixed on the floor and he has quit yawning. He is giving more consideration to his choices again, and is enunciating the letters with a great deal of care. His voice is emphatic, with particular stress on the sibilants.

18 minutes

He gave "G" as a response to the choice "D - H." He did this after long deliberation. Tony pointed out that the choice was between D or H, and he smiled and remained silent for a moment and said, "Could I get a drink of water, please." Tony told him that he could have one as soon as the experiment was over. Tony represented the pair, and the patient chose H.

20 minutes

His voice became noticeably louder. His choices were like emphatic, definite assertions. He dragged the letters out somewhat, and for a moment or two began chanting them again. He seemed to be breathing in some kind of rhythm that interfered with his pronouncing the letters until he finished that sequence of breaths. I really didn't quite understand what he was doing, but he would seem about to say a letter then pause and take a couple of short breaths and say it.

23 minutes

His voice kept getting louder and louder. He seemed to be almost singing out the letters now.

24 minutes

On "E" he grimaced---doing this several times. "T" was almost spit out, while "H" was drawn out to Aaaaaatch. His voice continued very loud. He looked directly at Tony all all of the time now.

25 minutes

He gave a huge yawn and shifted his position. His body and even his hands remained quiet up to now, and after the shift he seemed quiet and relaxed once more. As he continued in the same way, the pauses were of variable length. He seemed to be waiting for some pairs, knowing what his choice would be, while on others, he carefully considered them each time.

26 minutes

He was looking at Tony again, and his eyebrows raised in a

disdainful expression. In general he still sat forward at attention.

27 minutes

The next few responses seemed to involve real effort, and he forced them out between his teeth. It struck me that he was angry at Tony.

28 minutes

He yawned again. I am inclined to feel that these yawns are too exaggerated not to be "put on." His voice had gotten slowly softer and less emphatic, and was now suddenly loud again.

29 minutes

The half-smile was back on his face again, and he yawned again, a little more gently this time. He always waits till Tony is looking at him before he yawns. He clasped and unclasped his hands and stretched his fingers out. This is the first fiddling motion I had observed. His voice was somewhat softer to the end of the experiment and he closed his eyes from time to time.

30 minutes

Tony said, "That's the end." The patient replied "O.K." and grinned kind of derisively.

16

1 minute

From the very beginning, the patient's responses were prompt, even, firm, and calm. He sat leaning forward on his elbow, looking steadily at Tony. His foot jiggled constantly. He chose nothing but M's.

3 minutes

He was beginning to look tired, impatient, and he responded more quickly, as if to rush through the experiment as quickly as possible. He tried a T once, but when he eventually returned to the M-T choice he took M again and stuck with it.

6 minutes

He tried a smile at Tony, but it was uncertain, and faded quickly. He looked at his jiggling foot, then quickly wrapped it back around the rungs of his chair. Still nothing but M.

9 minutes

He experimented again with choosing a T, and finally settled into a pattern of T---H---S---T---H---S---etc. (He never changed this to the end of the experiment.) Several times he stumbled over his choice (e. g. giving T when it was time for S) but always spontaneously and with some irritation corrected himself.

11 minutes

For a while he stared steadily at the desk top. He was full of little nervous movements, meanwhile: he scratched at his neck, coughed drily, pulled at his fingers, and ran his tongue around his teeth. His pace of responses remained steady.

13 minutes

He started pulling at his lip. At one point he laughed shortly, his face got red, and in general he seemed pretty keyed up. He made attempts to control the laughter which came popping up every once in a while. He rubbed his chin and pushed his lips back against his teeth. He rubbed his neck rather vigorously. Mostly he kept his eyes on the blank spaces on the desk, floor and wall, though he shifted them from one of these blank spaces to another. Whenever his glance fell on Tony he would have trouble with the gurgle of laughter again.

15 minutes

He started stumbling in his choice quite a bit, and he rubbed his hand across his forehead and then looked directly at Tony for a while, as if trying to focus his attention more sharply. He continued poking and pulling at his face.

17 minutes

He stared steadily at the wall, once or twice a little chuckle broke out. His responses were quite rapid, and except for mistakes, even.

20 minutes

He started flicking his fingers as he gave each response. He shifted about in his chair fairly frequently and he scratched his head rather vigorously at one point.

25 minutes

He poked at his cheeks, rubbed the back of his neck, reached around to scratch the middle of his back. He was hardly quiet for an instant now. His foot jiggled whenever he wasn't doing anything else. His voice quality did not change throughout the experiment, but at the end he had not had any need to laugh for some time.

30 minutes

When it was over, he was obviously relieved, and asked quickly and breathlessly, "Now tell me what that was all about."

17

1 minute

The patient's response from the first were slow in coming. His expression was thoughtful and serious, as he paused before making his choices. His manner in general seemed quite uncertain although his voice was calm and matter-of-fact. After he had made the first few responses, he interrupted

with the question, "Pardon, sir, I have a choice of either one?"

2 minutes

The first of a long series of coughs appeared. He held one hand or the other against his mouth for the rest of the experiment and a little cough would come out from behind it at intervals. Most of the time his fingers rubbed lightly against his lips and his teeth. He also on occasion rubbed his brow and cleared his throat as he meditated. Several times he asked Tony to repeat the choice, and I was aware that he was always taking the second letter presented. At one point he belched behind his hand.

3 minutes

He said, politely, "I'm a little puzzled. Do you want me to take the first letter of the last letter?" Tony's response left him still looking puzzled, but he went on as before, always taking the last letter.

5 minutes

His responses were always preceded by a little, considering pause, but he continued to always take the last letter. He coughed, rubbed his lip, pinched at a loose thread on his trousers, belched, coughed some more, rubbed his mouth, pulled at his trousers, coughed some more, flexed his fingers, belched again, and engaged in other restless movements.

7 minutes

He belched quite loudly at one point, then scratched his face for a second or so before he gave his response. One leg was crossed over the other knee, and several times he pulled this leg up closer to him. He belched again. His belch is quite forced-sounding.

9 minutes

He asks Tony to repeat, always very politely. He has changed over to always selecting the first letter instead of the last one. He still fingers his mouth, belching, coughing frequently.

12 minutes

He rubbed his eyes and started tapping his fingers against the chair arm. He asks even more frequently for a repetition of the choices. He shifted in his chair and recrossed his legs. There seems to be an acceleration of the restlessness.

14 minutes

He appears quite tense, and finally says, "I'm confused, sir; do you want me to take the first one or take them at random?" Tony explained that the choice each time was up to him. He again accepted this but it did not seem to lessen his confusion. However he continued choosing the first letter. His foot began jiggling. He gave a cough which was more violent than the others and it involved a shifting of his whole body.

16 minutes

For the first time, there was the trace of a smile on his face. He again found it necessary to ask for repetitions of the letter-pairs. He made a mistake or two, that is he took a letter which had not been presented to him. His foot still wiggled a lot and he rubbed his face and around his mouth a good deal. He stifled another belch, coughed, pulled his leg up closer to him and made some other fidgeting movements.

17 minutes

Although he invariably took the first letter now, he often would ask Tony to repeat the last letter only. For instance, Tony presented "M-T" and the patient would inquire, "M or what, sir?" Another time Tony presented "M-T" and the patient asked, "Did you say T or C, sir?" but then chose the M.

18 minutes

Again there was the slight trace of a smile that faded almost before it appeared. He coughed quite forcibly again, moving his whole body. For a while his fingers tapped noiselessly against the chair arm. For about half a minute he gazed down at the floor, and I had the impression that he was having a

very vivid day-dream about something---his responses almost stopped, and came very softly. Then he looked up and belched again. He immediately returned to his restless activity which had stopped while he was looking down.

20 minutes

He shifted his posture slightly and belched. There were longer pauses from time to time, especially before the M-T choice, and he seemed to be trying to think about the task. He rubbed his neck and sniffed slightly. Finally he got a cigarette, and after Tony had lit it for him, he said "Thank you, sir." He scratched his legs, belched, coughed, scratched under his arm, and in general fidgeted. He still occasionally questioned the choices, as if he hadn't heard.

22 minutes

He pulled his leg up closer, rubbed his mouth and his forehead, and wiggled his foot. He gave several more belches and coughs from time to time.

23 minutes

There was another brief smile and another brief period of looking down at the floor quietly. There was a long pause before he responded at this time.

25 minutes

I noticed that he knocked the ash off of his cigarette several times but still had not taken a drag off it. Once he chose S after an M-T choice and when Tony did not accept the response he asked for the pair again. After this he seemed even more fidgety, and started to ask Tony for clarification of the directions. Tony answered his question very briefly and returned to the next choice, which was D-H. The patient said, "I'll say D, that should be best, but I'm not sure on this test. Is this equivalent to the psychologists test I had a few months back?" Tony said they could discuss that after they had finished the experiment. The patient gave a nervous little laugh, said "Oh" and resumed selecting the first letter of each presentation. The scratching, belching, and coughing continued intermittantly. Several times he said N instead of M but Tony didn't seem to notice this.

27 minutes

There were an increase in the number of long pauses, but he would just sit there and seem to deliberate during them. His voice continued to be calm and matter-of-fact, although his general manner was quite fidgety and indicative of tension and uncertainty.

30 minutes

The patient did not seem tired at the end of the experiment, nor did any change take place---he continued to fidget, cough, and belch as before.

18

1 minute

As the experiment started, the patient's replies came readily. There was no pause or hesitation, even preceeding his first choice. His replies were given in a flat, dull, disinterested monotone. They were automatic with no thought or hesitation. He seemed to give only a part of his attention to the task, even from the very beginning. He looked at his cigarette, at the books on the shelves, at a stack of papers on the desk. He picked at his fingers and looked down at them from time to time. He put his cigarette out, pushing it against the tray several times in a slow deliberate fashion.

3 minutes

He seems completely disinterested in everything around him. This seems to be not so much an effect of the task as his natural manner. He glances around not with curiosity and interest, but rather as if everything were uninteresting.

4 minutes

At one point he laughed a little, in a tired, dry way.

5 minutes

He yawned and rubbed his eyes slowly. He picked at a thread

on his trousers. For a time he rested his head on his hand and looked at Tony with a dull expression. Then he held his hand over his face for a while, resting his weight on his elbow. His eyes wandered back and forth across the room.

7 minutes

His head drooped further down and rested on his hand; he was slumped so far down that he was more lying than sitting. His tone became low in pitch and volume, but he still gave his responses at a steady pace. He sniffed several times.

10 minutes

He batted at a tiny gnat which flew close to his nose. After a few seconds it returned and he hit at it again with a calm deliberate movement. He picked at his trousers a little and shifted to an even more slumped position. He looked as if he might go to sleep, but his responses continued steadily.

12 minutes

A look of tired acceptance momentarily changed to a look of tired annoyance as he shifted in his chair to a more comfortable position. He started twidling his thumbs back and forth against each other, and there was considerable pressure behind these finger movements. He crossed and recrossed his legs again.

14 minutes

He sniffed several times and a slight muscle twitch in his cheek appeared. He sat up and picked at his trousers, but there was considerable pressure even in this as he pinched the cloth.

16 minutes

He pulled at a thread in his shirt and succeeded in pulling out a long strand before it finally broke. He looked at it for a minute, then rolled it up into a tight little ball which he finally dropped on the floor. After this he devoted all of his attention to his hands, rubbing them slowly but rather hard, and then flexing his fingers in a

stiff, tense, but still slow, way. He continued giving low-voiced even responses. There never was any pattern observable in his choices.

19 minutes

He sighed a long deep sigh as he responded, looking tired and bored. He continued manipulating his hands, clasping and unclasping them.

22 minutes

For a brief time his hands were folded quietly in front of him, and he was slumped very low in his chair. He blinked his eyes and seemed sleepy. He continued to respond automatically and dully. He yawned and picked at his nails, examining them. He yawned again, this time rather loudly.

23 minutes

His eyes had not so far gone to Tony. Now, for the first time, he directed a very tired glance at Tony's paper. He uncrossed and recrossed his legs, shifting his weight to the other elbow, and resting his head on his hand, he alternated between yawns and sighs. He sat up with a jerk and I think he had almost fallen asleep. He rubbed his face.

25 minutes

With a dull expression and sleepy eyes, he continued to inspect his nails as he picked at them. He sniffled, pulled out a handkerchief and spit into it. He settled back down again to inspecting his fingers.

27 minutes

He rubbed his nose in a slow but forceful motion. He sighed tiredly again. He sat up rather quickly and leaned forward for a while with his elbow on his knee and his head propped in his hand. He rubbed his whole hand over his face in a slow but forceful motion.

30 minutes

Tony announced that the experiment was at an end and the

patient heaved a huge sigh of relief, lay back in his chair and looked off into space, apparently not thinking about what he might be expected to do now.

19

0 minutes

Tony described the experiment. The patient said all right in a kind of bored and disinterested way. When Tony presented the first choice the patient simply repeated both letters. Tony repeated the instructions and the patient selected only one, but after two or three responses again repeated both. Instructions were again repeated. No further errors of this kind.

4 minutes

His responses were slow but steady. Once he squinted thoughtfully. His cigarette burned away in his hand unnoticed, the long ash fell off, and soon the cigarette was burning down against his fingers. He seemed unaware of this. As his automatic responses continued he stared steadily at the floor and seemed quite absorbed in the task, in his bored and disinterested way. On one response he hic-cupped.

9 minutes

With each response he began moving his head while the rest of his body was completely motionless. For a while he lifted his head on one response, lowered it on the next, lifted it, lowered it, etc. This went on for a brief interval, after which he simply nodded in a grave way with each response. He seemed relaxed and the choosing seemed to offer no need for thinking. He responded automatically. The pauses between responses were occasionally slightly longer, and once he changed a response after he had given it. This was the first break in the steady monotonous interaction.

13 minutes

He continued responding mechanically. His eyes were still on the floor but this was not a fixed stare. He seemed to be quite satisfied with going on and on, he seemed "captured" by

the situation, without seeming to really enjoy it or be bothered by it. There was no change in his expression and nothing seemed to distract him.

21 minutes

The astonishing thing is how little the patient has moved or done anything besides respond evenly and flatly. He let out a big sigh once, put his cigarette out in the ash tray, and this was the first time he shifted his whole body. After he got rid of the cigarette, he returned to the same fixed position and resumed responding automatically. Once he preceeded his response with a long drawn-out hum. He sniffed and took a breath once.

26 minutes

Tony slowed down the pace considerably. The patient closed his eyes for a time. His responses were still mechanical and steady and he did not seem to be aware of any change in the speed. He still nodded his head with each choice.

30 minutes

Tony said "OK," indicating that the experiment was over. Tony stood up, and pulled out his cigarettes. The patient stared fixedly at the floor. Tony asked a question or offered a cigarette or something, and the patient looked up. He seemed exactly the same bored, disinterested, person he had been throughout all of the time he spent in the room.

20

0 minutes

At the first presentation, the patient said, "You just want me to pick out one?" He seemed to be surprized that that was all there was to it. He made his choice, when Tony nodded affirmatively, in an ordinary speaking voice. Eyes on Tony, he turned his left ear to him as though to listen carefully.

1 minute

With a look of thoughtful puzzlement he continued giving his responses. Resting his chin on his hand he watched Tony closely, always pausing a moment before he made his choice.

3 minutes

It is clear that the patient is attacking the task as a problem. He started by just varying his choices, then he tried a long string of M's, then returned to varying his choice, but this time he always takes T when that choice is presented. Then he switched again to choosing the first letter, and this, by accident, led him a considerable distance into the maze. When it finally did result in a return to the M-T choice he seemed a little surprized and paused a long time before continuing.

5 minutes

His eyes are partially closed, but apparently as an aid to concentration for he seems quite alert, though not tense or nervous. He makes his choice with some deliberation, but then goes into a long sequence in which he is apparently trying out some pattern or other without pausing between the presentation and the choice. I am not always able to see what pattern he has in mind, but I do often enough to be sure he is looking for a pattern.

7 minutes

Eyes entirely closed now, the subject appeared to be trying to figure out the experiment. After M-T once, he suddenly opened his eyes looked directly at Tony and smiled. Thereafter he seemed to treat the T-M choice as if it were a chance to stop and take bearing. Perhaps he realized it was the beginning. His involvement and concentration seemed complete.

8 minutes

Although there is still no change in his attitude toward the task, he is becoming noticeably satiated and has to shake his head and rub his eyes on occasion. He occasionally calls off a letter that isn't his choice and quickly corrects himself.

9 minutes

He got to within one pair of the end of the maze before being returned to the M-T choice. He seemed to be aware of some kind of progress, for he grew more interested as letter-pairs he had not heard before were presented. He cocked his ear toward Tony and quit twiddling. After this for a while he seemed to just go along making random responses.

11 minutes

There occurred a brief but sharply increased concentration on the task. His voice was even and his responses were given with an air of deliberation as he wrinkled his brow, and then closed his eyes. Facial grimaces of disappointment occurred whenever M-T was represented. He began fingering and poking at his face more and more. His expression shifted gradually to puzzled annoyance, and finally a kind of resignation.

13 minutes

The responses seemed comparatively routinized now, and purely random. His head was sunk down on his chest, and his eyes were fixed on the floor. His voice occasionally assumed a variety of emphases, some of them beligerent sounding. Signs of restlessness appeared as he shifted about in his chair.

16 minutes

The patient seems to have "given up." He simply routinely responds with the last letter to every choice for a while, and then shifts to the first letter. He appears annoyed at times, then kind of relaxes again into his boredom.

18 minutes

The patient's face wears a blank look and his foot wiggles with impatience.

19 minutes

His voice now carried variations of inflections and of tonal quality, changing every few letter-pairs.

20 minutes

At one point he seemed to be confused as to what letters had been presented. He stopped, thought a moment, finally recalled it, gave his choice then laughed and appeared to expect Tony to share his laughter.

21 minutes

He continues shifting about in his chair, with little restless movements of his hands and feet. He shifts from one kind of sing-song to another sometimes with a sigh. He leaned back in his chair, and for just a fraction of a second he held both hands over his ears, then leaned his head on his hand so as to cover one ear. Bored expressions of various kinds flitted across his face, and he could not sit still for more than a few seconds at a time.

23 minutes

He smiled in a disdainful way as he started choosing M after M. He then shifted back to his other choices and began to move his head in a side to side little sway.

25 minutes

He now held his hand over his mouth so that the responses barely came through. He yawned widely and aborted a belch. He scratched his foot vigorously and seemed to come wide awake for a while as he pitched his voice quite high, and glanced at Tony. He derisively smiled at nothing in particular as his voice sunk back to a tired, flat tone.

27 minutes

Tony made an error, presenting two letters that did not belong in the same pair. He corrected himself immediately and the patient brightened visibly and smiled broadly.

28 minutes

The patient sat up, hands clasped around knees, and paid close attention for a short time. Soon his head was supported by his hands and boredom returned to his face. He started giving a series of responses which could hardly be

understood, they were so soft and sounded rather like grunts. His voice changed again into a flat, monotonous but distinct quality. Arm and leg movements were fairly continuous. He settled down for a while with his chin in one hand and one finger pushing up a corner of his mouth into a sneer.

29 minutes

He suddenly made a loud, more emphatic "M" that was almost like a groan. His head nodded vaguely, and voice changes came often. He looked frequently at Tony's paper as if trying to get some clue to how much longer it would go on.

30 minutes

When Tony indicated the end of the experiment, the patient let out a yelp of joy, and then laughed apologetically. His face brightened considerably. And he sat up, signs of fatigue vanishing almost instantly.

21

1 minute

After the first presentation the patient asked, hesitantly, "T or M. T or M? Oh, out of the alphabet?" Tony nodded and the subject made a choice and as others were presented he offered no further question. He had bright, warm eyes and kept them on Tony. His lips moved constantly in some kind of subvocal speech. He usually added something to his choice, as for instance, "T, I'll put T," or "S, yes, S."

2 minutes

The patient's mind seemed to be elsewhere for a moment (though he had not taken his eyes off Tony) and he asked for a repetition. His responses were given with assurance and without pause, and his general manner was quite pleasant.

4 minutes

All signs of tension have disappeared. The patient is smiling and relaxed. He leaned back in the chair, unclasped his hands

and allowed them to lie loose in his lap. He smiled at me, looked at a picture on the wall and smiled, but his glance always returned to Tony. It seemed quite warm and sociable, but sometimes as he was looking directly at Tony he would fail to respond to a presentation, and if it were not repeated would just go on smiling and moving his lips.

5 minutes

Tony failed to hear one response, and both he and the patient waited. Finally Tony represented the pair and the patient seemed unaware that it was other than the next presentation, and chose differently. There was no pattern observable in his choosing.

6 minutes

The patient's expression was one of smiling and mumbling enjoyment that struck me as just a little bit idiotic. Occasionally a rather queer, serious expression came to his face---at one of these times he asked, "All right the way I'm doing it, is it?" I thought he expected a positive answer, and when Tony nodded he went back immediately to his silly smile.

7 minutes

He started repeating the letters several times over in a half-loud voice before making a choice. Sometimes he would vacillate like this, with a smile on his lips and bright eyes for several seconds before responding. At such times, he would come out with an apology, as for instance, "pardon me, I'll take T." I noticed that often he would say a little rhyme like this in making his choice.

9 minutes

No change. He shows no signs of puzzlement or annoyance. He seems to be enjoying himself greatly. He always holds on to his response for a few seconds, either repeating the letters, or just moving his lips.

11 minutes

He got on an M jag, but this did not quicken his pace any,

for he still repeated the choice several times before making it. Finally he went back to taking other letters.

12 minutes

Tony gave the letters, "L-C" and the patient said "L-C," then "C-B," and finally chose L. Several other times he inserted other letters into his mulling it over.

14 minutes

His eyes are mostly on the wall now; otherwise no change.

16 minutes

The patient seems to be drifting in a reverie and his responses come very slowly. For a time the lip movement stopped. He looks at the wall and smiles and eventually makes a choice.

17 minutes

A disturbance did not bother him (I dropped the writing board with a loud clatter). He seemed highly delighted by a long string of M's that he produced.

21 minutes

He seems to be as fresh as a daisy. He is completely comfortable and relaxed, and he seems to get more fascination out of repeating a single pair over and over to himself than he does out of seeing what is going to come next.

23 minutes

No change. There has been a surprizing absence of any little movements. His fingers are still as is also his arms, legs, and feet. Smiling and repeating, looking mostly at the wall, but occasionally at Tony, he goes on and on.

26 minutes

He suddenly laughed aloud and kind of squeezed his lips up as he said M. He started making exaggerated lip movements as

he pronounced the letters and the extra remarks as well as the vacillating repetition ceased for a while. This did not last long, and soon he was back to the same manner.

30 minutes

No change to the end.

22

0 minutes

With the first letter-pair, the patient paused and then quickly asked, "Just take one letter?" He chose "T" and by chance was presented with a different letter pair for the next few choices. When he eventually returned to the T-M choice he did not seem to observe that it was a repetition. Even when T-M was repeated several times successively he gave no indication that there was anything odd about this.

1 minute

No pattern of choice is observable---he just seems to be choosing from each pair as it is presented without any pre-conceived ideas. His hand rests easily on his knee, holding a burning cigarette unnoticed. He seems alert and interested.

2 minutes

Apprehensively he held his hand before his mouth; he made a few quick glances at my writing; he flicked ashes off the end of his cigarette but he did not smoke. He seemed alert and interested, but at the same time wary, as if he were looking for a trick. His extreme sensitivity to purely incidental movements on Tony's and my part resulted in a curious intentness.

3 minutes

He asked, concernedly, "Am I doing all right?" Shortly after this the subject several times asked for a repetition of the T-M pair. He apparently thought he might have dis-

covered the trick---that the M was really N.

4 minutes

He was holding his hand in front of his mouth, and a barely noticeable speech defect was becoming much more pronounced. He seemed to have trouble uttering the letter names, and he would repronounce them with an apologetic little grimace. Finally he explained to Tony that he had a speech defect.

5 minutes

His intentness has abated somewhat. He seems more relaxed and less interested. He smokes between responses. He carefully put out his cigarette, clasped his hands loosely across his lap, and kept his eyes fixed on Tony in a kind of speculative, waiting expression. He occasionally threw a glance at me. His eyes were on the people and not on things or off into space.

7 minutes

He was beginning to squirm in discomfort. Abruptly he broke in with, "When you gonna stop?" His attitude was naive rather than truculent as he asked this---wide-eyed, 'no offense meant nor even thought of'. Tony smiled and simply presented the next letter-pair. The patient laughed and went on making choices with no show of reluctance.

8 minutes

Definitely impatient now, restless shifting around, a direct, unsmiling and rather challenging look fixed on Tony. The patient has hit upon a pattern: he always takes T from the first pair and D from the second so that it goes T, D, T, D, T, D, etc. Because of his speech defect, he pronounces the two letters almost identically.

10 minutes

He fidgets briefly, continuing his responses in a low, monotonous voice. The T sounds more like a D than the D does, and vice versa. It now sounds like he is responding D to the choice T-M, and T to the choice D-H. I feel that this may be deliberate. His eyes are entirely on himself

now; he examines his trousers, his hands, the button on his cuff, etc.

11 minutes

He pulled up his trouser leg and examined the hair on his calf; he seemed to suddenly remember my presence, and quickly pulled it down with a quick little glance in my direction.

12 minutes

On and on went the T, D, T, D. He acted tired of it all, and examined his hands. A smile flitted across his face as he wiggled a very long fingernail against the desk top. Then a glazed, bored look fastened itself on his face.

13 minutes

He made a few very emphatic responses, then returned to the low, monotonous voice.

15 minutes

The humming of a floor-waxing machine had been coming from the hall since early in the experiment. As it suddenly stopped, the patient straightened himself in his chair, a look of renewed alertness came to his face and he started enunciating more carefully. He was looking at Tony now, and a kind of challenging, almost angry note came into his voice.

16 minutes

His eyes are back on his hands, his voice has returned to a monotone. Still nothing but T-D-T-D.

19 minutes

Tony offered the patient a cigarette, which he first refused, then changed his mind and accepted. He continued as before, taking long appreciative drags on the cigarette. He burped and an expression of relief came across his face.

21 minutes

He seems considerably more restless. He lightly tapped his foot on the floor, flicked at his cigarette almost continuously, he pulled at his ear, wiggled his jaw.

22 minutes

He has begun to experiment with the pronunciation of the letters, trying "Tay" for T and "Duh" dor D, and other such variations. These creep in gradually, changing over from one to the other by degrees. Whenever Tony looks up, the pronunciation shifts back to his normal for a few times.

25 minutes

He looked at Tony again in a challenging way, but only rather briefly this time. The restlessness is less pronounced and a glazed, sleepy look has taken its place.

26 minutes

A burp jerked him awake and for a few seconds he again showed bright curiosity, trying to steal a glance at Tony's paper.

27 minutes

He shifted in his chair, turning half away from Tony, and examined his elbow. Then he shifted his cigarette from one hand to the other. He continued giving his T's and D's with various pronunciations and in a very tired voice. He cleared his throat several times.

28 minutes

He lit a fresh cigarette from the stub of the old one, taking long drags. He smoked with deliberation, watching his hand as it brought the cigarette up to his mouth, holding the cigarette to his lips a moment before taking his drag, then exhaling the smoke through his nose.

29 minutes

He yawned widely. He put out the freshly lit cigarette,

folded his hands in front of him and burped. The responses went on and on with no real change, but minor variations in the pronunciation.

30 minutes

At the end of the experiment, the patient looked out of the window for a long moment, a "far-away" expression on his face.

23

0 minutes

The patient listened carefully and quietly to the instructions, with what appeared to be an air of gracious condescension. He seemed unwilling to begin until he was absolutely certain of the instructions and he asked several questions as Tony tried to present the first letter-pair. At length he indicated that Tony might proceed and he made his responses with unhurried ease.

1 minute

He seemed somewhat less comfortable as the choices continued, but only minutely so. The pace was steady and rather slow. He started making a number of easy, slow moving gestures, scratching his chin, shifting his legs, propping his chin in his hand, etc. Although this was all done without jerkiness or tension, he was never really quiet for an instant after it started.

3 minutes

He rubbed his hand over his chin and began to focus more and more attention on Tony, and at times gave a brief, apparently deep concentration to the tasks.

5 minutes

Now and then for the first five minutes of the experiment the patient glanced at me leisurely, and as though including me into the situation. It seemed to me he acted very much

"in charge." At no time has he made a break in the regularity of tempo of responding. No pattern was perceivable; he did not seem to anticipate any of the presentations, and he seemed to wait to make each choice after the letter-pair was presented.

7 minutes

He settled into a benign composure, eyes on the floor, which looked as if it would last for some times, but suddenly he broke it up and there followed a short period of leisurely stretching and shifting. Then he relaxed again, head cocked on one side. His socially pleasant manner continued as he continued the even tempo of choice making, with the choices apparently made at random.

10 minutes

Several alternations between quiet composure and periods of a slow resettling into a new position. These shiftings do not appear so relaxed now, and are actually rather restless appearing. Finally, after a few shifts of increasing restlessness, the patient asked: "Is this what you want me to do, just repeat letters?" Tony very briefly reviewed the instructions, and as the presentations resumed, the patient settled back to composure again.

14 minutes

The composure is oftener broken by restless shiftings in his chair. No change otherwise.

16 minutes

His facial expression remains unchanged during the periods of restlessness---a kind of benign, composure. He seemed to start using more repetitions of the same letter over and over, though it is not sure that he has settled on a pattern.

19 minutes

Several times he has given a long string of "M" responses. He seems much less restless, his physical activity has decreased and his eyes remain on the floor most of the time. His face and eyes seem less composed and more blank.

20 minutes

Decreasing physical movements and restlessness. Compared to the social expansiveness of the earlier part of the experiment, he seems almost apathetic. A considerable noise in the hall seems to make no difference in his response except that he makes his voice louder.

23 minutes

He seems to have given up all attempt to be "in charge." He responds almost automatically, and there is a slightly far-away look in his eyes, which are now mostly fixed on the ceiling as he leans back in his chair.

26 minutes

He seems lost in deep concentration. He has been almost entirely immobile for the past five minutes. He seems lethargic, his answers come slowly, but he never makes a mistake or asks for a repetition.

30 minutes

He seems quite sunken into a kind of passive reception and automatic response. The choices seem now to be made without deliberation and he takes the last letter of the pair nearly always. He continues to lean back in his chair and gaze at the ceiling with a rather blank look on his face. He seems much less tired than fifteen minutes ago.

24

1 minute

Just before the first pair was presented, the patient asked accusingly, "Is this on memory?" His manner was sharp, hostile, and a little cautious. The patient's first response was M as was every response he made throughout the experiment. At first he seemed astonished at the simplicity of the task. Then he settled down to giving his M's, meantime looking around, at me, at my paper, at Tony's paper, and at Tony, all with an air of suspicion.

2 minutes

He pointed a finger at Tony's paper and said, "If there are any more of those, you might as well make them all M." Tony did not pause in his presentation of the next pair, and the patient slumped back muttering one M after another.

3 minutes

He changed to a louder, higher tone and coughed very suddenly without covering his mouth. It was a very loud rasping cough. He sniffer and snorted a few times.

4 minutes

He asked suddenly, "What did you say?" I think he knew it was the same letter pair that Tony has been presenting all along, and I think he heard it, but for some reason he had to get in control if possible. He shifted in his chair, thrashing about rather than just shifting. He coughed again very loudly several times, stamping his feet as he did so. Then he took a handkerchief out of his pocket, with a lot of unnecessary commotion, and blew his nose in a big, showy way. He replaced the handkerchief and used both hands and a grunt to lift his foot up to the edge of the chair. Still replying M to the presentations, he dug around in his pockets and came up with an inhalator that he held first to one nostril then the other.

6 minutes

Fiddling with the tube inhalator, his voice dropped to a more conversational pitch as he continued responding. He put the inhalator away, looked up sharply at Tony, and the loud, angry tone returned to his voice.

7 minutes

He cocked his head and listened to noises in the hall. Occasionally a slight pause preceded the response as he brushed his hair back, picked at his nails or rubbed at his shoe. It was as if these fiddling motions were more important to him than the letter choice, or at least as if he wanted to give that impression.

9 minutes

Tony said, "Did you say N or M?" The subject said, "M," with exaggerated distinctness and very loudly. He glared at Tony for a moment.

12 minutes

He had his inhalator out again and played with it, making a little clicking noise. His anger was not so apparent now. "You sure got a lot of paper there," he said to Tony, flicking a glance at Tony's single sheet. He looked at me and returned my smile. He shifted his attention back to his tube, sticking it deeply into one nostril after the other, back and forth several times. His expression had changed from open suspicion and truculence, to disdain. His eyes drifted around the room as he continued responding, about every tenth response coming out rather explosively. With a great show of insouciance, he took out his cigarettes, offered one to Tony, then to me, took one himself.

14 minutes

He begins to look worn out. His head drops a little and he covers the side of his face nearest Tony with his hand.

15 minutes

He made a big ado about sitting up, coughing, grunting, scraping the chair. He mumbled his replies, hardly opening his mouth. He gazed around him, and flopped his arms and legs about as he shifted in his chair frequently. A very pronounced expression of disgust was on his face.

19 minutes

Very restless, moving all of the time, with a droopy kind of tiredness. Anger would return spasmodically, when he would sit up straight and glare at Tony and using a very unpleasant grating tone of voice. He suddenly kicked his foot out from the chair where it had been propped and it dropped to the floor with a loud thud. Then he heaved the other foot onto it, using both hands. Vociferous coughing was followed by monotonous, mumbled replies. He occasionally thrust a measuring hostile glance at Tony.

22 minutes

For a while he looked straight ahead, stolidly giving one reply after the other, his responses coming almost at the same instant of Tony's presentation. He dug in his ears and twisted his head at times.

23 minutes

Tony let out a sigh and shifted. This seemed to hearten the patient who assumed a look of indifference and for a while gave clear, soft responses, sitting straight and hardly shifting at all. I am sure he is determined not to give in to Tony by changing his response.

24 minutes

The patient gave a tremendous yawn. He continued in a flat voice, and rested his forehead on his hand. He blinked hard and frequently, then rubbed at his eyes.

26 minutes

After one presentation a very long pause (10 seconds?). Then he coughed loudly right out into the room and snapped his fingers three or four times before responding. After this he started singsonging the M's, and after a few of those, started making questions and exclamations out of his responses by varying the inflection.

28 minutes

Shifting his feet roughly on the chair and on the floor, he yawned broadly and loudly. He clicked one nail against the other and smacked his lips as if he had a bad taste in his mouth.

30 minutes

No change to the end.

25

1 minute

His answers came with confident rapidity, accompanied by facial grimaces and rapid, restless movements of his left hand, the right hand lying relaxed in his lap. After about twelve choices (all of which had been M) he frowned and appeared to be trying to concentrate very carefully. He clamped his jaws together tightly and ran his finger nails along his teeth.

3 minutes

His manner did not change, continuing with a slight frown, he rapidly chooses M every time, punctuating his choice with a quick gesture of his hand. His eyes gazed off at the blank wall, but with a keen, speculative look to them.

5 minutes

His choices were coming more slowly, and he was repeating the pair before he made the choice. Still gazing off at the wall and apparently focused sharply on the task, the restless movements were decreasing.

6 minutes

Still nothing but M. After one choice of an M, he mumbled apologetically, "That's not a very good one." His choices were given with some hesitation at times, but then he would seem to recover his confidence and rattle them off quickly for a while.

7 minutes

His voice sinks lower and lower. Eyebrows raised, mouth contorted, he gazes at the wall, rather more blankly now.

10 minutes

The longest pause of the whole period occurred while the patient sunk into long, considering thought. His facial expression kept shifting and his lips seemed to be forming

words that were not vocalized. Finally M was chosen.

12 minutes

The patient returned his attention to Tony briefly and seemed to feel quite uncertain. He responded, "Well.....M," with a lot of hesitation.

13 minutes

He said to Tony, "I almost was going to say 'T', but I guess I'll say 'M.'" He seemed to choose the M with increasing reluctance, and with an air of apology.

14 minutes

Suddenly he started glaring at the wall, and said M in a very different way, as if he were very angry. Immediately afterward he gave an apologetic laugh and said, "I don't like some of my thinking."

15 minutes

He started repeating the pair over to himself several times before making his choice, meantime frowning and rubbing his chin in apparently deep concentration. He always chose M, however.

16 minutes

He was puzzled about whether or not he had made a response, and asked Tony "Did I say M yet?" He was getting a little angry in his voice at times, but would back down immediately, becoming just as suddenly meek in his responses. He did not vacillate before each choice, but he still did it frequently.

23 minutes

He talked to himself at length, "M or T, M or T," etc. His eyes closed and he singsonged the letters ending with a soft M. Tony did not hear it and asked, "Did you choose?" The patient's answer was a highly indignant "M"! The next M came out immediately in a squeaky high voice.

25 minutes

Singsong answers predominate, though a kind of frightened quality creeps in at times, and a rather angry quality at other times.

27 minutes

He suddenly asked, "Can I choose both?" When Tony told him he could only choose one he reconsidered his choice, saying, "Yeah...well...I'm thinking...maybe..." Gritting his teeth, frowning, and clasping his hands tightly, he finally said "M."

29 minutes

He continued to work with great effort, apparently finding it very difficult to choose, but always ending up with M. At times he looked at Tony with a kind of helpless pleading in his eyes.

30 minutes

When Tony announced that the experiment was over, the patient perked up, threw back his shoulders and smiled broadly.

26

1 minute

The patient chose without hesitation, and with only polite interest, from the first being more interested in picking at a piece of calloused skin on the palm of his hand. Having looked up and catching me looking at his hands, he put them away in his pockets for a moment. He chose only M's.

2 minutes

He was examining his hands again, running his finger around in his opposite palm. His responses were rhythmic, and he would occasionally glance up at Tony.

4 minutes

His attitude was subtly changing from polite going-along to a kind of glum quizzicality. He would dart appraising looks at me, at Tony, but mostly kept his eyes down to his hands.

7 minutes

Nothing but M's. Voice variation occurred, both in pitch and in strength. Pipe in hand, he rubbed the stem in and out of a partially closed fist. These movements were rather restless and he appeared to be considerably less at ease than previously. He closed his eyes for a while and frowned.

10 minutes

Sitting up straighter in his chair, the patient allowed a little sigh to escape. He cleared his throat several times, glanced at my writing with some effort (I think) to read it, and finally raised his voice to a slightly louder note and there was a hint of annoyance in it.

12 minutes

He flushed as he cleared his throat.

15 minutes

He flushed again. He moved his hand up to cover his mouth and mumbled his M's from behind it.

18 minutes

Tony shifted about in his chair and allowed a pause to develop, to which the patient settled back and decided to fill his pipe with tobacco. By the time Tony was ready to resume the patient had just begun to fill his pipe and his responses came slowly and with an air of abstraction as he continued focussing his attention on the pipe. After it was filled he laid it aside, then picked it up again and lit it. As he smoked holding the pipe with one hand, the other beat a tattoo against the chair arm.

20 minutes

He pretty definitely has the fidgets now, shifting often in his chair, fiddling with his pipe, tapping his foot. The voice quality remains controlled however.

22 minutes

He is varying voice quality now, giving a rising inflection at times, and a sharp, cut-off pronunciation to others. Always M. Unable to restrain himself, he let out a deep sigh. His look was one of resigned annoyance.

25 minutes

He was examining Tony with disdain. He kept shifting his nervous hand movements from one thing to another, first playing with his pipe, then picking at his hand, then tapping with his fingers. The M's were very flat with an occasional annoyed tone to them.

27 minutes

He flushed rather heavily this time as he dropped his pipe and then examined it carefully before making the next choice. Apparently satisfied that no damage had been done, he put the pipe away, sighed heavily, and played with his voice for a while, sing-songing the M's.

29 minutes

No change. He has his pipe back out now and holds it between his teeth as he responds.

30 minutes

As Tony laid aside his paper and indicated the end of the experiment, the patient stretched himself and said, "About to put me to sleep on it."

27

1 minute

The patient responded to the first presentation rather perkily: "I'll take the T." The following responses were with the name of the letter only, but the bright tone of voice remained unchanged. His eyes shifted around the room without seeming to really see what they momentarily rested on.

3 minutes

His voice dropped step by step to a full, easily audible whisper. He noticed at times that Tony was unsure of the response, and he would repeat without being asked to do so. His eyes were bright with interest, almost fascination. At one point, presented with the letters "D-H," he merely repeated them soulfully. Tony asked him to choose just one, which he did immediately and without any sign that he was disturbed or affronted by the request. A faint smile on his face.

4 minutes

Occasionally his choices were preceded or followed by soft, contented sounds like a hum. After one pair of letters he made this sound and then showed he was waiting for the next pair, apparently believing that his decision should be enough without any need to communicate it. Quite often the feeling and inflection with which he spoke seemed to signify a deep emotional response to what he was doing. Continued smiling gently.

8 minutes

Occasionally his smile faded into a sober, contemplative expression, while he seemed to consider his choices. He would nod his head in apparent approval of his choice. He seemed mesmerized for long periods, nodding his head rhythmically and smiling slightly while glazed pleasure shone from his eyes. His choices seemed quite random---no pattern and no long repetitions.

9 minutes

Step by step, his voice became full and the whisper disappeared. Have reached fullness it started back down, in the same stepwise fashion, until it was again a whisper. The M sound became a whispered "Emma" with a long trailing sigh ending each pronunciation.

12 minutes

On one presentation, the patient said, with a drawn-out, sensuous, soft voice, "Oooh, doctor!" He blushed as he said this, and seemed embarrassed. There was a momentary pause before the patient at last made his choice. Prior to this incident the patient had been quite motionless, with a slight smile and soulful eyes. Afterwards his voice and face brightened, his pace quickened and for a while his responses were given much as they had been at the beginning of the experiment---i.e. in a chipper, alert kind of way.

14 minutes

Before long he again seemed lost in fascination with the task, and again the "M" became "Emma" in gradually decreasing whispers. There was a blissful expression on his face.

16 minutes

Variations began to appear in his voice. They appeared to be expressions of love, reproach, longing, satisfaction, and sheer bliss in turn. I thought he was treating the sound more as if it were the name of a loved one than the name of a letter.

18 minutes

A comparatively long pause ensued, after which the patient came alive sharply and happily, saying, "I'll take the M." He was soon lost again.

20 minutes

Between occasional thoughtful spells, he continued to wear a blissful expression. After having spent several minutes with the M's, he again returned to a random selection.

25 minutes

No change. Although completely at ease, he is not completely loose and slumped but seems to hold himself with relaxed readiness to respond. I notice that whenever he changes his posture in the chair, there is a momentary "awakening" from the spell he seems to be in, but he quickly sinks back.

30 minutes

In the last ten minutes, the patient continued to respond in the same blissful spell, with occasional awakenings as noted above. His voice varied from a whisper to full-voice, and the changes tended to be gradual. Intonation also varied as noted above. There were no small, nervous movements at all and his attention seemed undividedly on the task.

28

0 minutes

The patient sat back in his chair, but did not look comfortable. He asked, "You must want me to take one?" He took several M's, then started varying his responses.

1 minute

His posture suggests controlled and sham composure. He sits very quietly, but his voice is not under good control and he often clears his throat. He smokes rapidly, taking very frequent short drags on his cigarette, tamping ashes almost constantly. His choices seem to show an attempt to avoid repetition, and there is a watchful, intent expression on his face.

5 minutes

He seems to have relaxed somewhat and at the same time lost interest in the maze. He selects at random. His fiddling with his cigarette continues.

7 minutes

He put out his cigarette with a lot of little taps, and shifted his attention away from Tony to me and my writing. I still could perceive no pattern to his choices. After a time he folded his hands loosely, then refolded them, then scratched his elbow and shifted around in his chair. His voice is very light, making the letter sounds just barely audible.

10 minutes

He seemed to be varying his choices now so that he took alternate members of the pair every other time (at least it worked out that way for a while). He would glance questioningly at me or at Tony for a while, then become thoughtful and would pause for a while before responding.

12 minutes

He seemed to "loose his place" for a moment, and had to ask for a repetition. He picked it up from there and went on as before, choosing regularly and apparently randomly. He stifled a yawn, and soon thereafter sighed lightly. His eyes were mostly fixed on the wall or floor by now and he seldom looked at Tony or me now.

13 minutes

He seems increasingly restless, shifting about and unable to find a comfortable position in his chair.

17 minutes

He looks sleepy. His voice quality has changed to a kind of drawn out, low monotone. He still occasionally gets the fidgets but mostly he is much quieter.

18 minutes

All signs of tension are gone. He is slumped in his chair and he seems to be fighting to keep his eyes open. He chose a letter not presented, but couldn't remember the pair presented though he knew he had made a mistake. He squinted and shook his head trying to remember. After the pair was represented to him he made an effort to bring himself back to wakefulness by sitting up, but even as he did this he yawned.

20 minutes

Tony offered him a cigarette which he took, and apparently at the same time took a new lease on life as a brighter expression came over his face. He smoked appreciatively, taking long drags, and slid up and down in his chair looking for a comfortable position. He started fidgeting again soon.

and about the same time, tried a long string of M choices.

22 minutes

He yawned and returned to a lackadaisical random choosing. He indicated that his head ached by rubbing the back of his neck and frowning. He put out the cigarette, shifted about restlessly, blinking his eyes.

23 minutes

His yawns became broader and broader, his eyes glazed, and he settled down to a T..H..S..T..H..S pattern for a while.

26 minutes

He is propping his head on his hand, restless movement has mostly disappeared as he monotonously goes on with the T H S pattern. His eyes are fixed on the floor and he looks half-asleep.

30 minutes

No real change to the end. A few shiftings about to get a more comfortable position, a few half-stiffling yawns. When Tony announced the end of the experiment, I was surprised at the immediate effect this had on the patient. He was immediately wide awake and interested again.

29

0 minutes

After the instructions the patient asked, "All I have to do is choose the letters?" He smiled in clearly visible relief that the thing was as easy as all that. He chose "M" first and stuck with it on succeeding choices, surprised, and again apprehensive as the repetition of Tony's presentation continued. He left his cigarette hanging in mid-air. Finally he choose a T and seemed relieved when a new choice appeared.

2 minutes

Continuing with random choices, he seems puzzled, shifting in his chair occasionally, making a few fidgety movements with his feet, occasionally frowning or lifting his eyebrows.

4 minutes

He looks out of the window entirely now, grimacing mildly at times. His responses are quiet, evenly spoken and still with no observable pattern. He sighed prolongedly at one point and asked Tony, "How long will this last?" Tony made some non-committal reply and the patient said, "You're the doctor." He settled back and continued gazing out the window.

5 minutes

A lot of not too subtle negativism: he asks for repetitions on about every third presentation, coughs loudly just as Tony is about to speak, sighs long and loudly, grimaces often. His eyes dart back and forth across Tony's face and back to the window.

7 minutes

He suddenly asked in a very vehement and intense voice, "For some one in my condition, how long does this last? How long should it usually last? You've had others?" Tony said that although the experiment wasn't over, he could quit right now if he wanted to. The patient appeared somewhat relieved but not entirely satisfied and indicated that he wanted to quit.

30

0 minutes

During the instructions, the patient sat quietly looking directly at Tony. He listened carefully and nodded agreeably. He seemed at ease.

1 minute

He sat motionless with his legs crossed. His responses were

given in a soft weak voice, but the rate was steady and even, and his enunciation quite clear. He looked directly at Tony and once or twice a trace of a smile appeared momentarily on his face. He seemed at ease, but alert.

5 minutes

He glanced away briefly for a time and one hand moved slightly. This was the first time he had moved at all. He had settled on a pattern of choices which was repeated over and over again---T, H, E, L, A, Q, and back to T.

7 minutes

He cleared his throat softly, and then again much louder. Coughed and cleared it yet again. His voice pitch became lower for a few responses and then returned to his former pitch. He shifted slightly and rested his head in his hand.

9 minutes

He was having a little difficulty with his pattern, choosing the letter he usually rejected, and then correcting himself. This happened three or four times in the space of twenty or so choices. He would accompany his correction with a little shake of his head. He continued looking directly at Tony.

10 minutes

He rubbed at the lobe of his ear now---the first restless movement observed. His face was rather flushed. He cleared his throat twice and seemed to be speaking with some effort. His voice had become rather gruff. He cleared his throat several more times.

11 minutes

For a while he stared at the floor with a thinly veiled angry expression. He gave his head a quick toss in an annoyed gesture. His voice pitch lowered momentarily and conveyed disgust then came back up to its normal pitch.

13 minutes

He yawned and wiggled his lower jaw restlessly. He rubbed

his mouth hard with a quick, nervous gesture. He stared out of the window for a while with a bored expression. Then he directed his gaze to Tony momentarily, stretched wearily, cleared his throat and slumped back in his chair.

14 minutes

For a while he looked at me and my notes with something like hostility. He cleared his throat several times more and looked around restlessly. His face seemed to redden again and his voice showed disgust more clearly.

16 minutes

He rubbed his nose, jerked his head around restlessly, cleared his throat often and in general seemed bothered. The pauses before his responses became longer from time to time as he continued his pattern.

19 minutes

He rubbed his cheek in a tired way. He swallowed several times with effort. For a while he stared into space.

22 minutes

The pauses before his responses became considerably longer. Once more he stretched himself. Once he grimaced disgustedly as he almost said a wrong letter.

25 minutes

A whole series of restless movements in which he seemed about to explode. His voice became very tight, his face very red. He shifted his posture, folded and unfolded his hands, and twisted his head about, back and forth. He sat forward in his chair and looked directly at Tony and raised his eyebrows as he responded.

27 minutes

Restless movements almost continuously---rotating his lower jaw so that you could hear his teeth grit, rubbing the edge of his shoes one against the other, folding and unfolding his

hands. Only once did he quiet down as a noise from outside caught his attention. He looked at his watch and sighed.

29 minutes

Much restlessness. The pauses before his responses were quite long. Several times he pursed his lips and glared at Tony.

30 minutes

When Tony ended the experiment, the patient leaned back with tired relief and said, "I thought you'd never quit."

31

1 minute

As the experiment began the patient kicked his crossed leg back and forth making a very loud scraping sound as cloth rubbed. He held both hands up in front of his face about six inches from his nose. As he gave a steady stream of responses he rubbed his fingers and picked at his nails. He watched his fingers constantly. He ran his tongue along his teeth between responses. He seemed tense. His responses were given in a tight, flat tone of voice.

3 minutes

He stopped kicking his leg abruptly and the room became very quiet in contrast. He continued inspecting his fingers. All that was observable was his constant finger rubbing. This seemed to hold his entire attention, but I began to suspect that he was really attending to the choice of letters much more closely than it appeared. His responses came in a steady flow. At one point he said "N" for "M" and quickly looked at Tony as if checking to see if he would notice it. Tony went on, apparently not noticing and his eyes returned to his fingers.

5 minutes

There was the suggestion of a smile on his face as he seemed

to be inspecting something very tiny which he held between his fingers. A couple of times he licked his lips between responses. His voice had grown more relaxed, but there was no other change in the steady flow of responses. He continued his close, interested scrutiny of his fingers, but as Tony asked him to repeat one of his choices, he looked up quickly and directed a lively glance to Tony. Tony said, "Did you say M?" The patient replied, "I took it for N." There seemed to be an air of superiority and disdain in the way he said this, and he seemed reluctant to change it to one of the letters presented.

9 minutes

The constant inspecting of fingers continued. He seemed much more relaxed and otherwise did not move. He licked his upper lip intermittently. The pauses before his responses seemed somewhat longer. From time to time he held his fingernails up for inspection and between times he picked at them.

14 minutes

His choices seemed to be without pattern. He stopped once and looked thoughtfully off into space for awhile. He seemed to be giving that response an extra amount of consideration. When he had made his choice he returned to his fingers, but a little later he again seriously peered into space as he responded.

20 minutes

Finger rubbing has taken the place of fingernail picking. Once when he was presented with the M-T choice he said, "That sounds like N." His use of the letter N instead of M was repeated several times and seemed to imply criticism of Tony's enunciation. He began to stress exact enunciation in his responses.

24 minutes

He continued without change in his careful, even, soft voice, never looking away from his fingers except to stare into space when a particular choice seemed to intrigue him. At such times he considered carefully, and sometimes close his eyes momentarily before making the choice. He hardly moved

otherwise. As he looked at his fingers he would smile, but the smile would fade in the longer pauses when he seemed to be considering his choice.

30 minutes

His eyes seemed to grow bright with interest as he focused on the tiny somethings he was examining between his fingers. He seemed undisturbed by the sounds of a loud conversation in the next room. I did not see him react to anything else throughout the experiment besides the letters and his fingers. At the end he seemed relaxed and untired.

32

2 minutes

When the first choice (M-T) was presented, the patient selected M. The same two letters were presented again, and the patient looked inquiringly at Tony and said, "We're going backwards." The patient seemed reluctant to go on but finally selected M again. When he was presented with the same choice for a third time, he hesitated a moment and then said firmly, "We will stay on the same, that'll simplify it ---M." The next time he said quite emphatically, "M---why should I change it." The next several M's were voiced with considerable emphasis. His inflection was quite lively and variable, and the experiment appeared to become a competitive battle between Tony and the patient. After about a minute his responses came with less emotion in his voice and more automatically---still always M. He still looked at Tony with earnest intensity. He flicked his cigarette and then leaned back in his chair. His attitude impressed me as being, "This is ridiculous, but if you think its going to get me down you're crazy."

5 minutes

He has gradually sunk into a kind of day-dream in which he continues to answer "M" in a rapid, even, monotonous way while he gazes off into spaces and rubs his finger along his nose almost continuously.

6 minutes

He shifted slightly in his chair, looked up at the books on

the shelves for a while, shifted again, leaning forward rather tensely, then settled back and looked around the room, taking a long drag on his cigarette.

7 minutes

His eyes moved rapidly in a restless way. For a while he looked at the ceiling, then at the books, then at the floor, and frequently a quick glance over to Tony. For a few seconds he leaned forward, looking directly at Tony and smiled slightly. Once he asked for a repetition, coughed and took the M again---still nothing but M. He inhaled on his cigarette and quickly spit out some loose tobacco.

9 minutes

He leaned forward again and stared at the books briefly and then at Tony. He stuck his matches in his jacket pocket, giving them a fairly energetic shove. He shifted his weight quite rapidly from one elbow to the other, and flipped ashes into the ash tray.

10 minutes

He leaned back. Each time he shifted his weight around his movements were rather quick and energetic and they involved his whole body. Again he asked for a repetition of a presentation, and soon after that he did it again. His responses still came rapidly and evenly, always M. His gaze shifted quite rapidly through most of the time, always coming back to Tony, but as time went on his attention seemed to center more on other things, while he did the task with his left hand, so to speak.

12 minutes

He put his cigarette out with a firm decisive movement. For a while he leaned the side of his head on his hand and stared vacantly at the wall.

13 minutes

He rubbed his nose, then clasped his hands in front of him. As he looked down at his hands he moved his fingers in an

aimless, slow way.

14 minutes

He raised his head, cocked it, and looked at Tony questioningly. His responses continued to come automatically. He rubbed his hands together a little. For a while he looked steadily at Tony, and then again at his hands. He rubbed the sides of his thumbs together in a slow, even rhythm.

15 minutes

For a while he varied the pitch and inflection of his responses, then, rubbing his ankle and staring at a picture on the wall, his voice became monotonous again.

16 minutes

He stared first at one thing then another, rubbing his hands together almost constantly. The responses were given in a steady, even, dull way.

17 minutes

He sat back abruptly and stared at the ceiling, smiling slightly. His hands were folded quietly. After a few seconds he was again leaning forward and staring at the picture. He rubbed the back of his neck and around his mouth and stared off into space. He sat back again and his eyes drifted restlessly around the room. With each response he began to give a little nod of his head.

18 minutes

He shifted his weight and stared out the window. Then he shifted again. His facial expression was somewhat blank, with intermittent expressions of determination.

19 minutes

Eyes still shifting around the room, to the window, the picture, and to Tony.

20 minutes

He seemed to be actively searching for something to occupy his vision. He looked for a while at my paper, squinting his eyes and tilting his head as though attempting to read what I was writing. He gave this up and discovered some envelopes on the desk, from which he appeared to be reading the addresses. Then he started staring at Tony's hands following their movements. Once, instead of saying "M," he said, "M, T." Immediately he snapped his fingers, said, "God-damn," smiled a little and said, "You've got me saying the same thing you are." He applied himself with renewed attentiveness to the task.

21 minutes

Tony interrupted the regularity of the presentations to light a cigarette. The patient smiled condescendingly and watched Tony with amused interest. The smile remained on his face, and when Tony resumed the presentations, the patient asked, "What did you say?" I thought he acted as if he had discovered a gap in Tony's armour and was determined to widen it. He picked up his rhythmical, monotonous manner immediately, but seemed less restless for a while.

22 minutes

He leaned over to flick his ashes into the tray, and smiled as he gave Tony a direct look.

23 minutes

He leaned back to stretch, then forward again, resting his elbows on his knees and looking down as he spit loose tobacco shreds from his lips. He seemed to inject a little spirit into his voice from time to time, in spurts, and then would drop back to the monotonous flatness.

24 minutes

He inhaled and pulled the cigarette away from his mouth in a quick gesture. He stared at the cigarette for a while. He rubbed his eye, bobbing his head with the pressure of the rubs. He rubbed his thumbnail along the edge of his chin in a slow, deliberate way. He seemed very distractible, any movements on my part, any noises from the hall, any voice

from out of the window immediately catching his attention and holding it until something more prominent happened.

25 minutes

He took a deep breath and sighed, shifted his weight sluggishly and looked out of the window blankly.

26 minutes

A few times, he patted his knee with each response. He took another deep breath, leaned back and smiled at Tony. His responses were still given rapidly with no pause beforehand. He rubbed his arm a while, looking out the window, then back to Tony again.

27 minutes

He shifted heavily, rubbed his cheek, lips, and chin with his thumbnail. The appearance of restlessness was very pronounced now.

28 minutes

He is quite restless and fidgets continuously, then catching Tony's eyes on him, he smiles and holds himself quiet.

30 minutes

Tony indicated the experiment was over and the patient had difficulty understanding at first that it was really all over. Finally he took several big breaths and stretched widely.

33

0 minutes

The patient was rather uneasy as the instructions were given, shifting nervously in his chair. With the presentation of the first pair, he stopped abruptly and looked surprized, as if to say, "Is that all there is to it?"

1 minute

His replies were given with a prompt decisive quality. His voice was not very loud however. He fingered the sleeve of his jacket continuously. A slight smile gradually came over his face, increasing almost to a grin, and then just as gradually began to fade, but never entirely disappeared.

4 minutes

As he continued responding in the same way he stared steadily at the wall, his glance fixed on a particular point on the wall. His voice denoted seriousness, despite his smile, and he seemed to give his full attention to making choices. There was a lot of noise out in the hall, a large group of people walking by. He seemed completely unaware of this. His choices varied and I could see no pattern in them. He chose M several times in succession at one point, and he laughed with delight when the same choice was presented over and over.

6 minutes

He continued the smiling, which faded in and out. He gave Tony his rapt attention and responded readily with no pause or indication of uncertainty. He frowned once as he chose between T and M. His facial expression is one of smiling, intent, preoccupation. He continues to stare at the wall. He fingers the sleeve of his jacket almost all of the time, and when he is not doing this his hands remain where they are. Only once did he move his hand very slowly and cautiously up to his neck, and fingered the button at his collar for a time, then just as gradually withdrew it to the sleeve again. There have been no other body movements of any kind.

8 minutes

Although it is clear that he is attending closely to Tony, it is with his ears rather than his eyes. His eyes continue fixed on a point of the wall, very occasionally drift to a corner then back again. He chuckles or laughs quietly once in a while with no attempt to share his laughter with Tony or me.

9 minutes

His answers are coming somewhat slower, and he pronounces an

"uh" now before making his choice. The air of certainty remains however.

10 minutes

Replies still soft and thoughtful, but much slower. His gaze shifts about the wall a bit.

12 minutes

He gradually took to mouthing the letters in a very exaggerated way from time to time. Once he frowned again. His manner was very serious and earnest.

13 minutes

He stretched slightly and shifted his posture for the first time. After a few presentations the smile reappeared and he was as rapt and motionless as before. His pace was almost as quick as at the beginning.

17 minutes

No change. He laughed softly before one choice.

18 minutes

As he continued responding softly and promptly he gazed at the wall with a slightly whimsical smile on his face. Gradually his voice began to disappear.

19 minutes

His replies were whispers for several times. He was quite motionless at this time and very rapt---it made me think that he was afraid to speak louder for fear of disturbing the regularity of the procedure. After a time Tony asked him to repeat one choice and this seemed a signal for him to return to his full voice. He smiled and gazed steadily at the wall, his only movements were rubbing the cloth of his sleeve between his fingers.

22 minutes

No change. He continues to be practically motionless, giving a steady pattern of soft choices, a slight smile coming and going, an occasional chuckle.

25 minutes

He started mouthing his replies in a much louder voice, then chose an "H" when M or T were presented. He immediately caught his mistake and corrected it, looking at Tony directly almost for the first time as he did so. Thereafter he didn't smile for a while, but soon his gaze drifted back to the wall and the smile gradually reappeared.

27 minutes

He frowned more frequently and the choices were coming more slowly. He shifted in his chair for the second time in thirty minutes, and thereafter settled into his usual manner again.

30 minutes

No change to the end. When Tony announced the end, the patient continued staring at the wall several seconds, then nodding his head and smiling he turned his eyes to Tony.

34

2 minutes

He made his first choices readily, looking directly at Tony and speaking in a quiet, thoughtful voice. He changed one response saying, "M, no T," as if giving careful consideration to his selection. After a few more responses he hit on a steady pattern of T and D. His posture shifted several times in a restless way.

3 minutes

He interrupted the routine by taking a deep breath, laughing and asking "does this go on and on?" His manner was quite boyish and pleasant, as he made this complaint. Tony presented

him with another T choice and the routine resumed.

4 minutes

He shifted about more restlessly and looked at Tony with a slightly disgusted expression.

5 minutes

He glanced about the room with a somewhat haughty air. For a while he stared at me. His voice showed impatience and disdain.

6 minutes

He shifted restlessly but seemed relatively at ease. By this I mean that he did not seem under strain to inhibit these restless shiftings and movements and annoyed glances. His voice inflection varied. It seemed to indicate annoyance with this stupid activity.

8 minutes

He crossed his other leg in an abrupt careless way. He folded his hands over his legs with a tired sigh. For a while he looked disinterestedly at a picture on the wall.

9 minutes

His eye was fixed on Tony in an expression of veiled hostility. He folded his hands and rested his chin on them. He took a deep breath several times before responding. He shifted his hands leaning the left side of his head wearily against the palm of his hand.

11 minutes

For a while the tone of his voice became very flat and monotonous. He took a deep disgusted breath. He moved his hands restlessly to a praying position, then rested his chin upon his fingertips. His eyes moved about some more resting on the picture for a while.

12 minutes

He crossed his hands over his knees in an intense abrupt way. For several responses he closed his eyes and seemed to grit his teeth in determination and annoyance. Once he said, "whew" with disgust.

13 minutes

He seemed most annoyed. His expression which he directed toward Tony was almost always quite hostile. He closed his eyes again.

14 minutes

For a while he sort of spit out the letters with disgust. Once he broke into the routine to say, "I'm getting tired of saying this-over and over." He laughed and looked at me in a rather flirtatious way. Immediately after this he almost said H but caught himself and corrected it to D. He sat back and picked at his nails with a sullen expression on his face.

15 minutes

He corrected himself once, noting that he had said D when presented with a T-M choice. He said, "You got me confused now. I almost forgot." He laughed and smiled almost coyly at me. For quite a while he looked at Tony with an expression of disgust as if he were staring Tony down. His hands fidgeted about quite often. He seemed to spend quite a while staring at me.

18 minutes

He stretched his arm out and rubbed it restlessly. He sighed. He directed another stony stare at Tony. He said some of the letters for a while as if they were most unpleasant to say.

20 minutes

He rubbed his head. He leaned his head back against the wall for a while and glanced around the room with disgust. His expression in general was very sullen. For a while he enunciated very clearly apparently mimicing Tony sarcastically. Soon his tone got flat and lower again.

21 minutes

He almost said a letter that would have broken his pattern, but he caught himself and reverted to the pattern. He sighed with disgust again. He held his hand over his mouth and yawned.

22 minutes

A couple of times he shot a hostile look at Tony. The rest of the time his glance darted around and his eyes rested briefly on various things in the room.

23 minutes

He recrossed his legs. He yawned and said politely "Excuse me." He took a number of abrupt deep breaths. He gazed around the room with a kind of bleary look.

24 minutes

He rubbed his head some more. Finally, with an air of exasperation, he broke his pattern of letters and chose one he had never chosen before. As a result of his choice he was presented with two letters he had not had before. He said, "I'm glad you got something else there. I was getting tired for a while." For a short time after this his voice seemed more lively, but as he found himself back in the old pattern it became flat and disgusted again.

25 minutes

Now it seemed to irritate him when he did get out of his pattern.

26 minutes

He began to give incorrect responses, that is he would choose a letter not presented to him. It seemed to me that part of this was intentional because he seemed to smile in a satisfied sort of way when Tony had to repeat a choice. However he definitely seemed to be having trouble paying attention to the choices and he would often correct himself with a frown.

27 minutes

He was settled back in his chair with a very disgusted expression on his face.

29 minutes

He yawned again and said politely "Excuse me." His eyes were very sleepy and tired looking. Soon after this he held his hand over his mouth to cover another yawn. He seemed to forget whether it was his turn to choose or Tony's turn to present a choice. For a while he stared directly at Tony and his feet shifted restlessly.

30 minutes

After a few more choices Tony indicated that the experiment was at an end, and the patient seemed to recover his poise as he laughed boyishly and refused a cigarette.

35

0 minutes

The patient seemed unwilling to relinquish the conversational lead to Tony, and it was only after several interrupted attempts that Tony was able to present the instructions. While Tony was talking, the patient sat back stiffly in his chair, his arms folded across his chest, and his expression one of begrudging attention. On being presented with the first choice, the patient glanced at my paper and said, "I'd rather not commit myself in writing." After some explanations and urging, he finally selected the M, and stuck with it from then on.

1 minute

After a few choices, the patient sat back in his chair, smiled, then assumed a haughty, supercilious pose. He said M each time. His manner was rather oberbearingly contemptuous. Once he laughed, "Ho, ho, I'll choose M." As he laughed he leaned forward and then settled back in his erect, rigid position.

3 minutes

He laughed again, rocking back and forth. After a couple more responses he interjected the comment, "I could go on all day, M is the one I'll take." On the very next response he balked, sitting completely still and looking sternly at the floor. Tony pressed him, "How about it, T or M?" There was another lengthy silence. The patient finally looked directly at Tony and asked, "What is the particular point you have in mind?" It became clear that he had no intentions of continuing as Tony promised him an explanation after the experiment was over. After more attempts on Tony's part to get the patient to continue, the experiment was terminated.

36

1 minute

There was a very long pause after the first presentation and finally the patient chose M. Thereafter he chose M about ten times in succession promptly after the presentation. When presented again with the same choice he started to say M, then instead said, "Do I gotta choose the same all the time?" Tony reexplained the instructions, the patient nodded agreeably and this time took T. This led to the choice between H or D, and again there was a long thoughtful pause before the patient finally chose H. This led to the E or S choice and again the patient pondered thoughtfully before selecting the S. Back to the M-T choice, he selected very promptly.

4 minutes

He is in a pattern of M--T--D--M--T--D. A slow steady pace, no hesitation. He put his cigarette out in a deliberate slow fashion without varying the pace. He continued sitting motionless for some time.

8 minutes

A couple of times, his eyes drifted around the room, but mostly he sat with his head and eyes drooping down, apparently looking at his hands. He manipulated a matchfolder in his fingers. He coughed once, scratched under his arm, all without breaking the pace.

10 minutes

He seems at ease and unconcerned, except that he scratches his head vigorously from time to time. His facial expression continues to be blank and devoid of feeling.

12 minutes

Though he continues the same even pace and does not vary his pattern of choices, there is definite restlessness in his movements now. He belched once or twice, scratched under his arm, his head, shifted his weight in the chair.

15 minutes

His eyes are restless, they move from one thing to another and find no interest anywhere. There was a loud scraping noise from the next room and the patient laughed heartily at his own startle.

19 minutes

He pursed his lips, and then licked at them several times. His eyes have settled on his hands again, and he seems tired. His eyes are half-closed and he seems to be fighting to keep them open.

21 minutes

He yawned, then drummed his fingers against the desk-top in a quick restless movement. He stared out the window. The pattern remained unchanged and his voice quality did not change. His eyes were still tired.

24 minutes

His responses were automatic, steady, but his voice was getting tired and he cleared his throat a few times. He yawned once again, shifted in his chair and for several seconds could not find a comfortable position.

26 minutes

He made a few mistakes, giving M to the D-H choice, and once

saying H so that he was presented with E-S. When confronted with this choice he was definitely set off his automatic pattern---he sat and rubbed his eyes hard for a few seconds, then asked for a repetition of the choice. He seemed relieved when he got back to the familiar "M-T."

28 minutes

He buttons and unbuttons the sleeve of his jacket continuously now. He is once again blank-faced, blank-voiced, automatic. Restless movements come more frequently as time goes on.

30 minutes

When Tony announced the end, the patient rubbed the back of his neck very hard, scratched his head vigorously, and laughed.

37

0 minutes

As the patient listened to the instructions, he rubbed his eyes and looked rather weary. He nodded after the instructions were over, and smiled with a weary, patient smile. Tony gave the first choice, "M or T." The patient paused a moment, then said, "I've had a change of feeling. I've been eating regularly...." and Tony gently interrupted him to ask for a choice. The interest which had shown in his eyes as he began to talk about his health left again, and he said, very politely, "I believe I'll choose the M."

2 minutes

The patient stuck with the M in a kind of tired, dejected way, then suddenly and with no change of manner took the T. This led to the D-H choice, the first time the patient had heard anything except the M-T, and he gave a surprised laugh. His eyes lit up and he launched into some irrelevant chatter about big business. Tony let him go this time, and after a few seconds he said, "What's them two letters you want me to choose from?" Tony repeated the letters and the patient chose H in a firm emphatic voice. For a while his tone was very self-assured, and his choices were prompt, almost brisk.

Once he said, "G, I believe is recommended." Another time he said, "I suppose D will be all right." Then he got off on some irrelevant talk again, and when Tony pulled him back to the task he seemed tired. He rubbed his eyes again, but resumed giving firmly stated choices. His expression was one of serious contemplation. When he was presented with M-T again, he laughed and said, "There's no reason to work fast, is there?"

4 minutes

A couple of times again the patient introduced a conversation into the experiment but always came back to the task himself within a half-minute or so. His choices were given emphatically, with a nod of the head, and an occasional comment such as the examples given above. His enunciation was exaggeratedly clear. He chain-lit one cigarette from the last.

5 minutes

Again he rubbed his eyes and looked rather tired. For a while he gazed up at the ceiling in a steady, serious way. Once he paused a second or two over the D-H choice, then with an emphatic flick of his cigarette he said "D for sure." He stopped a couple more times on the D-H choice. Once he asked, "Is it D? or H? H would be all right." He moved quite often, lurching forward, moving back, and making big swinging movements with his arms as he resettled himself in the chair. His pace of choosing was very uneven.

8 minutes

His expression was very thoughtful and serious. Each time Tony presented him with a choice, he first looked away and pondered, his brow furrowed as he deliberated. Then he would look directly at Tony and state the letter firmly. He brought in another irrelevant conversational opening, but this faded out as he returned to a consideration of the choice presented.

10 minutes

Responses were given in a dramatic, emphatic way. Once he said, "Neither" to a choice, but when represented with the choice and told he must make one he chose quickly.

12 minutes

His eyes were closed, but he was very much awake. He began opening them as he spoke his choice, and keeping them closed as he deliberated. His responses were firm and his full attention seemed to be on the task. As time goes on, he pays less attention to Tony and more to the task.

14 minutes

His replies are coming more promptly, very evenly, and with a rhythmic nod of the head. He still has no pattern of choices. He speaks emphatically and with practically no hesitation.

16 minutes

Quite suddenly he said, "No imagination!" and snickered. He smilingly shook his head a couple of times, and he seemed to be taking a much lighter view of the experiment. He leaned his head back against the wall, and gazed continuously at the ceiling as he gave much less emphatic responses, his voice being kind of bantering in tone. He snickered occasionally.

24 minutes

He has an interested kind of twinkle in his eye as he occasionally glances at Tony, not changing his manner at all. He occasionally intones the letters with a kind of mock-seriousness. He seems much less tired now.

25 minutes

There has been no effort to bring in extraneous talk for a long time; he teeters back and forth in his chair, smiles occasionally, keeps his eyes closed for long periods.

27 minutes

He started giving his responses very softly and with his eyes closed. For a while he opened just one of them, as if winking. He gives his responses quite evenly, with much less deliberation, but there still is no pattern to his choices.

30 minutes

His voice is as lively as at the beginning and he shows few signs of fatigue. When the experiment was over the patient said, "O.K." and then added "Did I do O.K.?"

38

0 minutes

As the instructions for the experiment were presented, the patient looked steadily at Tony with a serious, dull expression. He coughed once. His breathing was quick and heavy and he seemed rather tense. When Tony presented the first choice, the patient said with uncertainty, "You mean name it out?" Tony nodded and the patient named "U." Tony looked puzzled and repeated the choice. The patient said, "Oh, I thought you meant between M and T." Tony looked blank and finally the patient said "M." When he was immediately represented with the choice, he said, "I don't get you, sir." Tony clarified the instructions and they started over.

1 minute

The patient sat with his elbow on the desk and his head held in his hand. His fingers dug deeply into his cheek. His voice was soft, flat and monotonous. He made his choice quickly, leaving no pause between Tony's presentation and his choice. The pace was quite rapid. His choices seemed to be quite random.

3 minutes

A few restless movements---knee scratching and elbow rubbing.

4 minutes

Once, when presented with "T-M" he chose "H," caught himself, laughed with embarrassment and chose "M." His body is still but his fingers and hands move restlessly. He looks directly at Tony.

6 minutes

The fingers of his left hand twitch slightly from time to time and he rubs his forehead often in a restless way. His facial expression remains the same---stolid and blank.

8 minutes

For a while, he always selected the first letter. His responses were given in a flat monotone and the pace was rapid, even and steady. He rubbed his brow and coughed slightly.

10 minutes

He rubbed his brow again. This is a small, slow movement with a great deal of pressure behind it. He rubbed the side of his face.

14 minutes

His fingers twitch occasionally. He rubbed his ear rather hard, then gave his mouth a quick jab with his thumb and then started poking his cheeks with his thumb. His expression remains unchanged but he seems redder in the face.

16 minutes

He seemed to be breathing more rapidly. He again cleared his throat softly. Nothing caused a break in the swift pace. There is again no pattern to his choices.

17 minutes

He moved his fingers away from his forehead for a short time, and it was very red from the pressure of his fingers against it.

20 minutes

He corrected himself once, and as he did so he brushed his hand across his face in a quick nervous gesture. He shifted his feet for the first time.

21 minutes

He made a quick jab at the right side of his face.

22 minutes

He poked his chin, then reached back and touched the back of his head lightly. After each of these quick movements, his hand returned to the original position covering the left side of his face. He moved his feet another time.

24 minutes

He clenched his fist tightly and rested the knuckles of his left hand against his cheek. He stared dully toward Tony's knee. He shifted his feet again. A little later he leaned to one side and coughed.

25 minutes

He unclenched his fist and covered the side of his face with his hand again. He stared dully into space for a while.

26 minutes

The restless movements stopped briefly as he covered his face with both hands. Then taking his right hand down, he again rested the side of his face against his left fist. A couple of times he moved his head away from his fist about a half inch, and batted his face lightly against his fist. His manner of responding has changed not at all.

28 minutes

For the first time he sat up, moving not more than six inches from the back of his chair. As he did this he cleared his throat and moved his fist across his forehead. He settled back again with his cheek against his fist for a while. After a moment he slumped putting all his weight on his supporting hand.

30 minutes

The patient closed his eyes momentarily and blinked them open again as the experiment ended. When Tony indicated it was over, the patient immediately said, "O.K., but I still don't know what it's about." Then he laughed very loudly, and then seemed quite embarrassed.

39

0 minutes

Tony gave the instructions, the patient nodded agreeably, said "Uh huh." He gave his first response without pausing in a quiet, calm, soft-spoken way.

2 minutes

He chews gum continuously, shifting it around in his mouth with his tongue. He sat quietly leaning forward with his elbows resting on his knees, apparently quite relaxed and at ease. His voice was very soft and a slight lisp is noticeable.

4 minutes

He apparently is choosing at random, with no pause and no thought. He divides his glances between me and my note taking and Tony and his paper. At one point he coughed very lightly as he was about to pronounce his choice, then carefully repronounced it.

7 minutes

No change in his facial expression or his quiet, even way of giving random responses. His hands lie quietly in his lap.

9 minutes

He coughed very softly and rubbed his forehead. He seemed quite curious about my writing. His responses were still given in a monotonous, quiet voice.

11 minutes

One hand remains quiet in his lap, while the other occasionally strays up to run lightly against his lips or his forehead.

13 minutes

The cigarette which the patient had lit just as the experiment was beginning had burned down against his fingers,

apparently forgotten, for he had not taken a drag from it and a long ash had remained unbroken on its end, because the hand in which he held it had not moved throughout the experiment. Tony noticed the cigarette and moved an ashtray over and the patient dropped in his cigarette without extinguishing it.

14 minutes

Although he remains mostly motionless, his eyes are very lively, shifting often to me. He still chews his gum slowly, running it around inside his mouth with his tongue. His voice has remained the same, as well as the tempo of responses. Still no pattern. There is a smile---or more like a smirk on his face.

16 minutes

Tony lit another cigarette for the patient, which the patient once again allows to burn unnoticed in his hand. His right hand lays in his lap, holding the cigarette between index and middle finger, while his small finger moves slightly as he gives his response. He seems to have a different finger position for different letters---that is, he holds the little finger slightly cocked as he says "D," but outstretched as he says "H." This may have been going on for a long time but I only just noticed it.

18 minutes

A long ash is beginning to accumulate again on his cigarette. The finger movements noted above are so slight that they do not even disturb the ash. Tony is quite absorbed in his paper and hardly ever looks up, while the patient continues his lively eye shifts around the room. He appears quite relaxed and not at all tired. His voice is quite monotonous sounding.

19 minutes

I can see his tongue moving continuously between responses. The smirk on his face is unchanged and his lips are opened slightly almost all the time. He rubbed the bridge of his nose for a moment and looked at me as he did so.

20 minutes

His monotone responses continue with no change. His eyes are still dancing back and forth between Tony and me. The cigarette ash fell to the floor, unnoticed by him. His voice is very soft, and may have become even softer, for Tony has had to ask him to repeat two or three responses. He repeats in the same flat tone, hardly any louder than before. He finally noticed the cigarette in his hand and dropped it to the floor where it continued to burn.

22 minutes

He shifted his position so that now his right hand was over his mouth, and for a while his curved finger tips rested lightly against his lips. He continued chewing gum and running his tongue around inside his mouth. The motion of his tongue was a rather easy, gentle, slow one.

24 minutes

His pattern of choices has never been clear to me, and I think he chose simply at random. At this point he did, however, successfully complete the maze. Tony told him this, and said that they would start again. This seemed to make no difference to the patient who did not react in any observable way to Tony's statement. He looked over at me very often.

25 minutes

He held his hand against his mouth in such a way that it was hard to see the expression of his face, but no change is observable in the voice, his eyes still dance around, and he is very still.

27 minutes

He has taken to the little finger movements again, and it is quite clear now that he moves his fingers exactly the same way every time he comes across "D." About the other letters I am not quite sure.

30 minutes

Tony said this was the end, and the patient put both his hands in his lap and smiled.

40

0 minutes

The patient listened to the instructions with serious interest, apparently quite curious about what was to happen. He gave two M choices, and as M-T was presented the third time, he gave a little laugh and chose T. The attitude seemed to be one of friendly relaxation.

1 minute

He seemed to grow increasingly puzzled, but still curious as he seemed to be trying out first one combination of letters, then another. E.g. he took all first presentations for several choices, then as M-T was repeated, he took all second choices for a while.

4 minutes

His attention began to wander as he looked out the window, but he called himself abruptly back to the task with an increased serious expression on his face.

5 minutes

His puzzlement increased, the pace slowed down, and he began to frown. His gaze shifted occasionally away, but stayed mostly on Tony. He seemed quite uncomfortable, and he became restless, shifting his position in the chair almost with every choice. The pauses became quite long at one point as he watched Tony very closely.

7 minutes

He seemed to be choosing at random now, with a kind of resentful expression on his face. His voice seemed to be getting tired and he cleared his throat two or three times.

8 minutes

Sighing gently, he appeared bored.

9 minutes

Continued to respond at random, carelessly. He sighed heavily

several times, and at one point tried a little laugh that did not quite come off. He glanced restlessly around the room. A weary quality of his voice matched the dreary expression of his eyes.

12 minutes

He fiddled with the ash tray. He put it down and began to stare directly at Tony and hold himself very still as he gave even, rhythmic responses.

14 minutes

He sighed several times in such a way that Tony would not notice it, expelling his breath with open mouth and quietly as Tony looked at his paper. He began to seem unable to keep up with the pace he had set himself, even though that was not very fast, and almost gave inappropriate responses several times.

16 minutes

He shifted his body in the chair and seemed to pull himself together for renewed attention to the task. His eyes had a kind of glazed expression, and he seemed to be trying to focus all of his attention on the task. At one point a slight noise of typing in the next room was responded to by his leaning forward toward Tony, apparently so as not to be distracted. It seemed to bother him that he occasionally got his tongue twisted a little before he got the letter out. The responses were coming without increased tempo but a lot of irregularity.

17 minutes

The patient was becoming noticeably pale. He sighed quite often, short little sighs that were almost explosive in their intensity. He still sat motionless. He had discovered a pattern of letters but he occasionally strayed from it. He seemed to think this was bad when he did. He brushed his hand across his face often, and squinted and frowned.

20 minutes

"That's enough," he said abruptly and with strong feeling.

Tony stopped and waited for the patient to make the next move, and the patient seemed ashamed of himself. He said he would be willing to continue but that he needed a few minutes rest.

Computation I

	Bored	Not Bored	Total
Schizophrenics	1	18	19
Non-Schizophrenics	13	7	20
	14	25	39

$$\chi^2 = \frac{39}{(19)(20)(14)(25)} \frac{(1)(7) - (18)(13)}{(14)(25)}^2 = 16.2829$$

n = 1; P < .001

Computation II

	Fascinated	Bored	Other	
Schizophrenic	9	1	9	19
Non-Schizophrenic	1	13	5	19
	10	14	14	38*

Using the formula suggested by McNemar (p. 207)

$$\chi^2 = \frac{N^2}{A_t B_t} \left[\sum \frac{B_i^2}{A_i + B_i} - \frac{B_t^2}{A_t + B_t} \right]$$

in which the A's and B's have the meanings indicated in the table below

		$A_i + B_i$	$\frac{B_i}{A_i + B_i}$	$\frac{B_i^2}{A_i + B_i}$
9 (=A ₁)	1 (=B ₁)	10	.1000	.1000
1 (=A ₂)	13 (=B ₂)	14	.9286	12.0714
9 (=A ₃)	5 (=B ₃)	14	.3571	1.7857
19 (=A _t)	19 (=B _t)	38 (=N)		13.9571
				<u>9.5000</u>
				4.4571

substituting in the formula

$$\chi^2 = \frac{38^2}{(19)(19)} [4.4571] = 17.8284$$

degrees of freedom = 2; P < .001

* One schizophrenic is indeterminate as to boredom and one non-schizophrenic is indeterminate as to fascination. These cases are thrown out; of one wishes to test the hypothesis including these cases as against the findings, the chi square is reduced to 13.6640 but still P < .01

Computation III

Following the same method of testing used in Computation II:

	Schizophrenics	Non-Schizophrenics	Totals
Low Restlessness Throughout	11	1	12
Increasing Restlessness	0	13	13
Others	6	5	11
Totals	17	19	36

A_i	B_i	$A_i + B_i$	$\frac{B_i}{A_i + B_i}$	$\frac{B_i^2}{A_i + B_i}$
11	1	12	.0833	.0833
0	13	13	1.0000	13.0000
<u>6</u>	<u>5</u>	<u>11</u>	.4545	<u>2.2727</u>
17	19	36		15.3560
				<u>10.0278</u>
				5.3282

$$\frac{36^2}{(17)(19)} = 4.0124; \chi^2 = (4.0124)(5.3282) = 21.38$$

$$n = 2, P < .001$$

Computation IV

	Schizophrenic	Non-Schizophrenic	Total
Sleepy	1	12	13
Non-Sleepy	19	8	27
Total	20	20	40

$$\chi^2 = \frac{40 [(1)(8) - (12)(19)]^2}{(13)(27)(20)(20)} = 13.79$$

n = 1 P < .001