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ever. Only a part of what we are doing can be brought, but additions can be made to the discussion at the end of the morning. I hope that the discussion will bring us further into this interesting subject.

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VAN REE, F.: Prediction of syndromes under LSD-25. Adv. Psychosom. Med. vol. 1, pp. 209–212 (Karger, Basel/New York 1960).

Prediction of Syndromes under LSD-25

F. VAN REE, Amsterdam

LSD is lysergic acid diaethylamide. This substance is since 1943 known as a drug able to induce psychoses. Notwithstanding the fact that there are many clinical arguments which indicate there are many individual differences in reaction patterns after the intake of LSD, only very few studies are known which make this fact their subject. Our investigations are especially directed to these individual differences. During some experiments we did in 1957, we came to the supposition that the form of psychoses someone gets, depends for a great deal on the dimensions introversion-extroversion in the sense of JUNG, and operationally defined by EYSENCK. To investigate this we applied an extensive testbattery, which we used two weeks before and during the experimental psychoses. We gave the male subjects 150γ and the female subjects 100γ by mouth. The ages of our subjects varied between 25 and 50 years. With only a few exceptions our volunteers were professional people. There were three women and 18 men. There were two main problems on which we directed our attention.

In the first place the individual differences in the degree of disturbance, and in the second place the individual differences in the form of reaction. All our 21 subjects showed disturbances but only 12 of them became really psychotic. If the subjects during the whole experiment remained able to realise that their disturbances were

artificial and caused by the intake of LSD we named their disturbance instrumental, and spoke of mild reactions, if this was doubted we spoke of border cases or moderate reactions, and if they surely didn't we said they were psychotic and severely disturbed. In order to make a further graduation in the intensity of the disturbances, we reasoned that instrumental disturbances consisting mainly of vegetative symptoms were less severe than those which showed psychological phenomena.

Diagram I. Degree of disturbance

type of reaction	duration	number of subjects
I. D. veg.	1	
	2	
	3	
	4	1
I. D. psych.	1	
	2	1
	3	3
	4	1
B. C.	1	
	2	
	3	3
	4	
Ps.	1	
	2	1
	3	3
	4	2
Ps. HD	1	
	2	
	3	3
	4	1
Ps. X.	1	
	2	
	3	1
	4	1

In the psychotic group we made a further differentiation based upon the following criteria. Occurence of hallucinations and/or delusions in clear consciousness named as factors H and D we regarded

as serious symptoms and the most malignant sign seemed the fact that sometimes it was necessary to terminate the experiment before time was over because the behaviour of the subject became dangerous for himself or his surrounding or because the subject suffered so much that it seemed morally not justified to go on with the experiment. This factor we classified with the symbol X. Finally for each group so formed, we used the time during which the disturbance existed as a further graduating factor. We divided based on this criterium in four groups as follows: less than ten minutes duration as group one, 10 to 30 minutes as group two, 30 minutes to 6 hours as group three and 6 hours and more as group four. These facts are shown in diagram I.

Concerning the form of reaction. All our subjects showed certain symptoms in common, namely vegetative symptoms, concentration difficulties, visual disturbances, changes in time perception, and derealisationphenomena. These common symptoms we named *the basic LSD syndrome*. Apart from this syndrome there appeared symptoms distributed over the different subjects, which we called *the specific or individual symptoms*. We based our clinical diagnoses on these specific phenomena. In this way we made four different groups:

1. *Schizophreniform psychoses:* which were characterised by strong autism, together with more or less of the symptoms well known in real schizophrenic patients.

2. *Degenerative psychoses as described by* PROF. VAN DER HORST: with moderate or severe autism, cosmic or degenerative thoughts and accompanied by a variation of other phenomena, but mostly more or less schizophreniform.

3. *Hysteriform psychoses*, mainly characterised by reactive emotional instability or changes in mood, and reactualisation of conflictual situations and frustrations, and a tendency to regressive infantile behaviour.

4. *Maniform psychoses:* with maniac mood, flight of ideas, increased motor activity and hyperirritability.

In our group we found only one case in which the existing psychoses could not clearly be classified in this scheme.

After we made our diagnoses, DR. BARENDREGT gave us the pretest scores on the introversion-extroversion scale, measured by the *M*audsley-*M*edical-*Q*uestionnaire, which questionnaire is well-known in European psychological literature. As a matter of fact we also applied some other introversion-extroversion tests. We found

them correlated with the MMQ scores for extroversion. Untill further research is done to increase the number of subjects we based our correlation on the MMQ only.

The scorings on the MMQ scale vary from 0 to 36 in which 0 is the most introvert result and 36 the most extrovert. For each clinical defined psychotic group, we computed the average extroversion score. The results are shown in diagram II.

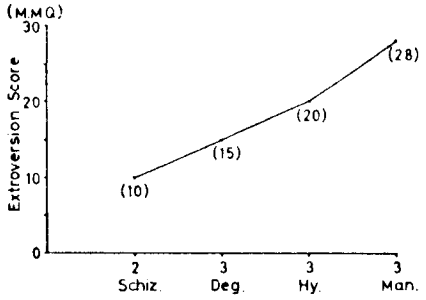

Diagram II

Of course the number of cases is rather small and this correlation has to be crossvalidated in the experiments which are continuing now, but the results seem very promising.

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THURING, J. Ph.: The influence of LSD on the handwriting pressure curve. Adv. Psychosom. Med. vol. 1, pp. 212–216 (Karger, Basel/New York 1960).

The Influence of LSD on the Handwritig Pressure Curve

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Referring to DR. VAN REE's paper about the clinical aspects of LSD psychosis, I would kindly ask your attention for one of the objective tests used in our LSD Experiment, a psychomotor test known as: Handwriting Pressure Curve (HPC).