Impaired Perspective and Thought Pathology in Schizophrenic and Psychotic Disorders

by Martin Harrow, Ilene Lanin-Kettering, and Joan G. Miller

Abstract

Impaired perspective was studied in schizophrenic and thought-disordered patients to analyze hypotheses about its role in thought disorder. Eighty-three schizophrenic patients, other psychotic patients, and nonpsychotic patients judged the adequacy of their own and others' verbalizations under several different conditions. Thought-disordered patients had significantly more impaired perspective than nonthought-disordered patients ($p < 0.05$). Patients had significantly poorer perspective about their own verbalizations than about those of other patients ($p < 0.01$). Schizophrenic and other psychotic patients showed poor perspective about their own verbalizations. Thought-disordered patients did not view their bizarre verbalizations as stranger than their nonbizarre verbalizations. Impaired perspective and bizarre responses were more frequent under certain conditions. When focusing on the adequacy of their response, patients were significantly less idiosyncratic. The results support the hypothesis that impaired perspective plays a role in thought disorder. A more comprehensive model of thought disorder and disorganization, which includes impaired perspective, is discussed.

The current research was designed to advance knowledge about the potential role of impaired perspective in the thought pathology found in schizophrenic patients and in other types of patients with disordered thinking. It continues our investigations based on the hypothesis that impaired perspective is one major factor involved in positive formal thought disorder.

Perspective refers to the ability to recognize in global fashion, and in terms of broad consensual standards, which behaviors are appropriate and which are inappropriate for a given communicative context. Seen in this way, adequate perspective, as one important factor involved in the planning and development of the ideas that help determine one's immediate speech, is based on the effective use of background stored knowledge about what is semantically and socially appropriate in a particular situation (Harrow and Quinlan 1985). Our view of perspective emphasizes the importance of a speaker's effective use of long-term memory about normative standards of contextual appropriateness both to plan and shape thinking, speech, and behavior so that it is contextually and socially appropriate for the particular situation which one faces. In this article, we emphasize the role of perspective in message planning, although it also plays a role in monitoring (adjusting and fine-tuning) speech as it emerges on a moment-to-moment basis.

Positive formal thought disorder (or positive thought disorder) was defined by Fish (1962) as an excess of unusual or strange thinking. Positive thought disorder has been closely associated with schizophrenia and other major illnesses such as mania (Rapaport et al. 1968; Chapman and Chapman 1973; Arieti 1974; Wynne et al. 1977; Andreasen 1979; Johnston and Holzman 1979; Harrow and Quinlan 1985; Andreasen and Grove 1986; Holzman

Reprint requests should be sent to Dr. M. Harrow, Director of Psychology, Michael Reese Hospital and Medical Center, 29th and Ellis Ave., Chicago, IL 60616.
et al. 1986). While numerous theories and models have been put forth to explain schizophrenic speech and thinking disturbances, and to guide their exploration (Chapman and Chapman 1973; Koh 1978; Braff and Saccuzo 1981; Callaway and Naghdi 1982; Matthysse 1987), the processes underlying the phenomena are still not fully understood.

In recent research, we have proposed a model linking thought and speech disorders in schizophrenia and other disturbed patients to disorders in executive processes, with particular emphasis on impaired perspective about speech and behavior (Harrow and Miller 1980; Harrow and Quinlan 1985). As noted above, we view perspective or judgment about what behavior is socially and contextually appropriate, based partly on long-term memory, as one factor involved in message planning. Even moderate recognition of gross social norms can reduce the probability of inappropriate behavior and help maintain adequate context-specific behavior. Others, however, have proposed models that do not require the close involvement of stored memory about social standards in routine message planning.

Our observations have led us to suggest that, in addition to impaired perspective, monitoring problems also are a factor in disordered speech, although they may be less important than an impairment in message planning. In this model, monitoring constitutes the process of attending, on a moment-to-moment basis, to ongoing speech, and of adjusting and fine-tuning it in a detailed way as it emerges, to ensure its syntactic accuracy and semantic cohesion. We have provided some evidence that impaired perspective and intermingling are often involved in inappropriate verbalizations and thinking (Harrow and Quinlan 1985), but evidence provided by others suggests that monitoring difficulties could play some role. At present, it is possible that behavior suggesting impaired perspective can reflect impairments in executive processes that produce message plans, defects in monitoring speech as it unfolds, or both processes.

Current cognitive theory highlights the importance of executive processes in speech and social communication (Deese 1978), and views about the role of impaired perspective in schizophrenia and thought disorder would fit into such a framework. Flavell (1979, 1981) emphasizes the importance of metacognition and has noted the need to view speech as a goal-oriented process.

Innovative investigations of referential communication in schizophrenia by Cohen and associates have attempted to provide evidence linking disorders in communication to editing difficulties (Cohen 1978; Cohen et al. 1974). Their view, which involves a two-stage stimulus-response process of schizophrenic "sampling" and "comparison" within an information processing model, emphasizes a disorder in "editing" rather than a disorder in perspective. In this respect it would seem that they have focused on a slightly different, although related, aspect of the cognitive process. Holzman (1979) also uses constructs related to executive functions in his research on cognition, with a special emphasis on disinhibition and cognitive controls. Although the constructs used by Holzman can fit within the framework of executive processes, his focus on cognitive controls emphasizes mechanisms that differ from those involved in perspective.

Our recent research provides evidence for the possible impact of impaired perspective on speech and thought disorders. Hospitalized psychiatric patients were asked to rate the typicalness of their own and others' responses to proverbs, with perspective assessed by the correlation between patients' ratings of the typicalness of their responses and ratings of the consensual appropriateness of their responses by trained judges (Harrow and Miller 1980). Schizophrenic and thought-disordered patients displayed significantly poorer perspective than did nonschizophrenic and nonthought-disordered patients. In addition, patients showed significantly better perspective in evaluating others' responses than they did in evaluating their own responses.

In a second investigation, we studied cognitive set and its potential disruption in schizophrenia. We found evidence suggesting that when schizophrenic and psychotic patients intermingle personal material into their speech, they do it in a more direct, overt fashion than nonpsychotic patients, without seeming to recognize how inappropriate it makes them sound (Harrow et al. 1983a). These data fit with an overall view of the importance of impaired perspective and/or monitoring difficulties in schizophrenia and psychosis.

Our current research has several objectives. The role of impaired perspective by patients on their own responses and the responses of others has been assessed in a larger sample of patients, using patients diagnosed by a more modern, narrow concept of schizophrenia, the Research Diagnostic Criteria (RDC; Spitzer et al. 1978). Our previous study (Harrow and Miller 1980) used
the older, broad concept of schizophrenia, *DSM-II* (American Psychiatric Association 1968). In this older system many psychotic patients were viewed as “schizophrenic” who would not receive this diagnosis in modern systems. Assessing patients diagnosed with a more modern, narrow concept of schizophrenia allows a clearer analysis of potential differences between schizophrenic and other psychotic patients.

The central hypothesis of the study is that schizophrenic and thought-disordered patients have impaired perspective, especially as it applies to select aspects of their own speech and behavior—namely, to their thought-disordered speech—rather than to all of their speech and behavior. To address the hypothesis that schizophrenic patients’ impaired perspective primarily involves their judgments about their own thought-disordered speech, the current investigation uses new, modified indexes that provide separate measures of patients’ perspective about their thought-disordered speech and about their nonthought-disordered speech.

In regard to the issue of whether schizophrenic patients are aware of how deviant their speech sounds to others, linguistic theorists such as Chaika and Lambe (1985) and Harrod (1986) have suggested that schizophrenic patients show an “awareness of producing deviant speech in spite of possessing clarity of mental intent” (Harrod 1986, p. 13). We have contended, however, that schizophrenic patients are unaware of how strange their speech and behavior appears to others (Lanin-Kettering and Harrow 1985; Harrow et al. 1986a). The current research provides data that bear on these hypotheses, although they do not bear on the issue, raised by some, of whether some schizophrenic patients’ deviant speech contains aphasic-like features. (Although many aphasics are aware of their speech difficulties, there is evidence that some types of aphasics may not be aware of the deviance of their speech.)

Finally, the present research also assesses whether a technique to improve perspective will lead to schizophrenic and thought-disordered patients showing less thought disorder. Thus, to enhance patients’ perspective, one segment of the research required patients to focus on the adequacy of their responses. The data were then analyzed to determine whether the increased focus by thought-disordered and schizophrenic patients on the adequacy of their verbalizations would result in a reduction of bizarre speech by these patients.

Overall, the current investigation, focusing on the role of impaired perspective in the pathological speech of schizophrenic and thought-disordered patients, examines the following questions:

1. Is impaired perspective about their own social appropriateness more frequent in thought-disordered patients and/or in schizophrenic patients?
2. Do thought-disordered and schizophrenic patients show more impaired perspective about their bizarre responses when contrasted with their perspective on their non-bizarre responses?
3. Do patients show less perspective in evaluating their own bizarre and nonbizarre responses than in evaluating the equally bizarre responses of other patients?
4. Do schizophrenic and other psychotic patients show less thought disorder under conditions designed to increase their perspective by requiring them to give special focus to whether their responses are typical or appropriate?

**Methods**

**Sample.** This report is part of the Chicago Followup Study, a research program investigating the longitudinal course of positive symptoms, negative symptoms, and functioning and adjustment in schizophrenia (Harrow et al. 1978, 1985; Marengo and Harrow 1985; Pogue-Geile and Harrow 1985; Harrow and Marengo 1986; Grinker and Harrow 1987), and exploring factors that may influence schizophrenic thought disorder and psychosis (Harrow and Miller 1980; Harrow et al. 1983a; Harrow and Quinlan 1985).

The current sample includes 83 patients recently admitted to Michael Reese Hospital or the Illinois State Psychiatric Institute. Patients were diagnosed using the RDC. The sample includes 24 schizophrenic patients, 33 other psychotic patients, and 26 nonpsychotic patients. The schizophrenic patients include 11 paranoid schizophrenic patients, 12 undifferentiated schizophrenic patients, and 1 disorganized schizophrenic patient. Of the 24 RDC schizophrenic patients, 21 (88 percent) also met *DSM-III* (American Psychiatric Association 1980) criteria for schizophrenia. The group of other psychotic patients includes 9 schizoaffective patients, 11 psychotic depressive patients, 7 psychotic manic patients, and 6 unspecified functional psychoses. The 26 nonpsychotic patients include 18 depressive patients, 3 nonpsychotic
manic patients, and 5 nonpsychotic patients with other psychiatric disorders.

Since adequacy of perspective was the main variable under study, schizophrenic patients on neuroleptics and those not on neuroleptics were compared. There were no significant differences in perspective between these two groups of schizophrenic patients. Caution should be taken in using these data to interpret the efficacy of medications, since patients were not randomly assigned to treatment conditions. Thus, flagrantly psychotic and severely thought-disordered patients were likely to be more heavily medicated.

The patient sample consisted of 46 males and 37 females. It comprised 43 Caucasians and 40 non-Caucasians. The mean age of the sample was 26.8 years, and the mean educational level was 13.12 years. No significant differences in age, intelligence, education, or race were found among the schizophrenic, other psychotic, and non-psychotic groups. In addition, since perspective is the main focus of the study, major demographic variables were examined to determine whether education, race, or sex exerted a major influence on the scores obtained on perspective. The results indicated that perspective did not vary significantly as a function of these variables ($p > 0.20$). These analyses suggest that an awareness of normative standards of speech propriateness or strangeness of their own (and others') behavior by examining patients' judgments about the adequacy of their responses to proverbs. Two assessment strategies were used: (1) a direct rating procedure and (2) a paired comparison judgment task.

1. Patients' direct ratings of their own and others' responses and assessment of perspective. The direct rating procedure was the major procedure used to assess perspective about the patient's own and about others' social appropriateness. The rating procedure is described in Harrow and Miller (1980).

Patients were administered form 1 of the Gorham Proverbs Test under standard testing conditions (Gorham 1956). They were then administered form 3 of the test under altered testing conditions. In these altered conditions, immediately after giving each of their proverb responses, patients rated how "typical" they felt each of their responses was compared to the responses they thought most persons of their age would give. In making the ratings, a general rather than more specific "other" was used as a reference in order to examine how patients evaluate their responses in terms of the global norms governing everyday language use and behavior. The patient's own assessment of the adequacy of each answer, immediately after giving the response, was made on the following written 4-point scale: 1 = very typical; 2 = fairly typical; 3 = somewhat atypical; and 4 = very atypical.

In part 2 of the procedure, patients were asked to rate the typicalness of six proverb responses that had been given by other psychiatric patients, using a parallel scale. These responses had been selected to include two interpretations that were highly idiosyncratic, two that were moderately idiosyncratic, and two that were not idiosyncratic, as judged using criteria for idiosyncracy derived from a detailed scoring manual (Marengo et al. 1985).

Perspective was assessed as the correlation between patients' typicalness ratings of their own individual proverb responses and the consensual ratings of how bizarre, idiosyncratic, or thought disordered these responses were in terms of their deviation from consensual standards (as assessed using the scoring manual) (Marengo et al. 1985).

During the course of the research, additional more refined measures of perspective were used based on the patient's judgments about the adequacy of his idiosyncratic or strange responses and on his judgments about the adequacy of his good responses. This more refined measure of perspective also allowed us to obtain an index of the patient's judgments about the adequacy of other patients' good responses, and of the patient's judgments about the adequacy of other patients' strange or deviant responses. This measure is discussed more fully in the third section of the Results.

2. Patients' ratings of paired comparisons and assessment of their perspective. To study patients' perspective about the adequacy of their own responses under a different type of condition, a paired comparisons technique was used. While the patient completed a nonrelated questionnaire, the examiner arranged the patient's own responses to the second set of proverbs into three or four pairs of proverb responses and read them to the patient. Each pair provided a
contrast in the level of idiosyncracy of the two responses. An effort was made to ensure that paired responses were of approximately equal length. For each pair, the patient was asked to judge which of the two responses was the more typical interpretation of its respective proverb.

Perspective in the paired comparison procedure was assessed as the relationship between (a) the patient's selections of the more typical of each of the two paired responses and (b) the selections by trained judges of the more typical (or less idiosyncratic) response in each pair.

3. Assessment of bizarre-idiiosyncratic thinking. Each proverb response was assessed for bizarre-idiiosyncratic thinking, our comprehensive measure of positive thought disorder, using a previously described 4-point scale (Harrow et al. 1983b, 1986a; Marengo et al. 1985; Marengo and Harrow 1987). As detailed in the scoring manual (Marengo et al. 1985), scores for bizarre-idiiosyncratic thinking encompass most of the classical qualities of positive thought disorder usually considered important by diverse theorists. It also includes almost all of the types of thought disorders listed in the RDC and DSM-III diagnostic manuals as partial criteria for a diagnosis of schizophrenia. These various types of positive thought disorder include marked loosening of associations or derailment, illogical thinking, neologisms, and incoherence.

The following are two examples of thought-disordered responses, the first a clearly bizarre response and the second a severely bizarre response:

**Question:** The sun shines upon all alike.

**Answer:** The sun can't raise the dead.

**Question:** Don't swap horses when crossing a stream.

**Answer:** That's wish-bell. Double vision. It's like walking across a person's eye and reflecting personality. It works on you, like dying and going to the spiritual world, but landing in the Vella world.

Interrater reliability for the scoring system, obtained in four separate assessments, was $r = 0.93$, $r = 0.88$, $r = 0.67$, and $r = 0.91$.

The idiosyncracy scores obtained by patients on the first set of proverbs in the direct rating procedure were used to divide patients into high and low idiodynsyncracy subgroups (or thought-disordered and nonthought-disordered groups) for later comparison involving patients' performance on the second set of proverbs. All patients whose scores were at or above the sample mean in idiodynsyncracy were classified as part of a high idiodynsyncracy (or thought-disordered) group, while all patients whose scores were below the mean were considered as part of a low idiodynsynacy group. Although more schizophrenic patients were in the high idiodynsyncracy (or thought-disordered) group and more nonpsychotic patients in the low idiodynsyncracy group, some thought-disordered and some nonthought-disordered patients were found in each diagnostic group.

**Results and Discussion**

**The Relationship of Impaired Perspective to Severity of Thought Disorder, Schizophrenia, and Psychosis.** Table 1 presents data on patients' perspectives in rating the typicalness of their own proverb responses, and table 2 presents data on their perspectives in rating other patients' responses. The perspective score for each patient was based on the correlation between his "typicalness" ratings on each response and the parallel consensus ratings of idiodynsyncracy for that response. The mean perspective score of the total sample of patients in rating their own responses was $r = 0.13$. The results in this area indicate that patients as a whole show relatively poor perspective on the normative appropriateness of their own speech.

Table 1 also presents the data on the patients when they are grouped along two theoretically relevant dimensions: (1) by diagnosis (schizophrenic, other psychotic, and nonpsychotic patients), and (2) by the extent of their thought disorder (high scores on bizarre-idiiosyncratic thinking, or the thought-disordered group versus low scores on bizarre-idiiosyncratic thinking, or the nonthought-disordered group). The division into the thought-disordered group versus the nonthought-disordered group was based on patients' scores on the first proverbs task, which was given before the experimental testing condition in which patients responded to the second set of proverbs and then rated these responses of theirs.

The division of the patient sample according to the extent of positive thought pathology allowed us to analyze whether thought-disordered patients had more severely impaired perspective.

A $3 \times 2 \times 2$ analysis of variance (ANOVA) on the data on perspective in tables 1 and 2 (Diagnosis $\times$ Extent of Thought Disorder $\times$ Source of Response, which is based on perspective on own versus
Table 1. Patients' perspective about the idiosyncracy of their own speech—Direct rating procedure

<table>
<thead>
<tr>
<th>Patient group</th>
<th>Mean r of patients' evaluations(^1) of own responses with social standard</th>
<th>(p)(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total sample</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td>Schizophrenic</td>
<td>0.06</td>
<td></td>
</tr>
<tr>
<td>Other psychotic</td>
<td>0.07</td>
<td>NS</td>
</tr>
<tr>
<td>Nonschizophrenic, nonpsychotic</td>
<td>0.22</td>
<td></td>
</tr>
<tr>
<td>Thought disordered</td>
<td>0.04</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Nonthought disordered</td>
<td>0.22</td>
<td></td>
</tr>
</tbody>
</table>

\(^1\)Mean r's were computed from Z scores. 
\(^2\)p values reflect the results from the Newman-Keuls test, based on the 3 x 2 x 2 analysis of variance (Diagnosis x Extent of Thought Disorder x Source of Response).

The results on the first main effect from the ANOVA, that for severity of thought disorder, indicate that significantly more impaired perspective is shown by thought-disordered patients \((p < 0.01)\). These results suggest that thought-disordered patients have very poor perspective, and even nonthought-disordered patients may at times show some (though fewer) problems in perspective. The data could suggest that even moderate recognition of gross social norms of appropriateness, as shown by the nonthought-disordered patients, may be sufficient to diminish the occurrence of overt thought pathology. This interpretation is supported by data (table 3) indicating that patients who were not thought disordered recognized that their own bizarre or thought-disordered responses were poorer or more atypical than their nonthought-disordered responses. In contrast thought-disordered patients had more trouble in distinguishing between their own responses.

Table 2. Patients' perspective about the idiosyncracy of other patients' speech—Direct rating procedure

<table>
<thead>
<tr>
<th>Patient group</th>
<th>Mean r of patients' evaluations(^1) of other patients' responses with social standard</th>
<th>(p)(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total sample</td>
<td>0.48</td>
<td></td>
</tr>
<tr>
<td>Schizophrenic</td>
<td>0.47</td>
<td></td>
</tr>
<tr>
<td>Other psychotic</td>
<td>0.41</td>
<td>NS</td>
</tr>
<tr>
<td>Nonschizophrenic, nonpsychotic</td>
<td>0.72</td>
<td></td>
</tr>
<tr>
<td>Thought disordered</td>
<td>0.29</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Nonthought disordered</td>
<td>0.61</td>
<td></td>
</tr>
</tbody>
</table>

\(^1\)Mean r's were computed from Z scores. 
\(^2\)p values reflect the results from the Newman-Keuls test, based on the 3 x 2 x 2 analysis of variance (Diagnosis x Extent of Thought Disorder x Source of Response).
thought-disordered and nonthought-disordered responses.

While there were significant differences between thought-disordered and nonthought-disordered patients, the current results on perspective from the second main effect from the ANOVA, that for type of diagnosis (i.e., psychotic or not), did not fully support our previous finding of diagnostic differences on perspective (Harrow and Miller 1980). Thus, the results in the present research indicate that when we use modern diagnostic criteria (which involve a narrower concept of schizophrenia) and a larger sample, the link between impaired perspective and diagnosis is not specific to schizophrenia. There was a trend (NS) for the schizophrenic and other psychotic patients to show more impaired perspective. The correlation between patients' ratings of the appropriateness of their own responses and the consensual standard was only $r = 0.06$ among schizophrenic patients and $r = 0.07$ among other psychotic patients, in contrast to a correlation of $r = 0.22$ among nonpsychotic patients.

The above results indicate that while the nonpsychotic patients showed slightly better perspective than the schizophrenic patients, impaired perspective was as prominent in other psychotic patients as in schizophrenic patients. The most prominent variable that separated patients with poor perspective was the presence of thought disorder.

This could suggest that impaired perspective may be common among thought-disordered and psychotic patients of all types, rather than only among schizophrenic patients. Recent research on impaired perspective for psychotic patients in relation to their own delusional ideation which found problems in this area for both schizophrenic and other types of psychotic patients (Harrow et al. 1988) would fit this thesis, although the final resolution of the issue awaits further evidence.

Overall, the current results from the direct rating procedure showing significantly poorer perspective among thought-disordered patients suggest that impaired perspective may be an important dimension of positive thought disorder, although other factors may also play a role.

**Impaired Perspective by Patients on Their Own Speech Versus the Speech of Other Patients.** The significant main effect for source of responses from the $3 \times 2 \times 2$ ANOVA reported above from the data in tables 1 and 2 indicates that patients as a group showed significantly better perspective in evaluating the responses of others than in evaluating their own responses ($F = 37.03, p < 0.01$). This trend occurred within each of the three main diagnostic subgroups as well as within both the high and low thought-disordered groups. Such results indicate that an impairment in perspective can be context specific, with greater impairment occurring in relation to one's own speech than in relation to others' verbalizations. The data provide evidence that psychotic and thought-disordered patients are able to display more adequate perspective when evaluating the responses of others than when evaluating their own responses.

While all subgroups of patients showed better perspective in rating others' responses than in rating their own, subgroup differences in perspective were in the same direction when rating other patients' responses as when rating their own responses. Perspective displayed by thought-disordered patients in evaluating the responses of other patients, for example, remained significantly poorer than that displayed by nonthought-disordered patients.

One issue in the field is whether disordered language by schizophrenic patients represents a special schizophrenic language. This issue has been widely discussed and recently has been the subject of an extensive review (Andreasen 1982; Asarnow and Watkins 1982; Oltmanns 1982; Schwartz 1982). The current results for schizophrenic and other psychotic patients showed significantly better perspective in assessing the disordered verbalizations or disordered language productions of other patients. Since they regarded the verbalizations of other schizophrenic patients as atypical or deviant, this would be further evidence suggesting that such deviant language productions do not represent a special schizophrenic "language."

**Impaired Perspective by Patients About Their Own Bizarre Versus Their Nonbizarre Responses.** Table 3 presents the results comparing mean patient ratings of the typicalness of their own idiosyncratic responses versus their ratings of their nonidiosyncratic responses. Unlike table 1, which presents the correlations linked to perspective, table 3 shows the mean ratings of "typicalness" by patients for bizarre responses (level 3 on the idiosyncracy scale) and for nonbizarre responses (level 1 on the idiosyncracy scale). Comparison focused on responses at these two bizarreness levels, since such responses occurred among all patient subgroups and also were included in the
Table 3. Mean levels of patients' ratings of response typicalness for their own responses at different idiosyncracy levels

<table>
<thead>
<tr>
<th>Patient group</th>
<th>Patients' ratings of their nonbizarre responses</th>
<th>Patients' ratings of their bizarre responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total sample</td>
<td>1.91</td>
<td>2.03</td>
</tr>
<tr>
<td>Schizophrenic</td>
<td>2.01</td>
<td>2.00</td>
</tr>
<tr>
<td>Other psychotic</td>
<td>2.00</td>
<td>2.03</td>
</tr>
<tr>
<td>Nonschizophrenic, nonpsychotic</td>
<td>1.80</td>
<td>2.13</td>
</tr>
<tr>
<td>Thought disordered</td>
<td>2.07</td>
<td>1.80</td>
</tr>
<tr>
<td>Nonthought disordered</td>
<td>1.86</td>
<td>2.31</td>
</tr>
</tbody>
</table>

1Higher scores represent patients' judgments that their responses were more bizarre.

patients' ratings of the adequacy of other patients' responses.

Since the central hypothesis is that thought-disordered and schizophrenic patients show impairment in judging whether their own strange responses are socially inappropriate, the indices reported in table 3 provide the most direct assessment of formulations concerning impaired perspective of this type. These measures provide a more careful control (1) for whether the impaired perspective is on patients' assessment of their inappropriate or their good responses, and (2) for directionality of judgment (whether patients underestimate or overestimate the quality of their (a) inappropriate responses or (b) their good responses).

A $3 \times 2 \times 2 \times 2$ ANOVA with two repeated measures (Diagnosis $\times$ Extent of Thought Disorder $\times$ Source of Response $\times$ Level of Response Bizarreness) revealed a significant interaction between Extent of Thought Disorder and Level of Response Bizarreness ($F = 4.59; df = 1.34; p < 0.05$). This significant interaction, which can be seen in the means of table 3, occurred because thought-disordered patients judged their own and other patients' bizarre responses as significantly more typical than nontought-disordered patients judged their own and other patients' equally bizarre responses ($p < 0.05$). In contrast, the thought-disordered patients showed a nonsignificant tendency to view their own and others' nonbizarre responses as less typical than did the nontought-disordered patients.

An example of such a pattern was seen in the bizarre responses given by a 22-year-old white male with chronic schizophrenia who had come to the hospital with severe thought disorder, auditory hallucinations, and who had strange, delusional ideas in several areas. One of his bizarre proverb responses, which was rated by him as a typical response was:

**Question:** The wife is the key to the house.

**Answer:** Shelter keeps your heart from growing hard.

He rated this idiosyncratic answer as an adequate response and rated a number of other equally or more idiosyncratic answers as adequate or typical. In common with a number of other thought-disordered patients with poor perspective about themselves, he showed much better perspective in rating the bizarre responses of other patients, and showed better judgment in rating the few nonbizarre responses that he gave.

There also was a nonsignificant trend for thought-disordered patients to rate their responses as being more typical as the idiosyncracy of the responses increased. This contrasted with the opposite tendency observed among nontought-disordered patients, who discriminated better and tended to see their bizarre responses as being less typical than their nonbizarre responses ($p < 0.01$).

The results in this area provide more detailed evidence about the locus of impairment in perspective that occurs among thought-disordered patients and, to a lesser extent, among psychotic patients (schizophrenic and other psychotic patients). This impairment, the present trends indicate, lies in the greater difficulty of thought-disordered and psychotic patients in recognizing when they are thinking and saying strange things. This difficulty in accurately assessing their bizarre speech was even more evident when looked at as a function of thought disorder than when looked at as a function of schizophrenia or psychosis.
Thus, the thought-disordered patients did not view their own bizarre responses as more idiosyncratic than their nonbizarre responses. Although the results in this area were less striking for the schizophrenic and other psychotic patients, these patients also did not view their bizarre responses as significantly more idiosyncratic than their nonbizarre responses (see table 3). These data reflect the poor judgment or poor perspective of the schizophrenic and the other psychotic patients.

Extremely bizarre responses (level 4 on the idiosyncracy scale) were omitted from the analysis discussed due to their infrequent occurrence (they were found in only 2 percent of patients in the nonthought-disordered group and less than 25 percent of the patients in the thought-disordered group).

The $3 \times 2 \times 2 \times 2$ ANOVA (Diagnosis x Extent of Thought Disorder x Source of Response x Level of Response Bizarreness) also revealed a significant main effect for Level of Response Bizarreness ($F = 11.36; df = 1, 34; p < 0.01$). Thus, the overall sample of patients viewed the bizarre responses of themselves and others as less “typical” than their nonbizarre responses. As indicated earlier and shown in table 3, despite this trend for the overall sample, the subgroup of thought-disordered patients tended to view their own bizarre responses as more typical.

The one other significant result from the four-way ANOVA was a significant interaction between Level of Response Bizarreness and Source of Response ($F = 12.59; df = 1, 34; p < 0.05$). Patients displaying both high and low levels of thought pathology judged their own bizarre responses as more typical than the equally bizarre responses of others.

However, this pattern did not occur in their ratings of their nonbizarre responses.

How could someone judge a self-generated bizarre response as somewhat typical? Such results may be partly a consequence of patients’ awareness of their own internal context and their lack of awareness of the internal context of other people, and this is discussed later. The observed directional bias, in which patients do not seem to recognize the inappropriateness of their own bizarre responses, may explain why patients rarely modify their strange or bizarre patterns of speech.

Perspective by Patients on the Paired Comparison Task. Table 4 presents data concerning the perspective displayed by patients in selecting which is the more typical response when choosing between two of their own responses using the paired comparison procedure. Since judgments between two choices were involved, $\phi$ coefficients were used to evaluate the relationships for the paired comparisons presented in table 4.

The mean correlation between patients’ judgments of the typicalness of their own responses and the consensual standard was $r = 0.48$ on the paired comparison procedure, as compared to a correlation of only $r = 0.13$ on the direct rating task. In contrast to the direct rating task, no significant subgroup differences in perspective were observed on the paired comparison procedure (see table 4).

The better perspective by the patients in the paired comparison ratings as contrasted with the direct rating task may have resulted from the somewhat simpler cognitive skills required in the paired comparison task. Several different factors may be involved in the overall results using this task.

The forced choice format in the paired comparison task may partially simplify the types of cognitive judgments required. In contrast to the multilevel judgments called for in the free rating task, the patient in

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<thead>
<tr>
<th>Patient group</th>
<th>Mean $r$ of patients’ evaluations of own responses with social standard—Paired comparison</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total sample</td>
<td>0.48</td>
<td></td>
</tr>
<tr>
<td>Schizophrenic</td>
<td>0.41</td>
<td></td>
</tr>
<tr>
<td>Other psychotic</td>
<td>0.53</td>
<td>NS</td>
</tr>
<tr>
<td>Nonschizophrenic, nonpsychotic</td>
<td>0.48</td>
<td></td>
</tr>
<tr>
<td>Thought disordered</td>
<td>0.56</td>
<td>NS</td>
</tr>
<tr>
<td>Nonthought disordered</td>
<td>0.43</td>
<td></td>
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</table>
the paired comparison task is required only to make a dichotomous judgment about which of two responses is better, with those two responses presenting a contrast in idiosyncracy.

As an additional related factor, since in each comparison the subjects were comparing a response that was at least somewhat strange to a nonbizarre response, the base rate of bizarre or near-bizarre responses in the paired comparison procedure approached 50 percent. Statistically, this base rate can increase the chances of achieving higher correlations. Although it is unlikely that this factor accounts for all of the differences that emerged, it still could be one influence on the magnitude of the difference between the free response procedure and the paired comparison procedure.

The somewhat novel nature of the paired comparison procedure (it involves more of a laboratory type of situation) may have mobilized patients to exert greater effort on the task. In requiring the patients to make an overt and conscious comparison between their responses, selecting one as more typical, the task also may have led patients to distance themselves from their responses, and to look at them from a different viewpoint. Other data presented in the next section on improved performance under conditions involving an enhanced focus would support ideas about the advantages of mobilizing patients.

The paired comparison task, in contrast to the direct rating procedure, was given to each patient a few minutes (rather than within a second or two) after the patient had responded to each proverb. The delay between making a response and then later rating it, which is involved in the paired comparison procedure, may also have improved perspective by giving patients time to reconsider their bizarre responses and to look at them from a different vantage point. The time lapse between making a response and then rating it gave them an opportunity to look afresh at the social inappropriateness of their attending to and using their own internal context and personal concerns in response to a relatively neutral proverb.

One of the most interesting results that emerged from the paired comparison task, when contrasted with the results that emerged from the direct rating task, was the better perspective by the thought-disordered patients, although the other subgroups of patients also showed at least some improved perspective. These data indicate that disturbed patients' judgments about themselves may be more accurate under certain task conditions. The results carry several implications, suggesting that (1) disturbed patients' judgmental capacities are capable of being mobilized, and (2) their judgment is not poor under all circumstances. The data suggest that they can evaluate successfully a certain percentage of their own responses under more "favorable" conditions.

The results on the paired comparison procedure also relate to another general issue. Although several aspects of the overall pattern of data suggest that perspective is more impaired in thought-disordered patients, it is also conceivable that impaired perspective and thought disorder may interact with each other in a reciprocal fashion. Thus, one possibility is that the thought disorder of bizarre patients is an influence leading to their poor perspective, or even to their approaching the tasks in a more careless or random fashion.

However, the systematic direction of the results and several other aspects of the data suggest that their ratings were not random ones.

The results suggesting that the thought-disordered patients' ratings were not random include the data indicating systematically better judgments by the thought-disordered patients in the following specific types of situations: (1) thought-disordered patients had better perspective when rating the paired comparisons; (2) thought-disordered patients also showed better judgment about what is socially appropriate when rating the responses of other patients, indicating adequate judgment about what is strange is more accurate in some types of situations; (3) thought-disordered patients had adequate perspective about their own good responses, only showing poorer perspective about their strange responses.

While the data from the direct ratings indicate that perspective about their own strange responses is more impaired in thought-disordered patients, the bizarre-idosyncratic thinking of some of the thought-disordered patients may also have been one influence on their inadequate ratings or judgments about what is typical or about what is socially unacceptable. Thus, the extent of the bizarre patients' thought disorder could have influenced their poor perspective, with each influencing the other, or with some common underlying variables influencing both of them.

Improvement in Bizarreness and Accuracy Under Conditions of Enhanced Focus. The current
research design permitted an assessment of patients' performance across two experimental conditions. The first condition involved the standard interpretation of proverbs. The second condition involved interpreting a second (different) set of proverbs and immediately rating each proverb response for typicality before proceeding to the next proverb. This second condition, requiring patients to rate responses for typicalness, tends to orient patients to focus on the adequacy of their responses, and has been labeled as a condition of "enhanced focus." The quality of patients' responses under the two conditions was compared for (1) bizarre-idiiosyncratic thinking, or positive thought disorder, and (2) accuracy of responses. The results are presented in tables 5 and 6.

The 3 x 2 ANOVA (Diagnosis x Experimental Condition) for the data reported in table 5 on the mean level of bizarre-idiiosyncratic responses or of positive thought disorder indicates a significant main effect for task condition (standard vs. enhanced) ($F = 9.52; df = 1, 70; p < 0.01$). These results indicate that patients as a group displayed significantly less bizarre speech on the set of proverbs that required them to evaluate themselves directly as they were performing than they had on the set administered under standard test conditions. Extent of thought disorder (a comparison of thought-disordered vs. nonthought-disordered patients) was not included in the ANOVA to avoid potential regression effects. Independent analysis indicated, however, that the group of patients categorized on the basis of showing thought disorder did have a significant reduction in bizarreness when the patients focused on the idiiosyncracy of their own responses. While the reduction in

<table>
<thead>
<tr>
<th>Patient group</th>
<th>Level of idiosyncracy under standard condition</th>
<th>Level of idiosyncracy under enhanced focus condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total sample</td>
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<td>1.74</td>
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<td>Schizophrenic</td>
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</tr>
<tr>
<td>Other psychotic</td>
<td>2.00</td>
<td>1.90</td>
</tr>
<tr>
<td>Nonschizophrenic, nonpsychotic</td>
<td>1.69</td>
<td>1.55</td>
</tr>
<tr>
<td>Thought disordered</td>
<td>2.40</td>
<td>2.10</td>
</tr>
<tr>
<td>Nonthought disordered</td>
<td>1.49</td>
<td>1.45</td>
</tr>
</tbody>
</table>

Table 5. Mean level of idiosyncracy for standard condition and condition with enhanced focus

<table>
<thead>
<tr>
<th>Patient group</th>
<th>Correctness of responses under standard condition</th>
<th>Correctness of responses under enhanced focus condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total sample</td>
<td>0.87</td>
<td>0.93</td>
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<tr>
<td>Schizophrenic</td>
<td>0.80</td>
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<tr>
<td>Other psychotic</td>
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<tr>
<td>Nonschizophrenic, nonpsychotic</td>
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<tr>
<td>Thought disordered</td>
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<td>0.67</td>
</tr>
<tr>
<td>Nonthought disordered</td>
<td>1.10</td>
<td>1.12</td>
</tr>
</tbody>
</table>

Table 6. Mean correctness of responses for standard condition and condition with enhanced focus

1The scale for correctness of response ranges from 0 (totally incorrect) through 1 (partially correct) to 2 (correct). See Gorham (1956) for scoring criteria.
bizarreness among the patients under enhanced focus was statistically significant, the absolute amount of reduction was not large, and even under conditions of enhanced focus many psychotic and schizophrenic patients displayed notably bizarre speech.

Table 6 presents the data on the accuracy of patients’ responses under the two experimental conditions. Scoring criteria for the scale used to assess accuracy or correctness of response have been reported previously (Gorham 1956) and used extensively by others. Analysis of the data in table 6 indicates that the patients’ accuracy did not change significantly across the two experimental conditions.

A 3 x 2 x 2 ANOVA (Diagnosis x Extent of Thought Disorder x Experimental Condition) revealed only a significant main effect for Level of Thought Disorder ($F = 20.46; df = 1, 67; p < 0.01$), indicating that thought-disordered patients tended to give less accurate proverb interpretations. The level of accuracy of the combined sample of patients on the second set of proverbs (the enhanced focus condition) was not significantly better than the level observed on the first set, although there was a minor trend in that direction ($0.05 < p < 0.10$).

Under conditions that forced patients to focus on the adequacy of their responses, the slightly greater improvement in idiosyncracy (i.e., giving less bizarre responses) ($p < 0.01$) as opposed to accuracy (i.e., giving more accurate responses) ($p < 0.10$) may have reflected differences in the cognitive processes and skills underlying the production of accurate versus nondiosyncratic responses. Responding correctly to proverbs may require the use of complex, abstract intellectual abilities. It may, therefore, be more difficult to improve in accuracy without explicit training or an upgrading of ability levels.

The processes contributing to improvement in idiosyncracy, in contrast, may involve different types of cognitive processes. Thus, for instance, they may require having adequate perspective on the appropriateness of one’s responses, or effectively using stored knowledge about what types of responses are appropriate, and preventing task-inappropriate internal material from dominating one’s speech and thinking (Harrow and Prosen 1978, 1979; Harrow et al. 1983a). These skills have been acquired previously by almost everyone as part of normal language acquisition and socialization.

The cognitive processes involved in high or low levels of bizarreness may be less fixed and may show more impairment during periods of acute psychopathology than the skills required for complex verbal-intellectual performance. Performance in relation to bizarre-idiosyncratic thinking may be more subject to immediate environmental influences, to temporary emotional states and the level of cognitive arousal, and to other effects of acute psychopathology.

Implications

Role of Impaired Perspective. The present data indicate that thought-disordered patients are frequently unaware of when they think and say strange and inappropriate things. Two of the most likely interpretations of these data is that disordered perspective leads (1) to an impairment in the planning and development of the ideas used to form the basis of speech, (2) to an impairment in monitoring (adjusting and fine-tuning) speech as it emerges, or (3) to both. Several aspects of previous data we have collected would implicate the first interpretation, a disorder in the planning of ideas. These indications of impaired perspective in message planning include data showing that thought-disordered patients intermingle their needs and concerns into their speech (Harrow and Prosen 1978, 1979; Harrow et al. 1983a) and data showing impaired perspective by psychotic patients, specifically in regard to their delusional thinking and ideas (Harrow et al. 1988). However, other arguments could be advanced to suggest that the data indicate that thought-disordered patients also show an impairment in monitoring, and either interpretation is feasible. Throughout the article, we have interpreted the patients’ difficulty in the assessment of the appropriateness of their own responses as suggesting that disordered perspective influences message planning adversely, although either interpretation—impaired message planning or impaired monitoring—or, even more likely, a combination of the two is possible.

The data indicating that thought-disordered patients are not as good as nonthought-disordered patients at judging the social acceptability of their own speech could suggest that their algorithm for generating speech intentions is not working well. These thought-disordered patients would therefore have a less clear standard, on the basis of what their speech algorithm ordinarily produces, as to what is acceptable.

At any rate, the results comparing thought-disordered to nonthought-disordered patients suggest that
behavior which can be linked to impaired perspective about the normative appropriateness of one's own speech is significantly related to the occurrence of positive thought disorder. Poor perspective (with correlations of less than $r = 0.10$ for perspective) also tended to occur frequently among schizophrenic and other psychotic patients, although it was most prominent when patients were separated according to the severity of their positive thought disorder.

Perspective may be viewed as a metacognitive control process helping to guide both message planning and monitoring on a moment-to-moment basis. We have proposed that perspective involves the effective use of stored background knowledge, concerning whether a response is socially appropriate for a particular situation, to help determine immediate speech and behavior in particular situations (Harrow and Quinlan 1985).

An impairment in perspective may lead patients to experience little dissatisfaction with their own idiosyncratic speech and thinking. At times, some patients with good perspective also begin to show strange thinking and speech. However, because of their clearer awareness at that moment of which types of behaviors are appropriate for the particular situation they are facing, they are in a better position to alter their strange speech and behavior. Hence, the ability of patients with good perspective to recognize when their speech is idiosyncratic may play some role in their less frequent use of bizarre speech. Other data would suggest that bizarre speech can be recognized by normal laymen as well as by professionals (Hunt et al. 1957; Brown 1973).

**A Model of Thought Disorder.** We propose a model of thought disorder that emphasizes the role of heightened cognitive arousal or an overactive or overstimulated central nervous system (CNS), with diminished inhibitory function, in thought-disordered and schizophrenic patients at the acute or active phase of disorder. There are often multiple competing ideas close to, but not at, a level of awareness for these patients. The increased cognitive arousal and reduced inhibitory activity at the acute phase can lead to overt thought disorder by producing a combination of the following four factors: (1) interference with message planning by disruption in the regulation of these multiple competing ideas; (2) a related intermingling of aspects of one's personal concerns into conscious thinking; (3) disorganization-confusion, with the heightened arousal, increased emotional intensity, and poorer regulation of competing thoughts leading to a disruption of multiple cognitive processes (i.e., a disruption of the patient's habitual sequential skills and level of hierarchical organization); and (4) impaired perspective.

In this model the heightened cognitive arousal and the resulting cognitive disturbance can lead to a disruption of the smooth regulation of multiple competing thoughts into awareness and to confusion-disorganization. The reduction in inhibitory activity can produce greater attention to one's personal concerns and the tendency to intermingle them into overt thinking and speech, to fail to attend as closely to consensual social standards, and possibly to blur the boundaries of reality. Thought-disordered patients' poorer perspective makes it more difficult for them to screen out, at a preawareness or unconscious level, those ideas and speech intentions that are socially inappropriate. The impaired perspective makes them more likely to intermingle contextually inappropriate personal material in undisguised fashion into their speech and to show other types of inappropriate responses as well (Harrow et al. 1983a). Afterwards, the thought-disordered or schizophrenic patient with impaired perspective would not be completely aware of the extent of socially inappropriate behavior he or she has displayed.

In line with the above model of thought disorder, aspects of the current results on impaired perspective also could imply multiple speech intentions being generated simultaneously, or almost simultaneously, with respect to the planning and construction of the patient's responses. Other evidence supporting the thesis that more than one potential response is available at any one time is found in recent psycholinguistic data indicating more false starts and reformulations by schizophrenic and thought-disordered patients, which has been analyzed in our laboratory by L. Kahn (Kahn 1987; Kahn and Harrow 1988).

Further support for the model suggesting interference related to difficulties in the regulation of multiple ideas available at the same time can be found in our research on intermingling one's own concerns and wishes into one's thoughts and speech (Harrow and Prosen 1978, 1979). This research indicates that intermingling often involves moving away from the original objective set, and the creation of a new set or guiding idea based on a combination or fusion of both (1) elements of the original objective topic and (2)
elements of the speaker’s personal, internal, and more idiosyncratic concerns (Harrow et al. 1983a). A computer model of thought disorder presented by Hoffman (1987) also argues that schizophrenic thought disorder reflects the conflation of multiple disparate speech plans. We have proposed that some of these multiple speech intentions are deviant in the sense of showing a poor fit with the external social context and social demands of the situation, and some are not deviant.

The position of Holzman (1978), who has emphasized disinhibition, would fit in with our views, with our model being based on the importance of increased cognitive arousal and a reduction of inhibitory activity. In addition, earlier views by Broen and Storms (Broen 1968; Storms and Broen 1969), which include as one factor the role of multiple competing response tendencies in leading to disorganization and thought pathology, are roughly in accord with aspects of the above formulation. Recent studies by Harley (1984) of the speech errors of normals, including higher level errors and their link to message planning, also would suggest that people can have more than one distinct speech intention in mind simultaneously. This evidence could fit in with a formulation in which thought-disordered patients with poorer perspective have greater difficulty than nonthought-disordered patients in distinguishing, at a preawareness level, which among their own multiple speech intentions are socially acceptable, as opposed to those which are based primarily on their own needs or are deviant in other ways.

In addition to the difficulty of thought-disordered and schizophrenic patients of distinguishing between their deviant and nondeviant responses, it is quite possible that more of the thought-disordered schizophrenic patients' actual primary ideas and responses which they generate and then subject to censorship may be deviant. If this is the case, then their greater number of primary deviant responses could reflect other aspects of the process involved in initially beginning to construct and generate a response. In regard to the above possibility of more primary deviant ideas for schizophrenic patients, it is, in general, our belief that a number of different factors may be involved as potential influences in thought and speech disorders, and a model of such disorders in schizophrenia should reflect this (Harrow and Quinlan 1985; Grossman et al. 1987).

Aspects of the data on impaired perspective also bear on the issue of whether strange or bizarre speech production in schizophrenia represents an underlying speech, language, or thought disorder. This issue, raised many times in the past, has been the subject of current debate (e.g., Chaika 1982; Chaika and Lambe 1985; Lanin-Kettering and Harrod 1985; Harrod et al. 1986b). Recently, some proponents of the view that the disorder in schizophrenia is based on speech and language rather than thinking have suggested that schizophrenic patients are aware of their deviant language productions (Harrod 1986).

The current data on impaired perspective provide evidence against the above position of Harrod (1986) and of Chaika and Lambe (1985). The results also favor a view of psychotic language productions as part of a larger thought disorder in which one factor involved is the difficulty schizophrenic and thought-disordered patients experience in recognizing the strange and inappropriate quality of their verbalizations and behavior.

**Perspective and the Effective Use of Stored Knowledge.** To gain a better overall understanding of the implications of the present findings, the role of perspective in normal speech communication should be analyzed. It is possible that in judging how to respond to a question, or to the demands of a situation, the process involved in the construction of a response involves: (1) quick appraisals by the responder of the immediate speech context about which he or she is being asked, and about other factors in the surrounding environment; (2) the integration of these judgments about what immediate situation one is facing with previously learned, stored material about what general types of behavior and responses are typical in that and similar situations. Previous experience with what is socially appropriate and "seems right" in the particular situation will influence judgments in planning and selecting a response from among multiple possible speech intentions, and also will influence quick judgments involved in the fine-tuning or monitoring of that response as it emerges.

These types of subtle and demanding judgments, using previously stored knowledge to meet the demands of the immediate situation as it is perceived, involve the use of one's perspective about what is the socially appropriate and the optimal way to respond in the situation. The importance of the effective use of background stored knowledge is emphasized here, and even the perception of what immediate situation one is facing is influenced by
previous knowledge. We would suggest that the effective use of stored knowledge about what is appropriate in the situation may be more susceptible to disruption by temporary state like factors related to disturbance and psychopathology than the stored knowledge itself.

As we have suggested earlier in regard to impaired perspective, much of the process involved in response selection does not take place at a conscious level. This includes the scanning, selecting, and accessing of specific material from stored memory and exclusion of other material, with some or much of this process occurring at other than a conscious level.

Thus, nonthought-disordered patients are not usually aware of thinking of and rejecting idiosyncratic, inappropriate, or bizarre ideas in their response selection. Rather, strange ideas do not seem to occur to them in the first place, although some type of search in stored memory takes place. The process involves the selection and accessing of some material from stored memory, with this material being used for further elaboration or alteration. The process also involves ignoring of other material from stored memory, with some degree of judgment or perspective being exerted in the selection of material from stored knowledge and in judgments about the adequacy of one's final verbalization or response.

Similarly, a thought-disordered patient who gives an idiosyncratic or bizarre response is usually not aware of an extensive search through stored memory, although some type of search, selection, and adjustment or fine-tuning of the ideas involved in the response does take place. Earlier we have noted that a factor involved in the thought disorder of many schizophrenic and thought-disordered patients may be the presence of multiple thoughts close to, but not at, the level of awareness, with heightened cognitive arousal leading to a disruption of the regulation of the smooth flow of ideas into awareness. This explanation also would fit in with formulations about the importance of some higher level cognitive processes that do not take place at a conscious level.

The above interpretation of the data is based on our view that patients who show difficulty in the present experimental situation in the conscious assessment of the adequacy of their speech also show difficulty in the unconscious assessments of linguistic representations that would seem to underlie routine moment-to-moment speech and behavior. However, this link has yet to be established empirically with certainty.

The present data indicating a link between impaired perspective and thought disorder are in accord with the formulation that impaired perspective is linked to a difficulty experienced by thought-disordered patients in effectively using stored knowledge about consensual standards in select types of situations concerning their own speech and behavior. However, the data on impaired perspective also could be interpreted as reflecting a primary defect in language production for schizophrenic and thought-disordered patients. Thus, for instance, it is also possible that impaired perspective by some schizophrenic patients may be influenced by specific types of organic impairment or specific aphasic processes, although at present such an aphasic-like difficulty has not been found in large samples of schizophrenic subjects. In addition, the impaired perspective is selective, appearing in response to some but not all types of material, and at some phases of disorder (e.g., the acute phase), but not all phases of disorder.

Nevertheless, as we have suggested, thought disorder is not a consequence of one factor, but of multiple influences (Harrow and Quinlan 1985), and several factors may be influential in the thought disorder of some schizophrenic subjects, but not in that of others. Thus, a primary disorder in language production may be involved in the thought disorder of some schizophrenic subjects.

While the current research has focused on disordered thinking, we have proposed that impaired perspective is involved in other aspects of psychosis as well, and we have studied its role in actively delusional patients using other techniques. Our data indicate that impaired perspective plays a role in delusions, although other factors may be equally or even more important in active delusional states (Harrow et al. 1988).

Locus of Impaired Perspective, Internal Context, and Situational Influences. The present results also provide clues concerning the locus and direction of an impairment in perspective among thought-disordered and psychotic patients and the nature of the processes by which this impairment may contribute to disordered speech and thinking. Impairment in perspective among thought-disordered patients, the data suggest, occurs most prominently in relation to their own bizarre speech rather than their more adequate verbalizations.
This impairment occurs in the direction of patients seeing their own bizarre responses as more typical or adequate than such responses are consensually evaluated or than the patients rate the bizarre responses of others. In contrast, when nonthought-disordered patients occasionally give bizarre responses, they are better able to recognize that their own responses are less typical or more idiosyncratic than their own non-bizarre responses \( p < 0.01 \). The data indicating significantly better perspective about other patients' bizarre verbalizations is one piece of evidence leading us to suggest that (1) there is adequate storage of information on standards of social appropriateness, but (2) during acute disorder this stored material is not always used effectively.

In trying to explain the overall pattern of results, we have proposed that a patient's bizarre speech and behavior often are influenced by the patient's overtattending to an internal nonshared context (i.e., personal needs and concerns), partly at the expense of the objective, external context, or situation (Harrow et al. 1983a). A patient's ability to understand and feel sympathetic with the basis of, or reasons for, his own strange or bizarre real-world behavior is facilitated by his knowledge about his own internal, nonshared context which guides his speech and behavior. In contrast, it is more difficult to understand the reasons for the bizarre responses of others, since one may not be aware of the internal context which has influenced their responses.

The possession of more information about the internal context motivating their own versus others' responses may have contributed to patients showing poorer perspective when evaluating their own as compared with others' bizarre responses. In other words, when an outsider (or society) judges or evaluates a bizarre patient's response, it will often appear strange, due to the outsider's (or society's) lack of relevant information and lack of awareness of the patient's nonshared internal link connecting his idiosyncratic response with the external situation.

Thought-disordered patients' more egocentric orientation toward their own bizarre responses also may reflect, in part, the marked emotional salience to themselves of their own bizarre responses. Bizarre verbalizations, as verbalizations most deviant from normative or consensual usage, are ones likely to relate more strongly to patients' personal concerns (Harrow et al. 1983a; Harrow and Quinlan 1985).

The improved levels of perspective observed on the paired comparison when compared with the direct rating task suggest that impairment in perspective among most young acute psychiatric patients is influenced by the setting and type of stimulus situation encountered. In our experimental tasks, impaired perspective was most evident in situations similar to everyday speech contexts, where an immediate rather than delayed response was required, in less stereotyped situations, and where less external structure existed. These results would fit a model of psychosis, often observed in clinical practice, in which psychotic patients are not bizarre in all situations at all times. They behave as though they are clearly aware of reality and societal norms in some areas, partly aware in other areas, and almost completely unaware in other areas (Harrow et al. 1988).

Reduction of Bizarre Speech When Patients Focus on the Adequacy of Their Behavior. The data indicate that thought-disordered, schizophrenic, and psychotic patients have some limited ability to reduce their bizarre speech and thinking when they are mobilized by task conditions to attend consciously to the normative appropriateness of their speech. The results further support the thesis that the impairment displayed by such patients does not lie in a total incapacity to maintain perspective and to monitor the appropriateness and effectiveness of their behavior. Rather, it seems to be based on a tendency to display poorer perspective and monitoring at certain instances, although improved perspective can be mobilized by special procedures, as occurred in the experimental condition.

The current results and other results of ours indicating a reduction in bizarre thinking after the acute phase (Harrow and Quinlan 1985; Harrow et al. 1986a; Harrow and Marengo 1986) indicate that severely disturbed schizophrenic and other psychotic patients have the potential for better perspective and monitoring skills, which they may not always employ spontaneously. Situations that direct patients to attend to the normative appropriateness of their verbalizations, the present results suggest, may help reduce, at least to a limited extent, the speech pathology displayed by early acute schizophrenic and other thought-disordered patients.

While the improvement or reduction in level of bizarreness was statistically significant, the absolute level of the reduction was small, and the responses of many of the patients were still relatively strange or inappropriate. Thus, the condition requiring patients to focus on and
judge or evaluate more carefully the strangeness of their own responses did not eliminate their idiosyncratic speech and thinking, although some limited improvement did occur.

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Wynne, L.C.; Singer, M.T.; Bartko, J.J.; and Toohey, M.L. Schizophrenics and their families: Research on parental communication. In: Tanner,
The American Psychiatric Association takes pleasure in inviting submissions for the Thirteenth Annual Foundations' Fund Prize for Research in Psychiatry.

Candidates for this prize should be citizens of the United States or Canada and should be nominated by a sponsor. Sponsors should be members of the American Psychiatric Association. Members of the Prize Board are excluded from submitting nominations.

The sponsor should submit a supporting letter setting out in detail justification for the nomination and summarizing the research accomplishments of the nominee in a specific area or with a coherent theme.

The nominee should submit:

- A book or paper, or a group of representative and thematically linked, books or papers published (or accepted for publication) in English and dated within 10 years before the deadline of submission.
- A summary statement written by the nominee, emphasizing the principal theme (or themes) running through the work, its internal cohesiveness and consistency, and scientific implications.
- An up-to-date curriculum vitae.
- An up-to-date bibliography.

All entries must be submitted in six copies (including six copies each of the sponsor’s letter, curriculum vitae, bibliography, and summary statement) and sent to: Ira D. Glick, M.D., Chairman, Foundations’ Fund Prize Board for Research in Psychiatry, American Psychiatric Association, 1400 K Street, NW., Washington, DC 20005. Entries will be acknowledged, but cannot be returned. The prize is based on a yearly competition and re-submission is encouraged. The award will be presented at the Convocation of Fellows at the Association’s Annual Meeting in May of 1990.

The deadline for submission is November 1, 1989.