

LRI Report No. 39a

COGNITIVE DEFICITS IN SCHIZOPHRENIA

Peter G. Ossorio

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Linguistic Research Institute
Boulder, Colorado

This report is a transcript of a paper presented at the Society for Descriptive Psychology annual conference at Boulder, Colorado in October, 1987.

We are very grateful to Mary McDermott Shideler for providing the transcript.

Copies of this report may be obtained by writing to the Linguistic Research Institute, P. O. Box 1294, Boulder, Colorado 80306.

RELEVANT MAXIMS

1. A person takes it that things are as they seem unless he has sufficient reason to think otherwise.
2. A person will not cross legs behavior potential over water.
3. What a person takes to be real is what he is properly so-called.
4. Tradition takes precedence over truth.
5. Custom takes precedence over fact.
6. In a model system, a person views events in light of the values and properties that go with his position in the system.

OUTLINE

- I. Hypothesis
 - a. Background data
 - b. Hypothesis: Concreteness as significance deficit
- II. Explanation 1.
 - a. Background data: concrete / context
 - b. Significance/context/reality/concrete/Little White Balls
 - c. Distortion of reality: Unthinkability model
 - d. Distortion of reality: Insistence model
- III. Reconstruction
 - a. Why is there such a thing as significance?
 - 1. Judgment Diagram
 - 2. Being a banker / acting as a banker
 - b. There's no such thing as significance; Up the Down Staircase
- IV. Explanation 2: There will be unthinkable 2, 3, 4 significance (Fig. 2)
 - a. Thoughts at levels 2, 3, 4 will not be real, not my thoughts
 - b. If no significance, no affect
- V. Explanation 3: There will be unthinkable A, B, C productions -- not real / not mine / non-existent
 - a. Reading my thoughts
 - b. Emotional reactions not mine--they were put there
 - c. Impulses, desires not mine--they were put there
 - d. "Private language"
 - e. Rituals

RELEVANT MAXIMS

- A. A person takes it that things are as they seem unless he has reason enough to think otherwise.
- B. A person will not choose less behavior potential over more.
- C. What a person takes to be real is what he is prepared to act on. (And vice versa)
- D. Reality takes precedence over truth
- E. Status takes precedence over fact
- F. In a social system, a person views events in light of the values and concerns that go with his position in the system.

It all started thirty years ago. I was studying for comps at the time, and I came across some interesting experimental data on schizophrenia, and that particular body of data stuck with me, and it's essentially the reason why I'm talking on this today.

The data is this: that the clinical folklore is full of references to schizophrenics being concrete. The experimental literature was quite otherwise. The classic tests for abstractness and concreteness are of two kinds. One is classification, like the similarities test on the WAIS, sorting tasks where you pile things together that belong together, is one kind. Deductive reasoning, so-called abstract reasoning, like working syllogisms, like proving theorems. At that time, the experimental literature was quite clear-cut, namely, that schizophrenics did not differ from normals on these two classic and standard measures of abstractness and concreteness. And yet, as I say, the clinical folklore then and now is full of references to concrete thinking in schizophrenics.

And there was another little tantalizing tidbit, namely, the other part of the clinical folklore is that schizophrenics do poorly on proverbs. Something like thirty years later, the research literature is not quite as clean as that, but it's pretty much as I've described. The way it is now, the literature tends to show slight differences on sorting and deductive reasoning, and they are slight. Some studies don't show anything; some studies show something. But the amount of difference is not very great. It certainly is not great enough to account for the difference between schizophrenia and normality.

Also, by now there is a good deal of literature that shows that yes, schizophrenics do poorly on proverbs. There are consistent differences between schizophrenics and normals on proverbs. If you want an amusing exercise, or maybe a painful one, read the literature to watch some of these writers try to assimilate proverbs to abstract-concrete, and explain in what sense proverbs are abstract, and why you would expect schizophrenics to do poorly on them.

That's the background. That was what caught my eye back then, and has stuck with me all these years. You don't usually find patterns like that. You don't usually find patterns where there is such a clear-cut difference.

Sometime about ten or fifteen years ago, something jelled around that idea, and I said, "Ha, I've got it." I've got a hypothesis, and at the time, it looked like a genuine empirical hypothesis. As time goes on, I become less sure of that, although if I had a vote now, I would still say, "Yeah,

this is a genuine empirical hypothesis. The hypothesis is that the cognitive deficit in schizophrenia that is referred to as concreteness, is a deficit in the appreciation of significance.

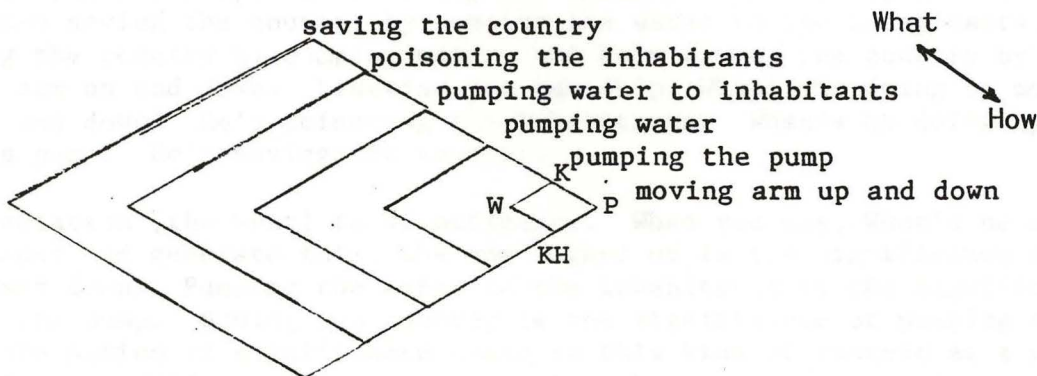
Many of you are familiar with the notions of significance and performativeness. Cory developed an instrument, and there have been four dissertations now using that instrument. The key notion is that some people are deficient in their appreciation of significance. It's like color-blindness, that there's things that normal people can see and that certain people can't see. If you water that down, what you wind up with is: some people have greater or less difficulty seeing more or less significance. So it's not an all-or-none, black-and-white thing, but there is certainly that dimension.

That's one of those nice, neat, simple hypotheses that if you have an instrument, you can go right out and test. And Cory's instrument is just such an instrument, and currently somebody has got data--unfortunately, it's not analyzed yet or I would report that--but indeed it is testable with an instrument detects deficiencies in appreciation of significance.

Okay, that's the hypothesis. Now the question is: Why does that hypothesis make sense?

The first thing you do is apply it to proverbs. After all, proverb-thinking was undoubtedly one of the things that suggested it. How does it explain the differences in proverbs? Here you have to understand the nature of significance, and this is the standard heuristic example. You could manufacture endless examples along the same line. This I took out of an example by Anscombe, and it goes like this:

Figure 1.



There's a guy standing outside a farmhouse on a lonely English heath, and he's moving his arm up and down. That's the first description of his behavior: he's moving his arm up and down. Then you add something. As it happens, his hand is wrapped around a pump-handle, so he's not just moving his arm up and down. He's pumping the pump. Pumping the pump is the second description. As it happens, the pump is operational and there's water in the well, so he's not just pumping the pump. He's pumping water. And you add something more. As it happens, the pump is connected to the house, and the people in the house are drinking the water. So he's not just pumping water;

he's pumping water to the inhabitants of the house. There's another description of the behavior. You add something more: there's poison in the water, and he's put it there. So he's not merely pumping water to the inhabitants; he's poisoning them. You add something else, namely, these people are conspiring to overthrow the government. So he's not merely poisoning the inhabitants; he's saving the country.

Now all of those are correct descriptions of his behavior. Every single one is a correct description of what he's doing. And there are interesting relationships among them. For example, the sequence is not accidental and it's not arbitrary. He's poisoning the inhabitants by pumping the water. He's not pumping the water by poisoning the inhabitants. It's got to be in that order or it all falls apart.

When it comes to the relationships between these descriptions or these behaviors, there are two kinds. Two questions move you this way [arrow up] or this way [arrow down] along this series. You start anywhere, like here-- you say, What's he doing? He's pumping the pump. What's he doing by doing that? You generate the answer that's higher up. What's he doing by pumping the pump? He's pumping water. What's he doing by pumping water? He's pumping water to the inhabitants. What's he doing by that? He's poisoning the inhabitants.

You start somewhere and ask How. He's pumping water to the inhabitants? How is he doing that? By pumping the water. How is he doing that? By pumping the pump. How is he doing that? By moving his arm up and down.

So these two questions, then, connect the members of the series. You can use the questions to move up and down that series any way you want. Furthermore, you can skip. He's saving the country by poisoning the water, but he's also saving the country by pumping the water to the inhabitants, and he's saving the country by pumping water, and he's saving the country by moving his arm up and down. Likewise you can skip: What's he doing by moving his arm up and down? He's poisoning the inhabitants. What's he doing by pumping the pump? He's saving the country.

This relation [the What] is significance. When you say, What's he doing by doing that? and generate this, the one higher up is the significance of the one lower down. Pumping the water to the inhabitants is the significance of pumping the pump. Saving the country is the significance of pumping the pump. So the notion of significance comes in this kind of context as a way of connecting the different descriptions. Remember, there's the other one, the How [arrow down].

Now somebody who is deficient in appreciating significance is somebody who can't make the move from a starting-point upward, or who is deficient in his ability to make the move upward. If you want to, you could just say he's somebody who can't see the things that are higher up on the series, unless maybe you draw him a diagram. Drawing a diagram helps. It works particularly if this is what you're dealing with in interpreting projective tests. In a projective test, if you go from the test response to the interpretation, it looks like you have a crystal ball, because there's no

apparent connection between this and this: there is no resemblance between moving your arm up and down and saving the country. There's no resemblance between seeing a crab on Card 1 and being a hostile person. So when you make those moves, he says, "Gee, you must have a crystal ball." However, it's like doing geometric proof. If you put in enough steps to connect the end-points, then it all looks obvious.

One of the key things is this: each time we moved up, we had to add something. Every time we made a new move, we had to add some facts. We had to add some context. Without those additional facts, you couldn't make that move, and indeed, it wouldn't be true. If it were not that his hand was wrapped around the pump handle, it would not be true that by moving his arm, he's pumping the pump. So write down in large letters that **significance depends on context**, that seeing the significance of a thing depends on the context of that thing, and on being sensitive to that context and its relevance.

For the time being, take that simply as an elaboration of the nature of the hypothesis, that this is what a schizophrenic person is deficient in, deficient in his ability to move upward. He starts out here, somewhere around this level [moving arm, pumping pump], and this level is the kind of thing we call "concrete".

The next thing to look at is, will this either explain, or help explain, why you wouldn't expect that somebody who had this deficiency would be deficient in classifying things or in doing deductive reasoning. The key is in the notion of context. Significance is context-dependent. Deductive reasoning and classification are totally context-free. You don't need any context to categorize blue as a color, or categorize both a fly and a tree as living things. You don't need any context to draw inferences from logical propositions. It's all there. So there is this single--at least this one huge--difference between this kind of thing, significance, which is context-sensitive and context-dependent, and the traditional tests of abstractness which are totally context-free.

On that basis, you would say that somebody who was deficient in this--there's no reason to expect he'd also be deficient in these others. If he was deficient in these others, it would be on some other grounds. It wouldn't be because he was deficient here.

Let me elaborate a little on the notion of context-dependence. He's doing all of these things simultaneously. It's not that he first does this, and that brings this about, and then that brings this about, etc. It's all happening at once. He's doing all of these at once. And you can say that in this situation, doing this is doing this. In this situation, doing this is doing that, and it is doing that, and it is doing that, and it is doing that. There's an identity here.

You can take your pick. You can say he's engaging in all these behaviors simultaneously, or you can say he's engaging in one behavior and there are all these correct descriptions of it. If you think about it in a purely practical way, you will strongly suspect that it's probably some of

each. He probably is not engaging in this many separate behaviors, but he probably isn't just doing one, either. The key, though, is that this is the same as this, and doing this is the same as doing this--in this situation. In almost any other situation, doing this is not the same as doing this. In almost any other situation, doing this is not the same as doing this. And so on up the line. In almost any other situation, the identities vanish. That's what it is to be context-dependent, and totally context-dependent. It all depends on in this situation, these identities apply. There's hardly any other situation in which those identities apply. So when I say "context-dependent", it's strongly context-dependent.

What does it take to exploit this context, and generate this kind of thing? What does it take to be that sensitive to the context and to its relevance? Clinicians have a word for it: it's called reality contact. You've got to be responding accurately to what's here and what's somewhere else. You have to have a picture of the world in your head, and if it's accurate, you can do these things. If you're seeing things accurately around you, and have an accurate picture in your head of what's in other times, other places, and those two go together accurately, you can do these things. If you don't, you're going to be in trouble with this kind of task.

Let me give you another illustration along the lines, to bring in things that are at other times and places. This one, it's all pretty much happening there, so let me give you another one where that's not so. This, too, is one of the oldest chestnuts in the book, and it's Dinner at Eight-Thirty. For those few of you who haven't heard it, let me go through it quickly. It goes like this:

Suppose I tell you that yesterday evening, I got through work at six o'clock; I got home at six-thirty; and we had dinner at eight-thirty and it was steak well done. You hear that and you yawn a little and you say, "So what else is new?" In this yuppie down, half of Boulder could say the same thing. Then I add, "You know, yesterday morning I had a big argument with my wife that we never got resolved when I went to work. And I usually do get home at six-thirty, but we usually have dinner at seven-thirty, not eight-thirty, and I like steak but I like it rare and I hate it well done." About that time, you have a very different understanding of what was going on last night at eight-thirty. Now you see it as an expression of hostility. If you wanted to, you could fill in the gaps from dinner at eight-thirty to giving me the business.

Notice that that's the same story. When I first told you this thing, it meant nothing. It's just an ordinary sort of thing. As soon as I add those extra facts to create the context, you notice that those other facts are at other times and places: yesterday morning, what we usually do--usually I come home at six-thirty, usually we have dinner at seven-thirty. Those things you can't see, but as facts in your picture of the world, they fit together with what you do see, and they make a pattern, and that pattern is hostility.

Most people do that real easily. When I give the Dinner at Eight-Thirty example to undergraduate classes, as soon as I say "Usually we have dinner at seven-thirty and not eight-thirty", half the class is smiling. And when I

supply the third piece of information that I hate steak well done, about ninety percent of them are smiling, because they see it. There again is an example of bringing together context that is not context-here-and-now, but context of facts in other times and places that form a pattern with what you do see here now.

Let me digress a little. This problem of significance is centrally a problem of context, and that problem appears in many, many forms in many places. One of the places it appears, and one of the guises under which it appears, is the problem of hard data. It's an open secret that a piece of hard data is totally useless unless you have other pieces of hard data and some way of interpreting them. Moving your arm up and down is hard data. What do you make of that? You put it . But just having a piece of hard data doesn't do it. You've got to have some way of collecting them, of interpreting, and so forth. So all of the emphasis on hard data leaves you hanging because the key things are done in ways that don't involve hard data. They involve the interpretation, they involve the significance.

Equating context-sensitivity to contact with reality opens up a lot of ideas, there. It says, Hey, maybe this is not empirical. Maybe it's not very empirical, because contact with reality has a definitional relation to psychosis. And if significance has a conceptual relation to contact with reality, then its connection to schizophrenia may not be quite empirical either.

I'm not sure I'd go that far, but you can see that it's beginning to look like not just a matter of brute fact, that there's some conceptual structure here that says that these things go together, and they don't go together by accident.

Now come back to why would you say, at face value, interpreting proverbs requires significance sensitivity? Why does it take sensitivity to significance to explain what you mean by "Strike while the iron is hot"? What does it take to respond to that question not by saying, "Well, if you let the iron stay too long, it'll cool off", but instead say, "You've got to take advantage of the situation when you have it". What does it take?

You have to bring it back to what amounts to a conversational context, and raise the significance question. If somebody says that, what is he doing by doing that? If somebody says that, what is he telling you by telling you that? If you can pursue that line of thought, then you can come up with the right answer. If you can't, you'll probably wind up saying if you hold a thing too long, it's going to get cold on you. Again, the connection between significance and interpreting proverbs doesn't seem to be just accidental, either.

At this point, you can go two routes. One is, you can talk about a simple disability with respect to significance, and that's, in effect, what's built into the instrument that just says some people are deficient, more or less, and we're going to assess the degree of deficiency. If you consider, though, the fact that most schizophrenics were not always schizophrenic, you have a hard time using that simple an approach. You have to start asking how

can somebody lose the ability to appreciate significance. It's one thing to treat it as though a person never had it, like being color-blind. It's another if you follow the general course of schizophrenia and say, No, for most of these people, it looks like at one time they had it, or at least certainly had more than they have, and they lost it. So the next question we face is, How could somebody do that, or why would somebody do that?

Let me hit you with another old chestnut, and this is Little White Balls. That one is a heuristic image, and it goes like this. Imagine that you come in and ask me, "Hey, Pete, what have you been doing?" And I say, "Well, I've been walking around on grass and knocking little white balls in holes in the ground, and then doing it all over again." You would look at me and say, "Why the hell would anybody want to do that?" And you'd be right. Why would anybody want to knock little white balls into holes in the ground and do it all over again? In contrast, if I said I'd been playing golf, nobody would say, "Why the hell would anybody want to do that?" You know why somebody would want to do that. Yet when you play golf, what is it you do? You walk around on grass and knock little white balls into holes in the ground, and then do it all over again.

Notice, in that example you've taken a practice that is very meaningful to many people--it's an intrinsic practice--and you've made it meaningless. You've made it meaningless simply by describing it in this very concrete way. Somebody who has lost or doesn't have the appreciation of significance, by and large is living in a world of little white balls.

Now if we ask again why would somebody do that, how could somebody do that, we have an answer. We can give an answer that fits the notion of somebody becoming schizophrenic. The answer is given by the unthinkability model of distortion of reality that says if you're in an impossible position, you're not going to see it as an impossible position; you're going to see it in some other way that leaves you some behavior potential. And since you're not seeing it the way it is, you're distorting reality, and it's going to take somebody else to say that. As far as you're concerned, it is the way you see it.

Why would somebody make the world meaningless? To put it differently, why would leaving living in a meaningful world leave somebody in an impossible position, when one of the options, if he distorts it, is to make it meaningless? What is it about living in a meaningful world that might leave a person in an impossible position, so that if he saw it as meaningless, he wouldn't be in that impossible position again? Again, clinicians have a characteristic language. They say, Well, if it was too painful, if it was unbearable, if he couldn't cope with it the way it is, then you could expect a distortion that would leave him in a better, more manageable position.

Notice, by the way, that that's not motivational, although it's an answer to why it's not a motivational answer. Distorting reality is not something that people do on purpose, for a purpose. Instead, it hits Maxim 5 that says, "If a situation calls for a person to do something they can't do, they'll do something they can do." In general, situations call for a person

to see them they way they are, but sometimes that's not something the person can do, and so under those circumstances, the person will do something else that he can do, which is to see it some other way that gives him some operating room.

This is independently derived as a model for distortion of reality. It was not derived with any reference to schizophrenia. It provides a general model for all distortions of reality, not just psychotic ones. However, it comes into play here. Why would somebody make the world meaningless? If it was too painful. If the reality is something I can't stand, I'm going to not see it that way. I'll see it some other way. If the kind of meaningfulness there is in my world and my life is unbearable, one way out is to see the world as meaningless, to see it in concrete terms as Little White Balls.

So that puts another piece in place as far as understanding schizophrenia as at least in part a result of or an expression of a deficiency in the appreciation of significance. On the other hand, if you stop there, and you start thinking about schizophrenics that you have known, you'll say No, that doesn't fit. At least, it certainly doesn't fit them all because there's lots of schizophrenics for whom the world isn't meaningless. Most of them are paranoid, and paranoids notoriously live in a meaningful world, but it's a special kind of meaningful world. In particular, it's one that fits the other model of distortion of reality, namely, the insistence model.

For most paranoid people, they are not blind to significance; they're only blind to most of it. They are quite open to certain significance, which is the only significance they will accept. So they will insist on interpreting everything, no matter what it is, as having that significance. As I say, it just happens that there is a second model for distortion of reality, and it happens to fit right on for the exceptions.

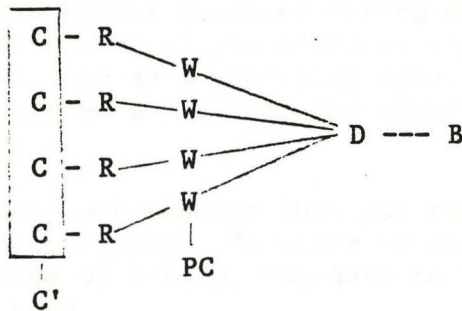
That last one, we can pursue further down, but if we stop here we can say, Yeah, that does a reasonable job of both giving us some view of schizophrenia that isn't just the same old view, and giving a central place in that view to this phenomenon and that particular kind of cognitive deficit: insensitivity to significance.

However, once you've got this _____, you've got the bit in your teeth, you're torn two ways, because you can go galloping off that way and you can go galloping off that way. The one way you can go galloping is: here we've built up now a nice conceptual structure that fits together a number of different pieces, and you can extend it even more. You can elaborate that, and that will open up new doors and new ideas. Or you can say there's more to schizophrenia than just this. After all, schizophrenics are known to have delusions, they're known to talk crazy, they're known to do all kinds of other things, not just this. So the other direction you could gallop off in is, let's see how much of what we expect to see in schizophrenic people can we account for? And, of course, these two things go together, because so far we've only accounted for part of the schizophrenic sorts of phenomena. Then you might say it makes sense to first elaborate your conceptualization, and

the more you elaborate, the more you come back and try to see how much now you can explain.

So this is what I've done in what is shown in the outline. If you take the explanation that we have, we can now try reconstructing that explanation in order to elaborate our range of ideas, and then use that elaboration to now try to explain a number of other things about schizophrenics and their behaviors.

The most obvious target for elaboration is this central notion of significance. If you just introduce it this way, it sort of looks like a thing complete in itself, and in fact it's not. It's thoroughly embedded in a whole network of notions. If you want to present that concept, you do sort of present it in isolation, but it doesn't work in isolation. It is connected conceptually to other things. So when it comes to elaborating, that's the first place we want to look. We want to expand our understanding of what is this thing called "significance"? How come there is such a thing? And the first thing we do is bring in another classic piece. This is known as the Judgement Diagram, and it's a diagram for reconstructing any behavior as a case of deliberate action.



You read it like this: a person is always in some situation, some set of circumstances, and that's this [C'], the over-all set of circumstances. Within that over-all context, there are certain circumstances or facts that have a special relevance. Those facts give the person reasons for acting one way or another. Those reasons carry different weights; the weights they carry reflect the kind of person that's involved. But in the face of all this, you have a decision to act and an implementation via behavior.

How does this relate to significance? Over here: I said context. You have to pick out from our total situation those facts, those particular circumstances that are relevant in one way or another. They don't come with labels on them. So you have to be sensitized to them. You have to be able to pick them out, and then respond in the face of conflicting pulls, because you can bet that anything you've got a reason to do, you've got a reason not to do. Typically, you have reasons pro and con, and pro and con, and pro and con. This is a conventional diagram, and there are four of these [R's] because there are four general categories of reasons: Hedonic, Prudential, Ethical, and Esthetic.

What this says is that behavior is context-sensitive. All behavior exhibits the kind of thing that we saw over here [the significance diagram].

It's not a special feature of the special something called "significance". It's a fundamental feature of all behavior.

The next thing is the notion of being a banker and acting as a banker. There's nothing special about bankers; it's just that that's the particular [change tape] . . . chapter in Advances on multicultural psychology. The idea is this, that when you're doing a job like the banker, to do that job, you've got to be sensitized to certain things, those things that count for bankers, those things that make a difference, that are relevant to bankers. And what those things will be, will be very different from what's relevant to a Presbyterian, what's relevant to a mother, what's relevant to a psychologist, what's relevant to an automobile mechanic. What's relevant to almost anybody else is not going to be much of what's relevant to a banker. The same goes for all of those other things. What's relevant to a mechanic is relevant to almost nobody else. What's relevant to a psychologist is hardly relevant to anybody else. [laughter] Remember--that's baseball talk.

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You've got to pull all of these things out of your context. Being a banker involves being sensitive and being able to pull the right facts out of the context, being sensitive to them, having them carry weight with you. Then acting as a banker involves acting on just those reasons and no others. You'd be a poor banker if you acted on reasons you had as a father-in-law, or as a music-lover, or as a something else. To do a good job as a banker, you've got to screen out all of the other reasons you have in all of your other jobs.

So screening out reasons that you really do have, again, is part of the fundamentals of behavior. To stick to any directive course of action, any consistent course of action, you have to be able to screen out reasons that you really do have.

That sensitivity, surprisingly enough, is not particularly sensitivity to this [moving arm up and down]. It's sensitivity at the higher levels of significance. And this will hold for all of the other jobs I mentioned. These [e.g., saving the country, poisoning the inhabitants] are the kinds of things that move you; these are the kinds of things that you're primarily sensitized to; these are the kinds of things that you behave meaningfully in terms of. It's not these things [lower levels].

At this point, we could turn the question on its head. Why don't people just see significance and forget about these things? How come we're so hooked on the concrete, on the hard data? You got a hint this morning from Joe [Jeffrey]: remember, he said everybody's going to see it differently. Everybody in that organization is going to see it from where they are. By the way, your second hand-out has a list of relevant maxims. As you'll see, one of those says, "In a social system, a person will view events in light of the values and concerns that go with his position in the system." So somebody who's a banker is going to view events in the light of the values and concerns of bankers. And this morning, Joe was emphasizing that people in different positions in the same system, even, will see things totally differently.

Think what a problem of communication there would be, think of what a problem of reality-testing there would be--if you have a problem of communicating, you're going to have a problem of reality-testing because you can't check with other people. The emphasis on hard data, the concrete, visible things, serves that function. These are the things that people don't disagree about. Why? Because what you see here and now is enough to validate what you say, whereas things like "She's really giving me the business at eight-thirty" doesn't just depend on what you saw then and there. It also depends on connecting that to a set of other facts that you don't have to. You could have connected the dinner at eight-thirty to any number of other facts. You didn't have to connect it to the particular ones that I mentioned.

So those kinds of descriptions have a certain hazard, namely, that you could have done it otherwise, and somebody else would do it otherwise. But this kind of description doesn't. Anybody will say that's a wall, that's cream-colored, this is a blackboard, this is a piece of chalk, a table, he moved his arm up and down--all of those things are easy for people to agree, and that's how you pin down some of these other descriptions. We'll get more on that connection further down the line.

I think it's educational and in some ways liberating to stand that question on its head, and say What do we need this for? Because we are so damned socialized that this is the thing, that this looks mysterious and crystal-ball. Using the color-blindness notion that normal people just see these things* and react to them. It takes somebody who's deficient to have to operate with this ** , to have to make do with this stuff. Now we switch. If you look at your outline, it says there's no such thing as significance [III, b].

/(of Figure 2)

On the bottom on the left-hand side is what we've been talking about here [the significance diamond], except I've drawn it a little differently. Instead of embedding the diamonds, I've just drawn separate diamonds, but each diamond corresponds to a different one of these. The reason for doing that is to emphasize that to get to the next one, you've got to add the context. Each time you've got to add the context. And it does indicate it's the significance descriptions that people react to when they produce a behavior.

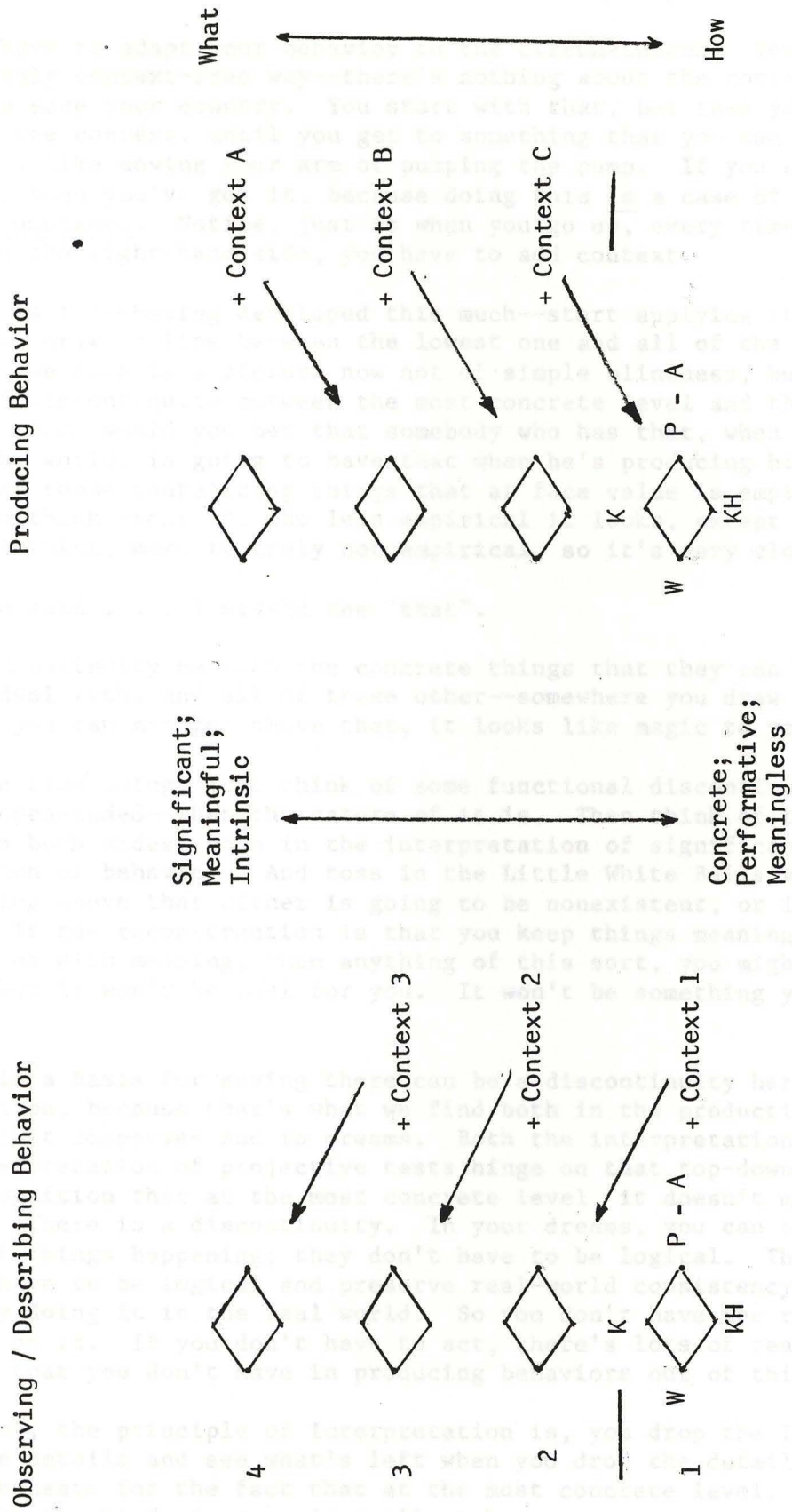
Now look at the right-hand side, and what you'll see is a neat mirror-image. Producing behavior is the inverse of all of this. You don't produce behavior by producing arm movements. You produce the behavior of saving the country, but remember, yesterday Bente [Sternberg] said there are some things you've just got to do; you don't do them by doing something else. There are some things that you can't just do, that you have to do by doing something else, and most of our behaviors are of that kind. You can't just save your country pure and simple. You've got to do it by doing something, and whatever you do will only be a case of saving your country if it fits the context, if in that situation, it is a case of saving the country.

So producing behaviors shows the same kind of context-sensitivity that we saw in the case of significance. In fact, that's what we're dealing with

* Upper levels of significance (Figure 2)

** Lower levels of significance (Figure 2)

Figure 2. Up the Down Staircase



here. You have to adapt your behavior to the circumstances. You start off in a relatively context-free way--there's nothing about the context that says you ought to save your country. You start with that, but then you start reacting to the context, until you get to something that you can do just straight out, like moving your arm or pumping the pump. If you can complete that series, then you've got it, because doing this is a case of doing that, in that circumstance. Notice, just as when you go up, every time you take a step down on the right-hand side, you have to add context.

Now let's try--having developed this much--start applying it. What I've done is, I've drawn a line between the lowest one and all of the higher ones. Because what we have is a picture now not of simple blindness, but rather some sort of discontinuity between the most concrete level and the higher levels. And what would you bet that somebody who has that, when he's observing the world, is going to have that when he's producing his behaviors. That's one of those tantalizing things that at face value is empirical, and the more you think about it, the less empirical it looks, except you never can quite, I think, make it truly not empirical, so it's very close.

Q. You said . . . I missed the "that".

The discontinuity between the concrete things that they can respond to, interpret, deal with, and all of these other--somewhere you draw the line. Below that, you can manage; above that, it looks like magic to you.

For the time being, just think of some functional discontinuity, and leave that open-ended--what the nature of it is. Then think of that as appearing on both sides, both in the interpretation of significance and in the production of behavior. And toss in the Little White Balls version that says, anything above that either is going to be nonexistent, or it's going to be unreal. If the reconstruction is that you keep things meaningless because you can't cope with meaning, then anything of this sort, you might be able to see, okay, but it won't be real for you. It won't be something you can act on.

There is a basis for saying there can be a discontinuity here, in top-down production, because that's what we find both in the production of projective-test responses and in dreams. Both the interpretation of dreams and the interpretation of projective tests hinge on that top-down production, and the recognition that at the most concrete level, it doesn't make that much sense. There is a discontinuity. In your dreams, you can experience all kinds of things happening; they don't have to be logical. The reason they don't have to be logical and preserve real-world consistency is, you're not actually doing it in the real world. So you don't have the reality constraints on it. If you don't have to act, there's lots of reality constraints that you don't have in producing behaviors out of this one.

Remember, the principle of interpretation is, you drop the lowest level. You drop the details and see what's left when you drop the details. That's how you compensate for the fact that at the most concrete level, it's not going to make the kind of sense it really makes.

Now with this picture, let's look again at the schizophrenic, and say, Now what would you expect? What we saw was that some schizophrenics will accept some significance, but will insist that everything is that way. In general, some significance will be unacceptable; the person will not be able to see it as real, but he may be able to experience it as unreal. If he experiences it and it can't be real, if it isn't real, it isn't mine, and if it isn't mine, how did it get there? Somebody put it there. You have there a basis for one of the common delusions in schizophrenia: "Somebody is putting thoughts in my head." You can reconstruct that by supposing that the person does experience some of this, but since it's not real for him, it's got to have some other status. And that other status is, "Somebody put it in my head". And somewhat that hinges on simply how great an ability do people have to literally wipe out all significance, as against just not acting on it, as against just giving it some other status like "unreal".

The second thing that comes out of that is that there are no provocations, there are no dangers, there is no guilt, there is no wrongdoing, because all of those are significance descriptions. There's lions but no dangers. There's slaps in the face but no provocations. If there's no provocations and no dangers and no wrong-doings, etc., there's also no emotional reaction. That gets you another of the classic schizophrenic symptoms, namely, what's called "flat affect". So working the significance side, you can generate two of the most common symptoms--additional symptoms--of schizophrenia.

Working on the production side, see what we can get. One fairly well-known phenomenon is that people can make distinctions and act on them without recognizing what distinctions they're making and acting on. A classic case is, people can often recognize that they're in danger without being able to say how they knew or what it was that was a danger. They just have a hunch, they just sort of know, and they react. Now imagine that I am a schizophrenic and I can see some of these things, but I don't know that that's what I'm doing. For me, that's all unreal and just something that somebody put in my head. But I do react to that, and you see me, and you recognize what I'm doing, and you reflect that back to me. What would be my reaction? Among the possible reactions is, "You must be reading my thoughts. When you say it, I can recognize it." Or, "You must be putting thoughts in my head, because when you say it, it sounds right." And along with thoughts are emotional reactions: "You must be putting anger into me. You must be broadcasting those things and filling me with anger."

A lot of these are very simple, almost mechanical, once you have the formula of "It's there but it's not mine. It's not mine because it's not real." So emotions and impulses and desires can get put there, and that, too, is one of the most common delusions of schizophrenics--those kinds of delusions.

Then there is the other one that caught my attention some time back, namely, there is in the clinical folklore a thin but long-running strand of thought that says schizophrenics often have a private language. What they say makes some kind of sense, but it doesn't make the ordinary kind of sense. They have a private language. Let me read you a little bit of dialogue

which, if you were catching it on the run, would give you that kind of feeling. This is from a draft-age, ex-college guy who joined the army during the Vietnam war, and that alienated him from his friends, and he later became psychotic. Here he is, talking a little about that, and he's saying:

I didn't have a place with them any more. I tried to tell them about the stock market but they didn't appreciate it. They asked me to pick up a record I lent them. I didn't go because they tried to kill me. They're all dead now--I had it done.

On the one hand, this is crazy talk. On the other hand, it's not just nonsense, it's not just gibberish. And it's this kind of talk that gives you the sense that this guy is saying something, but he isn't saying it in English, and that's where the idea that schizophrenics have a private language--from this kind of dialogue.

Think of top-down production now, with the actual sentence being down here [the "moving arm" level]. And think of the production going fine until you get to the actual words, and then they get jumbled up, or something close to the actual words but it's a little higher, and you'll have something like that, and it is like a dream. The dream makes perfectly good sense, usually, until you get down to the actual concrete, and then it doesn't. We had fun with this dialogue, treating it like a dream or like a Rorschach interpretation, to see what it was he was saying, and did fine, and that's one thing that Cory was very good at, because she could catch this on the fly in actually talking with these guys, and respond not to the gibberish but to what they were saying. You can do that if you interpret it along these lines.

So on the right side, looking at producing behavior along this model, you can generate the private-language phenomenon, the talk that is not nonsense but it's not English either.

Finally, think of the freedom you have if you've got this discontinuity. You've got certain kinds of freedom. The one kind we've talked about, that the paranoid can interpret anything as having whatever significance he wants, because he doesn't have the usual connections that provide the reality constraints, that provide the reality checking. You've got the same phenomenon on the production side. I can make any kind of motion and tell you that I'm saving my country. I can make the same motion and tell you it's something totally different, because without that continuity, I'm free to give it whatever significance I want. If I do that, a clinician will look at me and say, "He's engaging in schizophrenic rituals"--including the ritual of standing motionless for hours.

That gets us to the end of the outline, and if you look back, we've dealt with a lot of the range of symptomatology that you see in schizophrenics. It would be of interest, and if anybody wants to do it, I will lend a lot of moral support, to start with this and see what else would need to be accounted for, for what you might call a theory of schizophrenia. What I've done today is simply go through an exercise of taking some of our notions--and I really haven't used any notion today that hasn't been around

for a long time--and putting them together to address a phenomenon, and reconstruct that phenomenon to see what sense we can make out of it. What we wind up with is something close to a theory of schizophrenia.

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PGO. Mostly, I think it helps to translate neurophysiology into visible physiology. For something like that, consider: if I'm a violent schizophrenic and you put me in a straitjacket, I'm not violent. I don't go around hitting people.

CJP

PGO. I would say this: if you keep me from being violent, I'm probably going to do something else instead.

CJP

PGO. But they suppressed the crazy behavior, and if you suppress the crazy behavior, that leaves room for other behavior which may be not crazy. Beyond that, you'd have to know a lot about the physiology bit to make some further guesses.

CJP The temptation is to think that the drug is actually helping something here with where the gap is, the cracks in the diamond.

PGO. Yeah, functionally, but you have that already observationally. You don't need to know how the drug works to be able to say that. If you want to go further, and explain that in terms of how the drug works --

Jim Orvik (?). . . . Consider--I have no competence in neurophysiology, but if you're going up the ladder on the significance . . . from the behavior, that they're doing something that you can't connect with something else . . . then something on the order of . . . that increases the validity of thinking so they can . . . make significant connections that they couldn't make before. You can now get there and fill in the gaps.

PGO. I think you'd probably need more, that you're unable to continue suppressing the way you . . .

Joe Jeffrey. I'm struck by something about this gap. . . . What I notice is, the pump is directly in my hand, the water isn't.

PGO. That's what I said about hard data. Hard data is what you can establish right then and there, on the basis of observation. You don't need other facts or special viewpoints or anything else. It's all there. But that's exactly why it's no good, because the things we react to are not just those things; it's primarily these things.

Joe. I'm wondering--to take another example of behavior description, and look for this continuity . . . this place where pumping the pump, I've

got the pump handle physically in my hand, and then there's a step where something else actually in the picture that isn't simply in my grasp.

PGO. That's probably too neat. What I would expect is individual differences in where the line is, and that's simply on the grounds of if it's because it's unbearable, the unbearability will be at a certain level of meaning, and everything that's at that level and higher is going to gone. And that level doesn't have to be the same for everybody. On the other hand--yeah, that's plausible, and I wouldn't be surprised if by and large there wasn't something like that.

Helen Mandelbaum (?). What strikes me about that example is that the significance goes up in terms of its becoming part of a relationship where what you do is involving other people. I wonder if that . . . a piece of it, because then whatever one is doing is not only meaningful to oneself, but has real consequences for other people.

PGO. Yeah. Most of the difficulties that people encounter have to do with other people, so where there is a restriction, I would expect that restriction to involve relations, interactions, statuses, with other people, primarily. Areas of freedom, if there are going to be any, are probably going to be in areas that don't involve people.

Jane Littmann. I'm not sure if you've said this before or not, but it seems like there's kind of an explanation permissive of both kinds of etiology, on either the kind that you're describing, or the embodiment kind that says, "Hey, there's interference in the neural processing that creates this kind of --".

PGO. You can carry that a certain way, and I'm not sure how far, but if you start with that and say, "Okay, there is some functional organization here, such that down here you have a separate functional unit from up here, and a pathology consists of--on purely physiological grounds--interdicting some of the things that connect this functional unit with some of these. This can occur on purely physiological grounds, and if that happens, then you're going to get lots of the same things, and it won't be on the basis of unthinkability. It'll just be on the basis that you can't make these kinds of connections.

Jane. Contrasting . . . low intelligence or another organic --

PGO. Right. What would happen, though, is that then you would expect a clean and essentially absolute break. You wouldn't expect any significance sensitivity up here if it worked that way. And given that we have the cases of the paranoids who are selective but do have significance all the way up and down the line, that sort of thing becomes less plausible.

Q. . . .

PGO. With that, you would expect a complete loss of ability to see significance, and we know that lots of schizophrenics don't have a complete loss; they have a selective loss, and it's hard to explain the selectivity on

this kind of model. It's like having a case of blindness where you're only blind to people and are not blind to anything else.

Q. What about a gap that gets filled in?

Q. . . . a paranoid real easy by giving him amphetamines on a regular basis. . . .

PGO. I don't know how much you're including under "paranoid". You get people who are suspicious and keyed up and vigilant, but do you also get all of this? Do you get the selective, full-blown delusions? Do you routinely get it, or do you just get it sometimes?

Q. . . .

PGO. Strange, yes, but strange in the same way?

Q. . . .

Q. If you're doing that, though, what you're doing is increasing significance in a lot of other circumstances around the person, that normally they wouldn't pay attention to. But then the distinctions they have to make in order to act like a banker, much more . . . What I'm saying is that you're changing their state, and you can do that in many more ways than just giving them amphetamines. You can put them in a . . . and create a similar situation, and so you don't have to appeal to physiological change . . . You can do it that way, it's one of the ways you can do it, but not the only way.

Q. . . .

PGO. One thing I'd like to see is some research where you're kept in suspended animation and you're just pumped full of the drug, and suddenly awakened, and then see if you have all of those full-blown symptoms, or whether the symptoms depend on the interaction between its initial and further effects, and your reactions to that, and the reactions to that, and the reactions to that, and your reactions to your reactions, all of the other psychological contributions to what is merely set off by the physiology.

Q. What I think happens . . . over time you've got more and more detail

PGO. Let me come back to something. I said there are some things that you can't just do; you have to do them by doing something. The "by doing something" includes all of your physiological functioning. If the only way you can think about something is to have certain things going on in your head, if something prevents that, it's also going to prevent you from thinking. If thinking in certain ways involves using a certain part of your brain in a certain way, anything that keeps that from happening is going to keep you from doing that, because that's the only way you have of doing that. So wherever there is a one-to-one relation here, and the only way of doing something here is something down here, then if you can prevent this [moving

your arm], you're going to prevent that [saving the country]. And if you can enable this, you can enable that.

Q. What about auditory hallucinations? Is that subsumed?

PGO. Yeah, think of thoughts that are not mine. How can I experience thoughts that are not mine? I hear voices. I think that one is pretty straightforward.

Q. How about visual hallucinations?

PGO. That's something else. Remember the freedom to give anything whatever significance I want, and the connection with that and dreaming. I'm free at the upper levels of significance, like I am in dreaming, to construct whatever I want because it's not going to be subject to reality constraints at the concrete level. And if I don't have reality constraints going, I don't have the usual distinction between dreaming and waking, which is not as simple as saying I confuse the two. But I'm going to be able to do some of the things awake that I normally will just do dreaming, because I don't have the usual restrictions that operate in the normal waking state. That's not entirely satisfactory, but I think if you pursue that idea, you might come up with something satisfactory.

Q. I'm treating a Hispanic woman right now, and clearly her auditory hallucinations are . . . kind of experience, the voice that says "Kill him", and she says . . . , and I guess what I've been doing is inclusively working this way around, taking instances when voices occur during the therapy session. So she'll be talking to me, and then she'll stop . . . and say, "The voices say, Don't tell him that." And I say, "Do you feel kind of ambivalent about what you were going to say, the statement you didn't want to say it?" . . . But it's a lot easier to work at that level than to deal with the kill idea.

PGO. Yeah, in a therapy session, you don't want to be dealing with orders to kill.

Q. So, Pete, what are the--one, two, three--therapeutic strategies.

PGO. I didn't say anything about that. [laughter] And I don't think we have time to get into that. Let me just mention difficulties here. Recall in the paper on humor and jokes, and the idea was that some client groups, there are deficiencies that go with their having the pathologies that they do, and that make it risky to use certain kinds of humor with them. Think along the same lines for the schizophrenic, and the kinds of limitations that the schizophrenic has. For example, he can interpret what you say in almost any way he wants. Then ask yourself, What sort of resources do I have to work with? What sort of connections can I make at all, that I can count on? That's the major problem. In my day, part of the folklore--the slogan was, "By the time you get to where you can talk to a schizophrenic patient, he's cured." So think of it as that kind of problem, rather than the usual kind of therapeutic problem, which is how do you solve this sort of problem? How do you deal with this neurosis, how do you change

this person from being a caretaker to somebody else? You mainly do it by communicating, and you presuppose that you can communicate. With a schizophrenic, you don't presuppose that, and that is the therapeutic problem. Well, I think it's time to stop.