FALSIFICATION AND CREDULITY FOR PSYCHOANALYTIC DOCTRINE

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ABSTRACT: According to Sir Karl Popper, psychoanalysis can never be a science, in part because it is impossible to describe any human behavior that doesn't support psychoanalytic doctrine: it is never falsifiable. Q-methodology makes falsification just as possible for psychoanalytic principles as for any others in science. Credulity will depend upon how far psychoanalysts will be prepared to accept quantum-theoretical advances now available to them at research levels by way of Q. They are reminded of the new "probabilistic" Q-technique represents, that dispenses with all measurement of categorical attributes except one, for feelings of pleasure-unpleasure, opening the way to a new epistemology proposed by Niels Bohr, in which the cardinal principle is complementarity. Self-reference is the key to quantum phenomena in subjective psychology: it is operant, and not the categorical concept of the current interest in self in some psychoanalytic circles.

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Introduction

It is asked, is psychoanalysis a science? If it works on patients, how?

According to its best-known critic, Sir Karl Popper, the basic tenets of psychoanalysis cannot be falsified, and thus can never become science. Freud's system is a beautiful structure of thought, according to Popper, but is essentially metaphysical, and "we should fight these metaphysical systems which tend to bewitch and confuse us." We should take the trouble to analyze such systems in detail, to show that we know what the author means, "but that what he means is not worth the effort to understand it" (Popper, 1950: 635).

More sympathetic to psychoanalysis, Dr. Adolf Grunbaum's (1984) conclusion is that until the "placebo effect" has a satisfactory answer, psychoanalytic doctrine is suspect: the "placebo effect" is that relief from neurosis is not due to release from repression, but to the patient's "credulous expectations."

It has to be shown that there are ways to falsify both analytic doctrine and credulity, using Q-methodology and its related psychological theories.

Popper's Criterion of Intersubjectivity

Like Karl Popper we maintain in Q-methodology that scientific theories have to be testable, and that they are never fully justifiable or verifiable.

The concern, according to Popper, is with objectivity as distinct from subjectivity, where objectivity is closely bound up with the social aspect of scientific method, namely,

> ...with the fact that science and scientific objectivity do not (and cannot) result from the attempts of an individual scientist to be "objective," but from the cooperation of many scientists. Scientific ojectivity can be described as the intersubjectivity of scientific method. (Popper, 1950: 403)

This, we submit, short-changes objectivity. The difficulty is that all reference to self is abnegated

in Popper's criteria for objectivity. No one need deny that science has social roots: but it has to be shown what these are, and Popper's erudite account of these, in his chapters on "Sociology of Knowledge" and "The Revolt against Reason" is unacceptable, and will remain so until he faces, as systematically, how self-reference plays its part.

Note how Popper proposes to pursue science. Following Kant, he uses the word "objective" to mean that scientific knowledge should be *justifiable*, independently of anyone's whim (Popper, 1959: 44). By justifiable he meant that the knowledge has to be tested and understood, in principle, by anybody. What he overlooked was the implication of the other half of the statement, "independently of anyone's whim." This need not merely be exclusionary, but, instead, a call for *control* of whim, that is, more generally stated, a necessity for control of self-reference.

It is this that is missing throughout Popper's logic of science, and it matters fundamentally, both in the natural and psychological sciences: I have shown elsewhere, for example, that there is a subjective underpinning in "objective" science (Stephenson, 1972a), and an objective underpinning in the humanities (Stephenson, 1972b). Nor does this rely upon the tenet that scientific knowledge involves *observer* and *observed*, in the Einsteinian dictum. Nor is it socially dependent in Popper's terms. Instead, justification and control of self-reference are intrinsic to Q-methodology: this follows from application of *James' law* (Stephenson, 1953a), and from the *operant* nature of factors in Q-methodology. According to *James' law*, some factors in Q are "me" in meaning, others "mine," the former separating from the latter the personal whims of the subject: and the "mine" are fully justifiable in Popper's sense--every bit as much as my clothes, or the color of my eyes. Also, Q-factors are *operant*, that is, intrinsic to an experiential situation.

Let us continue this line of thought.

$$n = 1$$

In psychoanalysis there is always a unique situation, of analyst and patient, so that any intersubjective

criterion (except as between the two) must flounder. The methodology (free association, interpretation, understanding) is in narrative form only, without control of self-reference--so that, again, psychoanalysis is left with the "placebo effect," unable to disentangle repression from credulity.

In Q-methodology n=1 is for one subject, in one experiential situation, in which all measurement is made by the one subject on theoretical grounds, without use of norms or of any data from outside the unique situation--*except for a fundamental principle, that the subject is communicative in a common culture*. The culture need in no way involve ideologies, or sociology of knowledge, or revolt against reason, etc.: it merely recognizes, in the present case, that the subject has learned to read and write in a common culture.

In this context there can be control both of justification (including falsification) and of self-reference, with the emotional ambiance.

Popper and the White Table

From the point of view of objective testing, Popper could see no difference between the statement "I see that this table here is white," and "This table here is white"--the former in speakng about "me," and the latter about the "table here" (Popper, 1959: 99).

Which is at the root of the trouble Popper's logic got into, no less psychoanalysis. The first statement implies that "I" am making a judgment that the table is white, as anybody can see for himself or herself. The other has vastly more to it, depending upon how it is spoken: "it is *white--but I ordered unpolished!*"; "it *is* white--*why are you contradicting me?*"; "*it* is white--*thank goodness!*"; and so on for an infinite number of behavioral situations. The mistake by Popper is to regard words and sentences as, objectively, singular in meaning, i.e., testable, *justifiable* statements, universals. The psychological situation is totally different, involving *behavior* in which a statement is declaratory, emotional, and *self-referent*. Popper, of course, will admit this, regarding the latter as psychology's concern: we shall see that they are also the concern of science.

Psychoanalysis, at the hands of Freud, made the same error. In 130 pages of Freud's "A Fragment from the Analysis of a Case of Hysteria" (1905/1949), the narrative is in the justifiable mode; there is not a statement that recognizes Dora's own self-references. Yet the latter, surely, are what her condition was about.

How, then, do we advance scientific knowledge about Popper's white table? And about Dora?

For the objective situation, for justification, the basic science is information-theoretical--such as we find in Brillouin's *Science and Information Theory* (1962). For the subjective situation, for the basic science of self-reference, *communication theory* is fundamental (Stephenson, 1980). Here, we are concerned only with the latter: it begins with definition of a *behavioral segment* (Stephenson, 1953b).

Thus, the situation that Freud's case, Dora, found herself in distress about--that she had to undress quickly on going to bed--could constitute a *behavioral segment*. So could one of her dreams. The one seems "objective," the other "subjective." If we had asked her to enter into conversation (communication, free association, etc.) about these situations, she could have provided two different kinds of qualifying language about each--one, statements of *justifiable fact*; and the other, statements of *unjustifiable self-reference and emotion*. Thus, about the distress at having to undress quickly on going to bed, there could be *facts* (e.g., that she had been overlooked, precisely of the form "I see a white table"), but there would also be statements of emotional self-reference, such as "I tingle with resentment," "I feel humiliated," "I was excited," etc., all of the form "The table is white...*but*, *and*, *however*, etc., i.e., as statements in a concrete declaratory, emotional situation.

Popper left the latter to psychology, believing that it would be scientific only insofar as it pursued his deductive framework. Q-methodology develops it into an inductive science, in advance of Popper's deductive logic. And, indeed, how better to make a beginning in subjective science than with behavior as richly evocative of self-reference as possible?

Theory of Concourse

Nonjustifiable statements spoken about a behavioral segment by a participant, together with any other such statements common to it in the culture, constitute, for Q-methodology, a *concourse*. This is an empirical matter: actual statements are collected from actual behavioral situations.

Theory enters when the collection is regarded as a statistical population, each statement equipossible and equipotential (in Carnap's language (Stephenson, 1978, 1986)), all as equal as marbles in a bag, or as tiny billiard balls in the physicist's theory of gases. The statements are not *normative*; they hold no absolute meaning; they are not justifiable in Kant's and Popper's terminology. At the root there is the lexical foundation, *that everyone in a given culture has acquired a common communicative process*--in our case, of reading, writing, speaking English. This runs deep into behavior: a baby's first words "da-da" can have very different meanings, as when it expresses surprise at hearing his footsteps, or when it sees him unexpectedly at the door, or embraces him endearingly. There is a concourse, even for a baby. The same is true for every behavioral segment, and psychoanalysis, of course, is full of them.

The spread of meanings in a concourse stems from what Charles Peirce called the *law of mind* (Buchler, 1959), that ideas expand continuously in relation to *feeling*. Not only so, but our *theory of meaning* stems from the same source: I call it the *law of subjectivity* (Stephenson, 1980). *It maintains that feeling-states precipitate new meanings out of old, by way of concourse and self-reference.*

The *law of mind* was applied by Peirce to explain how ideas gain generality (as when we "generalize"). In Q, it is applied also to the formation of all intrinsically *new* meanings. In experiencing the diverse statements of a concourse, the creative element (whatever it is) cannot come by way of logic or reason (since that would merely be adjunct to meaning already created), and therefore can only come by way of feeling. Neither Peirce, nor anyone else, has any explanation of how it happens: even neurophysiologists, in experiments with brain functions,

will have to address quantum theoretical conditions, and not the chip circuitry of modern computers. It is sufficient for present purposes to suppose (with Peirce) that some of the statements of a concourse "flow together in a continuum of feeling" and thus new meanings evolve. That feeling-states are of fundamental significance is widely recognized: Charles Spearman, from his scholarly search for principles in the history of philosophy and psychology in *Psychology Down the Ages* concluded that the sole principle surviving his scrutiny was states of feeling, of pleasure and unpleasure (Spearman, 1937, Vol. 1, p. 449). And of course Freud's own basic principles of mental functioning were "unconscious" *pleasure-unpleasure* and *reality testing* (Freud, 1905: 14; 1911, 1924).

Q-methodology is based on such fundamentals.

The Case of Dora

In the above terms we can test for *repression* and for *credulity*: but we should note that these terms are categorical, whereas the terms *justification* and *control of self-reference* are operational, i.e., experimental functions.

In *The Study of Behavior: Q-technique and its Methodology* (1953a) I showed how anyone could put Freud's hypotheses about Dora to test. The hypotheses were covered by a Fisherian balanced block experimental design (Stephenson, 1953a: 250). It was a straightforward matter for anyone (with the requisite knowledge of psychoanalytic doctrine) to perform a Q-sort to describe Dora's case (as they understood it from Freud's narration), and to submit it to variance analysis for the posited effects. The different Q-sorters could then compare their results, and submit, thereby, to Popper's intersubjectivity criterion. The methodology has had wide use in many branches of applied science, beginning with agronomy, but also in sociology, psychology and elsewhere.

It is important to realize, apart from the necessities for *normative* conditions (otherwise how could anyone accept data from different experimenters?), that the Fisherian variance equation provides data about *categories*, such as repression, credulity,

neurotic condition, respectability, etc., not about any *self* as such.

The latter comes about only by factor analysis, for *quantum* conditions, i.e., with respect to a theory of factors and self.

Theory of Factors

Factor analysis is a well established branch of statistics--software for it is available for computers, using SPSS or other programs. How it is applied is another matter. Following Spearman (1914) and Burt (1940) in England, its pioneers, and Thurstone (1947) in the U.S.A., factor theory is applicable to psychometry, that is, to the measurement of *individual differences* in populations of such individuals. Each individual is measured for this or that ability (intelligence and the hundred other categorical abilities of the current mental test industry in the U.S.A.). The present author was educated as an experimental physicist, in the early days of quantum theory, and from 1935 had concluded that factor theory should apply to n=1 every bit as soundly as to n=∞, the premise of individual difference methodology. He knew, with Cyril Burt, that factor theory paralleled that of quantum theory in mathematical and statistical respects. What Burt didn't realize was that quantum theory did not concern individual electrons, but photons, i.e., *states of energy*. What Q achieved was recognition that factor theory applies to *states of feeling*, just as quantum theory applies to *states of energy* (Stephenson, 1982, 1983).

The presence of an individual electron is unpredictable, whereas that for states of energy is subject to the probabilistics of quantum theory. Writing of this, physicist Freeman Dyson of the Princeton Institute for Advanced Studies, has said...

> I have a suspicion that the operation of the brain may really have something to do with the peculiarities we find in quantum mechanics: the fact that electrons are unpredictable...it would seem quite likely that brains have evolved in order to take advantage of this elementary freedom. (Dyson, 1984)

The two papers above attest to some of these "pecularities" in Q-methodological terms. What was essential, however, was a basis for *states of feeling* in psychology, comparable to *states of energy* in physics. For this, Q-technique and our theory of selves fell into place.

Manifestations of Self

Everyone in psychology is apt to use the word "self," and there is a revival of interest at present in the concept, in psychoanalytic thinking (Kohut, 1984) no less than in psychology (from Carl Rogers, 1951, onwards). Our own involvement was with William James (1891) and James Ward (1933). In *The Study of Behavior* (1953a) I made reference to a theory of "attainable selves" (pp. 269f), and much earlier, in my unpublished *Q-methodology and Psychoanalysis* (1954), I quoted with some excitement from Virginia Wolff's novel *Orlando* (1928), in which Orlando asks, Who am I? What am I? In the final pages of the novel, Orlando looks back upon herself, into her/his past, and calls out aloud for Orlando...after all, she avows, are there not a thousand selves to call upon?...

> ...these selves of which we are built up, one on top of another...(which) have attachments elsewhere, sympathies, little constitutions and rights of their own, call them what you will (and for many of these things there is no name) so that one will come only if it is raining, another in a room with green curtains, another when Mrs. Jones is not there, another if you can promise a glass of wine--and so on; for everybody can multiply from his own experience the difficult terms which his different selves have made with him--and some are too widely ridiculous to be mentioned in print at all. (Wolff, 1928: 200)

What is done in Q-technique is precisely what *Orlando* was calling upon: *every Q-sort can be a call for one or other of thousands of selves we can look back upon, each in its own behavioral segment, each with its own "constitution".*

This is what Q-technique achieves. It asks the subject to express feeling-states about a behavioral segment, from *pleasure* to *unpleasure* on a "forced-choice" distribution in Q-sorting. Quantum theory applies under the following conditions.

Q-Technique: A New Probabilistic

Modern quantum mechanics was made possible when Max Born, in 1927, introduced a "new probabilistic" that freed forces "of their classical duty of determining directly the motion of particles and allow them instead to determine the probability of states" (Pais, 1986: 258). In 1935, Q-technique performed the same for subjective psychology, by freeing psychology of its classical responsibility of determining directly every capacity, ability, trait, or other categorical attributes, each with its own norms, its own scale, its reliability, validity, and other measurements--in the tens of thousands, under the technical umbrella of R-methodology and the so-called "psychology of individual differences." It replaced them all by *one* measure, Q-technique, the same for everyone, for every Q-sort.

This also grounds all such measurement at the level of *no* feeling, on the average, for any Q-sort: the distribution of scores is symmetrical about *zero*, so that every Q-sort scores zero (m=0) on the average for feeling-state of pleasure-unpleasure. It is the first step in the new probabilistic: it requires that the scores be homologous with real behavior--this is achieved in "balanced block" designs for Q-samples, but its relevance can be appreciated if one thinks of investigations of olfaction, where pleasant-smelling liquids would score positively on the "forced-choice" frequency distribution, and unpleasant ones negatively, with *water*, which has no smell, at zero. The attempt is to clear the deck, so to speak, for what follows, by placing all Q-sorts at the same fundamental level of, on the average, *no* feeling.

The second stage follows. When the Q-sorter performs several Q-sorts about a psychological event, the separate statements of the Q-sample assume their own "probability of states." They vary at the ground level, for every Q-sort, and their

variations provide the basis for factors. It is here that quantization occurs. It is the *Q-sorter* who provides the new probabilities. We now know that factors are subject to the quantum-theoretical principle of complementarity (Stephenson, 1980). The two stages constitute the "new probabilistic" of Q-technique. It is remarkable that its measurements are entirely within the framework of the Q-sorter's own communicability--one's own self-reference statements (as concourse) are all that are involved in every measurement in Q-methodology.

Q-factors are themselves theoretical Q-sorts, i.e., feeling-states of which the Q-sorter is unaware. Shown the factors, the subject can usually recognize that they are his or hers: they are Q-sorts about *themselves* they could conceivably have performed in the first place.

On this basis, Niels Bohr proposed a new epistemology, but could not indicate how to proceed in psychology. Q-methodology solves the problem.

Now, then, relate this to psychoanalytic doctrine: under analysis with Melanie Klein in the early 1930s, I had concluded that what was at issue in my case (at least) was just such *selves* as Orlando was calling upon--not id, ego, superego, but self. Moreover, the outcome was what I later called "attainable selves," i.e., *factor* selves (Stephenson, 1953: 269). The implication, however, is profound: the concern in psychoanalysis has always been with *self*--mainly with self-deception (Hartmann, 1959). But, also, with a so-called unconscious mind. We now have replaced the concept of consciousness with that of communicability (Stephenson, 1980), because the latter is *justifiable* in Popper's terminology, including self-reference as well as fact, whereas the concept of consciousness can be supported by neither criterion. It follows, therefore, that in place of "the unconscious" we have to put Hilbertian space of quantum factor theory. The Freudian unconscious, in short, becomes our quantum space for factors. Psychoanalysis begins with analysis of selves, and ends with "new," "cured," "achievable," "authentic" selves. So does Q-methodology.

The Problem of Justification

Examples of the application of Q-methodology to the psychoanalytic situation, for factor analysis of analysis, are published elsewhere, for example in *The Study of Behavior* as the case of Rogerg (Stephenson, 1953a: 255f.), also the case of Ellen West (Stephenson, 1974: 8f.). In what sense, we have to answer, can such studies satisfy Popper's *justifiability* criteria, as knowledge that can be tested and understood by anyone, as independent of anybody's whim?

Table 1
AN ANALYTIC SITUATION

Condition of Instruction	Factors 1	2	3
1. An: An's best self now	X		
2. An: Pt's self now	X	X	
3. An: An's self now	X		
4. Pt: Pt's self before analysis		X	
5. Pt: An's self now	[ ]		X
6. Pt: Pt's own self now		X	
7. Pt: Pt's best self now			X

X=significant factor loading, all other values insignificant

The anybody, in this context, is the patient, one and only one person. The testability and falsification possibilities also lie within the one person's Q-sorting.

Consider, then, a study reported in my *Psychoanalysis and Q-methodology* (Stephenson, 1954): it was for an analytical situation, for an analyst (An) and his patient (Pt), who performed Q-sorts with a Q-sample of 96 statements for the situation, with the conditions of instruction and operant factor structure given in Table 1. The analyst performed Q-sorts 1, 2, 3, and the patient 4, 5, 6, 7, each in the order given.

The Q-methodologist knows what this table of data represents. It says that the behavior involves three totally different feeling-states, and therefore three very different "selves" are being called upon.

Factor 1 is the analyst's self, with an underlying feeling-state embracing his *ideal* of himself, his *self* now, and--strangely--also Pt's *self now*. Oddly, An's Q-sort 2 is also on factor 2 which is a feeling-state which embraces the patient's view of himself *before analysis* (4) and *self now* (6)! It is as though An was feeling in part very much like his patient *now*. Is this evidence of countertransference?

Factor 3 is Pt's *idealized self* (7), which is apparently also how he feels about An (5): it doesn't touch "reality," however, in that nothing of Pt enters factor 1.

There is much more to say. Meanwhile, our primary concern is with *justification*. What has this done to deny Popper his conclusion, that psychoanalysis cannot be justified in his technical sense, of testability and falsifiability?

What has been achieved is comparable to an X-ray picture of a human body: the operant factor structure is a cross-section of a segment of behavior, in this case of how an analyst and his patient represent themselves at the given position in the analysis. The factor structure is operant, i.e. independent of the scientist's whim--a computer has provided the data, and nothing the scientist could have done with the N=96 Q-sample could have predisposed the factors to this structure. Obviously it is a unique situation, not n=1, but n=2, yet otherwise fulfilling every n=1 postulate. Given the Q-sample and the factor structure, anyone knowledgable about these matters can justify conclusions, every bit as thoroughly as in any experiment performed in physics, or as for any radiologist looking at an X-ray plate. If someone were to say that An, in the above case, is "adjusted" (because his *ideal self* and *self now* are congruent, on the same factor, according to *Roger's law* (Stephenson, 1953a), I would agree, but would say that the adjustment seems limited to his particular analytical situation--an element of doubt has entered, raising a question of countertransference, here objectively indicated.

If the analytic approach had involved the phenomenological approach, as developed in Atwood and Stolorow (1984), and evidence was being sought for *intersubjectivity* (not as Popper's *subjects*, but *subjectivity* as such, that of An and Pt in this example), then we can falsify the proposition that this might have been involved, because although An correctly associates with Pt on Pt's factor 2, there is no corresponding association of Pt on An's factor 1, as there *could* have been, for example if Pt's Q-sort had been significantly loaded on factor 1--I have marked the probability with brackets [ ] in Table 1. Thus *intersubjectivity* (psychological version, as intrinsic subjectivity) is falsified. The matter is dealt with in a review of the Atwood-Stolorow thesis (Stephenson, 1985b).

The Q-sorting, and the factors, are purely subjective to An and Pt: indeed it seems reasonable that An and Pt should be distinct selves in this situation--why on earth should they be alike? Don't we take pride in being unique, each of us? Credibility hangs upon just such observations. It is the essence of science to ask questions, and to pursue them by way of testability and falsification--as we do when we see An embracing factor 2. Is the situation any different, logically, from that of a radiologist examining an X-ray plate of a patient's lungs?

The "Single Case"

There remains the main question: what is the logic of science for n=1, with respect to justification and control of self-reference?

It applies, for example, to Dora, if she had been a subject of Q-sorting about her dream, under analysis by Freud. What basic tenets cannot be falsified in such a case? How can we distinquish an authentic "cure" from mere credulous suggestibility?

For the sake of continuity I use the case of Dora, for a simulation reported in "Integration in Clinical Psychology" (Stephenson, 1985a). Using the Q-sample (N=40) of the 1953 study to which reference was made in *The Study of Behavior* (Stephenson, 1953a: 250), I performed 12 Q-sorts, putting myself in Dora's shoes (so to speak), and representing feeling-states for situations entering her analysis with

Freud. The Q-sorts, factor analyzed, provided three factors, with the operant factor structure of Table 2.

Table 2
Q-SORTS PERFORMED BY DORA
(a simulation)

Q-Sort	Condition of Instruction	Factors I	II	III
1.	On being kissed by father			
2.	Of Frau K for you	X		
3.	Of Mother for you			
4.	Of Herr K for you			
5.	Yourself, when you lost your voice	-X		
6.	When Herr K kissed you	-X		
7.	Of your father for you	X		
8.	As you undress for bed	-X		
9.	Yourself when a child	X		X
10.	Yourself after bed-wetting		-X	
11.	Yourself when you slapped Herr K's face		X	
12.	What your father believed Herr K felt about you	X		

X=significant factor loading, all other values insignificant

It may be said, wouldn't a real case serve better than a simulation? One need only look at the case of Rogerg, such a real case (Stephenson, 1953a: 255 f.), to see how one could quickly become lost in detail to prove a point. Everyone in psychoanalysis knows the case of Dora, almost by heart, and the points to be made are facilitated with this knowledge in hand.

The problem of falsification of basic tenets, such as repression, can be answered in terms of what factors themselves mean in a situation simulated in Table 2 for Dora.

A factor, in Q, is itself a Q-sort, created by the mind (so to speak) unbeknown to the Q-sorter, and

unpredictable by anyone, including the scientist using Q. For a Q-sample N=40, as for Table 2, with three factors, there are 120 (3×40) items of information, provided by computer program, each item in the form of a tested hypothesis (*a posteriori*) about a statement of the Q-sample. The scores are in standard terms, i.e., pure numbers, mean 0, standard deviation 1.00 for each factor. There are three factors, only two well defined. Q-sorts 1, 3, 4, are not in the structure. Dora could have provided just such a structure; she would have been unaware of any of it. Nor could she, any more than I, have arranged Q-sorts deliberately so as to provide this structure. Assuming it to be Dora's what can be said about it?

First, about Q-sorts 1, 3, 4: Freud tells us that Dora loved her father, and I had assumed that a passing kiss (Q-sort 1), for the first Q-sort performed by Dora, would represent an affectionate greeting, without neurotic attachment. Thus the Q-sort is acceptably outside the structure of her neurosis.

Similarly, though Dora and her mother were not on the best of terms, it was apparently without psychoneurotic involvement, at least at this point in the analysis. Her mother had a negative view about her, as "self-willed," "unhelpful," etc., and this was the burden of Q-sort 3. It therefore lies outside the neurotic formation at this point, and thus correctly outside the factor structure.

Credulity lies in just such differentiations: we could have asked Dora what she had intended in performing these Q-sorts, to qualify an interpretation, whatever it was. It is never merely a matter of never having been at a loss for an explanation, but a matter of interpretation governed by *facts*, in this case, the separation of Q-sorts 1 and 3 from the rest of the structure.

Matters are different for Q-sort 5: Dora was supposed to be in love with Herr K, but also with his wife Frau K. Dora had received flowers from Herr K every day for a year; but she was Frau K's confidante, babysitting her children, etc., and, to quote Freud:

> How Dora managed to fall in love with the man about whom her beloved friend (Frau K) had so many bad things to say is an interesting psychological problem. (Freud, 1905/1949: 25)

Problem it no doubt was! Dora knew that Frau K was her father's mistress. In such a situation, what is she expected to say that Herr K felt about her (Dora)? I guessed that she would dissemble. She may or may not have been aware of this, *but it would have been possible to confront her with the Q-sort, to see what it really meant to her*--and that is important, not because we need believe Dora's explanation, but because it presents a focus for further Q-sorting, i.e., for a further experimental, experiential probe into this particular matter. And this is the way of science.

We see, then, that Q-sorts outside a structure can help to give credulity to factor structure (Q-sorts 1 and 3 should not be in it), or raise significant questions (Q-sort 5, also not in the structure, probably for a reason very pertinent to Dora's situation, which can be pursued, with knowledge of what it *isn't*--it is not in relation to factors 1, 2, 3).

As for the factors, we can be brief.

For factor 1 (*positive*) Dora is "content with herself"; she likes gifts as expressions of love; she can "argue and look forward." Confidence in herself, she says, "no longer turns on remorse and fear" but on actions. At the other end of the factor (*negative*) she expresses dislike for people and her own uselessness; she could never marry anyone, and hates men; she is subjected to humiliation and dependency.

The feeling-state has to do with "external" life: it is set in a social milieu.

The Q-sort conditions of instruction confirm this interpretation--Q-sorts 2, 7, 9, and 12 are *positive* on factor 1, and concern Frau K's feelings about Dora (of course according to Dora, and surely they would have to be socially acceptable); Dora's father's feelings for Dora; her own childhood feelings; and reflections on her father's mistake vis-a-vis Herr K's intentions of love for Dora. All are in a social context, congruent with Dora's own social adjustment (or lack of it). Q-sorts 5, 6, and 8 are *negatively*

loaded on factor 1, covering overt actions--of loss of voice, anxiety when undressing, and being kissed by Herr K at the lakeside. Are not these also overt, concrete actions? "External" conditions are at issue, not "internal" ones, such as we shall meet in factor 2.

But there is also the possibility of *reversal of affect*. Dora's situation, objectively, is more like the negative end of the factor than the positive end. Has she not turned herself upside-down in the Q-sorting? And might not *both* aspects hold a measure of truth about her? *Complementarity, of seemingly opposite positions, is as common in subjectivity as in nuclear physics*. In any case, a feeling-state is at issue dealing with "external conditions," as overt behavior, and not with "internal experience" as such, such as a dream. And whatever the feeling-state, it can be put to further test, first by confronting Dora with factor 1, and subsequently by a Q-study of *her* additional communicability about the factor.

Factor 2 is directly concerned with bed-wetting (Q-sort 10), and Dora's feeling when she slapped Herr K's face when he kissed her (Q-sort 11). These are not, I had assumed, socially acceptable matters for Dora, and the feeling-state was the same, negative for bed-wetting, positive for the kiss.

See, now, the dilemma for Dora! Shown this factor, what would her reaction have been? That somehow her feeling-state was the same for bed-wetting as for being kissed by Herr K? It can be left to the imagination of the reader to provide an answer. Clearly, something highly personal, "internal" to Dora, was at issue; and, again, this could have been probed further, using Dora's own communicability about it as the concourse.

Factor 3 is not well defined, and represents Dora's childhood as self reflected--Q-sort 9 is significantly loaded on both factors 1 and 3. It therefore has more to do with "external" than "internal" conditions, as one would expect for Dora, looking back upon herself. The factor, however, has an "objective" possibility: that is, in principle it can be asked, what do her parents, aunts, friends remember of Dora? And was she the happy child she claims to have been? The family usually has a sound inter-

subjective standpoint about such a matter, putting factor 3 to test, by the intersubjectivity criterion of Popper.

Meanwhile, Freud's conclusion about his case corresponded to our factor results, much to my own surprise, that "external" and "internal" conditions should be distinguished. But whereas Freud discounted further attention to "external" situations by way of psychoanalysis, its concern being essentially with "internal" conditions, here we see that both are equally open to Q-methodology.

We see in the "single case," then, a way to penetrate, step-by-step, into a patient's associations, by self-reference--which, indeed, associations are in large measure, and totally so if facts, *already justifiable*, are ignored, to be replaced by the countless unjustifiable (emotional) statements a Dora could have (and probably did) communicate to an unseeing Freud. In these terms, what is credible, and what is a "cure" can be qualified in scientific terms.

A "Cure"

Is a case ever terminable, was Freud's own question, and he answered that cure comes when what was repressed is brought into consciousness. This, however, was related to transference--only when the intensity of transference has been utilized to overcome resistances, only then is illness impossible (Freud, 1924/1949: 364). The primary motive power (in Freud's terminology) is the patient's suffering--of deep anger in the child who has lost belief in parental affection, of deep depression in a case of neurosis--and, as Freud carefully noted, a wish to be cured. During analysis there is "episodic-gain"--victories en route that lessen the pain. How, however, does this work? And how strong has the transference process to be? Freud merely says that the analytic process helps in both directions. At the right moment in transference, the analyst can point out the direction the patient can now take. Transference alone sometimes does the trick, though it is by suggestion, not analysis--and therefore temporary. "Only when the intensity of the transference has been utilized to overcome the resistances; only

then does illness become impossible" (Freud, 1924/1949: 360).

What, then, can we offer? Q-methodology and its theories teach us that the patient does its own self-designing, its own "curing"--far more so than Freud could have known. No one tells the patient what his/her factors have to be, or will be. Kohut, and Atwood and Stolorow testify to such self-designing, as I have done in a chapter in a volume on clinical psychology from the interbehavioral standpoint (Stephenson, 1987). Second, by Q we can watch the process of self-designing, in a direction set by his/her "me" factors (Stephenson, 1974), an observation I made long ago about a cretin boy (discussed in Stephenson, 1985a) and about the case of Myra (in Stephenson, 1974).

Even so, it is wise to distinguish "internal" and "external" situations. Psychoanalysis did well with the former, but that in no way precluded the latter. Besides, a child's anger and fury at disaffection might be reduced without mediating change in the parents whose maladroitness influenced the lost affection: though, to be sure, the two are interactional. An ill-at-ease parent is one thing, an at-ease child another; and the latter may accept parental unwillful indifference with understanding, and soften in-home stresses by the same token. Not all conditions in life are morbid!

The Status of Psychoanalytic Doctrine

According to Sir Karl Popper, psychoanalysis can never be a science, in part because it is practically impossible to describe any human behavior that doesn't support psychoanalytic doctrine. To judge by Freud's discussion of his case Dora, he was aware of limitations--his concern was with "internal," not "external" influences. The primary involvement was with lived experence as such--indeed with *self*, except that self-deception took the limelight (Hartmann, 1959).

Moreover, it remains true that the newest versions of psychoanalytic doctrine are a return to what was entailed at the outset, a concern with *self*. This is true of neopsychoanalysis (Pritz & Mitterauer, 1977) with its cybernetic-biological-informational frame-

work; also of the phenomenological psychoanalysis described by Atwood and Stolorow (1984); also of Kohut's efforts in self-theoretical respects (Kohut, 1984).

In this direction the constructs of an "unconscious mind," of id, ego, superego, of repression and its adjunct defense mechanisms, remain categorical only--none derives of necessity from the lived experiences under investigation. We now see that these experiences *as such* can be put into Q-methodological form and manipulated experimentally: the beginning is always with a behavioral segment and the self-referent (emotional, *un*justifiable) communicability of the patient about the segment. Communicability is at issue, not conciousness, put in a form (*concourse*) to which quantum factor theory can apply, as Q-technique and Q-factor analysis.

Two advances mediate: communicability replaces consciousness (and therefore unconsciousness and its derivatives). Psychology has been reminded that the concept *conscious* is new in our language (Stephenson, 1980), and that "sharing knowledge" is the fundamental matter at issue, i.e., we are conscious *with* others, not conscious *of* others. Second, the theory of factors has been used in Q, not to measure anything about an individual's attributes, but to measure Q-sorts, as fluxes of feelings, i.e., feeling-states, and subsequently (*a posteriori*) to measure the *statements* as such of a Q-sample. Factor structure thus becomes a cross-section of an individual's communicability about a segment of his/her behavior--I have called it a "vital sign" (Stephenson, 1985a), as much indicative of a situation as are the vital signs of temperature, blood pressure, and pulse rate in medical science.

In this context we put *self* on a firm empirical footing, as our self-references in reflecting upon any and all of our past experiences and intentions: there are a thousand-and-one selves at our demand, for each of us.

Q-factors are *operant*, that is, basically indicative of process outside our scientific whims and connivances: they suggest brain function, as real and as substantial as Popper's objective regard of a white table. But they provide evidence, both in factor structure and the factors themselves, of

discoveries--and this was Freud's great achievement. Reversal of affect, repression, transference and countertransference, and psychoneurotic conjoinings (such as Dora's bed-wettings with her feelings about Herr K--no wonder she couldn't accept his kiss!), all such are intrinsically discoveries in the domain of self-reference. But whereas psychoanalytic practice left these as *theoretical*, it is clear that each can be pursued to causes along Q-methodological lines, precisely in the manner of science prescribed by Popper. However, this also means thrusting ahead of Popper's deductivism, to give due place to discoveries in science, by observation and abduction. Given a problem, much is achievable deductively. Finding the problem in the first place is another matter, which Popper left to chance or whatever, unlike Newton, who sought a solution in his *Fifth Rule*, aborted, but for which I have provided a solution (Stephenson, 1979). Freud was finding problems; psychoanalysis failed to solve them. Q can solve them.

What, then, does this mean for psychoanalysis? It in no way follows that psychoanalytic practice has to be replaced by a computerized Q-sorting, Q-factoring system. Q is a research tool, for much besides psychoanalysis. But the implications of our research can scarcely be overlooked. Nevertheless, we would never recommand that research be undertaken about psychoanalytic phenomena *in general*: the abductive methodology remains peculiarly a domain where n=1.

In conclusion, it has to be said that I was chosen by Ernest Jones (and no doubt a small committee) to undergo analysis with Melanie Klein, in the early 1930s. It was my intention to pursue research into such an exciting field. This I have done, slowly and quietly, as opportunities permitted; and the present paper is written 50 years after I saw, in analysis, that what is at issue is Virginia Wolff's concatenation of innumerable selves. This paper, therefore, is given to the exciting memory of London days, when Ernest Jones, J.C. Flugel, Melanie Klein, Sigmund Freud, and Virginia Wolff were important influences in a young psychologist's life.

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NEWS, NOTES & COMMENT

Recent and Forthcoming Scholarship

William Stephenson, "William James, Niels Bohr, and Complementarity: IV-The Significance of Time," *Psychological Record*, 1988, *38*, 19-35. *Abstract*: There are efforts by theoretical physicists to explain indeterminism, using time significantly in the process. They hope to restore time to science, as in everyday life, as substantive. According to this standpoint Western civilization has been time centered, as in the humanities, in contrast with science which has been time indifferent. Experimental psychology has given much attention to a substantial time; James Ward in 1881 put forward the concept of "specious present," embracing past, now, and future. The new physicist's propositions leave quantum theory intact. In Q-methodology, time, like consciousness, is a non-ens. Ward's "specious present" remains as the viable hub of creative thought, so-called, taking place at time t=0, that is always