

by John Cutting and  
Francis Dunne

## Abstract

A standardized assessment of the subjective experience of schizophrenia and depression was developed in three stages: (1) An open-ended interview covering changes in nine areas of psychological functioning was given to acute, remitted, and chronic schizophrenic patients, and to depressed patients. (2) On the basis of their replies, a structured interview was given on two separate occasions close in time to 20 remitted schizophrenic patients by two different interviewers to test inter-rater reliability, and to the same 20 remitted patients 6 months later by one interviewer to test inter-temporal reliability. (3) The most reliable items were retained in a final version, from which the replies of a new group of 20 remitted depressed and the 20 remitted schizophrenic patients could be compared. Despite the long interval that usually had elapsed between the first episode of illness and the time of questioning, most patients gave a detailed account of their experiences that did not vary much either 6 months later or in an interview by a different psychiatrist. The most reliable items concerned changes in perception, and these also best distinguished the experiences of schizophrenia from those of depression. Perceptual dysfunction appears to be the most invariant feature of the early stage of schizophrenia, but a qualitative disturbance of thinking also occurs.

The subjective experience of mental illness has been rather neglected as a topic of scientific interest in the latter part of this century. Lewis (1934) carried out the last comprehensive study in depressed patients. In schizophrenia there

have been a few notable investigations: by Conrad (1958) and Matussek (1952) in Germany; by McGhie and Chapman (1961) in the United Kingdom; and by Freedman (1974), Freedman and Chapman (1973), and Kleinman et al. (1977) in the United States. The preoccupation with objective measurements of psychological states, and the influence of the Schneiderian diagnostic approach, with its emphasis on delusions and hallucinations, have contributed to this neglect.

The study of subjective experience of mental illness, however, is of both theoretical and practical interest to psychiatrists and psychologists. It can encourage empathic understanding of psychotic experiences, as in Rosser's (1979) account of her psychotherapy with a schizophrenic patient. It can be used to emphasize the problems of professional therapists when they themselves become depressed (Krippene and Williams 1985). It can also provide support for particular models of schizophrenia—for example, breakdown in Gestalt (Matussek 1952; Conrad 1958), incompetent attentional filter (McGhie and Chapman 1961), or analogy with the effects of hallucinogens (Kleinman et al. 1977).

The greatest problem with these studies is that what is said about the early stages of illness is of suspect reliability. If patients are now well, they may have forgotten most of what they experienced, or distorted it in the light of further experience. If they are still psychotic or depressed, their account of what they saw, heard, or felt may be further distorted by their

Reprint requests should be sent to Dr. J. Cutting, Becklem Royal Hospital, Monks Orchard Road, Beckenham, Kent BR3 3BX, United Kingdom.

current mental state. Some of the studies that have been carried out have additional flaws, including the use of uncontrolled autobiographical accounts or loose diagnostic criteria.

The present study was undertaken in the hope that some of these methodological problems could be overcome, and a reliable standardized assessment of subjective experience developed. The focus of this assessment would be to record *how* subjects experienced themselves and their world, rather than on the content of their thoughts and perceptions (such as content of delusions and hallucinations). The purpose of such an instrument would be to examine the experience of various groups of psychotic patients, thereby distinguishing one group from another on the basis of their experiences.

### Stage 1

**Method.** The first stage was to prepare a relatively open-ended interview and give it to patients with a variety of psychiatric illnesses. A short interview (table 1) was devised which contained questions spanning the range of possible experiences in the areas of perception, language, emotion, attention, movement, memory, thinking, self-awareness, time, and space. Replies were noted verbatim. Care was taken to exclude reports of delusions and hallucinations and only record the experience of altered functioning or awareness.

A total of 100 patients participated in the investigation. The subjects for the first stage were 40 *remitted schizophrenic* patients (mean number of months since last psychotic episode = 25), diagnosed according to Research Diagnostic

**Table 1. Open-ended interview on early subjective experiences**

|   |                                |
|---|--------------------------------|
| I should like to ask you about the time when you first experienced a change in the way things were. What was it like? | (Verbatim account written)     |
| 1. Did you see things differently?  | (Examples asked for and noted) |
| a. Colors?  |                                |
| b. People?  |                                |
| c. People's faces?  |                                |
| d. Their clothes?   |                                |
| e. The world around you?  |                                |
| 2. Did things sound differently?  |                                |
| a. Things around you?   |                                |
| b. Words and language?  |                                |
| 3. Did you feel different?  |                                |
| a. Did your emotions change?  |                                |
| b. Did you feel different in yourself?  |                                |
| 4. Did your mind seem to be functioning differently? What about concentration and attention?                          |                                |
| 5. Did your awareness of your own body or movements change?   |                                |
| 6. Were your thoughts affected?   |                                |
| 7. Was your memory affected?  |                                |
| 8. Did your awareness of time change?   |                                |
| 9. Did your awareness of space change?  |                                |

Criteria (RDC; Spitzer et al. 1975), using the Lifetime version of the Schedule for Affective Disorders and Schizophrenia (SADS; Spitzer and Endicott 1978). They were consecutive outpatients or inpatients in two South London psychiatric hospitals interviewed over a period of 1 year. At the time of the interview, they were free of delusions, hallucinations, or marked formal thought disorder. A second group comprised 20 *acutely psychotic schizophrenic* patients, diagnosed using RDC and the current version of the SADS; they were consecutive admissions to the same hospitals but were actively psychotic when

seen. There were 20 *chronic schizophrenic* patients, continuous inpatients for at least 5 years in two large mental hospitals in Kent. Most were free of positive symptoms, but these were documented in the notes, and all had at least three of Andreasen's (1982) negative symptoms: affective flattening, attentional impairment, alogia, avolition-apathy, or anhedonia-asociality. There were 20 *patients with a current major depressive syndrome* (by RDC), consecutive admissions to the same acute wards as the schizophrenic patients. They were not actively delusional or hallucinating at the time that they

were seen.

The statistical method chosen to analyze the results was the  $\chi^2$  test, with Yates correction for small cell size.

**Results.** The replies of the 20 chronic schizophrenic patients revealed virtually nothing about the early stages of their condition. None admitted to perceptual changes: one claimed that he had "talked with a mixture of voices"; the only emotional changes mentioned were by one patient who said that he had some "queer feelings." None remembered any attentional, movement, or memory disturbances; one said she "just thought differently"; none could recall any change in appreciation of self, time, or space. Only two could

remember delusions and another two, hallucinations, despite their being clearly documented in 18 cases. It was clear that changes in psychological functioning, if they do occur in early schizophrenia, were not to be discovered by interviewing chronic schizophrenic patients. They were, therefore, excluded from further analysis.

The 20 acutely psychotic schizophrenic patients were so preoccupied with their delusions and hallucinations, and four had such severe formal thought disorder that no sense could be made of their replies. For these reasons they were an unsatisfactory group on which to rely for an accurate account of early schizophrenia, and they too were excluded from further analysis.

The remitted schizophrenic and depressed patients did appear to give a coherent and thoughtful account of what they had experienced, and their replies were examined as a basis for elaborating the interview. (Only two remitted schizophrenic patients were unable to give any account—in one case because they denied anything had happened, and in another because they claimed to have forgotten their experiences. Two further remitted schizophrenic patients were interviewed to replace them.)

The number of remitted schizophrenic and depressed patients reporting an altered experience in each of the 10 areas of functioning or awareness is shown in table 2. The depressed patients had remembered experiencing significantly

**Table 2. Number of subjects reporting abnormal subjective experience in open-ended interview**

|                                       | Remitted<br>schizophrenic<br>patients<br>( <i>n</i> = 40) | Depressed<br>patients<br>( <i>n</i> = 20) | <i>p</i><br>( $\chi^2$ ) |
|---------------------------------------|---|---|--------------------------|
| <b>Perceptual change</b>              |   |   |                          |
| Any                                   | 21  | 10  | NS                       |
| Visual                                | 21  | 7   | NS                       |
| Auditory                              | 8   | 5   | NS                       |
| People                                | 13  | 4   | NS                       |
| Colors                                | 11  | 2   | NS                       |
| Only change in emotional tone         | 1   | 4   | 0.05                     |
| Sense of unreality                    | 0   | 2   | NS                       |
| Indefinable qualitative change        | 4   | 1   | NS                       |
| Increased acuity                      | 5   | 0   | NS                       |
| Noise sensitivity                     | 0   | 3   | 0.05                     |
| <b>Language change</b>                |   |   |                          |
| Any                                   | 8   | 3   | NS                       |
| Misinterpretation of intended meaning | 4   | 1   | NS                       |
| Loss of intrinsic meaning or prosody  | 3   | 0   | NS                       |
| Nonspecific                           | 1   | 2   | NS                       |
| <b>Emotional change</b>               |   |   |                          |
| Any                                   | 30  | 20  | 0.05                     |

**Table 2. Number of subjects reporting abnormal subjective experience in open-ended interview—*Continued***

|   | Remitted<br>schizophrenic<br>patients<br>( <i>n</i> = 40) | Depressed<br>patients<br>( <i>n</i> = 20) | <i>p</i><br>( $\chi^2$ ) |
|---|---|---|--------------------------|
| <b>Attentional change</b>                         |   |   |                          |
| Any   | 20  | 19  | 0.001                    |
| Impaired  | 19  | 19  | 0.01                     |
| Enhanced  | 1   | 0   | NS                       |
| <b>Movement change</b>                            |   |   |                          |
| Any   | 11  | 3   | NS                       |
| Alteration in speed                               | 4   | 2   | NS                       |
| Qualitative change                                | 7   | 1   | 0.01                     |
| <b>Memory change</b>                              |   |   |                          |
| Any   | 7   | 10  | 0.01                     |
| Impaired  | 2   | 9   | 0.001                    |
| "Immersion" in past                               | 5   | 1   | NS                       |
| <b>Thinking change</b>                            |   |   |                          |
| Any   | 27  | 13  | NS                       |
| Reduced efficiency                                | 5   | 12  | 0.01                     |
| Improved efficiency                               | 1   | 0   | NS                       |
| Qualitative change                                | 12  | 0   | 0.01                     |
| Description of deluded thinking                   | 5   | 0   | NS                       |
| Nonspecific                                       | 4   | 1   | NS                       |
| <b>Self-concept change</b>                        |   |   |                          |
| Any   | 10  | 12  | 0.01                     |
| Self-awareness of body or personality change      | 8   | 3   | NS                       |
| Sense that others in particular detected a change | 2   | 9   | 0.001                    |
| <b>Time alteration</b>                            |   |   |                          |
| Any   | 19  | 11  | NS                       |
| Passing more slowly                               | 2   | 6   | 0.01                     |
| Passing more quickly                              | 9   | 0   | 0.001                    |
| Loss of track of time                             | 3   | 3   | NS                       |
| Loss of meaning of time                           | 5   | 2   | NS                       |
| <b>Space change</b>                               |   |   |                          |
| Any   | 13  | 3   | NS                       |
| Confined space                                    | 5   | 2   | NS                       |
| Enhanced space                                    | 0   | 1   | NS                       |
| Disorientation                                    | 2   | 0   | NS                       |
| Other/nonspecific                                 | 6   | 1   | NS                       |

more emotional change, attentional disorder, impaired memory, and awareness of a change in self. When the actual replies within each area of functioning were studied, more distinguishing features were suggested. Although not all of these were significant discriminators, they appeared of sufficient interest to be included in the next stage of the development of the interview. These more specific features were suggested by the following replies.

**Perception.** Although about half of each group remembered alterations in perception, in depressed patients this was mainly accounted for by three factors: a pervasive emotional tone; a sense of unreality; and, in the auditory modality, noise sensitivity rather than any alteration in the location or quality of the sound. For example, one depressed man remembered: "It seemed like living in a desert; there were horrible trees in front of me, full of rooks; people were terribly old, like old octogenarians." As an example of the second factor, another subject reported: "Things seemed like a dream; even now when I look out of the window and see people plodding along, it doesn't seem real." Noise sensitivity is illustrated by this report: "I couldn't bear all this jumping and tapping and buzzing, all this noise." Of the 10 depressed subjects with an altered perceptual experience, 4 had had only a more gloomy tone to their visual perception; 2, a sense of unreality; and 3, noise sensitivity. In table 2, only neutrally toned visual perceptual change and noise sensitivity significantly discriminated the two groups.

In schizophrenic patients, the perceptual change appeared to be of a different nature. The world was not experienced primarily in terms of an altered emotional tone

or as unreal. Several subjects tried hard to clarify the essence of the change; one common factor appeared to be that certain aspects of their environment had altered while others remained the same. The way this was categorized in table 2 was whether subjects emphasized the normality of some aspects of their environment, as opposed to stressing a global change. The following reports illustrate this: "There was a subjective change in color, a certain shine, well, not really a color"; "the organization of things was different, things didn't actually look different." A final quality to the perceptual change in some schizophrenic patients was the sense of increased perceptual acuity, a feature noted by McGhie and Chapman (1961).

The five factors that appeared to discriminate the two groups—altered emotional tone, noise sensitivity, unreality, indefinable qualitative change, and increased acuity—were then incorporated into the second version of the interview.

**Language.** Changes in the way subjects experienced their own or others' language occurred in both groups, but most of the examples given were either nonspecific (e.g., "It seemed a bit funny") or misinterpretations of intended meaning. For example, one schizophrenic patient remembered: "Someone suggested a trouser press was what I needed; later on I thought it meant I was going for an interview." The most striking abnormalities were confined to the schizophrenic group, three of whom had experienced what would have been regarded as a receptive aphasia if they had had brain damage. One thought everyone was speaking with a Rhodesian accent. One said: "I used to get the sudden thing that I couldn't under-

stand what people said, like it was a foreign language." A third remembered: "I thought my language was wrong; I believed that no one could understand what I said; I couldn't understand what I said; just high-pitched noises came out; it lost its meaning; I *could* understand what others said."

On the basis of these responses, three features included in the second version of the interview were misinterpretation of intended meaning and loss of intrinsic meaning or prosody of language.

**Emotion.** Both groups of subjects used a variety of words to describe their emotional state at the time, and it was difficult to place these within conventional categories of emotion, such as depression, anxiety, or elation. In the revised interview, subjects were asked to provide one word that best described their mood at the time, and were then asked directly whether they had experienced sadness, anxiety, fright, elation, or numbness.

**Attention.** All but one of the depressed patients and half the schizophrenic patients remembered their attention as having been impaired, and only one schizophrenic patient remembered having enhanced attention. Both impairment and enhancement were therefore inquired about in the next stage.

**Movement.** The same proportion of subjects in each group remembered their movements as having been quicker or slower than usual, but six schizophrenic patients and only one depressed patient had experienced a qualitative change. In the schizophrenic patients, this appeared to consist of lack of control and decreased spontaneity. For example, one schizophrenic patient reported: "I became the opposite of spontaneous, as a result of which I

became very diffident, very labored." Another remembered: "I felt split in two, in control of one part of myself, whereas the other part was beyond my reach." These observations were incorporated into the revised interview as three items: slowing, speeding up, and sensing that there was something quite different and unusual about movements.

**Memory.** Several subjects in each group, particularly depressed patients, remembered their memory as having been poor at the time. Some schizophrenic patients, however, had a different experience, in which perception and memory, present and past, seemed to have become interwoven and difficult to distinguish. One schizophrenic patient remembered: "I became more interested in memory than in perceiving reality around me." Another reported: "It seemed like I was back in the past, not today's time." Yet another said: "I kept going back to the past for proof of time." The common element appeared to be a preoccupation with the past.

These two experiences—impaired memory and immersion in the past—were incorporated into the revised interview.

**Thinking.** The depressed subjects, in general, remembered experiencing a decrease in thinking efficiency. They used such terms as "thinking fell apart," "it didn't function at all," and "I couldn't really think straight." Some had experienced "a whirling of thoughts" or "everything jumbled up," and some remembered an impoverishment of ideas—for example, "For most of my life I had been an innovator; now I felt I couldn't come up with ideas; everything was stereotyped." Similar statements were made by some, but signifi-

cantly fewer, of the schizophrenic patients. One common and specific element in the schizophrenic experience appeared to have been the recognition that thought processes were entirely different than usual. This qualitative change was described in various ways, and although there was no unifying element, it could not easily be reduced to impaired efficiency as was possible in the depressed subjects' descriptions. Some schizophrenic subjects were probably only describing their memory of what it was like to be deluded—for example, "My mind would draw up things that never existed"; "Weird ideas seemed convincing." Others, on the other hand, appeared to be describing a genuine change in the thought processes themselves: "My mind clicked into another sort of thing"; "I was antagonized by the one-sidedness of things not having any meaningful relationship"; "Everything I thought was weird. I used to change it round to look different"; "Consecutive thinking became almost impossible. I would start a thought and then couldn't remember what I was thinking. Trains of thought were left in mid-air." (The impression that this last set of statements did not merely represent retrospective accounts of what it was like to be deluded was borne out by a  $\chi^2$  analysis of the relationship between the recording of delusions at the time and the report of a subjective experience of altered thinking. Of the remitted schizophrenic subjects, 21 had had delusions and now remembered altered thinking, 8 had had delusions and now remembered no alteration in thinking, and 6 had not been deluded but did now remember altered thinking, a non-significant association by  $\chi^2$  analysis.)

In the revised interview, it was emphasized that the subjects were being asked to report on the way they thought rather than on the content of their thought, and three elements were incorporated: reduction in efficiency of thinking, enhanced efficiency, and recognition of a different form of thinking.

**Self-concept.** A change in body image or self-concept occurred in 10 remitted schizophrenic and 12 depressed subjects. In the schizophrenic patients, this tended to be a definite experience that *they themselves* noticed that their body or personality had changed in a major way: "I experienced homosexuality. I took on the feelings of a woman"; "I felt as if I were shrinking or disappearing." In the depressed patients, it tended to be vague awareness that *others* could detect a subtle change in them: "I imagined that people thought I was dangerous because my actions were so jerky"; "There was something about me that people saw, but I couldn't figure out what it was."

These impressions were incorporated into the second version of the interview as self-awareness of definite change in body or personality and awareness that others detected a change.

**Time appreciation.** An altered sense of time occurred in about half of each group. Depressed patients tended to have experienced time as longer than it really was, while schizophrenic patients experienced it as shorter; some subjects from both groups remembered having lost track of time; and some schizophrenic subjects reported that time had completely changed ("Time is somewhat changed. It isn't supposed to be the way it was"; "Time is infinity. I thought I was controlling time, here, and in a different dimension").

These four elements were incorporated into the second version of the interview; time passing more slowly, time passing more quickly, losing track of time, and complete change in the meaning of time.

**Spatial sense.** An alteration in the sense of space was largely confined to schizophrenic subjects who had generally felt space was more confined than normal or had felt a total sense of disorientation. One depressed patient remembered that space had seemed vast, and two schizophrenic patients had been aware of a more complex change that could not be categorized as confinement, enlargement, or disorientation—for example, "I was very aware of sizes of rooms, sizes of everything"; "I was on a bridge in Chatham and I could go no further, a sense of vertigo."

## Stage 2

**Method.** On the basis of the replies to the open-ended interview, a more structured interview was devised. This retained the open-ended questions as a stem, and then provided a series of further questions within each area, if any suggestion of abnormality emerged in reply to the initial question.

This second version of the interview was then tested for interrater and intertemporal reliability by giving it to a different group of 20 remitted schizophrenic patients (diagnosed, as before, using the SADS and the RDC). They were all outpatients of the senior author at the Maudsley Hospital in South London and had a mean period of remission of 19 months. Each patient was interviewed three times, first by one of the authors and then by the other, with a gap between interviews of between 2 and 11 weeks (mean = 5 weeks), to assess interrater reliability. A third interview was held at least 6 months later (range 6–8 months) by the senior author to assess intertemporal reliability.

Reliability was calculated for each item and subsidiary question using Kappa (Cohen 1960).

The test-retest reliability of the interview is, in our view, an important procedure, because it gives some idea of how useful the instrument is in the hands of different investigators. There are a variety of factors, however, other than the use of different interviewers, that contribute to difference between replies to the two interviewers. These include changes in mental

state between the dates of the two interviews, and the possibility that on one of these occasions the patient was in a psychotic relapse. We endeavored to exclude the latter possibility and minimize the former by ensuring that patients had been in stable remission for at least 1 year.

**Results.** The interrater reliability of the items in the second version of the interview is shown in table 3. Changes in emotion, memory, self-awareness, and time all had unacceptably low reliabilities (below 0.4, which is statistically nonsignificant) and were therefore omitted from the third and final revision. Changes in some of the other functions had a relatively low reliability (0.5 or 0.6, which is significant at the 5-percent level), but the raters conferred about these items and they were reworded in the third version with the expectation that reliability would be improved.

The intertemporal reliability was acceptable (0.6–1.0) in those questions that had a statistically significant interrater reliability.

The rejected items were sometimes significant discriminators between schizophrenic and depressed patients in the open-

**Table 3. Frequency and reliability of abnormal experiences in remitted schizophrenic patients (new sample) and remitted depressed patients on second version of subjective experience interview**

|                                 | Remitted<br>schizophrenic<br>patients<br>( <i>n</i> = 20) | Remitted<br>depressed<br>patients<br>( <i>n</i> = 20) | Significance<br>of difference<br><i>p</i> | Interrater<br>Kappa | Intertemporal<br>Kappa |
|---------------------------------|---|---|---|---------------------|------------------------|
| <b>Visual perceptual change</b> |   |   |   |                     |                        |
| Any                             | 15  | 6   | 0.01                                      | 0.8                 | 0.8                    |
| Color                           | 6   | 0   | 0.01                                      | 0.6                 | 0.7                    |
| People                          | 9   | 1   | 0.01                                      | 0.6                 | 0.7                    |
| Emotionally toned               | 4   | 2   | NS  | 0.5                 | 0.6                    |
| Unreality                       | 3   | 5   | NS  | 0.8                 | 0.7                    |
| Indefinable strangeness         | 7   | 0   | 0.01                                      | 0.7                 | 0.8                    |
| Vividness                       | 4   | 0   | NS  | 0.5                 | 0.6                    |

**Table 3. Frequency and reliability of abnormal experiences in remitted schizophrenic patients (new sample) and remitted depressed patients on second version of subjective experience interview—Continued**

|                                       | Remitted<br>schizophrenic<br>patients<br>(n = 20) | Remitted<br>depressed<br>patients<br>(n = 20) | Significance<br>of difference<br>p | Intrater<br>Kappa | Intertemporal<br>Kappa |
|---------------------------------------|---|---|------------------------------------|-------------------|------------------------|
| <b>Auditory perceptual change</b>     |   |   |                                    |                   |                        |
| Any                                   | 8   | 11  | NS                                 | 0.5               | 0.6                    |
| Alteration in sound                   | 6   | 2   | NS                                 | 0.5               | 0.6                    |
| Noise sensitivity                     | 2   | 10  | 0.01                               | 0.4               | 0.6                    |
| <b>Linguistic changes</b>             |   |   |                                    |                   |                        |
| Any                                   | 9   | 4   | NS                                 | 0.5               | 0.6                    |
| Loss of meaning                       | 0   | 0   | NS                                 | 1.0               | 0.9                    |
| Change in prosody                     | 3   | 0   | NS                                 | 1.0               | 0.9                    |
| Misinterpretation of intended meaning | 8   | 4   | NS                                 | 0.6               | 0.7                    |
| <b>Attentional changes</b>            |   |   |                                    |                   |                        |
| Any                                   | 14  | 17  | NS                                 | 0.4               | 0.6                    |
| Impaired                              | 13  | 17  | NS                                 | 0.4               | 0.6                    |
| Enhanced                              | 1   | 0   | NS                                 | 0.8               | 0.8                    |
| <b>Emotional changes</b>              |   |   |                                    |                   |                        |
| Any                                   | 19  | 20  | NS                                 | 0.9               | 0.8                    |
| Depression                            | 13  | 18  | NS                                 | 0.3               | 0.5                    |
| Elation                               | 4   | 1   | NS                                 | 0.7               | 0.6                    |
| Anxiety                               | 19  | 19  | NS                                 | 0.6               | 0.5                    |
| Fear                                  | 15  | 12  | NS                                 | 0.9               | 0.7                    |
| Numbness                              | 5   | 9   | NS                                 | 0.1               | 0.3                    |
| <b>Movement change</b>                |   |   |                                    |                   |                        |
| Any                                   | 11  | 12  | NS                                 | 0.5               | 0.6                    |
| Slower                                | 5   | 11  | NS                                 | 0.5               | 0.6                    |
| Quicker                               | 5   | 1   | NS                                 | 0.5               | 0.6                    |
| Qualitative change                    | 6   | 1   | NS                                 | 0.4               | 0.6                    |
| <b>Memory change</b>                  |   |   |                                    |                   |                        |
| Any                                   | 11  | 13  | NS                                 | -0.1              | 0.5                    |
| Poor                                  | 10  | 12  | NS                                 | -0.1              | 0.5                    |
| Enhanced vividness                    | 2   | 0   | NS                                 | 0.8               | 0.6                    |
| <b>Thinking change</b>                |   |   |                                    |                   |                        |
| Any                                   | 16  | 17  | NS                                 | 0.5               | 0.6                    |
| Generally worse                       | 12  | 16  | NS                                 | 0.4               | 0.5                    |
| Better                                | 2   | 1   | NS                                 | 0.9               | 0.5                    |
| Special                               | 8   | 0   | 0.01                               | 0.6               | 0.6                    |



**Table 3. Frequency and reliability of abnormal experiences in remitted schizophrenic patients (new sample) and remitted depressed patients on second version of subjective experience interview—Continued**

|                            | Remitted<br>schizophrenic<br>patients<br>(n = 28) | Remitted<br>depressed<br>patients<br>(n = 28) | Significance<br>of difference<br>p | Interrater<br>Kappa | Intertemporal<br>Kappa |
|----------------------------|---|---|------------------------------------|---------------------|------------------------|
| <b>Self-concept change</b> |   |   |                                    |                     |                        |
| Any                        | 15  | 15  | NS                                 | 0.1                 | 0.4                    |
| Bodily change              | 3   | 0   | NS                                 | 0.5                 | 0.5                    |
| Personality change         | 7   | 11  | NS                                 | 0.3                 | 0.4                    |
| Noticeable to others       | 4   | 3   | NS                                 | 0.7                 | 0.3                    |
| <b>Time change</b>         |   |   |                                    |                     |                        |
| Any                        | 10  | 10  | NS                                 | 0.3                 | 0.4                    |
| Slow                       | 5   | 9   | NS                                 | 0.6                 | 0.5                    |
| Fast                       | 4   | 1   | NS                                 | 0.5                 | 0.6                    |
| Complete alteration        | 2   | 0   | NS                                 | 0.9                 | 0.9                    |
| <b>Spatial change</b>      |   |   |                                    |                     |                        |
| Any                        | 8   | 3   | NS                                 | 0.6                 | 0.6                    |
| Larger                     | 1   | 1   | NS                                 | 1.0                 | 0.9                    |
| Smaller                    | 5   | 2   | NS                                 | 0.6                 | 0.6                    |
| Disorientation             | 1   | 0   | NS                                 | 1.0                 | 0.9                    |
| Strange and different      | 4   | 1   | NS                                 | 0.7                 | 0.8                    |

ended interview. An overzealous concern for reliability may have led us to reject them spuriously. However, studies on subjective experience of mental illness have been bedeviled by unreliable methods, and it seemed to us that reliability should take precedence over apparently interesting qualitative differences between schizophrenic and depressed subjects.

A more serious issue is the validity of the retrospective accounts. One way of checking this was to compare these accounts with the medical records of the patients' psychotic experiences obtained at the time of their first illness. Unfortunately, the two accounts, retrospective and contemporary, could not easily be compared because of the emphasis placed on different aspects of the psychosis at the two time points. Our interview encouraged subjects to concentrate

on their memory of altered mental processes, whereas the psychiatric record of the original episode was oriented toward establishing the presence of abnormal perceptual and thought content in order to satisfy diagnostic criteria for the condition. The psychiatric notes rarely contained any reference to altered processes, and from our experience of interviewing acutely psychotic schizophrenic patients, this is not surprising. Such patients typically interpret altered perception or thinking in delusional form. Nevertheless, during the open-ended interview, patients mentioned that they had been deluded or hallucinated, and this enabled us at least to compare the retrospective memory of delusions or hallucinations with the contemporary records. Of 29 patients who remembered having delusions, 28 were recorded as deluded in the original

psychiatric notes, and only 1 was not so recorded. However, a further eight patients had been recorded as being deluded, and these did not mention this during our interview. Of 18 who remembered having hallucinations, 16 had been recorded as hallucinated at the time, and only 2 not. A further five patients had been recorded as having hallucinations but did not mention this during our interview. From these data, one can at least draw the conclusion that patients were certainly not overreporting events or experiences, although they might have underreported them.

### Stage 3

**Methods.** The final interview (table 4) retained questions to which replies had at least an interrater and intertemporal reliability of 0.4

---

**Table 4. Final interview on subjective experiences (third version)**


---

**1. Visual perception**

When you first became ill or experienced a change in the way things were, did you see the world around you differently?

Did it actually look different?

- a. Was there a change in colors?
- b. Was there a change in people or their faces?
- c. Did things appear more gloomy or more exciting?
- d. Did things seem unreal, like in a dream?
- e. Was there something quite particular and difficult to put into words about things around you?
- f. Do you think that things stood out more vividly?

**2. Auditory perception**

Did things sound different?

- a. Was it the actual sound that was different?
- b. Or was it just that you were more sensitive to noise?

**3. Language**

Do you think that there was a change in the voice or language of yourself or others?

- a. Were there times when you couldn't understand the meaning of what was being said?
- b. Did others or yourself ever seem to be speaking with a different accent?
- c. Did you take what people said in the wrong way?

**4. Attention**

Was there a change in your attention or concentration?

- a. Was it worse than usual?
- b. Was it better than usual?

**5. Movement**

Did you notice any change in the way you moved or in your actions?

- a. Were they slower than normal?
- b. Were they quicker than normal?
- c. Was there something quite unusual and different altogether about them?

**6. Thinking**

Did you find that your ability to think was affected at the time? I don't mean what you thought about but the actual way you were thinking?

- a. Was it generally worse than usual?
- b. Was it better than normal?
- c. Was there something quite special or strange about the way your mind was functioning? What was it?

**7. Space**

How did you respond to the space around you? Did it seem different in any way?

- a. Was it larger, more open?
  - b. Was it smaller, more confined?
  - c. Or did you ever feel that space was completely different from what it should be? What was this like?
-

(Kappa), which is significant at the 5-percent level.

The ability of the revised interview to distinguish schizophrenic from depressed subjects was tested by giving it to a new group of 20 remitted depressed patients, all of whom had had a major depressive disorder (SADS/RDC) in the past but were now in remission. They were all outpatients attending a psychiatric hospital in Essex and had a mean remission length of 5 months. Their replies were compared with those of the remitted schizophrenic patients who had taken part in the earlier reliability studies (the same rater's interview being used).

**Results.** The replies of these subjects are shown in table 3. Significant differences were nearly all in the area of perceptual experience. Schizophrenic subjects had experienced significantly more perceptual changes of any sort, more changes in their perception of both color and faces, and a greater sense of some indefinable strangeness in the world around them; depressed subjects had been significantly more sensitive to noise. Significantly more schizophrenic subjects remembered having experienced a special quality to their movement and thought processes.

## Discussion

**General Considerations.** The purpose of this article was to describe the development of a standardized interview for eliciting subjective experiences of major psychiatric illness, and to report the results with schizophrenic and depressed patients.

The first object was achieved successfully. Somewhat to our sur-

prise, most subjects who had recovered from a psychosis could remember their first psychotic breakdown with remarkable clarity, even many years after the event. They gave similar accounts of this experience to two different interviewers, and their accounts were largely unchanged 6 months later. They were more consistent in their recollection of some aspects of their experience than of others. In particular, their recall of abnormal experiences in the areas of perception, language, attention, movement, thinking, and spatial sense was acceptably reliable. Experiences of changes in emotion, memory, self-concept, and time appreciation were less reliably recalled. For these reasons, we can recommend the use of the final revision of the interview which retains those items that had an acceptable reliability.

In our view, the interview can be put to a number of uses. Some of these were mentioned in the introductory section. Our concern has been with its implications for etiological models of schizophrenia.

**Implications of the Pattern of Subjective Experiences for Etiological Models of Schizophrenia.** There are three ways of examining the pattern of the schizophrenic patients' subjective experiences: (1) One can compare the overall pattern with that of the depressed patients (e.g., do schizophrenic but not depressed patients experience an alteration in perception?). (2) One can search for a profile of relative alterations in mental functions or areas of experience within the schizophrenic group (e.g., is an alteration in perception more frequent than a disturbance of thinking?). (3) One can try to identify a specific pattern within a particular mental function or aspect of experience (e.g., is

there a specific change in perceptual experience?).

**Overall differences between schizophrenic and depressed patients.** The most significant discriminator between schizophrenic and depressed subjects was a change in the quality of visual perception. It was also the most reliable item in the interview and was relatively frequent, and so considerable weight can be attached to its discriminating value. In schizophrenia, it took the form of a change in the way people, colors, and the general environment were viewed. In depression, when visual perceptual changes did occur, they took the form of emotional tainting of all aspects of the world or a sense of unreality. Of the other mental functions or aspects of experience that were examined, there were significant differences, at least in the open-ended interview, in the frequency or nature of changes in emotion, attention, movement, memory, thinking, self-concept, and time appreciation.

Taking the overall pattern, the experience of schizophrenia was best distinguished from depression (several subitems significantly different in the revised interview) by a qualitative change in visual perception that schizophrenic subjects found hard to describe as opposed to emotional tainting or an unreal quality of perception in depressed patients. The next most consistent difference (one significantly different subitem in the revised interview) was a qualitative change in thinking in schizophrenia as opposed to mere reduced efficiency, slowness, or muddle in depression. The least consistent differences (significant differences in the open-ended interview only) were a tendency for functions such as attention and memory to be *globally and quan-*

*titatively impaired* (i.e., poorer overall) in *depression* as opposed to *selectively and qualitatively altered* (i.e., partly changed but not necessarily for the worse) in *schizophrenia*; and for aspects of experience such as time and movement to appear slowed down in depression as opposed to speeded up or qualitatively altered in schizophrenia.

One can conclude from this analysis of differences in subjective experiences between diagnostic groups that one of the most characteristic differences between schizophrenia and depression is that mental functions and experiences tend to undergo a *qualitative alteration* in the former but a *quantitative decline in efficiency or intensity* in the latter. One might argue that this conclusion is trivial, since the distinction is inherent in the actual names of the two conditions—schizophrenia implying splitting between and within functions, and depression meaning a lowering of functional activity. This simple distinguishing feature is ignored, however, in many, if not the majority, of research articles dealing with the etiology of schizophrenia. This applies to most psychodynamic, most psychophysiological, and some neuropsychological theories that attribute schizophrenia, respectively, to a decline of emotional energy attached to the normal world, a simple lowering or increase in arousal, and a dysfunctional limbic system or brainstem. One can conclude, therefore, that only theories that explain how a qualitative change in mental functions comes about should be given serious consideration.

**Relative differences in alterations in functions and experience in schizophrenia.** Within the schizophrenic group itself, the profile of

*relatively preserved* functions or normal aspects of experience as compared with *relatively impaired* functions or abnormal experiences could conceivably help us to examine further etiological models of schizophrenia. If, for example, virtually all schizophrenic subjects had experienced perceptual alterations at the onset of their illness, while virtually none had noticed changes in their thinking processes, this would give considerable weight to theories such as Maher's (1974) which regard all delusions as reasonable interpretations of abnormal perceptions rather than, as Bleuler believed, the consequence of primary thought disorder with normal perceptual functions.

Table 3 reveals that the proportion of schizophrenic subjects with changes in one mental function or area of experience ranged from 40 to 95 percent. If emotional changes are ignored, the range is 40 to 80 percent. In other words, no function or area of experience was specifically preserved, because all were recalled as abnormal by between one-third and one-half of all subjects. On the other hand, no function or area of experience, other than emotion, was universally or virtually universally affected, because all functions or experiences were recalled as normal by at least one-fifth of subjects.

One can conclude from this analysis of subjective experiences of different functional or experiential abnormalities in the same diagnostic group that schizophrenia is unlikely to be due to a deficit in a single major mental function. This conclusion undermines another set of theories that give overriding importance to one functional abnormality—for example, attention, perception, consciousness, or thinking. It is just conceivable that

a subgroup of schizophrenic patients might have an isolated and primary abnormality of perception that then causes secondary abnormalities in their appreciation of time or space or concept of self. It is very improbable that a perceptual abnormality or any one single other abnormality could be responsible for all the reported changes. For this reason one returns again to the central notion of Bleuler (1911/1950) and other early 20th century European writers that schizophrenia affects several mental functions. One can conclude, therefore, that not only should one give serious consideration to theories that emphasize a qualitative change in mental functions but also to those that emphasize the involvement of at least two mental functions—for example, thinking *and* perception or attention *and* memory.

**Specific pattern to each functional abnormality in schizophrenia.** Having argued, on the basis of the present study, that schizophrenia can neither be attributed to a global diminution or enhancement of mental functions nor to any kind of disturbance in a single mental function, the question arises as to whether there is a single psychological mechanism or similar pattern underlying all mental functions or affecting all experiences in the same way. This was the view of the European psychiatrists who tackled the issue in the early decades of the century. Bleuler (1911/1950) and Kraepelin (1913/1919) both held this view, although Bleuler gave overriding importance to a disorder of thinking. In the middle decades of the century, most American and European psychiatrists and psychologists tended to nominate a single, primary functional abnormality, but, as argued above, this is not

consistent with the present data. In the last decade, there is again support for the notion that schizophrenia involves some abnormal biopsychological mechanism that affects all mental functions to a greater or lesser extent. Psychological theories of this nature include cognitive theories such as that of Magaro (1980), who considered that the essential characteristic was "an inability to integrate perceptual and cognitive processes"; those of Gestalt-oriented psychiatrists such as Matussek (1952) and Conrad (1958), who advocated a breakdown in the ability to distinguish detail from background; and those of behavioral psychologists such as Hemsley (1977), who regarded schizophrenia as a disorder of response selection. Biological theories in the same mold have relied on neuropsychological data concerning the contrasting functions of the two hemispheres. Some investigators (e.g., Flor-Henry 1983) consider that left-hemisphere-type functions are selectively impaired, some (e.g., Beaumont and Dimond 1973) have argued that callosal transfer between the hemispheres is disrupted, and one of the authors of this article (Cutting 1985) believes that a functional disturbance of the right hemisphere underlies the condition.

All these theories receive general support from the current study, but it is worthwhile conducting a further analysis of the particular pattern of subjective experiences within some of the functions to determine whether any of these theories deserves particular consideration. For example, if schizophrenic subjects consistently reported that they were preoccupied with trivial details in their perception of the environment at the expense of a global picture, this

would support the Gestalt viewpoint. If they consistently recalled that they were simultaneously thinking along two qualitatively different lines, this would give some support to theories of hemisphere imbalance.

It was difficult to identify common themes to the functional abnormalities in schizophrenic experiences. To take perception and thinking, abnormalities of which reliably distinguished schizophrenic from depressed subjects, it was difficult to categorize the nature of these in schizophrenia except in a negative sense.

To begin with perception, it was *not primarily an emotional tainting of experience*, although some schizophrenic subjects remembered that things looked brilliant ("Lots of things seemed psychedelic; they shone. I was working in a restaurant and it looked more first class than it really was"); and others remembered that things looked ugly ("People looked deformed, as if they had had plastic surgery or were wearing makeup, with different bone structure"). *Nor was it a pervasive sense of unreality*, although reality had changed in some indefinable way. In fact, several patients emphasized that it was not a sense of unreality at all ("Things were unreal, only from a mental viewpoint, not through my eyes." "It wasn't really unreal; it was just strange, funny, different; I can't explain." "Both I felt unreal and things around seemed extra-real." "Real not unreal." "It wasn't really unreal." "Unreal and extra-real at the same time"). *Nor was it simply a greater clarity of vision*, as McGhie and Chapman (1961) argued. Some patients did experience more vivid perception, particularly in the auditory modality, but their visual experiences were rarely described

purely in these terms, and several patients had experienced the opposite ("Sometimes I would go into the firm and it would look stale." "Everything was on a low ebb, muddier"). *Things were rarely changed out of all recognition*, merely distorted in shape or expression ("My husband looked like a ghost." "People were pulling hideous faces." "People were deformed, squarish, like in plaster." "Things had an animistic outlook"). Several patients stressed that *there was a sense of distance between the perceiver and the perceived* ("I was here and they were there, and I was perceiving things away from me." "I felt detached." "It was like looking out of the window and seeing things happen"). One patient described *two simultaneous perceptual worlds* ("There was a normal face and a face within a face, normal things and other things on top of them, a side real world within another world").

The most characteristic feature of the schizophrenic patient's visual perceptual disorder in *experimental studies* is a breakdown in Gestalt. This has emerged in several experiments (Bemporad 1967; Schwartz Place and Gilmore 1980; Reich and Cutting 1982). Schizophrenic patients tend to ignore the global impression of things in favor of overanalytic observation of details. In Shakow's (1950) words, they "can't see the wood for the trees . . . and examine each tree with meticulous care." This conclusion from experimental studies receives some support from the statements of some of the schizophrenic subjects in the present study (e.g., "The organization of things was different; things didn't actually look different"). The indefinable strangeness and detachment recognized by many of the schizophrenic patients

could indeed be their *subjective* experience of such a Gestalt breakdown, and of all those who have written on the schizophrenic psychological deficit, Conrad (1958) and Matussek (1952) are given most support in this and the experimental studies.

As with the abnormality in perception, it was difficult to identify a common pattern in the qualitative disturbances of thinking. The replies of the 12 remitted schizophrenic subjects who reported a qualitative change in thinking in the open-ended interview and the 8 remitted schizophrenic subjects who reported a qualitative change in the revised interview could be roughly categorized as follows: Six patients recalled the simultaneous occurrence of two separate modes of thinking ("I began to be more aware of things—I was in two minds—I could snap out of it if I wanted." "I was functioning on another level, one more in pictures, then another one—the abnormal one was the picture one." "Rational thinking was not right—there was my own personality and another one." "Mind working terribly, one was the natural working of my mind, me myself or me not myself boosting myself." "Parts of it were working, different wavelengths, two different wavelengths." "My mind clicked into another sort of thing"). Two patients recalled a preoccupation with the past ("My whole world seemed to cave in—I kept thinking about my birthplace and my past." "I wanted to do everything the same—I was stuck in the past"). Two patients remembered a lack of control over their thinking ("Confused—no control over what I was thinking." "Cut off completely—I didn't do anything to connect things up—I was completely out of control"). Five

patients recalled nonspecific qualitative changes, and a further five each remembered a different prominent characteristic of their altered thinking ("Impossible consecutive thinking." "I couldn't conceive things." "I had a sort of fascination about waxworks, surreal imagery." "I was in a fantasized world, seeing pictures in my mind." "I thought much more deeply about things like the meaning of life and values"). It is clear that there is a heterogeneous quality to the disorder of thinking in this group of schizophrenic subjects. Nevertheless, the most common report was of a dual thinking process, and this gives some support to the hemispheric imbalance models mentioned above.

### Conclusions

The subjective experience of the first episode of a schizophrenic patient's illness can be a valuable tool for evaluating theories of the nature of schizophrenia. Therefore, it has been ignored in this respect, presumably because it was considered both an unreliable and unscientific method of inquiry. This study has shown that schizophrenic patients remember their first psychotic experiences with remarkable clarity, and that these may be used to evaluate the multitude of theories concerning the nature of schizophrenia.

On the basis of subjects' recollections in this study, there is an undoubted and dramatic change in the way they perceive the world and experience the working of their own mind at the onset of the disorder.

In the opinion of the authors, based on the replies of 60 remitted schizophrenic patients and a control

group of 40 depressed patients, the psychological nature of schizophrenia is *not* a simple diminution or enhancement of mental energy, *nor* is it a disturbance in one mental function, but it involves a qualitative change covering several mental functions. The most plausible psychological theory of its nature is a breakdown in Gestalt and the most plausible *biological* theory involves some degree of hemispheric imbalance.

### References

- Andreasen, N.C. Negative symptoms in schizophrenia. *Archives of General Psychiatry*, 39:784–788, 1982.
- Beaumont, J.G., and Dimond, S.J. Brain disconnection and schizophrenia. *British Journal of Psychiatry*, 123:661–662, 1973.
- Bemporad, J.R. Perceptual disorders in schizophrenia. *American Journal of Psychiatry*, 123:971–976, 1967.
- Bleuler, E. *Dementia Praecox or the Group of Schizophrenias*. (1911) Translated by J. Zinkin. New York: International University Press, 1950.
- Cohen, J. A coefficient of agreement for nominal scales. *Educational and Psychological Measurement*, 20:37–46, 1960.
- Conrad, K. *Die beginnende Schizophrenie*. Stuttgart: G. Thieme, 1958.
- Cutting, J. *The Psychology of Schizophrenia*. London: Churchill Livingstone, 1985.
- Flor-Henry, P. *Cerebral Basis of Psychopathology*. Boston: J. Wright, 1983.
- Freedman, B.J. The subjective experience of perceptual and cognitive disturbances in schizophrenia. *Archives of General Psychiatry*, 30:333–340, 1974.

- Freedman, B.J., and Chapman, L.J. Early subjective experience in schizophrenic episodes. *Journal of Abnormal Psychology*, 82:46-54, 1973.
- Hemsley, D.R. What have cognitive deficits to do with schizophrenic symptoms? *British Journal of Psychiatry*, 130:167-173, 1977.
- Kleinman, J.E.; Gillin, J.C.; and Wyatt, R.J. A comparison of the phenomenology of hallucinogens and schizophrenia from some autobiographic accounts. *Schizophrenia Bulletin*, 3:560-586, 1977.
- Kraepelin, E. *Psychiatrie*. (1913) Vol. 3, Pt. 2, 8th ed. *Dementia Praecox and Paraphrenia*. Edinburgh: Livingstone, 1919.
- Lewis, A.J. Melancholia: Clinical survey of depressive states. *Journal of Mental Science*, 80:277-378, 1934.
- Magaro, P.A. *Cognition in Schizophrenia and Paranoia*. Hillsdale, NJ: Lawrence Erlbaum, 1980.
- Maher, B.A. Delusional thinking and perceptual disorder. *Journal of Individual Psychology*, 30:98-113, 1974.
- Matussek, P. Untersuchungen über die Wahnwahrnehmungen. *Archiv für Psychiatrie und Nervenkrankheiten*, 189:279-318, 1952.
- McGhie, A., and Chapman, J. Disorders of attention and perception in early schizophrenia. *British Journal of Medical Psychology*, 34:103-115, 1961.
- Reich, S.S., and Cutting, J. Picture perception and abstract thought in schizophrenia. *Psychological Medicine*, 12:91-96, 1982.
- Rippere, V., and Williams, R. *Wounded Healers*. Chichester: John Wiley, 1985.
- Rosser, R. The psychopathology of feeling and thinking in a schizophrenic. *International Journal of Psychoanalysis*, 60:177-188, 1979.
- Schwartz Place, E.J., and Gilmore, G.C. Perceptual organization in schizophrenia. *Journal of Abnormal Psychology*, 89:409-418, 1980.
- Shakow, D. Some psychological features of schizophrenia. In: Reymert, M.L., ed. *Feelings and Emotions*. New York: McGraw Hill, 1950. pp. 383-390.
- Spitzer, R.L., and Endicott, J. *Schedule for Affective Disorders and Schizophrenia*. New York: New York State Psychiatric Institute, 1978.
- Spitzer, R.L.; Endicott, J.; and Robins, E. *Research Diagnostic Criteria (RDC) for a Selected Group of Functional Disorders*. 2nd ed. New York: New York State Psychiatric Institute, 1975.

---

### The Authors

John Cutting, M.D., M.R.C.P., M.R.C. Psych., M.Phil., is Consultant Psychiatrist; Francis Dunne, M.B., M.R.C. Psych., is Senior Registrar, Bethlem Royal Hospital, Kent, United Kingdom.