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VERBAL BEHAVIOUR OF THE PSYCHOTIC
AND PSYCHONEUROTIC PATIENTS:
AN APPROACH ACCORDING TO THE METHODOLOGY
OF COMPUTATIONAL LINGUISTICS

The theoretical premise behind our investigation is based on the view, held by many authors, that not only the meaning but the structure of language itself is in some way the expression of the psychological characteristics of the person speaking.

With this theory in mind we thought it would be interesting to check whether this supposed connection between verbal expression and personality is also confirmed by results of projective tests. We chose to use Rorschach test because the ten cards form a highly standardized stimulus and because, at the same time, the cards are indefinite and have little effect on the subject's verbal expression.

The aim we set ourselves was to study the connection between linguistic expression and the characteristics of personality, in order to find out whether the morphological structure of the language used in the responses to the test might provide further information to add to that obtained by traditional signs. As is well known, the subjects' way of expressing themselves when confronted with each card often differ greatly even when their responses are given the same signs in the psychogram.

METHOD

We do not intend to go into details here about the method used, or the principles of selection of the subjects or the characteristics of the

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sample (already reported in a previous paper).¹ The essential data is as follows.

The sample is made up of 119 subjects, 32 females patients at the Psychiatric Clinic, University of Pisa (15 schizophrenics, 14 neurotics and 3 classified as "various") and 87 relatives (41 relatives belonging to the schizophrenics, 36 to the neurotics and 10 to "various").

The responses to the Rorschach test were recorded on tape and then typed out, before being transcribed into perforated computer cards. The cards were then run through a computer which provided an alphabetical list of all the words used by the 119 subjects. Below each word was given the context in which each word appeared.

At this initial phase of our research we decided to limit our investigation to the analysis of traditional grammatical categories or parts of speech (substantives, adjectives, adverbs, verbs, pronouns, articles, prepositions, conjunctions, interjections). However in order to go deeper in our analysis of language, we further split these grammatical categories into sub-divisions, taking gender (masculine and feminine) and number (singular and plural) of the parts of speech into consideration too.

Therefore the lemma and the code number indicating the corresponding grammatical categories and sub-categories were transcribed opposite each word in the list drawn up by the computer.

The computer calculated the number of words for each grammatical category and the respective percentages in relation to the total number of words spoken for each card, so that a summarizing table was obtained for each subject.

Then the total values for each category and sub-category for each subject were worked and finally for the various groups: schizophrenics, neurotics, various and the respective relatives.

Being well aware of the arbitrariness of attempting to apply traditional statistics tests to language, we deliberately decided not to try to make a statistical analysis at the initial stage of our examination of the data. We should be able to do this later, at the end of our analysis, when the results themselves might have suggested which of the many statistical tests and elaborations that might be borrowed from statistical linguistics would prove most suitable.

¹ P. CASTROGIOVANNI, S. A. CERRI, G. MAFFEI, P. J. PASQUINUCCI, G. TORRIGIANI, A. ZAMPOLLI, *Analisi linguistica delle risposte al test di Rorschach di schizofrenici e neurotici e dei rispettivi familiari. I: Metodologia e primi risultati di analisi condotta mediante calcolatori elettronici*, in «Neopsichiatria», XXXIV (1968), p. 810.

CONCLUSIONS

The findings obtained so far in this first approach to the problem suggest some interesting conclusions:

1. The grammatical profile is similar in the four groups considered. Grammatical structure therefore represents the frame underlying the variability of language behaviour and as such has a certain static characteristic.

2. The schizophrenic group shows certain specific aspects in respect to the other three groups: reduced number of words; higher percentages of substantives and articles; higher conceptual/articulatory, substantive/adjective, substantive/verb ratio, lower verb/adjective ratio. These linguistic characteristics of schizophrenic patients are correlated with the autistic attitude of these subjects towards the test of Rorschach.²

3. The distribution of the grammatical categories for each card suggests the hypothesis that the type of stimulus (in this case the ten cards) does not alone determine substantial variations in the morphological structure of speech. An exception is constituted by those categories (substantives, articles, adjectives) more closely dependent on the experimental situation in which the subject is asked to represent something.

In a following phase of the study it was attempted to verify, at a micro and macrolinguistic level, whether, in the same patient, significant linguistic variations during the evolution of a psychotic episode were present.

In one case of a maniac-depressive psychosis, maniac type, 5 samples of spontaneous speech, corresponding to various stages in the evolution of the psychopathological picture, were taken.

This material was examined at a phonematic, lexical, morphological, syntactic level in order to show whether there are variations of linguistic structures correlated with the variations of the symptomatology.

This material is still in course of elaboration.

² The results are reported in detail on the following research: P. CASTROGIOVANNI, A. TELARA, *Primi risultati di un'analisi statistica morfologica e lessicale delle risposte al test di Rorschach nella prospettiva di uno studio dei rapporti fra psicopatologia e linguaggio*, in A. ZAMPOLI (ed.), *Linguistica matematica e calcolatori*, Firenze, 1973.

