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## FRAME ANALYSIS OF SCHIZOPHRENIC DISCOURSE

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The purpose of this paper is to indicate the linguistic concepts relevant to the analysis of schizophrenic discourse.

Introduction

"Schizophrenia" is an umbrella term for a pattern of symptoms and signs that may include certain linguistic manifestations thought to be deviant. Variability in definitions of schizophrenic language is due to functional differences in point of view and methodological positions.

A number of recent studies (Forrest, 1976, Corbett, 1976) survey the greatly varying definitions of schizophrenic discourse and attempt a synthesis. A comparative study, however, is not a fruitful endeavour since variability is due to differences in functional relations of the communication model focused by the definition. Some definitions,



Pelc, 1971:12.

for example, may treat the relations between the addressee and the linguistic sign and reflect the addressee's reaction to, or his impression of, schizophrenic discourse ("shallowness," "emptiness," "obscurity," "fruitless philosophizing," etc.). Other definitions may center on the relations between the linguistic sign and the extralinguistic referent and point to an anomaly in its correspondence with reality or question its verisimilitude (as in the example: two beings "about to give birth to one another"--Singer, 1973:42). Yet others have deduced from the linguistic sign the relations of the addressor to the extralinguistic referent ("low threshold between fantasy and reality") or have projected an implied addressee ("immature, undeveloped and tortured as the schizophrenic himself"). Although all of the resulting definitions of peculiarities of schizophrenic discourse are valid when considered separately, a comparison between the heterogeneous labels leads to a problem since in each case different aspects of the discourse are in focus.

Among methodological variations we find a representative tendency to search for one generalization to label schizophrenic discourse. Yet research to prove the generalizations usually failed to do so. When the theory of "overinclusion" was advanced by Cameron (1951) much research was designed to test and demonstrate it (Epstein, Payne, Moran and others). Results were inconclusive and led to a new hypothesis that not only "overinclusion" but also its opposite "overexclusion" was characteristic of schizophrenic discourse (Chapman, Taylor). When a definition of "abstractness" was postulated, soon there was a counter theory demonstrating that schizophrenic discourse was

"too concrete." Theories of "loss of abstract thinking" (Vygotsky in Soviet Russia, Goldstein, Hanfmann, and Kasanin in this country) were superseded by studies of McGaughran and Moran (and later by Hamlin and Blaufarb), who demonstrated no basic differences between schizophrenics and normals on scores testing the abstract level; they came to the conclusion that, on the contrary, in schizophrenic discourse there was an idiosyncratic over-~~abstraction~~. Much earlier the theory about the "breaking of the associative thread" advanced by Bleuler and tested by many of his followers led to the conclusion that associative threads may indeed break in goal-directed linguistic tasks (for example, when in response to a specific request to describe an ink blot one hears: "That's a bat, bats in my belfry, let freedom ring, the Liberty Bell"—Singer, 1965:194). However, word association tests contradicted much of Bleuler's theory by showing that aspects of meanings in words from which associations are made are not inaccessible to schizophrenics (Moran and others). Thus research around Bleuler's hypothesis generated a new question, namely, which associative threads are broken and which remain intact. Thus the big generalization theories have by and large failed (Chapman and Chapman, 1973).

### Typology

An alternative approach which was found to be particularly suitable for the modeling of frames in schizophrenic discourse is the typological approach. My work has been based on the typology of Margaret Singer (the MS typology). A few words should be said about the typological approach of Margaret Singer. Of particular advantage for a frame theory is the fact that the MS typology is designed to capture formal features of a specific discourse<sup>1</sup>. The aspects of any typology which must be taken into consideration are 1) choice of units, 2) comparative verification, and 3) predictive power. The units of the MS typology, forty-one in number after the last revision (Singer, 1973), constitute a network of features which are not mutually exclusive and allow for multi-level modeling. The features of the MS typology have been defined across various levels. Information processing of verbal, visual, and object stimuli has served for a comparative verification of features in Rorschach, TAT, Proverb Test, Object Sorting Test, and Sentence Completion Tests. The networks of features of the MS typology provide a model for: 1) information processing from various stimuli (verbal, visual, object) as reflected in the linguistic medium; and 2) interactive processes of the communication situation. At the present time only the information processing network is used for frame analysis, although the MS typology as a whole allows for a wide range of descriptive models. The MS typology has also been tested for predictive power in blind matching of parents and offspring in test situations. The resulting correlations of modeling features in two successive generations are of particular importance for the verifications of the typology. This paper reflects some

aspects of the work in progress in frame analysis of schizophrenic discourse in conjunction with Margaret Singer.

### Glossematics and Frame Analysis

Criteria of glossematics or a semiotic theory of language are considered in this paper as operational tools for the analysis of peculiarities of the schizophrenic discourse. The theory of glossematics allows us to single out paradigmatics as a distinct area of linguistic information processing. Four basic frames of information processing which correspond to the area of paradigmatics are then singled out to describe peculiarities of schizophrenic discourse (terminology of Coseriu, Greimas, and also Prague school linguists): 1) equipollent frame, 2) privative frame, 3) hyperonymic and hyponymic frame; a special case is 4) the sound-image frame. Hypotheses to which the glossematics approach leads are 1) that we may single out paradigmatics as a separate zone of information processing, 2) that the four frames exhibiting paradigmatic relations capture the salient features of information processing in schizophrenic discourse, and 3) that the main symptom of peculiarity in schizophrenic discourse is in surface exposure of paradigmatic processing.

### Glossematics Approach

There are three basic criteria which should be taken into consideration in approaching discourse from the point of view of glossematics: namely, segmentation of the domain of meaning, isolation of a unit, and definition of the unit. According to Hjelmslev segmentation is dependent on the concept of "text." In glossematics "text" is understood not only as the linguistic expression within which a word appears (or by which a morpheme is surrounded) but possibly also as the consciousness--total memory or partial memory of the addressor. This approach provides us with a consistent method of describing the segmentation which occurs in schizophrenic discourse. While the act of segmentation itself may be accounted for as a usual and normal part of meaning processing, the way the segmentation is done in schizophrenic discourse is unusual (or non-habitual). In many instances segmentation in schizophrenic discourse testifies that sign-units are not considered as part of the immediate text but of the text of the memory of the addressor.

- (1) (Contentment?) Well, uh, contentment, well the word contentment, having a book perhaps, perhaps your having a subject, perhaps you have a chapter of reading, but when you come to the word "men" you wonder if you should be content with men in your life and then you get to the letter "t" and you wonder if you should be content having tea by yourself or be content with having it with a group or so forth. (Lorenz, 1961:604)

Here segmentation is sub-lexical, and unusual or improbable, although possible and indeed practiced in special discourse such as

charades.

It should further be noted that in the context of glossematics, a unit isolated from discourse is a relative concept "from the basic point of view." After demonstrating the segmentation of the word in-act-iv-ate-s in which -s may be a sign while in other situations it may not (in the word "sell" for example) Hjelmslev precedes to the postulation that in a semiotic approach, lexical meaning loses its independence and is subordinated to contextual meaning. I quote Hjelmslev:

from the basic point of view . . . there exist no other perceivable meanings than contextual meanings. . . . The so called lexical meanings in certain signs are nothing but artificially isolated contextual meanings, or artificial paraphrases of them. In absolute isolation no sign has any meaning; any sign-meaning arises in a context, by which we mean a situational context or explicit context, it matters not which, since in an unlimited or productive text (a living language) we can always transform a situational into an explicit context. (Hjelmslev, 1963: 45)

It is also important for future discussions of a special discourse such as schizophrenic discourse to have a theory of semiotics which postulates "different kinds of meaning." Hjelmslev writes: "When comparing one entity with another we may speak not merely of a difference in meaning but also of different kinds of meaning, but concerning all such entities we may speak of meaning with precisely the same relative right" (Hjelmslev, 1963:45).

From a theoretical point of view it is important to understand context as not limited to the linguistic expression within which a word or unit appears, or by which a morpheme is surrounded. This position requires us to define what contexts are plugged in at different times. In example (1), the lexical item "men", which is unrelated to the cue word "contentment", signals a new context ("I vs. men"). In the next example at a certain point the context is the domain of geometrical figures.

- (2) "In the, the halls of the Justice Department there is an understanding of a bona fide agreement between any people scheduled to meet within government circles, government triangles, government rectangles, or any place else . . ." (Laffal, 1965: 131-32)

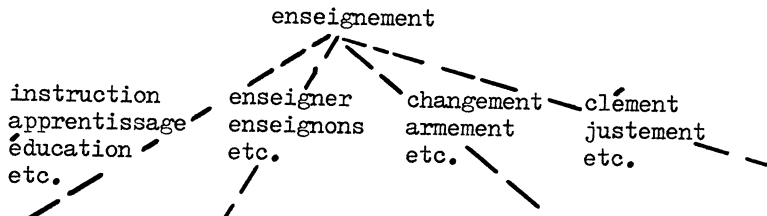
Further expansion of the discussion of the phenomenon of context would require the consideration of Greimas' study of the problem of isotopy and Abelson's theory of belief system, both relevant for the complete treatment of the problem of context. The work of a prominent Russian scholar, Zhinkin, should be mentioned here in connection with the definition of units in context. Zhinkin

takes the position that words are "parts of different messages; they predicate properties and name relationships extracted from phenomena;" they are not names or labels. (Zhinkin, 1968)

### Paradigmatics

Only a brief statement can be made about paradigmatics without attempting to discuss the nature of paradigmatic processing as a whole, which may be found in the works of Saussure and Hjelmslev, a representative overview of which is given by Lyons (1969).

Paradigmatics as a separate zone in information processing has been described by Saussure and elaborated by Hjelmslev. The following schema was included in the Cours de linguistique générale:



Saussure's examples of associative or paradigmatic relations included associations by content (teaching-instruction-education); he also exemplified associative classes formed between words with common morphological elements (suffixes, prefixes), between basic words and derivatives, between words of the same inflectional pattern, between words with a common sound-image (rhyming words, alliterations), etc. Hjelmslev describes the paradigmatic field as occupying a separate zone of signification; the organization within the paradigmatic field is described as "a network of relations between alternative terms" and the relations between the terms as disjunctive EITHER-OR relations. In Hjelmslev's theory paradigmatics is opposed to the domain of syntagmatics. Here the network of functions is between coexisting terms and the relation is that of conjunction or BOTH-AND relation.

Frequent occurrence of paradigmatic processing exposed in discourse, and marked tendency to hand over organization of discourse to paradigmatics instead of syntagmatics may be seen in the following examples.

Examples 3-7 will illustrate paradigmatic processing in schizophrenic discourse. Here paradigmatic grouping is the only organizing principle of the discourse. Detailed analysis of (3), (5), and (8) has been carried out by Nøth. (in preparation)

- (3) Doctor, I have pains in my chest and hope and wonder if my box is broken and heart is beaten for my soul and salvation and heaven, Amen. (Maher, 1968: 32-3)

Doctor, I have pains in my chest, and

and (if)	}	{hope (not that)} {wonder if}	my	{(box)} {(chest)}	is broken	}
		{(my) heart is (not) beat {(for) my soul and salvation and heaven}	(is in danger), Amen	{(-en)} {(-ing)}		

- (4) I am alive because I was born a human and animal life and normal life. (Cameron, 1938:23)

HUMAN	ANIMAL LIFE
ANIMAL	NORMAL LIFE

- (5) The subterfuge and the mistaken planned substitutions for that demanded American action can produce nothing but the general results of negative contention and the impractical results of careless applications, the natural results of misplacement, of mistaken purpose and unrighteous position, the impractical serviceabilities of unnecessary contradiction. (Maher 1966: 402 )

SUB/TERFUGE	CONTEN/TION	UN/RIGHTEOUS
SUB/STITUTION	APPLICA/TION	UN/NECESSARY
	POSI/TION	
CON/TENTION	CONTRADIC/TION	IMPRACTICAL
CON/TRADICTION		IMPRACTICAL
	MIS/TAKEN	
SUBSTITUT/ION	MIS/PLACEMENT	
ACT/ION	MIS/TAKEN	

- (6) He's a good hood, in a broody, moody way. (Singer, 1965: 194 )
- (7) Imagination is the worst nation in the world. (Singer, 1965: 194 )
- (8) I sat right in the cupboard, didn't cluver, say cleaver. I was a glass bowl, I didn't say grass in the hole either. Once a hole was a bowling alley-oh, I couldn't say buck any more- a white- it was a glass- it was a glass- it was one of those billy-back. It was a rose basket too. I said cover her, clover all over the glass but I didn't say grass in the pen either. I said Jinnie all over in the blass bucket. I couldn't say rush and wash dish because she was all over wax. Oh, I was a wax dolly . . . (Woods, 1938: 295 )



CLUVER	GLASS	BOWL	GLASS	HOLE
CLEAVER	GRASS	HOLE	THOSE	BOWL/ING
BOWLS	COVER	GLASS	RUSH	
BILLY	CLOVER	GRASS	WASH	
BACK	ALL-OVER	BLASS	DISH	etc.

### Frames

Paradigmatic fields as zones of signification may have various internal organizations which may be expressed in terms of frames. I define frame as the form of internal relations of a certain domain. Definition of frame relations within categories are based on the discussions of Greimas in Sémantique structurale (1966) and work of Coseriu in "Typologie des champs lexicaux," (1975). Among the various paradigmatic relations used in schizophrenic discourse, privative or antonymic frames are preferred; equipollent or serial frames and hyponymic frames are frequent, and gradual frames are absent.

Equipollent frames or serial frames may be exemplified by such series as days of the week or months of the year. Colors in English—red, yellow, green—are in equipollent relation. In responses to visual stimuli equipollent frames appear when a series of alternative interpretations (mostly in a non-ordinate series) is offered and no oppositional relation is implied. In example (2) "circles, triangles, rectangles" form an equipollent frame.

Privative frames or antonymic/synonymic frames are both subsumed under polar frames. Privative frames are based on an opposition  $x/\text{non-}x$ . Privative frames may be exemplified by oppositions: high/low; short/long; narrow/wide; to master/ to dominate. In example (1) "human/animal" and "animal life/normal life" form privative frames. Antonyms and synonyms occur frequently: "Fiddle, violin, musical instrument" as names for one object; "Bat, Die Fledermaus" as juxtapositions of translated words. (Singer, 1973)

A special place in paradigmatic processing should be assigned to hyponymic and hyperonymic paradigms. Within those frames relations of parts and wholes and subordination of one to the other of one by the other as well as the choice of whole to stand for the part or vice versa is relevant.

In the process of description when the subject describes in sequence various parts of a totality which is either expressed or hinted at at the end, various frame patterns can be used. How does one tell parts of a story and then bring it together in a generalization? (Singer observes a general orientation pattern to go from parts to whole when describing pictures of situations.)

The choice of larger totalities has been observed in schizophrenic processing. Tendency of overinclusiveness as a whole, towards larger generalities represented by abstract concepts or large categories have been found typical. Singer reports the

reaction to a group of objects, usually classified as eating utensils as "They're materials." (Singer, 1965: 194). Here "materials" is chosen as superordinate for the various eating utensils as co-hyponyms. The implication of choosing an extensive superordinate means cutting down on individual bits of information which have to be decided upon in the act of inclusion. Similar superordinates have been expressed by the phrase "objects having surface" for blocks, or "They are all manufactured." (Singer, 1965: 196).

The next process to observe within the hyponymic/hyperonymic frame is the replacement or overtaking of parts by the whole or whole by part. A disbalance in handling hyponymic relations results in the use of excessive generalities, large, abstract classes and, in general, choice of totalities at the expense of details or parts. The disbalance in handling hyperonymic relations results in underinclusion.

Here it should be noted that members may be shared by various paradigmatic frames depending on the actualization of relations. Pluridimensional frames are certainly not excluded from paradigmatic organization of discourse. Also it should be noted that in most instances of discourse we may talk about the predominant relation only because clear-cut separation of frame relations is not always possible. When dealing with a large quantity of data the typological analysis which specifies features precedes frame analysis. Frame analysis follows the typological description. Complexity in dealing with actual discourse may be observed when we note that paradigmatic processing of the privative frame is exhibited in the following items of the typology by Margaret Singer (1973):

- items: 170 (in forms of repeated question)
- 195 (in repeated forgetting responses)
- 196 (partial disqualifications)
- 110 (abandoned remarks)
- 150 (responses in negative form)

### Concluding Remarks

In schizophrenic discourse, numerous examples signal desynchronization. The disturbance in the linearity of discourse results from a transposition of meaning units in "schematic space", (a term borrowed from Cassirer). In paradigmatic processing we observe independence from an organized, (subdued) rigorous process of chaining as is the case in syntagmatic processing. Here a variety of directions is available, the starting point may be shifted at will, and the orientations are unpredictable and may vary according to the vantage point. Linguistic production lends itself here to mosaic designs and charade-like shifts.

Further research should lead toward bringing together

Saussure's contentions about paradigmatic processing as part of the memory structure and recent neurophysiological models of Luria and Pribram on memory mechanisms. Particularly important in my opinion is the study of the mechanism of habituation, and context sensitizing in short-term memory processes (Pribram, 1971).

Paradigmatic processing as we have observed it in schizophrenic discourse seems to expose on the surface some of the processes described in neurophysiological models of brain activity. Pribram portrays the central activities of the nervous system in the very terms of processes of substitution of one configuration (or context) for another, or semantic translation or transposition, which we have observed in paradigmatic processing. Pribram interprets this coding and recoding activity as a powerful adaptive and constructive mechanism in our nervous system, although the excesses in the process are puzzling to neurophysiologists. Pribram asks: "to what purpose would the brain engage in so many substitution schemes, so many coding and recoding operations? Any transformation risks a loss of fidelity. Why, then the ubiquity of this property in the nervous system?" (Pribram, 1971:67). In schizophrenic discourse this process which we have singled out under paradigmatic processing acquires an even more exaggerated form.

Further, the question arises whether we should describe paradigmatic processing--so prominent in schizophrenic discourse--as mere unintentional or uncontrolled byproduct in the linguistic activity. In the context of Pribram's performance theory paradigmatic processing would result from a commitment or an "addiction" to perform and would be justified 1) either because the outcomes or the consequence of the activity provide information or at least reduce uncertainty for the organism, or 2) because the outcomes "bias" behavior, in the sense of placing an integral value on the performance. In the light of this theory a new approach to peculiarities of schizophrenic discourse might be attempted. Deviances in the discourse may be seen as manifestations (in the linguistic medium) of a problem-solving activity and the intrusions of paradigmatic processing are all the more striking because manifested on such various levels as the phonic level (in the search for phonic sameness), on the sign level (in synonymy and antonymy), and in the search of sameness on the morphological or structural level. The insistent search for "sameness" which occurs in schizophrenic discourse may be characterized in philosophical terms as an inquiry into identity. Viewed from this perspective paradigmatic processing becomes a mode of epistemological inquiry. If exploration of identity and "sameness" is a procedure in acquiring knowledge about reality, then we can interpret schizophrenia as an insistent and excessive preoccupation with this problem. The presence of paradigmatic processing in schizophrenic discourse may be understood as a somewhat grotesque execution of an epistemological ritual.

## Notes

<sup>1</sup>"We shall use the terms form, structure, or style to refer to the ways in which experience and behavior are characteristically organized, to the patterns in which thoughts, drives and affects are fused, split, modulated and communicated. Formal and stylistic aspects of personality functioning can be characterized in terms of degrees and varieties of differentiation and integration." (Wynne and Singer, 1963:200).

<sup>2</sup>The study of textual isotopy which has been advanced by A. J. Greimas may be productively applied to schizophrenic discourse. The term isotopy (from the Greek topos and in the sense in which topoi are used in Aristotle's Rhetoric) introduced by Greimas and explored by his followers has been described as a principle of textual coherence manifested in the redundancy of linguistic units on the plane of expression or content. Investigation of isotopies in a text is a search for principles of coherence in sequences (on the semic level or phemic level or a level of any other nature). We can distinguish, for example, 1) semantic isotopies in the recurrence of elements belonging to the same semantic field; 2) phonetic isotopies in the form of alliterations, assonances, rhymes, etc.; 3) isotopies of rhythm such as various schemas known in prosody: intonation, pauses, accents, etc.; 4) stylistic isotopies or recurrences of traits belonging to a particular sub-code: technical, journalistic, medical, judicial, political, philosophical, poetic, abstract, archaic, sophisticated, etc., etc. In all those instances, in singling out an isotopy we are noting the connotative homogeneity of discourse on the plane of expression or on the plane of content. In this paper the term context was used to refer to a stylistic or a semantic isotopy of a somewhat broader type.

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