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A/B,1,38/17



Chiof, addicing Division, SI

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4/May 1951

Chief, Bloohenistry & Pharmacology Branch, SI

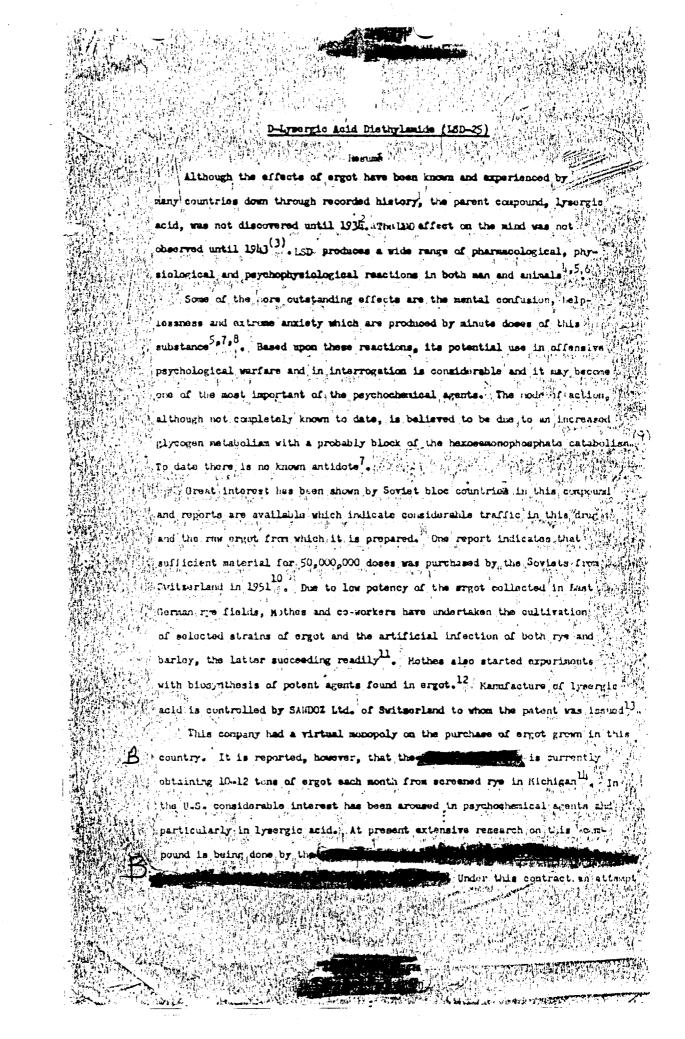
Survey on Lysergic Acid Disthylanids

1. Submitted hermrith is a briaf resume of the rather extensive survey on Lysongle Acid Diothylanida undertaken by the staff markers of this branch upon the request of the staff markers

A of the complete data being assembled for the subsequent attention following individuals:

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is being made to synthesise lysergis acid as well as many of its derivat and analogues . To date the only derivative which has been synthesized is di-hydrolysorgia anid. Clinical evaluation of the effect of this corporat has not yet been attempted. Admixtures containing Lypergie and disthylander other than with barbitarates to shorben the pariod of apprehension have apparently not been tried. The biosynthesis of d-lysergic acid disthylanide has not been altencied in this country as far as we know. Probably the groatest difficulty in the effective explaitation of Lysurgio asid and its derivatives is the difficulty in extrepolating expericontal animal data back to busins in order to predict results. Although ouse of the research workers are known to be relactant to use this compound for clinical research, some research on the material produced from the national B product by the has been alinically evaluated and recorded both in Boston and How York 1. D-Lynnycic Acid Disthylanide is a psychochemical agent of considerable (potential value as a strategic egente 1.2. The Soviet Inion has shown great interest in it and has produced concio anable quantities of it. 3. The MANDUZ Lies of Sulteerland/virtually emirals the semufacture for this

3 substance, altiouther the producing some under contract for experi-

the research on this errort is going on in this country, both in the field of the synthesis of derivatives and psychological studies.

5. The synthesis of this compound is long and difficult, and 15 stages occur

in the organic synthesis. The yield of this material is known to be very

low stan obtained through partial synthesis from ergoto

6. No biosynthesis is being undertaken in this country, although it is applied with abroad in the plant research institute of Osteralsben of East Cenumy.

7. Same clinical data are available on its use both in this country and in

Europa

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AN A

Life Orale of Errot Telling

a. Head of ryo with prominent hardened, dark-red fungue bodies - orgot b. Sprouting argot with soveral stalked globular heads

Flask shaped certifies imbedded in the surface of a single head -

Single cavity with memorous tube-like sumal sace or asci

Filiform ascepores in closed and opened secs

Single ascepares, capable of infecting rys flowers, faming a 1 ſ. lust therein

go . Hooliss, spreading in the grain tissue, forming bead-like, assumal spores (conidia) for further infections

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APPENDIX A'-7

Selected [LSD:] Bafarences

1. Burger, Alfred, Nedicinal Chedistry, Vol. I. pp. 350, 1951.

g. Jacobs, W. A. & L. C. Craig, <u>Journal of Biol. Chem.</u>, Yol. 104, 4.

3. Stoll, V. A., Schwis. Arch. f. Heurol. u. Prychist., pp. 60, 279-34

4. Sandos Ltd., Roport from the Pharmacology Laboratories, Hovember 1952.

5. Condrau, G., "Clinical Experiences with Lysergic Acid-Diethylamide in Normal and Nontally Sick Persons." Acta Psychiat. et Heural., Val. 24, pp. 9-32. 1949.

6. Forrer, G.R. & Goldner, R.D. "Experiment Physiological Studies with Lyserpic Acid Diethylamids (LSD)-25)". Arch. of Neurology and Psychiatry, pp. 65, 561-508. 1951

Private Communication and Tape Recorded Interrogation of a

8. Savage, Gharlos. "Ingernic Acid DiethyLunido (LSD-25), A C inical-Thychological Study" (Tamarch Report Project 121, 031 055:06.02. 9 Suptember) 1951-6 American Journal of Psychiatry, Vol. 100, pp. 895, 1952.

9. W. Huyor-Gross, HcAdam, W., Walker, J.W., HATULE, London, Val. 168, pp. 827-828. 1951. Psychological & Biochemical Errorts of Lysergic Acti, Distinguantia

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13) Patent Specification 579,484. Appl. Date (U.L.) April 28, 1944. Granted August 6, 1946.

14. Special Report by Dr. D. M. Crooks, Department of Agriculture, Division of Agriculture, Division of Tobacco, Hedicinal & Special Crops and Market Market

15. Bocker, A. H. "The Psychopsihology of the Lynergic Acid Disthylandia Effect." Minn. 2. Maryantik. Vol. II, pp. 1-54. 1949. ID. 740993.

16. Rinkel, H., Dochon, H.J. Hyde, B. V. & Solomon, H.C. "Experimental Schisophrenia-Like Symptone." <u>American Journel of Psychiatry</u> Vol. 108, pp. 572-578, 1952.

17. DeShan, H.J., Rinkel, H., & Solomon, H.C. Stantal Changes Experimentally Produced by Lysergic Acid Disthylamide." The Psychiatric Quarterly, Vol. Pp. 33-53, 1952.

18. Hoch, Polle, Cattall, JoP., & Pennes, Holls "Effects of Mescaline and Lysergic Acid", A erican Journal of Psychiatry, Vol. 108, pp. 579-564, 19

410, 1, 38/18

18 May 1953

Chief, Chemical Division, TSS Deputy Director of Security Newspaper Article of 14 May 1953.

Reference is made to our conversation concerning the attached newspaper article which appeared in the 14 'May issue of the Washington Star. Please note the report from Gallup, New Mexico reported by doctors that residents of that only have been bothered by a wave of nausea and lightheadedness. Although the possibility is remote, it may be that "seranim" could be involved and it is suggested that a routine inquiry, through Public Health, be made as to the facts of the case.

Attachment: Newspaper Article (as indicated above).



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PRIORITY CUNFIDENTIAL TO WASHINGTON FRAME

A = ASECURITY INFORMATION-CITE

H

LYSENGIC ACID AMIDES ARE PRODUCED BY THE SANDOZ COMPANY IN BASEL, SWITZERLAND. THIS COMPANY HAS A US RPT US SUBSIDIARY IN NEW YORK FROM WHICH YOU CAN OBTARN A SAMPWE FOR PHAIMACOLOGICAL AND CLINICAL TESTING. THE DIRECTOR OF THE US RPT US COMPANY IS A REPORT OF THE SAMPLE AND CLINICAL TESTING.

BY

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H/B-6

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REPARED AND AS EVIDENCED BY HIS FUBLICATION HE HAS PREPARED AND STUDIED PHARMACOLOGICALLY AND CLINICALLY SUCH COMPOUNDS FOR OBSTETRICAL EFFECTS AS WELL AS FOR SYMPATHOLYTIC EFFECTS SUT AS FAR ' AF KNON, NOT FOR THEIR EFFECTS ON THE CENTRAL NERVOUS SYSTEM. HIS WORK IS PUBLISHED IN RENDICONTI ISTITUTO SUPERIORE DI SANITA, VOLUME XV, PART X, 15'? RPT RENDICONTI ISTITUTO SUPERIORE DI SANITA, VOLUME XV, PART X, 1952 -- A SFECIAL NUMBER ON SYNTHETIC ENOOT.

AN ARTICLE IN MODERN HOSPITAL, MAY 1953 FAGE 98 RPT MAY 1953, PAGE 98, WHEN THE ERGOT ALKALOIDS -- THE RELATION OF STRUCTURE TO OXYTOCIC PROPERTIES BY EDWARD F. DOMINO, MD HPT EDWARD F. DOMINO, MD, CONTAINS & LIST OF REF-ERENCES ON THIS SUBJECT.

SANDOZ AND CAN THE UNLY SYNTHESIZERS OF THE AMIDES THAT SOURCE

Chief, BiP Branch

Chief, Technical Branch, 80

1. Returned herewith is your report on Lysergic Acid and related compounds which you forwarded to this Office for study.

2. In the writer's opinion, this is an excellent work and one which should be disseminated to proper personnel as soon as possible since the knowledge contained herein is important and definitely needed.

1, 38/

July 1954

3. The writer feels that while it is wise to avoid expressing Agency interest in use of the chemicals mentioned, it is very foolish not to make certain of our people cognizant of LSD and related psychogenic chemicals.

4. It would be greatly appreciated if when this paper is published that the Security Office be given at least four copies.

paper is greatly appreciated.

At approximately 9:30 All, Newby, 19 July 195h informed the writer that at the present time there is being held in Washington some type of scientific conference in which 🦛 H-B-1 and American scientists have been discussing various items of interest to intelligence. Particularly interesting was the fact that A one of the scientific officers in the stated A that a second who is now in Washington, a scientist, H-B/, made the statement that experimentally LSD had been used in interroga-A tion and had proved remarkably successful. have stated that 100 gamma of LSD was given to a first officer who had It-Bill been instructed not to reveal a significant military secret. After $H - B_{I_1}$ the LSD was given to the **Secret** officer, under interrogation, he gave $H - B_{I_1}$ all the details of the secret which was recorded and after the effects of the LSD had worn off, the state officer had no knowledge of revealing HBI, the information (complete amnesia). Not only that but the H-B/, officer did not believe he had revealed the information and was adounded it had been revealed in such complete, accurate detail.

HIN, 1, 39.121

2. We wanted to find out whether or not the writer or any representatives interested in interrogation from Security could talk with our second if an arrangement along these lines could be made. As far as by the bare for the next several days. The writer asked when may possibly be here for the next several days. The writer asked when to obtain all details possible through his own staff which will arain meet in conference with the second and second secon

3. The writer informer and see if authorization could be obtained the problem up to Security and see if authorization could be obtained for the writer, possibly security along lines of "defensive techniques."

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> h. This information is extremely important because it is the first actual reported use of ISD in successful interrogation along intelligence lines although there is some information along criminal lines coming out of Germany. The facts, however, and details are at the present writing very limited.

> > 20 July 195h

* A/D, 1, 38/22

Chief, Medicine Division, SI Acting Chief, Biochemistry and Pharmacology, M/SI Experiments with LSD-25

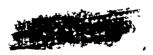
1. According to with LSD-25 have been carried on interval of not too high mentality does required, at least 12 human subjects of not too high mentality were selected. They were told only that a new does would happen to them. They were given doses of from 50 to 150, some on alternate and others on every fourth day. During the intervation they realized that something was happening, but were never told exactly what. All of the testing was done under the supervision of a trained psychiatrist.

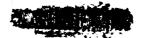
2. A dose of 150 was finally selected to be used on a test subject in the interest of intelligence. The subject is believed to have been an **or** the LSD-25 in water by a psychiatrist who was the only person to witness the test. Although no <u>direct</u> questions' were asked, the psychiatrist led the general conversations into appropriate channels and the subject disclosed certain information which he had been previously warned against revealing. At the conclusion of the experiment, the subject stated that to the best of his knowledge he had disclosed nothing. When confronted by the statements he had made, he was amazed.

3. The dosage varies greatly from person to person, but it seems that the higher the mentality, the higher the dose, and conversely.

4. The source of ISD-25 was Sandoz, Ltd., of Switzerland. Further, Sandoz has supplied several laboratories with ample LSD-25 to conduct research, including the **Example 1** for the subject of this material may obtain them providing, of course, they are legitimately engaged in research pertaining to the subject. This presumably applies to East Germany and any other Bloc countries, as well as to the USSR.

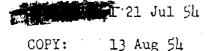
5. If feels that the UBBR could produce this material at any time, if it has not already done so, and if it is not obtaining adequate samples directly from Sandoz.





6. It appears as though the activity of ISD-25 decreased rather markedly around the fourth day after it is put into solution. One explanation for this fact, advanced by **Approximation**, is that the few bacteria in water are either metabolizing the ISD-25 or their by-products are destroying it or otherwise inactivating it. The magnitude of the decrease in activity in four days is roughly forty per cent or thereabouts.

7. This is the only experiment of its kind known by $\mathcal{A} \cdot \mathcal{B}$ to have been conducted in the interest of intelligence in $\mathcal{A} \cdot \mathcal{B}$ He had no knowledge of any future tests with LSD-25. It must be kept in mind that, other than planning the experimental design and reviewing the results, he took no active part in the experiment. Finally, inasmuch as LSD-25 is a relatively new drug, the dosages of which are still regarded as undetermined for eliciting specific responses, the feels that many more experiments should be conducted before more definitive ansers can possibly be elicited.



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•	1.	I claims that the phas completed the synthesis of	
	Lys	ergic Acid.	
		a) What evidence is available? hearsay, verbal, written, recorded?	
		b) What scope of accomplishment? gamma, mg. gm. quantitation	
		c) Is any of this synthesized LS available - how much?	
۲	2.	a claims LSD is/relatively rapidly destroyed substance	
		a) What incidence is available? hearsay, verbal, written, recorded?	
		b) Under what conditions is <u>stability</u> secured?	
		c) Under what conditions is stability uncertain or failing?	
		d) What metabolic evidence is available of breakdown?	
7	3.	Where does the obtain his supply of LDS?	
A	4.	claims harmine is less effective than LSD.	ł
		a) What evidence is available, hearsay, verbal, written, recorded?	
		b) Where did he obtain <u>harmine</u> ?	
4	5.	Where does the obtain his supply of gerotonia?	
4	6.	Can Can formulate his conception of the mechanism of action	
		of LSD?	

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A/B, 1, 38/2

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8,1,00/25 Office Memorandum • UNITED STATES GOVERNMENT

тө Chief, Technical Branch, Security Office DATE: 17 December 1954

FROM : Chief, Contact Division, 00

SUBJECT : REFERENCE:

1. We recently interviewed L of the Department of Psychiatry, was the author of which we sent to you under

gave us the enclosed document concerning his temporary duty in Japan, Okinawa, and Korea. While the document itself is probably of no great interest, it gives an indication that the himself might be of interest to TB/SO. Our representative, during the course of a casual conversation with was interested by the statement that the approach now being used in psychiatric interviews is more apt to produce results than is the approach currently being used by field interrogators; however, he did not criticize efforts currently being made by interrogators nor did he indicate that psychiatrists would make better field interrogators.

for a lead to documents 3. Our representative asked dealing with this subject. A said that he, had prepared a study entitled and * With this book, there is a set of phonograph records of actual initial interviews.

4. We have requested a name check clearance of the second He is a naturalized U.S. citizen and a cleared consultant of the] Office.

Enclosure

K

A/B, 1, 38/27

16 Barch 1955

MEMORANUUM FOR RECORD

H

H.

SUBJECT: Distribution of the Psychogenic Drug. Lysergic Medical Significance of the Psychogenic Drug. Lysergic Acid Diethyl Amide, LSD-25 and Related Compounds'

1. Dissemination of the subject report was discussed on A 11 Mar 55 with A subject report vas discussed on Deputy Director of Security.

2. It was recognized that a great part of the report was prepared with unclassified literature as its basis. However, in the subject is not a matter of general knowledge and must be very closely held.

3. It was his recommendation, agreed to by the undersigned, that distribution of the subject report be identical with that given a previous Scientific Intelligence Memorandum on the same subject, the subject of August 1954, which was as follows:

DCI (personal file) 1 Copy 1 DECI 1 DDI 12297 C/TSS Dir. Security AD/SI



Copies to: AD/SI Dir. of Security and Will Ut. CH SI/SS-Eng Bar 18 or So all So SI/M file LLT Chrono

A/B, 1, 38, 10 November 1955

neurosurgeon at the (

meeting of the American College of Surgeons in Chicago. The function of Soviet scientists. Δ

This is information derived from the

further stated that he had found out that the Moscow Brain $~~\Delta$ Institute was undertaking intensive work in conditioned reflexes in humans. In fact, he also stated that the Soviet Government requires that all physiological - laboratories produce work in conditioned reflex responses. It is of particular interest to us that observed two cases in which reflexes had been conditioned. In one of these cases -- that of a young boy -- a salivary fistula had been produced. The boy was conditioned so that when he thought of or said the number "4", he salivated. When they demonstrated him for they asked Ihim to divide 8 by 2, and before he could actually verbalize the number "4" he salivated. Another case was that of a man with a duodenal ulcer who had been conditioned to the face of a dial so that when the dial indicated a certain number his stomach contracted. There was a similar case in which a man had been conditioned so that his bladder contracted as he watched a dial indicate a certain number -- and thus he urinated in response to the dial. whether he thought that these conditioned reflex experiments in humans might be undertaken in slave labor camps or have some other ominous; significance, did not explain the background of his question.) gave (a firm hegative, with some evidence of distaste.

It is of further interest that the Russians have translated to book on the cerebral cortex (the functional anatomy (the functi