

**ABOUT PSYCHOANALYSIS, THUNDERSTORMS, AND OTHER
PLEASURABLE THINGS**

**AN INTERVIEW WITH KARL PRIBRAM
August 13th, 1999**

Gertrudis Van de Vijver

Gertrudis Van de Vijver (GVDV): I'm glad you agreed to do this interview, Professor Pribram, because when I was translating Freud's *Project* into Dutch, together with Filip Geerardyn, one of the first books I encountered was your *Freud's 'Project' Re-Assessed* (Pribram & Gill, 1976). To me, it is a mythical book, one to which I always return when I'm studying Freud's *Project*, and one I feel I still haven't exhausted. So, I would like this interview to deal in the first place with your relation to and your involvement with psychoanalysis. Perhaps we can begin by talking about how you first came across psychoanalysis, and in what way, why, and how you wrote the book together with Merton Gill.

Karl Pribram (KP): I read the biography of Freud written by Jones (1953), and in it he says that someone should look at the *Project*, someone who knows some neuroscience. At the same time, Jerry Bruner was very interested in Chapter 7 of *The Interpretation of Dreams*. We talked about it and I read Chapter 7, which he thought I should read. I realized that this chapter was really a dilution of the *Project*, or another way of saying what he had already said in the *Project*, except that it didn't contain all the terminology that the *Project* had.

GVDV: What year are we talking about?

KP: Probably around 1955. The *Project* had just been translated into English. I think the English edition came out in 1953. So, there're two things about the *Project* I liked. One is the point that I've made here, which is that there are slow, graded fluctuations in the brain, not just nerve

impulses. How did Freud know that? That's fabulous. The second point was that he had a memory-based theory of motivation.

GVDV: He could've known the latter point – i.e. his dynamic, motivational conception of memory – from his clinical practice, but not the former one. What about the neurobiological knowledge of that time?

KP: Freud knew Pfluger very well. Pfluger's Archive is the series of journals that Freud published in, and he and Pfluger were good friends. Pfluger's main research involved using galvanometers to look at fluctuations of electrical potential changes. He was interested in direct current fluctuations, and that's how Freud got it. So, Freud developed an Ohm's law of nervous system function, not a hydraulic viewpoint as everybody says, although he did use some terms from hydraulic theory, but then so did everybody else who was working on electricity. Freud had what people called the action currents, that is nerve impulses, and he had resistances at the synapse, and then these voltage fluctuations which he called *besetzte Energie*, but which in English got translated into cathexis. Horrible term.

GVDV: I don't find it horrible, but then I don't know the history of the term.

KP: It's just the texture of the term. So, when Freud wrote about cathecting an object, what he meant of course is cathecting the image of the object. I think that came out in the *Project*, but later it gets contracted. And the same happens with the pleasure principle, which in Chapter 7 is still the unpleasure principle. The *Project* is about the chemical circuits of an adrenaline-like substance being secreted by key neurons in the hypothalamic region, which then stimulates the adrenals to produce more of the chemical energy. It's a positive feedback circuit and the defenses are against that circuit becoming activated. It's not a defense against society and it's not a defense against drives, but a defense against this generation of unpleasure, *Unlust*.

GVDV: You were already a neurosurgeon at that time. When you first read the *Project*, did you immediately recognize its importance?

PK: Oh yes, absolutely.

GVDV: Does it mean that at the time neurosurgery and neuroscience also had such a dynamic conception of memory in the brain, or you were an exception?

PK: I thought that Freud was much better than the current "wisdom". For instance, at the time there were drive reduction theories at Yale, drive-based theories of motivation. Here was a memory-based theory that I'd been arguing for. Freud said already in 1895 what I said later. The drive comes in later in Freud when he found out that memories get twisted. So, there is a drive aspect that comes in to distort the memory. But basically it's a memory-motive structure.

GVDV: Perhaps we should discuss the question of the drive, because when you talk about motivation and drive, these things are abstractly close in the sense that they both have to do with something that's directed towards something, so it's "intentionally" structured I would say. Right?

PK: Well yes, except that the abstract concept of drive doesn't hold up very well. What Freud talked about is *Triebfeder*, or driving forces.

GVDV: In the *Project*?

PK: In the *Project*. And that fits in with the idea that we have chemical substances, endocrine substances that are drive stimuli, internal stimuli.

GVDV: Endogenous quantities.

PK: Endogenous indeed. That is different from some abstract concept of drive which gets you into trouble, which Hullians always had trouble with (cf. Hull, 1943). They had drive reduction ideas of learning. Then, of course, somebody else at Yale e.g. Sheffield came up with the idea of a drive induction theory: you learn because you are bored and you would rather do something else, so that is drive inducing. I have a whole set of papers on this. During my tenure at Yale, we found that if you start by making a hypothalamic lesion in order to make a rat very fat – they just eat and eat and eat – and instead of simply feeding them you put up a little barrier, either they have to press a lever – a peddle – to get the food, or they have to jump over the barrier to get to it. Food here, rats there. A hypothalamic lesion rat will not bother to get the food, he'll die of starvation. He's too lazy.

GVDV: He's too lazy – that's the explanation?

KP: Well, you can use a more sophisticated term, "he won't make the effort", but that's a cognitive term which was not acceptable at the time. So here's a rat that has, without the barrier, increased drive because he eats more, and at the same time, the same rat, given a barrier, has a decreased drive. So the drive idea just doesn't work as a concept. But the idea that there are drive stimuli – *Triebfeder* – these channels, the endogenous channels that come in, that makes good sense. Freud made that clear in the *Project*.

GVDV: Tell me about how your book *Freud's 'Project' Re-Assessed* came about, because it's from 1976 and the *Project* was published around 1950.

KP: In 1950 in German, and in 1953 in English. You want to know why it took so long?

GVDV: Actually, no. My question is rather: why already "re-assessed"? Is this assessment different from those produced between 1953 and 1976?

KP: Everybody else said that the *Project* had been dropped by Freud and was irrelevant.

GVDV: Between 1953 and 1976?

KP: No, as soon as it came out. People said Freud never believed it, dropped it, and so on. My first paper was in 1957 or 1958. So, to tell you how the book came about, I wrote "The neuropsychology of Sigmund Freud" (Pribram, 1962), and Merton Gill – someone I'd known at Yale ten years earlier – wrote me a nice note in which he said, "Karl, I'm happy to see you've become a scholar, it's about time, not just an experimentalist. Unfortunately, you made 27 mistakes in your short paper!"

GVDV: Had you?

KP: I went through it and pointed out that I was right in about 18 of the cases, and he was in about seven or eight or something like that, and I wrote to him. So he wrote back and I wrote him back. Finally after about

four months of this back and forth, back and forth, I called him and said, "You're at Berkeley, I'm at Stanford, it's just across the Bay, why don't we get together?" So for two years, we got together every Friday, either in Berkeley or in Stanford. We made notes, went through both the German and the English versions, and got hold of some of the transliterations, because Freud wrote a lot of it on the train in old German script which I'd learned as a child, but of course had forgotten. So, we compared and of course nothing compared with anything very well. We had a pile of notes taller than me, and what were we to do with them? I said, why don't we write a book? So he wrote a chapter and I wrote a chapter. He was very much influenced by Rapaport. I don't know if any of you have seen Rapaport's book on thinking (Rapaport, 1951).

GVDV: I haven't.

KP: It's very big and it has a line or two and then footnotes. The whole book is nothing but footnotes.

GVDV: Is it interesting?

KP: It's very interesting – if you can read it. You're reading footnotes, you never get to the text. So, I told Merton we're not having any footnotes. If it's important enough, it goes into the text, not the footnotes.

GVDV: So the procedure was he wrote one chapter and you the next?

KP: That's the way we started, but then I had to do it all. Finally he said, "Oh go ahead, write some more" and I rewrote his chapter and my chapter. We had the book pretty much finished in about six months. So I sent him my manuscript with his words in it and mine, and he critiqued it and then I rewrote it, and then he critiqued it again and I rewrote it, so we were now in the third or fourth draft. But then he called me and said, "Karl, you can do anything you goddamned want with it, just never mention my name with regard to the *Project* again. I don't want to be associated with it or you. I'm leaving".

GVDV: And why was that?

KP: Well, I found out later he was suffering from a fairly severe depression. It lasted for about ten years.

GV DV: Not because of the *Project*?

KP: Oh no, it had nothing to do with the *Project*. I didn't hear from him again, and I wrote two or three more papers over the next decade in which I of course thanked somebody who didn't want to be mentioned, but the initials "M.G." gave it away. Then I was asked to give a plenary keynote address at the International Psychoanalytic, which was being held in Hawaii. I was very happy to do so, and they said, "Who do you want to introduce you?" "Merton Gill": I said. That was ten years later.

GV DV: Ten years later. In 1967, around there?

KP: Well, 1966, something like that. So, Merton called me and said, "I'm very flattered". (This is the same Merton who'd said, "I don't want anything to do with you.") "I'm very flattered to have been asked to introduce you. I haven't given a public address in ten years, but I'll do this. What're you going to talk about?" And I said, "Our Project".

GV DV: And he still wanted to do it?

KP: I asked if he still had the last draft I'd sent him. He checked his files and said he'd got it and would read it and then call me after the weekend. He called me on the Tuesday or so, and said, "Karl, this is magnificent. Who wrote it?". I said that I had. So we got together. The trouble was that the first chapter was on the death instinct, and I didn't want to write a book where the first chapter is about death, because that'd put everybody off. Merton said, "You know, if you really want to make a contribution, write about the distinction between primary and secondary processes". I said, "Oh sure". I knew that Josephine Hilgard had worried about it, as had Bob Sears and Rapaport. I knew several people who could never sort out what are primary and what are secondary processes. I went through it, and in two hours it was all perfectly clear to me, because Freud had primary function/primary process and secondary function/secondary process and everybody got them mixed up. But Freud made it very clear in the *Project*. So I wrote the chapter and related it to thermodynamic theory. Boltzman was very active at the time, and I saw the relationship between feedback and all the terms we use nowadays – Freud used other words, but basically the ideas were right there. As I said, Merton had to rewrite our last chapter, which was on dreams. He called it "Compromise processes

between primary and secondary," and that wasn't clear. Hilgard had done some very nice work, and I had some ideas I passed on to Merton. So, he wrote the fifth chapter and we had our book.

GVDV: Now – over twenty years later – what do you think about the book? Do you still agree with everything in it? Can you summarize it or present its main theses for those who don't know it?

KP: Well, there are five chapters. The first is about the relationship between primary and secondary processes and thermodynamics, and it contains some of the definitions of drive (for instance, *Triebfeder*) and the generation of displeasure. It also deals with other definitional things: a wish is a memory-motive structure which, if it is overriding, is a neurosis. The second chapter is about the memory-motive structure itself in neurological terms, about the fact that Freud did have an Ohm's law, the fact that at the time the word synapse hadn't been invented, so he used "contact barrier". The third chapter was this brilliant one on consciousness. Freud writes about attention, about a double feedback loop, and says you have to cathect the presynaptic neuron as well as the post-synaptic one if you want to get learning that has any kind of direction. This is now known as Hebb's rule, as Hebb came through with it fifty years later.

GVDV: But Hebb's rule doesn't necessarily involve a double feedback loop, does it?

KP: No, he didn't have the two feedbacks.

GVDV: So it 's just the associative principle?

KP: Yes. Hebb simply states that you have to simultaneously "cathect" neurons.

GVDV: So, some people in neural networks get Hebb's rule wrong?

KP: Yes. They always think that if you have a pre-synaptic activation you get a post-synaptic one, and so on. Freud was much more sophisticated in how he wrote about it. He said you cannot get learning – i.e. the directional – unless you have that, *and* then you have a double loop

for reality testing back in, and then you compare that; a double comparison process.

GVDV: Also in the third part of the *Project*, Freud says very interesting things about the role of the scream in the construction of the first meaningful relation of the child with the environment, in which these two feedback loops play a key role.

KP: Indeed. In the third chapter of the book, we find his definition of consciousness and the fact that it deals with cortical processes. Again, how did he know this? And then the unconscious. That comes in the fourth chapter, which is about thought and the various kinds of thought. The reason for the unconscious is, of course, that if the cortex deals with consciousness, what is the rest of the nervous system doing? There is a brilliant twist here. In order to understand how really great this is, you have to compare it with Exner's project (Exner, 1894). Exner wrote a similar piece, which was published, and he got the job that Freud wanted. They were in competition. So Freud couldn't publish.

GVDV: Because of that? You think that's why he didn't publish the *Project*?

KP: What could he do? Say, "I didn't get the job, but my project is better than this guy's"?

GVDV: I don't know exactly what his relationship with Exner was.

KP: They were competing for the same job.

GVDV: Isn't that an additional reason for Freud to publish the *Project*?

KP: Not after he didn't get the job, because he got kicked out of the university.

GVDV: He could have made it available to the international forum, so that everyone could have seen the difference.

KP: He was Viennese. There was no forum until he got the psychoanalytic thing going.

GVDV: This is the first time I've heard this explanation of why he didn't publish the *Project*. Do you really believe this is the correct explanation?

KP: Of course. What else could he do? I mean, let's say I write a piece and I've got it really well done, and somebody – I thought this might actually happen with Don McKay – publishes a whole book which says the same thing, maybe not as well as I think it should be done, but there it is. Would I then publish and say he wrote the same thing, but that I did it better?

GVDV: Why not? Wouldn't you?

KP: I don't think I would.

GVDV: Maybe it depends on what type of relationship you have. If you're colleagues and have to deal with him all the time.

KP: But colleagues, you know ... Vienna threw him out. He had to go into practice and earn a living. And he had to remain friends with these people so they'd send him patients.

GVDV: What people try to argue with regard to the *Project* is that he didn't believe in it anymore. Of course, people who know and really read the *Project* say the contrary.

KP: In our book, we have *all* the statements he made, when he said, "Yes I believe it, now I don't, yes I do, no I don't," and so on. They oscillate. But the things he had trouble with were the drive concept and the fact that consciousness is quality, and then the drive motivational stuff was supposed to be quantity only. He had trouble with that until the last paper he wrote – "Outline of Psycho-Analysis" (Freud, 1940a) – where he said, "Of course, drive isn't just quantity. It also has to have different kind of qualities". But that left him in a philosophical bind, because he wasn't able to see how these qualia coming from the outside world and then these qualia coming from the inside can be different depending on which chemicals are doing what.

GVDV: Would you agree that the quality that comes from the inside is the directionality of the drive?

KP: No, I'd say it puts a value on things. This idea is already in our book, in *Plans and Structure of Behavior* (Miller et al., 1960). You asked me to come here, and what did I do? I came. Now, you're very attractive but it's not just your ... I didn't blindly come here.

GVDV: Are you sure?

KP: Well, I wouldn't have known where to go if you hadn't written down "Room 3" for me. So, most of our direction comes from the outside world. But then that other thing, as you say, you're attractive ... Yes, that adds that value and that extra. It's not in itself totally directive.

GVDV: This is a theoretical discussion, but I'd be tempted to say that any value is a direction.

KP: Not quite. During learning, these stimuli, internal or external, provide information as to where to go, what to do and so on. Once you've learned something or other, these same internal or external stimuli become valuative. You already know what to do, and then you increase or decrease what you do on the basis of these values.

GVDV: The way I understand it is that once you've learned something, you have an inscription, a memory of it, and that memory acts as a kind of directing force – it gives the directionality, the motivation.

KP: That's the memory-motive structure, and then the external and internal stimuli become valuative rather than informative, once you've learned. The rat experiments are very simple: if you have a female rat and a male rat, and the male has to learn where the female is, it's informative. But once he knows where she is, the rate of running depends on whether she's in heat or not, whether she'll accept him, and that rate goes way down when she reacts negatively or neutrally. That's what I mean by valuation. That's in *The Languages of the Brain* (Pribram, 1971). I'd already done the *Project*, but it hadn't been published.

GVDV: A question related to this is the place the affect occupies in Freud's work. Do you think the distinction between affect and representation (*Vorstellung*), as we can read about it in metapsychological texts, is still tenable?

KP: This is one of the things I asked Merton to find out. The main problem as I understood – or misunderstood – it, is that Freud very rarely talks about positive affect. It's all negative. So I said to Merton, let's count the number of times he uses positive and negative affect. I just wanted to know. Merton came up with a very interesting finding: Freud never mentions either negative or positive affect. It's not in the *Project*. Affect is what today we call signal affect. It's a signal that some mismatch has taken place, and then you go into the generation of a pleasure circuit to decide whether it's good or bad. The affect itself is simply a sudden discharge, a signal.

GVG: Is that still the case in his metapsychology?

KP: Yes, but nobody pays any attention to it. Merton went through the entire psychoanalytic literature after the *Project* – which is what he always did – and if there was a change we annotated it in our book. But there never is any change, he always had it, and then of course thirty, forty years later people came up with the idea of signal affect, but it's already all there in the *Project*.

GVD: So, by definition affect is negative because it's a signal?

KP: No. It can be fine, you know. Hey, you see a pretty girl, oh wow, and then you evaluate: do I have a chance? Am I going to get into trouble? What's my wife going to say? You have all this evaluative stuff going on, which can make you very depressed, because you can't do this and you feel guilty and all that. Or you may feel very elated at being able to feel good, because you have something beautiful. But it's always only a signal, a surprise.

GVD: But Freud says, I think in "The Unconscious" (Freud, 1915e), that the affect is that which is disconnected from representation, in repression.

KP: It's when you become surprised because there's a mismatch. You didn't expect it, it can be very small ...

GVDV: As regards the functioning of the brain, would it be possible to see the affect and the representational as corresponding to different layers of functioning, to different layers of organization?

KP: Yes. Mostly cortical. But then we don't know enough about basal ganglia and how they function. Is there any kind of match process? The hippocampus and the rest of the cortex have these layered structures, and so you can get the comparator. We have lots of research findings on that.

GVDV: I always have the impression that people who start to read Freud with the *Project* rather than *The Interpretation of Dreams* or his more clinical works are very particular Freudians. Marx Solms said something similar to this. The *Project* is a very specific introduction to Freud's work. Do you agree?

KP: Absolutely. And I think if you don't have it, you get confused. I think most of the people who are psychoanalysts and write about psychoanalysis are confused.

GVDV: Perhaps also because they are dealing with clinical practice.

KP: The clinical theory is separate. We're only talking about metapsychology.

GVDV: Well, let's talk about this relation, because quite a few people consider them as being completely separate.

KP: And they are.

GVDV: I'm not sure about that. If you're a clinician and you know metapsychology well, and you're really interested in it, wouldn't that change your clinical practice?

KP: Yes.

GVDV: It would change it.

KP: Yes, absolutely, but the theory was done separately. The clinical theory comes out of clinical practice, whereas metapsychology comes out of neurology, anthropology and sociology. Metapsychology is not just

neural. It also goes back to Oedipus, that's all metapsychology. Metapsychology is simply theory that is not derived from clinical practice.

GVDV: Is that an historical observation or a necessity?

KP: No, that's what Freud says.

GVDV: And you don't think it's necessarily so? Do you think we should strive to connect them?

KP: If you practice, of course. In practice you need both. You get insights: the Oedipus complex is a good example. That's metapsychological. But it's in the clinical theory, too.

GVDV: Let me now come to the second part of the interview. You remember that a couple of days ago I asked you what you now think about Freud in a period when everyone wants to kill him. Let me tell you an anecdote. I presented the collection of articles from our 1995 conference to, I think, fifteen American publishers.¹ One of them – and they publish a lot of Freudian works – made an error by sending me a manuscript which was not mine, together with ten reports, among which was the one related to our collection. I read in that report, which was about 10 lines long, that the title was too academic and that nobody is interested in Freud in any detailed historical sense, except those who want to kill him. So that apparently is the climate in America.

KP: Oh, absolutely.

GVDV: And I was happy to see that you don't agree with it.

KP: Of course not. They were going to put up a whole exposition on Freud at the Library of Congress, but the politics got so bad they couldn't do it.

GVDV: How do you explain that?

1. The International Conference on "Freud's pre-analytical Writings", organized by F. Geerardyn, R. Loose, J. Quackelbeen, W. Szafran and G. Van de Vijver, was held in Gent, from 12-15 May 1995. The English volume with a selection of the articles will be published with Rebus Press, London, this year.

KP: Well, my explanation is that young people have to make their own way. They're adolescents and so they have to say, "We know everything, the older people knew nothing".

GVDV: Is that why Freud is in such a bad position right now?

KP: Yes, I think so. The other thing is that they accuse Freud of being dishonest about early trauma. Because originally he thought that what women reported to him were really raped or had been subjected to early trauma ... and then he changed his mind. Now, they accuse him of being dishonest, but they don't get it. Freud during that period was doing his self-analysis. He was struggling very hard. This is not a man who says, "Oh yes, I could make more money if I realized that what I had said was wrong, my whole memory-motive structure is disappearing because these women have exaggerated or whatever". Anyway, he got everything from his women. *They* found it out, he didn't. And so this is Freud being dishonest, especially at that particular junction where he had to change all his ideas.

GVDV: He didn't have to change his memory-motive structure, he just had to add different inscriptions.

KP: But still, at first it was just a shock. "Am I wrong about everything?"

GVDV: I'm always surprised about this, because it was only for a brief moment in his career that he really believed in that trauma theory. He abandoned it before 1900.

KP: I went through the same sort of thing when I first realized that the world looks holographic, that objects don't exist in the way I first thought of it, and then realized that it's only the light from the object that is holographic, not the object itself. But that took me six months or a year to figure out. The first insight was much more global. I think that could well have happened to him. The first insight that everything that motivates us is not in the memory trace, but that actually the drive factors come in strongly, could have shocked him. I can't see any dishonesty, which is what the Americans of course accuse him of ... that he was just trying to increase his practice.

GVDV: Well, they have something about real memories, the Americans. It's very different in Europe and in France.

KP: And we oscillate. There was a period when everything was Freudian. Now everything's biological.

GVDV: Now, let's talk about the neurosciences. I'm not a neuroscientist, but my perception is that if there are people today who take Freud and Lacan seriously, they'll most probably be neuroscientists. A renewed interest started with the studies on emotion; or let me mention the article by the neurobiologist Eric Kandel (1999), who pleads for a genuine dialogue between psychoanalysis and neurobiology. Do you agree?

KP: If a few of us, like Eric and I can begin to swing things ... There are only two alternatives. Now Eric, with the neurosciences, he has gone on the defense – they said this about me years ago. But you can't predict. They may accept, or they may not.

GVDV: If you had to talk about the unconscious in neurobiological terms, what would be your immediate reply?

KP: There are two aspects to unconscious processes. I wrote a paper on it that only came out in Russian. One aspect is just habit. I'm not aware of what I'm doing when I'm walking, etc. That's one kind of unconscious. The other kind has to do with what Freud called repression. I've been arguing about this with Erica Fromm, who's come up with a sort of compromise on this. My interpretation of repression is that it isn't something that Freud thought of as pushed down. What I think happens in repression is that you build up a structure appropriate to the time you're in – let's say 8 or 10 years old – you build a memory structure that motivates you and keeps you going. By the time you're 30, you're in a different situation, totally different things are called for, and you build up a memory structure based on that. But every once in a while, you use the old memory structure when something similar to an earlier period happens; for example, your boss is like your father, so you use the old memory structure. But for the most part, you're in the new one. And it's like a language. If you're speaking Dutch, you're not speaking English.

GVDV: That seems to be very similar to what Lacan says, "The unconscious is structured like a language" (Lacan, 1955-56: 167).

KP: It is like a language structure. And that's different from Freud, where you are repressing it. In other words, when you're speaking Dutch, it takes care of what I call the deep structure of memory, which is distributed, and then these surface structures come in, like a language, and organize the deep structure into behavior, or whatever. These are like language systems, they're not layers being pushed down.

GVDV: Do you really think that Freud's conception of the unconscious was only based on the idea of being pushed down?

KP: That's what I got from him, anyway. Of course, I'd have to go back and read very carefully whether the account I'm talking of now is not also there in some sense. It's certainly very much what came out when we wrote Chapter 5 of our book. What he says is that in sleeping, the cathexis of the whole brain goes down. Everything gets jumbled because what I would call a surface structure, or the cognitive aspects are eliminated. Now, this actually happens: the DC potential goes way down during sleep. Freud was right on this point. During meditation it goes up. But I still don't have the feeling that in repression that's what's going on. There's something to Freud that actually, literally, is like a push-down stack where you get rid of these things and hide them away. But in neurological terms, he talks about lateral cathexes and opening up channels, and it's as if the pathways that've been grooved in the brain, that are the memory, are bypassed. So you're right, you know, it may be that Freud actually did not use the word repression for the idea of something pushed down. What he's actually saying is that it's bypassed.

GVDV: It's of course difficult to pin Freud down on what he actually did or did not say in a number of texts, but I'd be tempted to read his work in an organizational way, which means that there are different organizational "layers" in the psychic system, which are not simply organized in a linear hierarchical way, but actually feed back into each other.

KP: You may be right. I'd have to look at Chapters 2 and 5 of our book. In Chapter 5, I point out the different possibilities: something being pushed down or not. I just don't remember whether the alternative was to be attributed to Freud or to Hilgard. Certainly Erica Fromm thinks of that as being pushed down instead of "a route around". It's like a road being

blocked off because they're repairing it, so you make a detour. Pretty soon you get used to using the detour and forget the old road.

GVDV: I keep having difficulties with repression as a process disconnecting representation and affect. Intuitively, it's like disconnecting form and content. But when you read Freud in an organizational way, it's not that easy to interpret repression in terms of a disconnection between form and content. The point is much more the accessibility and the activation of certain memory elements.

KP: It's the accessibility, not the form and content.

GVDV: The name of Lacan was briefly mentioned, and it seemed to me that you subscribe to – or are close to – one of his central ideas, namely that the unconscious is structured like a language. You told me you read Lacan.

KP: A little. There isn't much in English, and what I have is not very good. I just know that he emphasizes language, and that the signification is not the meaning to the person.

GVDV: What does that mean to you?

KP: You don't start out by saying "This is what it means for you".

GVDV: You don't focus on the meaning. Lacan thinks the psychic system is mechanically determined, as a machine, by the signifier.

KP: I would say process. We have to be careful about the words machine or mechanism. Physicists use them in a very special, Newtonian way. And I'm sure Lacan is not a Newtonian.

GVDV: That's true. Lacan had a cybernetic conception of the psychic system, and it's in that context that he uses the words machine and determinism. But there is another very interesting idea that I remember from your talk yesterday, one which is quite close to Lacan: you said there's a basic difference between the imagination of the object and the object perception.

KP: Yes. Let me explain. Let's say I'm imaging your face. Now, I move over here and see another image, peripheral or not. That's imaging. If I look at you when you turn your head, that's a totally different image. From the moment you turn your head, it's a different image. Or if I go farther away, it's a different image. We have to put all those images together to have an entity. Something that we call an object is an entity of some sort, which remains invariant from all perspectives. We have to make that distinction. In the brain, the imaging process is in the primary sensory system, and the invariance or constancy is produced in the pre- and peristriate parts, the surrounding parts of the cortex, around the sensory systems. We did experiments with size constancy. We simply trained an animal with squares – little ones and big ones – and they had to choose the little ones. Then we did it in an alley with horizontal striped sides and they had to pull the little one in and they always got a peanut if they did. Then we removed the pre- and peristriate part of the brain, and they responded on the basis of the retinal image size. They could pull in the larger of the cues, because it is farther away, because the retinal image size is smaller than that of the smaller square which is close by. They never did this with any other lesion, but only with that part of the brain removed. So that's what we called size constancy. The same thing applies to color. If you put on colored glasses and then go outside, after a while everything is, relatively, still the same. We get constancy because of relationships. That's done in a different part of the brain from the primary sensory areas. It makes you think "that's red" even if you put on colored glasses.

GVDV: The reason I think that distinction is so important is because it reminds me of the Lacanian distinction between the real, the symbolic and the imaginary. In the imaginary, you don't need to move, but in order to seize an object, you do need to move. Both Lacan and Freud stress movement so often, also in relation to language. Language is movement.

KP: Language is implicit action. Freud says this in the *Project*, and we talk about it in Chapter 4. That's where he got into psychoanalysis. You don't have to act something out, you can talk about it. That's where the talk therapy started. He says this in the *Project*, and adds that that's the reason we can use the talking cure instead of hypnosis. Let them act it out, verbally, not in real life. Movement is the key. Freud was also influenced by Helmholtz. Helmholtz asked Poincaré about the nature of an object, mathematically, and Poincaré replied, "It's a relation".

GVDV: An object is a relation?

KP: It's a relation between various perspectives, various images.

GVDV: That which remains invariant in an interaction?

KP: Yes. It was all there in 1880-1890.

GVDV: This is an example of a dynamic viewpoint, in which what is stable is that which is constructed as a result of a dynamic process, and not of a static viewpoint, in which the dynamics are added after having started from stable elements.

KP: At the same time that Helmholtz and Poincaré were dealing with this, Lie took a look at the first publication of Helmholtz and said: "It won't work". The kind of group theory he's using won't work. You have to use continuous groups that are non-commutative, i.e. Lie groups. Everybody's used them, in radar, engineering, etc., except psychiatrists and psychologists. He said, "I invented these groups in order to handle object perception". The only person who got close to it in 1934 was Ernst Cassirer. We're talking about 1880, 1934 and then today.

GVDV: And we're still not that much further.

KP: We just got there.

GVDV: Maybe one final question. You told me that you did an analysis yourself.

KP: Yes, two.

GVDV: Reichian, Sullivanian?

KP: The old Reich, not the orgone-box Reich, one where he talked about character armor, and analyzed the way people behave. In other words, you're now stroking your chair, and you realize that, you become aware of the way you're behaving. In that way, you get into the whole situation of what's going on, and why you're in trouble.

GVDV: Is that part of ego psychoanalysis?

KP: He called it process psychoanalysis, because you're dealing with a process. It is related to ego psychoanalysis, but it's much more Sullivanian in a way because you talk about the effect this has on the other person.

GVDV: I asked a Lacanian analyst yesterday about Sullivan as an analyst. He said he was a good analyst.

KP: Yes, he was.

GVDV: I put the same question to Adolf Grünbaum, who hasn't undergone analysis. I also asked him whether it would've changed his view on Freudian theory if he had gone through one, and he said, "Of course, I can't tell that for sure, but I guess not". Did your own analysis change something about your viewpoint on Freudian theory?

KP: Yes, it certainly allowed me to understand what was going on, it probably changed my behavior, and I became very good friends with the analyst and helped him write his book. That was the second analysis, which was a family kind of thing. I got involved intellectually, and then the transference worked its way underneath all of that.

GVDV: You mean you underwent analysis while you were busy with the *Project*?

KP: That was going on at the same time, and during the second one we actually performed an experiment with LSD. I took it only twice. The first time was very important, very interesting, and I had all kinds of interesting experiences. The second time, the analyst came in and they gave me too much (I'm very sensitive), but they had their protocol. I experienced no effect at all that time. I was in total control till the analyst came in. He had a big flashy ring on and I said, "Oh, you look like Oscar Wilde!" We had a very good time, exploring this obvious attraction to him – he's an attractive man. It was very interesting. It's never bothered me one way or another, because I like women. Even when I was a little boy, I always played with girls. That was just a nice insight. And then he asked me if I'd ever had any pleasurable experiences as a child. I couldn't think of any, except thunderstorms. I was in a *Kinderheim* – a children's home – when I was 4, and then I had whooping cough and was in a hospital for 6 months

all alone, and there was no stability in my world except for thunderstorms. I could predict them. They would always come to where I was, and then they would go away and come back again. So, I started a weather station and so on. At that point, I began to breathe rather hard and started shaking, and they had to give me thorozone and that was it.

GVDV: Was it usual to use drugs within therapy?

KP: This was supported by the National Institutes of Health, a big study, and the interesting thing is that there was the guy who ran it, a psychiatrist, and also a psychologist. And they decided in the end that they would all take LSD, all the administrative people together, not their subjects. And what happened is that the psychologist decompensated and had to be hospitalized for six months! That was the end of the experiment.

GVDV: Thank you very much, Professor Pribram. How amazing that we've come all the way from the *Project* via the drive to the memory-motive structure, and finally to the stability of thunderstorms – revealed through an LSD experiment! It's certainly been a pleasure.

KP: You're welcome. I learned something about Lacan and I hope I can read some more.

Gertrudis Van de Vijver
Lamoraal van Egmontstraat 18
B-9000 Gent
Tel: (09)222 07 28
Gertrudis.vandevijver@rug.ac.be

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