

increased anxiety. Higher dosage of Ritalin was used to activate the symptomatology in order to determine possible endogenous components. Nevertheless excitants as a complement to other therapy proved useful.

The success of tranquillizers depended to a large extent on the relationship of the anxiolytic effect to the overall sedative-inhibitory effect causing fatigue, distraction and drowsiness in day-time. The "ratio" of these two criteria was good in Meprobamate, Librium, Melleril, in which both components increased in correspondence with increased dosage. Truxal, though in small doses had only a slight anxiolytic effect, did not affect negatively freshness in day-time and had therefore good results. Barbiturates and phenothiazines had an unfavourable "ratio". Improved sleep in neuroses was more dependent on the anxiolytic than on the overall inhibitory action.

The effect of tachyphylaxis in Meprobamate was not as conspicuous as that observed with phenothiazines in acute psychoses. With regard to Meprobamate probably the negative psychological effect caused by its wide use and misuse plays some role. The chief disadvantage in hospitalised neurotics is their mutual contamination. For this reason it is difficult to assess individual cases and individual side effects even though a comparison of the overall drug effect includes also a decrease of mutual suggestibility. It is important to form homogenous groups of hospitalised patients with a double blind control. The advantage of hospitalisation is the reduction of disturbing psychic and somatic influences and their easier observation.

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Delayed auditory feedback in schizophrenia and LSD induced state

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In our previous paper (Vinař et al. 1965, *Activ. nerv. sup.* (Praha), 7, 2) we tried to justify the application of delayed auditory feedback (DAF) in psychiatry and psychopharmacology and explained the method and technique of our work.

In the present experiment we attempted to test a hypothesis, according to which the disturbance induced by DAF is smaller in persons who are more independent on exteroceptive signalisation. The disturbance should be greatest in healthy subjects, smaller in the same persons after ingestion of 100 γ of LSD and smallest in schizophrenics.

Our subjects were women in the age of 20–35 years (mean 24.7), physically healthy without disturbances of audition and with normal intelligence. Healthy subjects ($N = 11$) were represented by medical students whose motivation for the inclusion in the experiment was interest in LSD experience. The patients ($N = 13$) were selected from all newly admitted schizophrenics who met the established criteria (the diagnosis had to be confirmed unanimously by all — at least three — psychiatrists on a case conference and by Fould's RSSSI — (Foulds, Owen 1963, *Brit. J. Psychiat.*, 109, 674).

1. The time necessary for the reading of the selected text is known to be longer under DAF

condition. This was confirmed in our experiments too: the difference was significant in

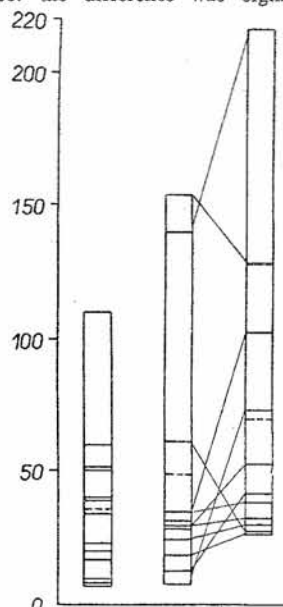


Fig. 1. Relative rise in reading time induced by DAF. first column: schizophrenic patients — second column: healthy subjects — third column: subjects in LSD induced state

Table 1. Number of speech errors

	Without DAF	with DAF	Δ	t.e. (Heath)	P
Healthy subjects	2,7	34,8	32,09	11,6	.001
Healthy subjects after LSD	6,8	45,1	38,3	8,5	.001
Schizophrenics	4,3	42	37,7	9,4	.001

each of our individual group (that means in schizophrenics, LSD state and healthy subjects without pharmacological influence). In order to be able to compare the influence of DAF on reading time, we had to compare the reading time in our experimental groups without DAF: persons after LSD read most slowly (average time was 144 sec.), then schizophrenics (139,3 sec.) and the fastest were healthy subjects (120 sec.), the differences however are not significant.

The figure shows the relative increase of reading time induced by DAF. Tested by the Heath's method of t-equivalent only the difference between healthy and LSD subjects was significant.

2. Vocal intensity was greater under DAF conditions in each of our group. A comparison in the increase of vocal intensity showed no significant differences between the groups.

3. The number of speech errors (stammering, repeating of words, extreme prolongation

of syllables etc.) was estimated by two independent observers. Average number of errors is given in the table.

Due to DAF the number of errors rose significantly in all groups. There is however no significant difference between the groups in the absolute as well as relative change in the number of errors induced by DAF.

We tried to ascertain the relationship between the rise in the number of errors induced by DAF and the initial number in the same individual without DAF: only in schizophrenics a positive correlation ($r_s = +0,76$, $P > .01$) was found (in healthy subjects $r_s = -0,15$ and after LSD $r_s = -0,04$). Highly significant positive ($r_s = +0,79$) correlation was found between the number of errors at DAF condition in healthy subjects without and after LSD. No such correlation was found under normal auditory feedback conditions ($r_s = +0,26$).

Our to date results do not support the above stated hypothesis.

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Verbal spectrum test for evaluation of psychodelics

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A number of methodological difficulties arise in connection with the evaluation of the drug effects upon the human mental state. On one hand, a test examination provides a standard though rather flat information and, on the other hand, a verbal examination gives a rather rich but vague information, the latter being due to the fact that a usual vocabulary is being used for an unusual information. In addition, further complications arise from the

qualitative and quantitative differences in the vocabulary used by both the examined persons and the examiner.

A sort of compromise between a test examination and a verbal examination may be seen in the verbal spectrum method (Osgood 1957, Hofstätter 1963). It is a certain kind of associative experiment which, unlike the free associative method, can be standardized. The experimental subject has to