

65/5200

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12 May 1955

MEMORANDUM FOR RECORD

SUBJECT: HU-44Q -- "Strategic Medical Significance of Lysergic Acid Diethylamide (LSD-25) and Relative Compounds"

1. Subject was discussed this date with the Chief, IPS, with the following results:

a. The subject manuscript has been withdrawn from Intelligence Board consideration upon the recommendation of the Chief, Support Staff. The recommendation was concurred in by the AD/SI and Chief, IPS. Memorandum dated 5 May 1955, subject as above, to all members of the CSI Intelligence Board from the vice-chairman of the Board, was thereby rescinded.

b. The paper is to be published as an "CSI Study" rather than an SIR or other authorized type of publication.

c. Dissemination will be closely controlled and limited to those whose designations are listed in the rescinded memorandum noted in para. 1a above.

d. Following publication, the Deputy Director of Security will be queried on whether a copy can be supplied to General P. O. ~~representative~~ MacLean, Chief Research & Development Division, Office of the Surgeon General, Main Navy Building.

Distribution:

- 1 - Chief, IPS
- 1 - Chief, SS
- 2 - Rabs/Br.
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347

MEMORANDUM TO : Dr. [redacted] 27 May 1955
Chief, [redacted] Chemical Division.

FROM : Dr. [redacted]
Chief, Medicine Division/CSI

SUBJECT :

1. In an experiment on influencing conversational continuation, twenty four subjects, divided into four groups, carried on conversations with seventeen experimenters. This reduced the situation, already numerically small in a statistical sense, to an almost person to person relationship. The extensive amount of individual interpretation possible in such a situation reduces the scientific aspect to almost zero.

2. As indicated in transmittal memo from author, an implication for "brainwashing" might be found in such an experiment as this. In its present form this report of experiment offers little to either "brainwashing" or interrogation techniques. This lack is best manifested by the author's recognition that the relationship effect between the experimenter (interrogator) and subject (interrogee) was not measured. The author himself poses our question as to whether or not verbal behavior would or could be reinforced by agreement in a situation wherein the subject (interrogee-prisoner) disliked the experimenter (interrogator - captor).

3. Despite the individualistic assessment afforded by seventeen experimenters interviewing twenty four subjects, the results obtained are practically universally constant, and are as would normally be expected, viz:

- a) the rate of opinions expressed showed no significant changes as a function of reinforcement during the operant (initial control) period;
- b) Each of the subjects showed an increased frequency of opinions expressed during the agreement period;
- c) Twenty one of twenty four of the subjects showed a decreased frequency of opinions expressed during the extinction (disagreement) period.

Re: 6/19/12

4. These results would seem then to offer little prospect for their utilization by a Communist "experimenter" to achieve any degree of success in a "brainwashing" or "brainchanging" attempt except in the very immediate initial stage.

5. The application in this initial stage would be the situation wherein the subject (prisoner) is encouraged by the experimenter (captor) to express his opinions as to 'what the war is about'; 'why the prisoner joined the military service'; etc. By the experimenter's encouragement through agreement, the subject may go on and on in his opinion expression. Thus the subject might afford the experimenter a psychological profile of himself, and thus might expose a psychological point of vulnerability which could be used as a departure point or entry wedge in the depersonalization of "brainwashing".

6. Even this initial application to "brainwashing" cannot be deduced from this report of experiment, however, because the effect of a situation of antagonism between experimenter and subject (see paragraph 2) has not been measured.

(34)

19 July 1955

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No. 177

MEMORANDUM FOR RECORD

SUBJECT: Project "Artichoke"

Chief, Med./SI in the OS/1
representative

1. A few weeks ago, [redacted] PGS, informed me of an incident which disturbed him and which he believed called for remedial action. In the course of a meeting in the Pentagon which he attended dealing with coordination of external research, he was asked certain questions which indicated that several Defense officials were aware of CIA activities related to "Artichoke". [redacted] evaded or professed ignorance with regard to the questions, but was placed in a position where it was desirable that some reply be made to these questions. It occurred to [redacted] that it would be desirable to create some kind of informal group composed of representatives of the various CIA components concerned with "Artichoke", so that problems of the kind he had encountered could be considered and a consistent policy adopted by all concerned. He envisaged this group as informal and flexible, called together when problems arose, and not necessarily all members being present, but rather those whose offices had an interest in the problem. He asked my views on this idea.
2. I told him it seemed to me it would be a step forward in the right direction, and that we in the Support Staff had recently been aware of a lack of coordination among the various activities relating to "Artichoke", and had also encountered a Defense interest in "Artichoke", which might have had embarrassing consequences.

3. In a conversation last week, [redacted] informed me he had been working on his idea, and that arrangements were now completed for the informal group, on which OSI would be represented. I assume such representation was arranged through AAD/SI or Chief, Medicine Division.

1- Subject: Project Artichoke
1- C/S

20 July 1955.

This matter was discussed
with [redacted] on [redacted]

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Bibliography
References For
STRATEGIC MEDICAL SIGNIFICANCE
OF LYSERGIC ACID DIETHYLAMIDE (LSD-25)

30 August 1955

CENTRAL INTELLIGENCE AGENCY

Office of Scientific Intelligence

REFERENCES

1. Burger, Alfred. Medicinal Chemistry, New York, N.Y., Interscience Publishers, Inc., vol 1, 1951, p 350, U
2. ~~CIA~~ ~~CONFIDENTIAL~~ ~~SECRET~~ ~~REF ID: A6510~~
3. CIA.
4. CIA.
5. Jacobs, W.A. and Craig, L.C. "The ergot alkaloids II. The degradation of ergotinine with alkali. Lysergic acid." Journal Biol. Chem., vol 104, 1934, p 547, U
6. Stoll, W.A. "Lysergicæure-diethylamid, ein Phantastikum aus der Mutterkorngruppe. (Lysergic acid diethylamide, a phantastic substance from the ergot group)." Schweiz Arch. f. Neurol. u. Psychiat., vol 60, 1947, p 279, U
7. Mothes, K. and Silber, H. "Ueber die Variabilitat des Mutterkorns. (Concerning the variability of ergot)," Die Pharmazie, vol 7, 1952, p 310, U
8. CIA.
9. Patent Specification 579,484, United Kingdom, Application Date 28 Apr 44.
10. CIA.
11. CIA.
12. Condrau, G. "Klinische Erfahrungen und Geisterkranken mit Lysergic Acid Diethylamid. (Clinical experiences, testing mentally sick with Lysergic acid diethylamide)." Acta Psychiat. et Neurol., vol 24, 1949, p 9, U
13. Forrer, G.R. and Goldner, R.D. "Experimental physiological studies with Lysergic acid diethylamide (LSD-25)," Arch. of Neurol. and Psychiatry, vol 64, 1951, p 581, U
14. Savage, C. "Lysergic acid diethylamide results in schizophrenia with depression." American Journal of Psychiatry, vol 109, 1952, p 896, U
15. Mayer-Gross, W., McAdam, W. and Walker, J. "Psychological and biological effects of Lysergic acid diethylamide," Nature, London, vol 168, 1951, p 827, U

16. CIA.
17. Dr. Shon, H.J., Rinkel, H. and Solomon, H.C. "Mental changes experimentally produced by LSD," Psychiatric Quarterly, vol 26, no 1, 1952, p 53, U
18. Katz, Sidney, "My 12 hours as a Madman," Maclean's, Canada, vol 66, no 19, 1 Oct 53, p 9, U
19. Krayenbuhl, Prof. H. "The pathogenesis, clinical aspects and treatment of headache." Triptane, Basel, Switzerland, Sandoz, Ltd., vol 1, no 3, Mar 53, p 41, U
20. Savage, C. "Lysergic acid diethylamide; a clinical-psychological study." Research Report Project RM COI-056.05.02. Naval Medical Research Center, Nat. Naval Medical Center, Bethesda, Md., 9 Sep 51, U
21. CIA.
22. CIA.
23. CIA.
24. Problemy, Poland, vol 9, no 7, 1953, U
25. CIA.
26. Foreign Service Despatch, Madras, India, Disp. no 1111, 4 Mar 52, U
27. CIA.
28. CIA.
29. CIA.
30. CIA.
31. CIA.
32. Youngken, H.W., Jr. "Ergot-A blessing and a scourge," Economic Botany, vol 1, no 4, Oct-Dec 1947, p 372, U
33. Stoll, W.A. "Rorschach Versuche unter Lysergsaeure-Diethylamid Wirkung. (Rorschach tests under the effect of lysergic acid diethylamide)," Rorschachina, Switzerland, vol 1, no 3, 1953, p 249, U

34. Mayer-Gross, W., McAdam, W. and Walker, J. "Further observations on the effects of lysergic acid diethylamide," Journal of Mental Science, vol 99, Oct 53, p 417, U.
35. Sandoz Index 1953-1954, Sandoz Products Ltd., London, England, U
36. Stoll, Arthur. "Recent investigations on ergot alkaloids," Chemical Reviews, vol 47, no 2, 1950, p 197. U.
37. Liddell, D.W. and Neill-Malherbe, H. "The effects of methedrine and of lysergic acid diethylamide on mental processes and on the blood adrenalin level," Journal of Neurology, Neurosurgery, and Psychiatry, England, vol 16, 1953, p 7, U.
38. Fischer, R., Georgi, F. and Weber, R. "Psychophysische Korrelationen-VIII Modellversuche zum Schizophrenieproblem. Lysergsaure-diethylamide und Mescalin. (Psychophysical correlations. VIII Experimental model for schizophrenia problem. Lysergic acid diethylamide and Mescaline)" Schweiz. Med. Woch., vol 81, nos 34-35, 1951, p 817, U.
39. Blickenstorfer, E. "Zum aetiologischen Problem der Psychosen vom akuten exogenen Reaktionstypus. Lysergsaure-diethylamid, ein psychisch wirksamer toxischer Spurenstoff. (Etiological problems of psychoses of the acute exogenous reaction type)," Arch. f. Psychiatry und Zeit. Neurol. Switzerland, vol 123, 1952, p. 226, U
40. Rothlin, E. "The pharmacology of the natural and dihydrogenated alkaloids of ergot," Bull. de l'Acad. Suisse des Sciences Med., vol 2, no 4, 1946-47, p 383, U
41. Becker, A.M. "Zur Psychopathologie der Lysergsaure-diethylamid Wirkung. (Contribution to the psychopathology of lysergic acid diethylamide effect)." Wiener Zeit. f. Nervenheilkunde u. Grenzgebiete, vol 2, no 4, 1949, U.
42. Mayer-Gross, W. "Experimental psychoses and mental abnormalities produced by drugs," British Medical Journal, no 4727, 11 Aug 51, p 317, U.
43. Busch, A.K. and Johnson, W.C. "LSD 25 as an aid in psychotherapy," Diseases of the Nervous System, vol 11, no 9, 1950, U.
44. Uhle, F.C. and Jacobs, W.A. "The ergot alkaloids. XX The synthesis of dihydro-dl-lysergic acid. A new synthesis of 3-substituted quinolines," Journal of Organic Chemistry, vol 10, no 1, 1945, p 76, U

45. Wheeler, F.C., Jenkins, G.J. and Qualica, G.E. "Indole derivatives related to lysergic acid," Journal of the American Pharmaceutical Assoc., Scientific Edition, vol 40, no 11, 1951, p 550, U
46. Metefi, L. "Mescalin- und Lysergsaure diethylamid-Rausch. (Mescaline and lysergic acid diethylamide intoxication)," Confiria Neurologica, Switzerland, vol 26, no 3, 1952, p 146, U
47. Rinkel, M., DeShon, H.J., Hyde, R.W. and Solzman, H.C. "Experimental schizophrenia-like symptoms," Psychiatric Quarterly, vol 26, no 2, 1952, p 572, U
48. Hoch, P.H., Cattell, J.P. and Penne, H.H. "Effects of mescaline and lysergic acid (d-LSD-25)," American Journal of Psychiatry, vol 26, no 2, 1952, p 585, U
49. Hoch, P.H., Cattell, J.P. and Penne, H.H. "Effects of drugs-theoretical considerations from a psychological viewpoint," American Journal of Psychiatry, vol 26, no 2, 1952, p 585, U
50. Frederking, W. "Ueber die Verwendung von Rauschdrogen (Mescalin und Lysergsaure-diethylamid) in der Psychotherapie. (Use of intoxicants-mescaline and lysergic acid diethylamide in psychotherapy)," Psych. Zeit. f. Tieferpsychol. u. Menschenkunde in Forschung u. Praxis, vol 6, no 6, 1953, p 324, U
51. Mayer-Gross, W., McAdam, W. and Walker, J. "Diethylamide of lysergic acid and carbohydrate metabolism," Nervenarzt, vol 23, no 1, 1952, p 30, U
52. Bovet, D. "Ricerche sui simpatico e sugli oxitoci di sintesi nella serie dell' ergotamina. (Studies on synthetic sympathicolytics and oxytoxics in ergotamine series)," Rendiconti Istituto Superiore Di Sanita, Roma, Italy, vol 15, no 10, 1952, p 723, U
53. Witt, P.N. Life, vol 36, no 12, 22 Mar 54, p 79, U
54. Weyl, Erigitte. "Versuch einer psychopathologischen Analyse der LSD-Wirkung. (An attempt to a psychopathological analysis of the LSD effect)," Doctor's Dissertation, University of Freiburg, West Germany, 1951, U
55. Huxley, Aldous. The Doors of Perception, New York, N.Y., Harper and Brothers, 1954, U

56. Benedetti, G. "Beispiel einer strukturanalytischen und pharmakodynamischen Untersuchung an einem Fall von Alkoholhalluzinose, Charakterneurose und psychoreaktiver Halluzinose. (Example of a structure analysis and pharmacodynamic investigation of a case of alcohol hallucination, character neurosis and psychoreactive hallucination)," Zeit. f. Psychotherapie u. Med. Psychol., vol 1, 1951, p 177, U
57. Witt, P. N. "d-Lysergsäure-diethylamid (LSD-25) im Spinnertest. (d-lysergic acid diethylamide in the spinning test)," Experientia, Switzerland, vol 7, 1951, p 310, U
58. Rothlin, E. and Corletti, A. "Über einige pharmacologische Untersuchungen an Mäusen mit congenitaler Drehsucht. (Some pharmacological investigations on mice with congenital 'waltzing' anomaly)," Helv. Physiol. Acta., vol 10, 1952, p 319, U
59. Stoll, A. and Hofmann, A. "Die optisch aktiven Hydrazide der Lysergsäure und der Isolysergsäure. (The optically active hydrazides of lysergic acid and isolysergic acid)," Helv. Chim. Acta, vol 26, 1943, p 922, U
60. Kuessner, W. "Die Alkalioide des Mutterkorns. (The alkaloids of ergot)," E. Merck's Annual Report, Darmstadt, West Germany, vol 65, 1951, p 14, U
61. Gastaut, H., Ferrer, S. and Castells, C. "Action de la diethylamide de l'acide d-lysergique (LSD-25) sur les fonctions psychiques et l'electroencephalogramme. (Action of the diethylamide of d-lysergic acid (LSD-25) on the psychic functions and on the electro-encephalogram)," Confiria Neurologica, Basel, Switzerland, vol 13, no 2, 1952, p 102, U
62. CIA.
63. CIA.
64. CIA.
65. CIA.
66. CIA, FBIS, USSR and EE, 6 Nov 52, R
67. Kornfeld, E.C., Formefeld, E.J., Kline, G.B., Mann, M.J., Jones, R.G. and Woodward, R.B. "The total synthesis of lysergic acid and ergonovine," Journal of the American Chemical Association, vol 76, no 20, 1954, p 5250.

63. CIA. [redacted]
69. CIA. [redacted]
70. CIA. FDD/U-5460, 4 Feb 54, For Official Use Only
71. CIA. [redacted]
72. CIA. [redacted]
73. CIA. [redacted]
74. CIA. [redacted]
75. CIA. [redacted]
76. CIA. [redacted]
77. CIA. [redacted]
78. CIA. [redacted]
79. CIA. [redacted]
80. CIA. [redacted]
81. CIA. [redacted]
82. Abe M. and Yamatodani S. "Isolation of further two-water-soluble ergot alkaloids" J. Agr. Chem. Soc. of Japan, vol 28, no 6, June 1954, p 501, U
83. CIA. [redacted]
84. Nasalab, N.A. Methods of Cultivating Ergot for Medicinal Purposes, Moscow, Medgiz, 1941, p 35.
85. CIA. [redacted]
86. CIA. [redacted]
87. CIA. [redacted]
88. Silber, A. and Dischoff, W. "Die Konstanz des Alkaloid gehaltes bei verschiedenen Rassen von Mutterkorn. (Constancy of alkaloidal content in different strains of ergot)," Die Pharmazie, vol 9, 1954, p 44, U

89. CIA. [redacted]
90. CIA. [redacted]
91. CIA. [redacted]
92. CIA. [redacted]
93. CIA. [redacted]
94. CIA. [redacted]
95. CIA. [redacted]
96. CIA. [redacted]
97. CIA. [redacted]
98. CIA. [redacted]
99. Rochelmeyer, E. "Die biologische Synthese von Mutterkornalkaloiden und ihre Bedeutung fuer die galenische Pharmazie. (The biological synthesis of ergot alkaloids and their significance for galenical pharmacy)," Deutsche Apotheker-Zeitung/Gesellschaftsdeutsche Apotheker-Zeitung No 1, Jan 1954, p 1, U
100. Katzenelbogen, S. and Fang, A.D. "Narcosynthesis effects of sodium amytal, methedrine and LSD-25," Diseases of the Nervous System, Mar 1953, p 83, U
101. Dredley, P.R., Elkes, C. and Elkes, J. "LSD on human volunteers," Journal of Physiology, London, vol 121, no 2, Aug 53, p 50, U
102. Vialard, Chadeuc. Formation of Ergot Alkaloids in Vitro, University of Strasbourg, Alsace-Lorraine, France, Thesis no 612, 1952-1953, U
103. Mosquera, G.V. "Fluorescent spectra of lysergic acid and of the alkaloids of ergot," Boletin de la Real Academia de Farmacia, Spain, vol 15, no 2, 1949, p 261, U
104. Buscaglia, V.M. "Psichiatria Sperimentale. (Experimental Psychiatry)," Gazzetta Sanitaria, Italy, no 11, 1949, p 417, U
105. De Giacomo, Umberto. "Catatonie toxique experimentale. (Experimental toxic catatony)," Acta Neurologica, Italy, vol 6, no 1, 1951, p 5, U

106. Delay, J., Ihering, F., Verdeaux, G. and Verdeaux, J. "Modifications de l'electrocorticogramme du lapin par la diethylamide de l'acide D-lysergique (LSD-25). (Modifications of the electrocorticogram of the rabbit by lysergic acid diethylamide (LSD-25)),"
Revue Neurologique, vol 86, 1952, p 81, U
107. Fischer, R. and Agnew, N. "Competitive inhibition of drug-produced experimental psychosis," Abstract of Papers, American Chemical Society, 126th Meeting, Sep 54, p 64c, U
108. Solms, H. "Lysergsaure-ethyleamid (LAE); ein neues, stark sedativ wirkendes Psychotikum aus dem Mutterkorn. (Lysergic Acid ethylamide (LAE), a new psychoticum, strongly sedative, from ergot)," Schweiz. Med. Woch., vol 83, no 15, 1953, p 356, U
109. Peebles, H.H. "Clinical reactions of schizophrenics to sodium amytal, pervitin hydrochloride, mescaline sulfate and D-lysergic acid diethylamide (LSD-25)," The Journal of Nervous and Mental Diseases, 1954, p 95, U
110. Mayer-Gross, W., McAdam, W. and Walker, J.W. "Further observations of the effects of lysergic acid diethylamide," Abstracts of World Medicine, vol 15, no 4, Apr 54, U
111. Sandison, R.A., Spencer, A.M. and Whitelaw, J.D.A. "The therapeutic value of lysergic acid diethylamide in mental illness," The Journal of Mental Science, London, vol 100, no 419, Apr 54, p 491, U
112. Anderson, E.W. and Rawnsley, K. "Clinical studies of lysergic acid diethylamide," Mehr. Psychiat. Neurol., vol 123, 1954, p 38, U
113. Abramson, H.A., Jarvik, M.E., Kaufman, M.R., Kornetsky, C., Levine, A. and Wagner, W. "Lysergic acid diethylamide (LSD-25): I. Physiological and perceptual responses," The Journal of Psychology, vol 59, 1955, p 3, U
114. Simpson, C.F. and West, E. "Ergot poisoning in cattle," University of Florida Agricultural Experiment Station Circular S-43, Jan 52, U
115. Arnold, O.K. and Hoff, H. "Untersuchungen über die Wirkungsweise von Lysergicadiethylamid. (Investigation of the mechanism of action of lysergic acid diethylamide)," Wien. Zeit. f. Nervenheilkunde und deren Grenzgebiete, vol 8, no 2-3, 1953, p 169, U
- "(veröffentlicht im Januar 1954) (S. 169 ff. in der Zeitschrift für Psychiatrie und Neurologie, Band 1954, Heft 1, Januar 1954)"

116. Sloane, B. and Doust, J.W.L. "Psychological investigations in experimental psychoses; results of the exhibition of d-lysergic acid diethylamide to psychiatric patients," The Journal of Mental Science, England, vol 100, no 418, 1954, p 129, U
117. Pochin, M. "Die Umsetzung von Lysergsäure mit p-dimethylamino benzaldehyd. (Reaction of lysergic acid with p-dimethylamino benzaldehyde)," Arch. Pharm., 1953, p 509, U
118. Dealy, J., Pichot, P., Laine, B. and Perse, J. "Les modifications de la personnalité produites par la diethlamide de l'acide lysergique (LSD-25). (Personality changes produced by lysergic acid diethylamide)," Ann. Med. Psychol., Paris, vol 112, no 21, 1954, p 1, U
119. Deufel, J. "Mutterkornzuechtung auf tetraploidem Roggen." (Bread cultivation upon tetraploid rye), Arch. der Pharmazie, col. 237, 1954, p 329, U
120. Fabing, Howard D. "New Blocking Agent against the development of LSD-25 psychosis," Science, vol 121, 1955, p 203, U

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MEMORANDUM TO: (See Distribution List Attached) - *Distrubuted*

SUBJECT : Transmittal of Scientific Intelligence Memorandum

1. Our studies of unconventional warfare have included for some time the potential agent, Lysergic Acid Diethylamide (LSD), which appears to be better adapted than known drugs to both interrogation of prisoners and use against troops or civilians. The Soviet Bloc has the necessary supplies of ergot from which to synthesize this drug. Moreover, the Bloc is presumably in full possession of the pertinent information on it since it is commercially available and open literature carries full accounts of experimental use.

2. Because we feel that the matter may be of concern to you, we are forwarding the attached Scientific Intelligence Memorandum, which discusses briefly the intelligence implications of LSD. O/SI has in production a detailed study on this drug that summarizes the literature on the subject, recounts the results of medical experimentation with it, and deals with its possible synthesis and production. This study, "Strategic Medical Significance of Lysergic Acid Diethylamide (LSD)", will soon be available to those who have a paramount interest in the subject.

Assistant Director
Scientific Intelligence

An original and one copy of the attached memorandum has been sent to the following persons:

Mr. Allen W. Dulles
Director of Central Intelligence

Mr. Charles P. Cabell
Deputy Director/Central Intelligence

Mr. Robert Axoy, Jr.
Deputy Director/Intelligence

Mr. Frank G. Wisner
Deputy Director/Plans

* Mr. [redacted], C/ [redacted]

Mr. [redacted]

Mr. [redacted]

Mr. [redacted]

CIA Office

Mr. [redacted]
Director of Security

** Mr. [redacted]

Mr. [redacted]

Mr. [redacted]

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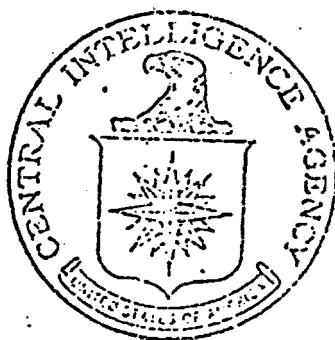
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An OSI Study
on the

STRATEGIC MEDICAL SIGNIFICANCE
OF LYSERGIC ACID DIETHYLAMIDE (LSD-25)



NOTICE

This publication has been prepared in CIA/OSI as an aid to intelligence analysis and others concerned with the subject matter presented. Editorial review has been minimized in order to accelerate dissemination of the information.

30 August 1955

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OFFICE OF SCIENTIFIC INTELLIGENCE

352

STRATEGIC MEDICAL SIGNIFICANCE
OF LYSERGIC ACID DIETHYLAMIDE (LSD-25)

Distribution Limited to:

PREFACE

Up to this time, there has been no evaluation of the significance of current knowledge about lysergic acid diethylamide, called LSD-25, and related drugs. Knowledge of the unconventional, as well as the therapeutic use to which this most unusual drug might be put, both offensively as well as defensively, is of considerable strategic significance. The broad objective of this study, therefore, is to review, analyze, and evaluate biochemical and pharmacological research on LSD-25 and other psychogenic drugs.

Appendix B, the Global Availability of Ergot, the natural source of lysergic acid, indicates the areas of its growth, both naturally and by cultivation; the approximate amounts obtainable from each country is given for relative comparison of Soviet Bloc and Western capabilities to produce ergot and its derivatives.

A partial list of some known research installations and personnel currently engaged in research on ergot and ergot alkaloids is attached as appendix C. It shows the widespread interest in these products, and the geographical distribution of this work. It is conceivable that they represent potential producers of the chemical substance, LSD-25. At present, the only known foreign source of LSD-25 is Sandoz, Ltd., Switzerland.

In the U.S. the total synthesis of lysergic acid was accomplished in September 1954 by Eli Lilly, Research Laboratories, Indianapolis.

Formal research of this study was closed 1 February 1955, however any pertinent information received up to the date of publication has been included.

APPENDIX B: Global Availability of Ergot

Global Availability of Ergot
Estimated Amounts Obtainable from Each Country

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STRATEGIC MEDICAL SIGNIFICANCE
OF LYSERGIC ACID DIETHYLAMIDE (LSD-25)

PROBLEM

To determine the strategic medical significance of lysergic acid diethylamide (LSD-25) through a review and an evaluation of the current biochemical and pharmacological research on this psychogenic drug.

CONCLUSIONS

1. LSD-25 is the most potent psychochemical agent available at the present time. Trace quantities of LSD-25 create serious mental confusion of the manic and schizophrenic type and render the mind temporarily susceptible to suggestion.
2. LSD-25 has many potential applications but there are as yet insufficient data to confirm or deny its usefulness for eliciting true and accurate statements from subjects under its influence.
3. Because LSD-25 is colorless, odorless and tasteless, it could possibly be used clandestinely for the contamination of food and water although the data on its stability in solution are conflicting.
4. Since the effect of this drug is temporary, in contrast to the fatal nerve agents, there are important strategic advantages for its use in certain operations.
5. Although no definite conclusions can be drawn as to the diagnostic and therapeutic value of LSD-25, it does appear to have the potential of being a valuable adjunct in the treatment of certain mental diseases. Methylene blue and phenothiazine derivatives, including chlorpromazine, appear both to modify and inhibit LSD-25 psychosis. The gamma isomer of mepratran also seems to block the psychic effects of LSD-25.
6. Of the other known psychogenic drugs, mescaline produces reactions that are the most similar to those of LSD-25.
7. Sufficiently detailed descriptions of the methods of preparation of both lysergic acid and LSD-25 are available in the open literature to make possible its production by an interested country. Further, the

method of preparation, except that of synthesis, does not appear to be extremely complex.

8. Although no Soviet data are available on LSD-25, it must be assumed that the scientists of the USSR are thoroughly cognizant of the strategic importance of this powerful drug and are capable of producing it at any time.

DISCUSSION

LSD-25, the diethylamide derivative of lysergic acid (from ergot), is a relatively new chemical agent which affects the human mind. To date, only very small quantities of LSD-25 have been prepared. More widespread use of LSD-25 can now be expected as it has recently been synthesized.

Data on the stability of LSD-25 in solution are at variance with one another. Published methods of preparation, in general, do not indicate the conditions under which the solution was prepared or stored. Consistent results will depend, other things being equal, on the adoption of identical procedures. This has apparently not been considered by all workers.

Research on the physicochemical and toxicological properties as well as the mechanism of action of LSD-25 certainly warrants further consideration, inasmuch as little is actually known.

There does not seem to be good agreement as to the dosage to be used for clinical trials. Further investigation would undoubtedly establish more accurately the limiting dosages for maximum therapeutic efficiency.

A relation seems to exist among such drugs as LSD-25, belladonna, mescaline, hashish, and atropine. Additional research is necessary to determine whether the relation is due to a similarity in the mechanism of action or to some completely new physiological effect not previously considered.

To date little work has been reported on the combined use of LSD-25 with other drugs. Research in this area might indicate the substances which, when administered prior to or concurrently with LSD-25 or other psychogenic drugs, might enhance, modify, or diminish their effects.

Relatively little has been published on the therapeutic use of LSD-25 for mental disorders or even as a diagnostic aid for their classification.

Data on two derivatives of LSD-25 have been published. A method search for other derivatives might be very fruitful.

If LSD-25 is to be used more extensively in the future, a reliable counteragent must be developed. At present phenobarbital and a bromine derivative of LSD-25 are only slightly efficacious for this purpose. However, promising results have been reported with methylene blue and chlorpromazine, but they will have to be verified. The administration of the gamma-isomer of meprothran, "Frenquel," reportedly blocks the psychic effects of LSD-25 when given orally as a premedication. In one patient intravenous injection abruptly terminated the effects of LSD-25.

Since minute quantities of LSD-25 are effective, a rapid microbiological or microchemical method of detection should be developed. At present neither is available, although very limited methods of detection and identification are known, such as fluorescence, staining with ninhydrin and spectrophotometry.

APPENDIX A

Discussion of Scientific DataSummary

While ergot poisoning has been known for many hundreds of years, the parent substance, lysergic acid, from which all ergot derivatives are made, was isolated only 20 years ago. The diethylamide derivative of lysergic acid (LSD-25), a powerful psychogenic drug, was first prepared in 1943 by Sandoz, Ltd., Switzerland, and was fully described in a Sandoz patent application in 1944. Other derivatives of ergot (lysergic acid) have been synthesized which possess sympathicolytic and oxytoxic properties.

Lysergic acid diethylamide (LSD-25), a partially synthetic derivative of lysergic acid which is obtained from extractions of ergot, is produced both by straight synthesis and by reacting the azides of d- or dl-lysergic or isolysergic acid with diethylamine. The production and more extensive use of LSD-25 can now be expected since the total synthesis has been accomplished. Other derivatives of lysergic acid have been prepared by reaction with amino acids, dipeptides, and tripeptides.

The use of LSD-25 is relatively safe because of the wide margin of safety between an effective and a lethal dose. In general, LSD-25 is administered orally to humans, although in animals it is usually administered subcutaneously or intravenously. The normal dose is 1 gamma* per kilogram of weight; however, it is active in a total dose as small as 10 gamma. From studies carried out on animals, the lethal intravenous dose was determined to be 65 milligrams or 65,000 gamma per kilogram of weight, and the lethal subcutaneous dose was 265 milligrams or 265,000 gamma per kilogram of weight. By extrapolating the data on animals to humans, the lethal dose in 50 percent of human cases is calculated to be 4,550,000 gamma or 4,550 milligrams. Antidotes for LSD-25 have recently been suggested in the form of inhibitors such as methylene blue, chlorpromazine, and "Frenquel" (gamma isomer of megratran).

LSD-25 usually produces physiological changes in the central nervous system, blood pressure, digestive system, liver, respiration, urogenital system, temperature, salivary secretion, lachrymal secretion, eyes, blood picture, and blood sugar. It also interferes with carbohydrate metabolism; however, these effects can be partially counteracted by barbiturates and by intravenous injection of glucose.

*1 gamma = 1 microgram = .001 milligram

LSD-25 exerts a uterotonic effect in rabbits and inhibits the action of the so called "waltzing mice." Webs woven by spiders under the influence of the drug are more symmetrical than those produced by normal spiders.

LSD-25 does not produce a uniform psychic reaction but two main types are distinguishable, the schizophrenic and the manic. The symptoms produced by LSD-25 are expressions of acute exogenous psychoses analogous to those produced by alcohol, cocaine, hashish, mescaline, and the amphetamines. The characteristic signs observed in LSD-25 intoxication are: changes in thinking and speech and, disturbances of behavior. General symptoms reported are: changes in emotion, mood, affect; subjective feelings; morbid ideas and sensory experiences and disturbances of perception. LSD-25 creates a condition of acute schizophrenia, and it is hoped that a solution to this form of mental disease may be developed since some indications exist that the human organism may produce toxins similar to LSD-25 which may actually be a cause of mental diseases.

In most cases of depression so far studied, LSD-25 does not appear to have a significant therapeutic advantage over other drugs. However, it did appear to be valuable as an adjuvant in a certain number of cases. The disadvantages of using LSD-25 are that it increases an already present anxiety, anorexia, tendency towards anemia, and insomnia. Like all intoxicants, it discloses pathological tendencies, which permit conjecture of the manner in which a person may become psychotic.

LSD-25 aids psychiatry by facilitating the contact approach between patient and physician. As a therapeutic shock agent, it produces results similar to other types of shock methods.

Other drugs which might be operationally used and which produce reactions somewhat similar to those of LSD-25 are scopolamine, sodium amyral, pethidine, atropine, bulbocapnife, and mescaline. Mescaline is by far the closest in action to LSD-25.

Mescaline and LSD-25 produce the same psychic phenomena although they vary in the quality of their effects, and mescaline must be administered in larger amounts.

Historical Account of Ergot and LSD-25.

Ergot, which has been known to countless civilizations, consists of the dried sclerotium of Claviceps purpurea which infects cereal grains most frequently developing on the inflorescence of rye (Secale cereale) plants. Mothers who have benefited during childbirth from the ergot effects produced by the alkaloidal constituents of ergot perhaps have the greatest appreciation for the development and growth of this potent fungus sclerotium. But to the men and women who in earlier times suffered from "ergot disease," as the result of eating ergotized cereal grains,

the word has signified pain and death. Since the 6th century, the cry "ergotism" has caused fear and has stressed the need for precautions in gathering grain crops. Farmers whose fields have become infested with fungus know of the damage it will cause to crops. Thus, this drug fungus during the advent of man's use of plants for food and medicine has played both a useful and a destructive role.

Knowledge concerning ergot and its medicinal virtues has rapidly accumulated since the early 19th century. From 500 A.D. to 1800 A.D., accounts of the significance of ergot and ergotized host plants vary considerably and are limited in regard to the early medicinal importance of ergotized grains. Ergotized grains are reported to have been used by the Chinese midwifery at an early date and similarly by Arabian medicine. There is also evidence among the records of the Moorish physician, Avicenna, which indicate that the fungus was used medicinally during the 10th century.

The greatest historical significance of ergot and ergotized grains up to the 20th century was the disease; ergotism. The disease was characterized by the development of gangrene in the limbs of the victim due to the severe vasoconstriction and pressor actions of the ergot alkaloids. Such actions would eventually cause a numbness and shrinkage of the appendages, which finally separated and dropped off. According to the description in the "Annales Xantenses" of 857 A.D., "a great plague of swollen blisters consumed the people by a loathsome rot, so that their limbs were loosened and fell off before death." This disease proved fatal to thousands during the endemic and pandemic plagues of Europe and Russia during the 10th, 11th, and 12th centuries when the peasant classes ingested ergotized grains. The great ergot plagues of the middle ages, which were known as "Holy Fire," "St. Anthony's Fire," and "St. Martial's Fire," were all associated with ergotized grains of rye. In addition, ergot poisoning plagued whole populations in all parts of the world. 1/32

It was not until 1934 that research on ergot yielded the causative agent of the mental derangement which invariably accompanied ergot intoxication. Lysergic Acid was found to be that portion of the ergot alkaloids which is responsible for the pharmacological action on the mind.

Medical interest was aroused when Dr. Hofmann of Sandoz, Ltd., Switzerland, suffered psychic disturbances while experimenting with LSD-25. Arthur Stoll of Sandoz, Ltd., and his co-workers are responsible for most of the knowledge of this powerful agent, as well as for its partial synthesis. W. A. Stoll studied extensively its psychological effects. 6/32

Sources of Ergot

Ergot is apparently the sole source of material from which LSD-25 is prepared. All the alkaloids of ergot contain either lysergic acid or isolysergic acid as the principal and characteristic constituent of the molecule. The alkaloids of the ergotamine and ergoterine groups are polypeptides, the lysergic or isolysergic acid segment being joined to other amino acids. [3/35] The alkaloids of the ergoecoline group are amides, the lysergic acid being joined to an amino alcohol.

These groups comprise 12 alkaloids which are regarded as 6 pairs of optical isomers. In addition, ergot contains an unusually large number of pharmacodynamically active substances.

The recent work of Kossler [6] and Stoll [35] points out that the ergot alkaloids can be classified first into two broad groups namely, peptide and amide compounds of lysergic acid. A second classification indicates the existence of three other categories based on pharmacological activity. They are called the ergotamine (Group I), the ergoterine (Group II), and the ergoecoline (Group III). In Table 1, the chemical compositions of the 12 isomeric ergot alkaloids and the responsible investigators are pointed out. In Group I, the difference between the 2 alkaloids is due to the presence of only 1 amino acid, either L-phenylalanine or L-leucine. The separation of Group I from Group II is based on the presence of pyruvic acid in the former and diethylpyruvic acid in the latter. However, the difference between the 3 alkaloids within Group II is due to the exclusive presence of 1 of 3 amino acids, L-phenylalanine, L-valine, or L-leucine. Finally, Group III differs from Groups I and II in that the lysergic acid is combined with D-alanopropionic acid to form an amide derivative rather than a peptide compound as in the first two groups. Only one compound is known to exist in Group III. (See Table 1).

The first member of each of the above pairs occurs naturally in ergot and is an amide derivative of lysergic acid. The second member of each pair is an amide derivative of isolysergic acid. Both members of each pair are called stereoisomers, that is, although they are not identical with each other in pharmacological activity, they are mirror images of each other in structure. This relation in spatial configuration of both members is due to the isomerism between lysergic acid and isolysergic acid, the parent compounds from which all the alkaloids of ergot are derived. However, the second member of each pair is usually found to possess only about 1 percent of the pharmacological activity of the first, its naturally occurring isomer.

In addition, ergot contains various primary amines, especially histidine, ergocysteine, and tyrosine, as well as the quaternary bases, choline and acetylcholine. It is not surprising, therefore, that the

fungus with all its self-contradictory drugs has been an intriguing material for pharmaceutical research. 1/

TABLE I
Alkaloids of Ergot

A. Peptide Alkaloids of Ergot

Group I - Pyrrolidine Group

Name (formula)	Chemical Composition*	Discoverer
Ergotamine (C ₂₃ H ₃₅ O ₅ N ₅)	= Lysergic Acid + l-phenylalanine)	STOHL (1913).
Ergotaminide (C ₂₃ H ₃₅ O ₅ N ₅)	= Isolysergic Acid + l-phenylalanine) Pyruvic Acid	
Ergosin** (C ₃₀ H ₃₇ O ₅ N ₅)	= Lysergic Acid + l-leucine) + d-proline	SMITH and TECHIS (1935)
Ergosinine (C ₃₀ H ₃₇ O ₅ N ₅)	= Isolysergic Acid + l-leucine) Ammonia	

Group II - Ergotoxine Group

Ergocristine (C ₃₅ H ₃₉ O ₅ N ₅)	= Lysergic Acid + l-phenylalanine)	STOHL and DUCHONDE (1937)
Ergocristinine (C ₃₅ H ₃₉ O ₅ N ₅)	= Isolysergic Acid + l-phenylalanine) Dimethylpyruvic Acid	
Ergocornine (C ₃₂ H ₄₁ O ₅ N ₅)	= Lysergic Acid + l-valine) + d-proline	STOHL and HOFFMANN (1943)
Ergocorninine (C ₃₂ H ₄₁ O ₅ N ₅)	= Isolysergic Acid + l-valine) + d-proline	
Ergokryptine (C ₃₁ H ₃₉ O ₅ N ₅)	= Lysergic Acid + l-leucine } Ammonia	STOHL and HOFFMANN (1943)
Ergokryptinine (C ₃₁ H ₃₉ O ₅ N ₅)	= Isolysergic Acid + l-leucine }	

* Products of Hydrolysis

** Not yet introduced into Medicine

TABLE I -- Continued

B. Amide Alkaloids of Ergot

Group III - Lysergoline Group***

Name (formula)	Chemical Composition***	Discoverer
Ergonovine (C ₁₉ H ₂₃ O ₂ N ₃)	= Lysergic Acid + d-aminopropanol)	DUDLEY and MOIR
Ergonovinine (C ₁₉ H ₂₃ O ₂ N ₃)	= isolysergic Acid + d-aminopropanol)	KJAVASCH et LICANAT STOLL and BURKHARDT THOMPSON (1)

*** Known in Ethiopia as Ergometrine and in Switzerland as Ergobasine
**** Products of Hydrolysis

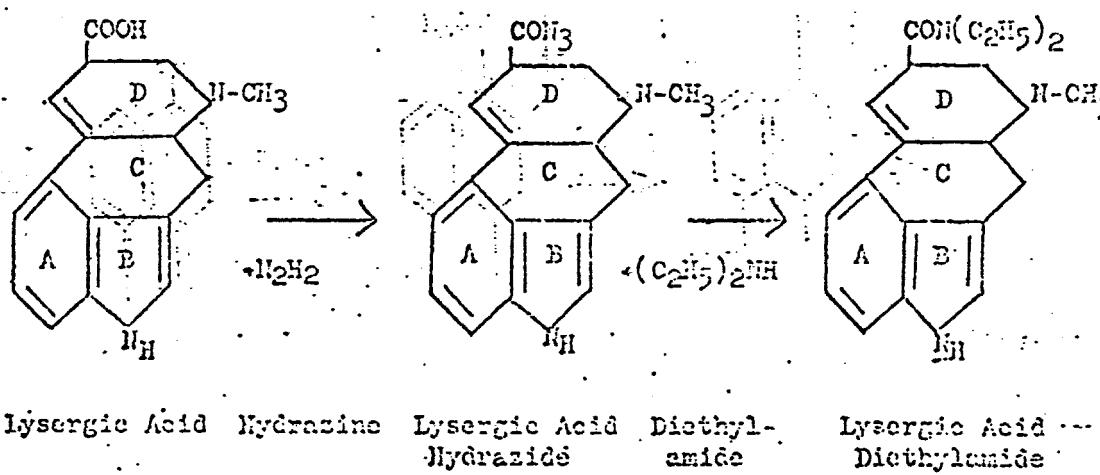
Chemical Preparation and Properties of Lysergic Acid and LSD-25

Since the parent compound of all the ergot compounds is lysergic or isolysergic acid, the preparation of LSD-25 is dependent upon the availability of lysergic acid, a compound which does not occur naturally. Jacobs and Craig, 5/ working with the degradation products of ergot, first prepared lysergic acid in 1934 by the reaction of ergotinine (ergoeristidine) and methyl alcohol potassium hydroxide. The alcohol was removed by vacuum distillation. The residue was treated with additional potassium hydroxide and heated on a steam bath, during which time a stream of nitrogen gas was passed through the flask. After cooling, the material was acidified and considerable material crystallized out. This suspension was extracted with ether and the remaining aqueous suspension filtered. The filtrate was evaporated to dryness under reduced pressure. To remove colored impurities, the residue was digested briefly with a small quantity of methyl alcohol. After cooling, the undissolved crystals were collected. The yield was 26 percent. Under ultraviolet rays, lysergic acid has a distinct blue fluorescence. 10/

Lysergic acid, best crystallized from water, appears as slightly colored, very thin hexagonal leaflets which contain one mole of water of crystallization. In reaction, it is amphoteric, that is, it behaves like an acid and also a base. It is soluble in sodium and potassium

hydroxide, sodium carbonate and hydrochloric acid. In most of the neutral organic solvents, it is sparingly soluble, but in pyridine it is quite soluble.

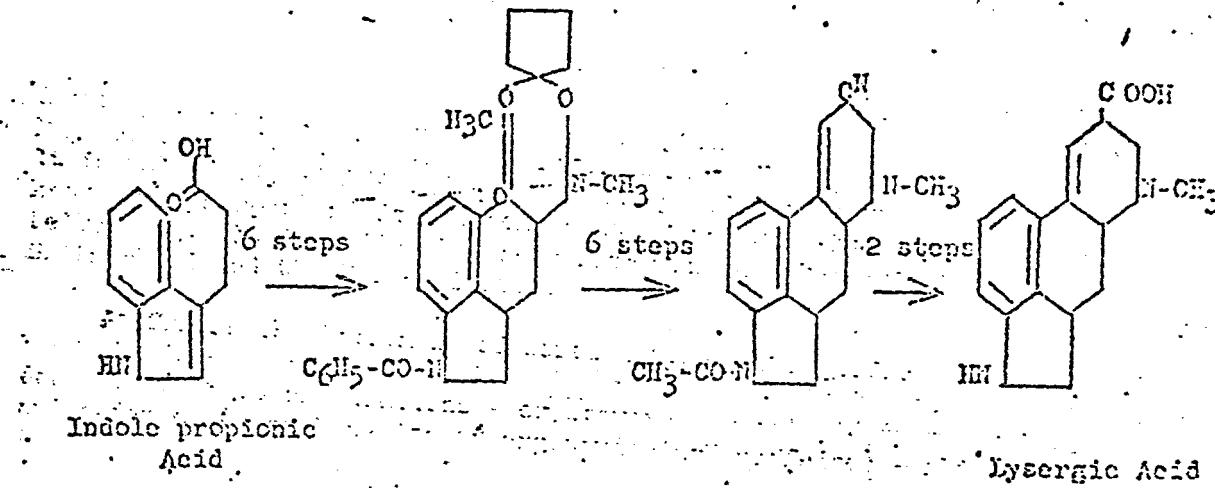
Lysergic acid diethylamide, LSD-25, prepared in 1943 by Stoll and Hofmann, 6/ is a partially synthetic derivative obtained by reacting the azides of d- or dl-lysergic or isolysergic acid with diethylamine. In order to obtain the former, separation is effected by a chromatographic column. This method of preparation 9/ is described in Patent No. 579,484 issued to Sandoz Co., Ltd. of Fasel, Switzerland. However, in this patent no mention is made of the method of preparation of lysergic acid, the parent material of LSD-25. Like the natural alkaloids of ergot, their chief component, lysergic acid, is also a sensitive substance. Special, mild methods were therefore necessary in order to convert lysergic acid into a derivative suitable for chemical reactions; such a derivative was found to be the azide of lysergic acid. The structure of lysergic acid was elucidated in 1933 by A. Stoll, and the stages involved in the preparation of LSD-25, according to Rothlin, 40/ are listed below.



According to these formulas, the following groupings of atoms may be recognized in the lysergic acid molecule: an indole system (rings A and B), a naphthalene system (rings A and C), and a quinoline system (rings C and D).

Previous attempts at the biosynthesis of ergot in Stoll's laboratory in Switzerland were unsuccessful.^{3/} The biosynthesis is, however, currently being attempted in East Germany in the laboratory of Prof. Dr. K. Nothes and H. Silber of the Research Institute for Cultivated Plants, German Academy of Sciences, Cottbus, in West Germany by Hochmeyer,^{4/ 22/} in France by Madam Vialard^{10/} and in Japan by Abe.^{82/}

The total organic synthesis of lysergic acid, including the double bond in ring D, remained unaccomplished until October 1954.^{67/} This first total synthesis was reported by the Lilly Research Laboratories, Indianapolis, Indiana. Some of the steps involved in the synthesis of lysergic acid are as follows:



LSD-25 is odorless, colorless, and tasteless. The tartrate salt is readily soluble in water and decomposes at 200 degrees centigrade. In strong aqueous solution it is fairly stable. 5/ 23/ For oral use the solution should be made up and stored in a dark glass bottle and not used beyond the third day after preparation. 100/

Recent research 117/ has shown that lysergic acid reacts with p-dimethyl-amino-quinaldehyde in an acid medium. When an oxidant, such as hydrogen peroxide or ferric chloride is added, a blue color is formed. This reaction is considered useful for the quantitative determination of ergot alkaloids.

Derivatives of Ergot and LSD-25

The hydrolytic products of polypeptide alkaloids of ergot were found to contain lysergic acid, succinic acid, amino acids, and ammonia. The close relationship of the peptide segment of the molecule to the amino acids and the ketonic acid was readily recognized by research workers of the Sandoz, Ltd. Thus, the total synthesis of ergot alkaloids has become a possibility. As a result of this research, peptide-like derivatives of LSD-25 were prepared by partial synthesis through the transformation of 6 amino acids, including tryptophane, 2 di- and 2 tripeptides, all of which are known as normal links in the metabolism of man.

Ergotamine, originally believed to be a theoretical compound which did not exist in pure state, was actually discovered by Stoll in 1918. 22/ Ergotamine tartrate is the most important of the ergotamine salts. It is relatively stable and quite readily soluble in water. It is also known as gynergen and is one component of the well-known preparation bellergall. It is officially recognized in the pharmacopoeias of both Switzerland and the United States.

As far as the treatment of certain types of migraine and vasoconstrictor headache is concerned, Krayenbuhl 19/ pointed out that there can be no doubt that ergot preparations - ergotamine tartrate, dihydroergotamine, and cafergot (a combination of ergotamine and caffeine) - eliminate the pain phase of the attack by increasing vascular tonus and reducing the amplitude of pulsations. In a study on a large number of patients, it was shown that prolonged oral treatment with dihydroergotamine-Sandoz or with hydergine exerted a favorable effect on migraine and vasoconstrictor headaches. 19/ 20/ 21/ 22/ 23/ 24/ 25/ 26/ 27/ 28/ 29/ 30/ 31/ 32/ 33/ 34/ 35/ 36/ 37/ 38/ 39/ 40/ 41/ 42/ 43/ 44/ 45/ 46/ 47/ 48/ 49/ 50/ 51/ 52/ 53/ 54/ 55/ 56/ 57/ 58/ 59/ 60/ 61/ 62/ 63/ 64/ 65/ 66/ 67/ 68/ 69/ 70/ 71/ 72/ 73/ 74/ 75/ 76/ 77/ 78/ 79/ 80/ 81/ 82/ 83/ 84/ 85/ 86/ 87/ 88/ 89/ 90/ 91/ 92/ 93/ 94/ 95/ 96/ 97/ 98/ 99/ 100/ 101/ 102/ 103/ 104/ 105/ 106/ 107/ 108/ 109/ 110/ 111/ 112/ 113/ 114/ 115/ 116/ 117/ 118/ 119/ 120/ 121/ 122/ 123/ 124/ 125/ 126/ 127/ 128/ 129/ 130/ 131/ 132/ 133/ 134/ 135/ 136/ 137/ 138/ 139/ 140/ 141/ 142/ 143/ 144/ 145/ 146/ 147/ 148/ 149/ 150/ 151/ 152/ 153/ 154/ 155/ 156/ 157/ 158/ 159/ 160/ 161/ 162/ 163/ 164/ 165/ 166/ 167/ 168/ 169/ 170/ 171/ 172/ 173/ 174/ 175/ 176/ 177/ 178/ 179/ 180/ 181/ 182/ 183/ 184/ 185/ 186/ 187/ 188/ 189/ 190/ 191/ 192/ 193/ 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994/ 995/ 996/ 997/ 998/ 999/ 1000/

methanesulfonates of dihydroergocoumarin, dihydroergosistidine and dihydroergochryptine in small parts. These three substances are obtained by the partial hydroxylation of the corresponding natural alkaloids of ergot and were first prepared by Stoll and Hofmann in 1943 in the Sandoz Research Laboratories. 35

Recent work has been conducted on the sympatheticolytic and oxytoxic properties of synthetic derivatives of ergot. 36

In the search for the true active principles of ergot, various investigators during the course of the past 50 years have isolated from the drug a large number of compounds, demonstrating impressively the power of synthesis which may be possessed by a fungus such as Claviceps purpurea. In addition to the specific ergot alkaloids, other interesting compounds are found in ergot. Rothlieb 40/ compiled a list of non-specific compounds which is presented as Table II. In contrast to the ergot alkaloids, however, these compounds are ubiquitously distributed in nature.

TABLE II

Nonspecific Compounds Found in Ergot

Tyramine	Clavine
Histamine	Tyrosine
Agratine (delta-Guanidyl-butylamine)	Histidine
Putrescine	Tryptophane
Cadaverine	Ergothioneine
Isoarylamine	Ergotinic acid
Trimethylamine	Ergosterin (Ergosterol)
Choline	Vitamin D ₂
Betaine	L-Arginine

The knowledge of the chemical structure of the ergot alkaloids which has been gained as a result of their analysis and degradation has also made it possible to attempt their chemical synthesis. Partial syntheses were accomplished by Stoll and coworkers, Uhl and Jacobs and others. In 1953-54, Uhl completed 11 of the 12 steps which he considered necessary for the complete synthesis. As indicated earlier, in September 1954 Kornfeld and other staffworkers of the Lilly Research Laboratories, Indianapolis, Ind. working with Woodward of the Converse Memorial Laboratory, Harvard University, 67/ completed the total synthesis of both lysergic acid and the ergot alkaloid ergonovine. These partial and total syntheses are of great significance for the manufacture of the known, naturally occurring active principles and closely related derivatives.

Syntheses are also desired for the preparation of compounds, which may possibly be stronger in action, less easily detectable, and longer lasting in effect than LSD-25, for instance, and which might also open the mind to the power or suggestion to a degree never hitherto dreamed possible. In view of these possibilities, the strategic use of such synthetic compounds is self-evident.

Recent work on the preparation of partially synthetic derivatives of lysergic acid had led to compounds which already bear a close resemblance to the natural alkaloids of ergot, having a peptide-like structure. Table III, a list of the derivatives of lysergic acid which have so far been prepared, indicates the great variety of possibilities for preparing new compounds.

TABLE III

Peptide-like, Partially Synthetic Derivatives* of Lysergic Acid
Isolysergic Acid and Dihydrolysergic Acid

<u>Acids</u>	<u>Prepared by Reaction With</u>	<u>Peptide-like Partially Synthetic Derivatives</u>
	{ amino acids: ↔	L-alanine L-leucine α-aminobutyric acid L-phenylalanine L-tryptophane L-histidine
1. Lysergic acid:	--	--
2. Isolysergic acid:	--	glycyl-glycine
3. Dihydrolysergic acid:	{ dipeptides: ↔	glycyl-L-leucine L-seryl-L-leucine
	{ tripeptides: ↔	diglycyl-glycine L-seryl-L-leucyl-D-proline

*The compounds described by Rothlin have been termed "partially synthetic" because they have been obtained by chemical reactions with lysergic acid which was derived from natural alkaloids of ergot.

A synthesis of 3-substituted quinolines was developed by Ulke and Jacobs.^{44/} This work has made possible the synthesis of a derivative called dihydro-di-lysergic acid.

Wheeler and others^{45/} reported the synthesis of four new indole derivatives which have certain structures which are also contained in Lysergic acid. However, attempts to prepare substituted amide derivatives by various methods were unsuccessful.

Lysergic acid monocethylamide, a derivative called LAE has been mentioned by Rothlin and Cerletti.^{58/} Low doses (0.5-0.75 mg) of LAE produce, according to Solms^{105/}, a schizophrenic-like condition in normal people and a sedative-like effect in schizophrenics.

As of 1953, it was reported that Sandoz Ltd. was actively searching for an antidote for LSD-25. One compound, a Brom-LSD-25, is available, which seems to check the action of LSD-25 in the "valtzing mice." As an antidote in man, its effect is unknown.^{29/}

Fischer^{107/} attempted to prevent an LSD-caused psychosis by previous administration of a competitive inhibitor. Suitable compounds were found in the phenothiazine series: methylene blue, N-(2-dimethylamino-n-propyl)-phenothiazine, 3-chloro-10-(3-dimethylaminopropyl)phenothiazine, and B-dimethylaminocetyl-N-phenothiazine which display a gradually increasing affinity for wool protein as well as modify and inhibit the psychotic experience otherwise caused by LSD. Preliminary experiments suggest that a gradual increase in affinity for wool of a compound might be associated with a more complete inhibition of the experimental psychosis. These inhibitors also display a gradually increasing adrenolytic action.

Most recently Fabing^{120/} observed that the gamma isomer of mepratran, when given orally as a premedication, blocked the psychic effects due to LSD-25. When administered intravenously, it abruptly terminated the psychotic reactions due to LSD-25.

Pharmacological Effects of LSD-25

Effects of LSD-25 on Man. -- Although the formula for lysergic acid was established in 1938 and the substance was prepared in the same year, LSD-25 was not discovered until 1943. It was Hofmann^{59/} who, while working with the amide derivative of lysergic acid, experienced the psychogenic effects of the drug. He felt that it was necessary to leave his work because of dizziness and marked unrest. At home he fell into a state of disagreeable intoxication which lasted for hours, during which he experienced visual hallucinations. In order to verify

the effect, Hofmann later swallowed 650 gamma, a quantity then considered too small to be effective. After 40 minutes vegetative crisis appeared, and a violent delirious psychosis developed. He discontinued making notes in the laboratory record book because he could no longer give sensible answers. A physician had to be summoned. Six hours later there was a spontaneous improvement, and after a night of sleep, the chemist felt completely well again, although still tired.

Studies with LSD-25 were carried out by Forrer and Goldner 13/ in an effort to clarify the physiological and psychic responses attendant on administration of this drug in schizophrenic patients. The drug produced a slight increase in blood pressure, slight increase in pulse rate, no essential change in respiration, increase in salivation and lacrimation, dilation of the pupils, increase in deep reflexes, and slight ataxia. Oral administration produced pupillary dilation of marked degree, whereas topical administration produced very slight dilation. The total white blood cell count was increased during the time of action of the drug. Urinary constituents, the nonprotein nitrogen level, the electroencephalogram, cephalin-cholesterol flocculation, weight, and temperature were not affected by the administration of this drug in doses up to 6 gamma per kilogram. In view of these data LSD-25 seems to be a suitable substance for further therapeutic investigation of the psychoses.

DeShon and others investigated the effect of LSD-25 on the cerebrospinal and autonomic nervous systems. 17/ Dysarthria, which occurred in five experiments, consisted of a transient stumbling over words and was never marked. Involuntary smiling, giggling, and laughing were considered in the nature of "risus sardonicus" where the subject described these phenomena as occurring without or against his will. One subject stated, for example, that, in a smile, he felt as if his facial muscles were like plastic wax being moved by some inexorable force. Equilibratory inscoordination, subjectively experienced by some subjects, could never objectively be ascertained. Disturbances in tests of handwriting, reading, gait, station, pupils, nonequilibratory coordination, deep tendon reflexes, and muscle power in the arms were not observed. The autonomic nervous system appeared to be more affected than the cerebrospinal. Flushing, sweating, shivering and chills with goose-pimples occurred many times. Tachypnea, salivation, pallor, sighing, and urgency of micturition were scattered observations. Changes in pulse rate and a rise in both systolic and diastolic blood pressure of 10-20 millimeters of mercury occurred in 1 hour and 30 minutes after administration of LSD-25. Striking changes in handwriting were also recorded. 24/

Other effects of LSD-25 on the body are listed as follows:

CARDIOVASCULAR SYSTEM - Blood pressure slightly increases, within the physiological limits, or not modified; less frequently it was slightly decreased. Two patients developed profound circulatory depression. Heart rate increased in some, decreased in others, not modified in one case.

DIGESTIVE SYSTEM - Anorexia; sometimes nausea with occasional vomiting; also isolated cases of lycorexia.

HEPATIC FUNCTIONS - Only slight changes were observed. However, subjects in whom even slight modification of hepatic function is present such as the protracted sequelae of infectious hepatitis, have a very marked response to LSD-25.

RESPIRATION - Usually not changed, although occasionally deeper and slower.

URINARY SYSTEM - No changes in composition of urine. Diuresis sometimes increased. In isolated cases retention of urine followed by polyuria was present when the effects of LSD-25 had worn off.

REPRODUCTIVE SYSTEM - Uterine cramps in isolated cases.

TEMPERATURE - No change; in exceptional cases, it increased 1°F.

SALIVARY SECRETION - Often increased.

SWEAT SECRETION - Often increased.

LACHRYMAL SECRETION - Sometimes increased.

EYES - Generally dilatation of the pupils; sometime impairment of the reaction to light; mydriasis less pronounced when LSD-25 is instilled into the conjunctival sac.

BLOOD PICTURE - Temporary increase in the total white cell count without modification in the differential count or relative neutrophilia. Slight increase in potassium blood values but no change in calcium blood levels. Some tendency towards anaemia appeared during prolonged treatment.

BLOOD SUGAR - Slight rise within physiological limits; less frequently a fall; slight transitory increase in the glucose and hexose monophosphate blood levels; otherwise, carbohydrate metabolism not affected.

According to Uhl 55/, the symptoms experienced by 32 subjects were mydriasis, nausea, after-effects, tachycardia, sleeplessness, headache, fatigue and other pains, tachyrrhythm, swelling, increased pulse rate, and salivary secretion in the descending order of occurrence.

Electroencephalographic studies were performed by Gastaut and others 60/ on 12 normal subjects who had taken a single oral dose of 40-60 Gamma of LSD-25. In these studies it was found that the alpha rhythm was increased by 0.5 to 4.0 cycles per second. In half of the cases the central beta rhythm was initiated, or if already present, was accentuated. Stimulation by means of a flickering light caused an increase in occipital potentials in seven cases. Other workers have reported similar findings. 101/

Effects of LSD-25 on Animals. -- In certain respects LSD-25 resembles ergonovine. It exerts a uterotonic effect on the rabbit, which in situ is 70 percent that of ergonovine. In contrast to the alkaloids of the ergotamine and ergonovine groups LSD-25 exerts no adrenosympathicolytic effect. 27/

However, LSD-25 may be clearly distinguished from all mentioned ergot alkaloids so far investigated in other respects. The injection of small doses of LSD-25 into the anesthetized rabbit produces motor excitation. In the dog the first apparent effects of LSD-25 are of a vegetative (sympathetic) nature, e.g., copious salivation, without any significant change in affective behavior. High doses of LSD-25, like bulbocapnine, cause motor rigidity in man, dog and cat, a condition reminiscent of a catatonic state. In the normal mouse, LSD-25 has a weak excitatory action which appears only at subtoxic levels. Mice with an hereditary anomaly, the so-called "Waltzing mice," are more sensitive to this drug. 59/, 105/

Mayer-Gross et al. 110/ studied the effects of LSD-25 on the metabolism of isolated brain and liver tissue of guinea pigs. As a result, it was concluded that LSD-25 exerted a sparing effect on the hexosemonophosphate metabolism which is greater in brain than in liver tissue, at the same time stimulating the respiration of the brain. It would therefore seem justifiable to relate the psychological action of the drug to these effects on metabolism. However, in in vivo experiments no such relationship between psychological and metabolic changes was noted.

The effects of both LSD-25 and L.S.D. (lysergic acid monohydrate) have been studied. 53/ Instead of sedation as appears in the case of hydergine, there was an increase in the general excitability with simultaneous suppression of the waltzing movement.

Dosage of 40 gamma per kilogram injected intravenously or into the carotid artery of a rabbit caused marked or complete flattening of the electrocorticogram. The effect was clear-cut even after doses as small as 18-20 gamma per kilogram; after massive doses (300-600 gamma per kilogram), the effect was identical. In addition, simultaneous marked motor hyperexcitability 27/ 28/ 105/ due to the effect of this LSD-25.

LSD-25 inhibited the spontaneous rhythmic activity. It did not prevent the response to electrical stimulation, the epileptic spikes, or of rapid spikes produced by the barbiturates, or by gamma. Of the vasodilator substances investigated, nicotinic acid, hexamethonium, priscol, and alcohol did not modify the LSD-25. Acetylcholine, given intravenously, in doses of 20-40 gamma per kilogram, caused the reappearance of bursts of basal rhythm. Experiments LSD-25 is usually administered intravenously. 28/

In animals LSD-25 has also been tested for its effects on the central nervous system of spiders. 16/ 57/ It was found that normally spiders exposed to drugs meeting their central nervous systems lose some of their instinctive ability. This was particularly noticeable in the case of the weaving of spider webs. The webs woven by spiders under the influence of such drugs are asymmetrical and sloppily constructed. The LSD-25 on the instinct behavior of spiders is, however, quite different. It was discovered that under the influence of this drug, spiders are able to weave webs which are more symmetrical and more beautifully than the webs they are able to weave while under the influence of any other drugs.

Recent work, 53/ supplemented by photographs of webs woven by spiders under the influence of caffeine, chloral hydrate, parvitin and LSD-25, clearly shows the effects of these drugs on the central nervous system of the spider. It was felt that because of the characteristic webs woven by spiders under the influence of certain specific drugs, these may be used to identify the presence of minute and even quantities of unknown drugs. One disadvantage of this technique, however, is that it appears to work only during the summer months. 57/

Mechanism

Through chemical and pharmacological investigations of the

T.

ergot alkaloids which have been carried out during the past 30 years have revealed interesting relationships between chemical structure and pharmacological action. It has now been established ^{10/} that the fundamental cause of the action resides in the d-lysergic acid part of the molecule. On the other hand, other constituents of the molecule which are coupled with lysergic acid are responsible for the differentiation in the pharmacological action.

The action of the ergot alkaloids is influenced to a very large extent by "the double bond in the D-ring" of lysergic acid which is assumed to be in the 9, 10 position. If this bond is saturated by catalytic hydrogenation, all the natural ergot alkaloids lose their uterotonic effect.

How great the influence of saturating the double bond in ring D can be, may be illustrated by means of the following example. Ergotamine is a powerful oxytocic, characterized by a very strong and protracted constrictory action; but in cases where excessive uterine tonus is liable to hinder the normal progress of parturition, it is able to bring about relaxations of the uterus or to restore the normal tone. As a result of the hydrogenation of the natural alkaloids of the polypeptide type, there is now a considerable prospect that a number of important diseases, such as hypertension, peripheral vascular disorders, and angina pectoris, which were formerly outside the field of indications of the ergot alkaloids, may be treated successfully with the dihydro derivatives. So far the only alkaloids which have attained therapeutic importance are those derived from D-dihydrolysergic ^{11/} acid.

It has been noted that barbiturates administered to patients under the influence of LSD-25 abolish the psychic effects of the latter drug. It is well-known that the barbiturates act initially on subcortical structures. The site of action of LSD-25 is not known. It is believed ^{12/} that the drug acts primarily on the cortex to produce a depression; and there is abundant evidence to suggest this; that is, increased deep reflexes, dilation of the pupils, salivation, euphoria, and increased accessibility. One might think of the effects of LSD-25 as being due to a release of the lower centers from cortical control. It would hold, then, that any drug which depresses the subcortical centers would, by blocking the subcortical release effectively, nullify the psychic action of LSD-25. This would be further evidence for and support of the present belief that LSD-25 in the amounts used acts primarily on the cortex, that the neurological symptoms following administration are directly attributable to this cortical effect; and that the psychic phenomena witnessed under its influence are the result of subcortical discharges no longer fall under full control of the cortex.

Mayer-Gross and others ³¹/ pointed out that the tremendous activity of LSD-25 suggests that the toxicative symptoms might be caused by an anti-enzymatic mechanism on the cerebral cellular metabolism. Since glucose is normally regarded as the most important and perhaps the only substance required by the nerve cells, it seemed logical to analyze the influence of the drug on human carbohydrate metabolism. Twenty-four persons were given 0.04 to 0.07 milligrams of LSD-25. On the following day, under the same conditions, control experiments were made on 19 persons, 15 of whom were identical with those who had already received LSD-25.

Analyses of blood samples indicated that the hexose monophosphate values and the carbohydrate values increased in those subjects who had been given LSD-25. A plausible explanation, which became at once apparent, was that the carbohydrate metabolism was interrupted in the presence of LSD-25 and could not pass beyond the hexose monophosphate stage. If the theory is adopted that LSD-25 blocks the decomposition of the hexose monophosphate, and furthermore if this blocking action is held responsible for the psychic symptoms, then the direct intake of carbohydrates, which can be utilized without detour via the hexose monophosphate stage, should influence the clinical picture of the intoxication. Although the authors, Mayer-Gross et al., could not arrive at such definite conclusions because of the lack of sufficient data, it was, nevertheless, evident that the symptomatology (optical illusions, alienation of perception, lack of concentration power, euphoria, etc.) was modified and partly disappeared after the intravenous administration of a 33-percent glucose solution.

Since previous research had shown that LSD-25 interfered with the carbohydrate metabolism and there resulted an increased concentration of hexose monophosphate, Mayer-Gross ³²/ attempted to solve the time-intensity relationship between the psychological symptoms and the biochemical changes. Since "schizophrenic" patients are known to have a greater tolerance to LSD-25, it was decided to use them as subjects. Results showed that, although the psychological effects were minimal, there was an increase in blood hexose monophosphate. This average increase was 1.46 milligrams per 100 milliliters of blood. Under control conditions there was a mean fall of 1.17 milligrams per 100 milliliters of blood.

Among a group of schizoid patients undergoing treatment with LSD-25, two were diabetics who had to be transferred to the medical service before the treatment was complete. ³³/ Curiously, their insulin requirements were lowered temporarily after taking the LSD-25. Although the meaning and validity of this observation are as yet uncertain, it seems evident that LSD-25 does interfere with the carbohydrate metabolism.

In view of the marked similarity between the psychological symptoms of LSD-25 and mescaline, a parallel series of experiments on the influence of mescaline on the blood chemistry was carried out on 9 normal adults. Three-tenths of a gram of mescaline hydrochloride was administered intramuscularly. Analyses were made for glucose, lactose monophosphate, alkali reserve, lactic acid, pyruvic acid, inorganic phosphate, total acid soluble phosphate, lipid phosphate, adenosine triphosphate. No significant variations could be detected in any of these analyses. The mechanism of mescaline is apparently different from that of LSD-25.

d-N-Methylamphetamine hydrochloride (methedrine) in doses of 40 to 60 milligrams and LSD-25 in doses of 40 to 60 gamma were given by intravenous injection to patients suffering from various mental disorders and their clinical and biochemical effects studied. After an initial phase of relaxation both drugs produced an aggravation of the clinical picture; while depressive patients became more retarded and depressed, or more agitated, schizophrenic patients showed signs of increased withdrawal and tension and an accentuation of catatonic and cataleptic features. Atresaction frequently occurred, especially in psychoneurotic patients.

Rapid mood swings were sometimes observed after the injection of LSD-25. Methedrine did not produce this effect, but it more readily provoked hallucinations in schizophrenia patients.

The biochemical studies indicated that the effects of both drugs on the plasma adrenaline level were similar. Three phases could be distinguished after the injections: an initial rise of the adrenaline level, a drop below the starting level, and finally a secondary rise. Individual cases mainly differed in the speed with which these phases followed each other. Sometimes, and especially after the injection of LSD-25, the adrenaline level decreased before the initial rise could be observed. When, however, LSD-25 was given by mouth, the initial increase of the adrenaline concentration was clearly evident.

A moderate increase of the blood sugar concentration sometimes followed the injection of methedrine, but the effects of LSD-25 on the blood sugar concentration were hardly significant.

Because LSD-25 intoxication is marked by depersonalization and vegetative symptoms, it probably affects the mid-brain and the inner-brain. The intoxication, in accordance with Stoll's concept, is likely a di- or mesencephalosis. It is still uncertain, however, how extensive the effect of LSD-25 is; how many, if any, peripheral or central metabolic processes are released; and how many intermediary toxic compounds may be developed in the actual release of externally visible symptoms.

According to Arnold and Hoff [19], the LSD effect in the wide scope of its psychotomimetic resembles that of delirium tremens, although the degree is much more pronounced in the latter.

Toxic Effects of LSD-25

According to a Polish source, ^{34/} research in the USSR indicated that the human organism can assimilate as much as 0.05 percent of ergot in flour. In animal experiments the use of ergot resulted in gangrene; the ears, hooves, teeth, and hair were affected. Of all animals, cattle were affected the worst.

It is a known fact that the hydrolytic products of the ergotamines consist of the metabolically important substances like ammonia, succinic acid, and the amine acids and that lysergic acid-like substances may also be prepared from physiological metabolis substances. ^{35/} From these facts the analogy can be drawn that the human organism might be able to form toxins similar in nature to LSD-25, which then might become active in peptide combinations. These in turn might then be transformed by the diseased organism into biologically active toxins. There are some indications that such long-suspected but hitherto undected secondary toxins might be identical with LSD-25 or substances closely related to it. Verification of such an hypothesis is contingent upon the development of precise methods for the detection of these toxins.

In order to give some indication of the minute quantities of LSD-25 which are required to influence the human mind, Table 4 is presented.

TABLE IV
Minimum Action Values of Central Agents in Human Therapy

Glutamic Acid	per os	10,000,000 gamma to 40,000,000 gamma
Methyl Alcohol	per os	7,000,000 to 20,000,000 gamma
Chloral Hydrate	per os	1,000,000 to 2,000,000 gamma
Dibenamine	intravenous	200,000 to 400,000 gamma
Cocaine	subcutaneous	80,000 to 300,000 gamma
Mescaline	per os	10,000 to 20,000 gamma
Morphine	subcutaneous	5,000 to 10,000 gamma
Atropine	subcutaneous	3,000 to 10,000 gamma
Dilaudid	subcutaneous	2,000 to 4,000 gamma
Pervitin	per os	1,500 to 3,000 gamma
LSD-25	per os	10 to 30 gamma

Krueger,⁴⁶ in reporting his personal experiences during LSD-25 intoxication and subsequent intoxication by mescaline, pointed out that the physiological effect of both drugs is similar. In their psychologic effect they differ; LSD-25 produces an hebephrenic-type reaction and mescaline, a catatonic-like state.

Fisher and others⁵² made a comparative study of the effects of LSD-25 and mescaline from the standpoints of psychopathology and physiopathology. They confirmed previous observations of Hofmann and Stoll that LSD-25 produces schizophrenia-like disturbances, bearing particularly on affect, perception, and thought. The comparative toxicology of LSD-25 and mescaline, tested in four subjects, showed that maximum doses of 130 gamma of LSD-25 and 0.5 gram of mescaline effected the same psychic phenomena. However, certain qualitative differences listed in Table V were also noted.

TABLE V

Comparative Effects of LSD-25 and Mescaline

<u>Psychic Phenomena Produced</u>	<u>Effect of LSD-25</u>	<u>Effect of Mescaline</u>
Altered Sense of taste	dampened	enhanced
Altered Sense of smell	unaffected	enhanced
Hallucinations	present	more pronounced
Critical judgment	present	less pronounced
Euphoria	produced	less pronounced
Silly compulsive coloration	produced	not produced
Experiences of splitting	produced	more intense
Paranoid phenomena	uncommon	common
Psychotic picture	hebephrenic	catatonic
<u>Physiopathologic Phenomena</u>		
Hippuric acid test	slightly disturbed	more disturbed
Cinnamic acid test	positive*	positive*

*Also positive in cases of schizophrenia

The psychophysiological and physiopathological differences between LSD-25 and mescaline could possibly be due to the smaller amounts of LSD-25 administered. LSD-25 does, however, appear 200 times more toxic

than mescaline, when tested comparatively, using the larvae of *Xenopus laevis* Daudin. In humans, LSD-25 is 2000 times more potent than mescaline. Metabolic substances, if actually present during schizophrenia, must be closer akin to mescaline than to LSD-25. Thus, LSD-25 merits a special consideration as a psychotinic, not restricted merely to the psychopathological phenomena observed in LSD-25 intoxication, but beyond this in connection with a whole series of new questions and problems in the entire general field of psychophysical correlations and in the special field of schizophrenia. If the current working hypothesis is accepted, namely, that the release of acute schizophrenic "drive" stands in a time relation with endogenous metabolic disturbances and presumably with the secretion of toxic metabolic substances - then the possibility of the existence of such substances must be investigated, using both physicochemical and biological methods.

Anderson et al 113/ administered from 60 to 600 gamma of LSD-25 orally to 4 normal volunteers and 19 psychiatric patients. One male patient with psychogenic amnesia was given 600 gamma LSD-25 which caused a very labile state with the mood fluctuating between aggressive euphoria and agitated depression, transient auditory hallucinations, body image disturbance and time disorder. It was concluded that over a certain minimal dose there is no clear relationship between the clinical picture and the amount of LSD-25 taken.

Blickenstorfer 39/ summarized the following observations of Buscaino 104/ and others in connection with LSD-25 intoxication: (1) schizophrenics possess greater resistance to the drug and have taken up to 500 gamma; (2) related belief in the toxic etiology of schizophrenia and inclusion of LSD-25 with other so-called schizophrenic substances such as atropine, belladonna, and mescaline; (3) records the conclusion that LSD-25 intoxication is an especially suitable psychosis model of schizophrenia as it produces, in contrast to mescaline, hebephrenic phenomena; (4) the two fundamental disturbances which control the psychotic syndrome are affect and intentional sphere; (5) LSD-25 has been tested as an aid to psychotherapy; (6) because of the tolerance to LSD-25, it might be one of many therapeutic agents in shock therapy; (7) LSD-25 and histamine may possibly be antagonistic agents; (8) epileptic persons could clearly differentiate LSD-25 hallucinations from common hallucinations; (9) reported the results of Porschach and other tests of patients under the influence of LSD-25; (10) spiders, under the effects of minute traces of LSD-25, weave nets of most unusual structure.

From studies carried out on animals, scientists have determined that LSD-25 is an extremely safe and relatively nontoxic substance. The lethal intravenous dose was 65 milligrams per kilogram and the lethal

subcutaneous dose was 205 milligrams per kilogram in laboratory animals. By extrapolating these data to humans, a procedure open to question, the lethal dose in 50 percent of the cases is calculated to be 4,550,000 gamma. As a comparison, between 70 and 150 gamma are regarded as effective, although it has been reported that 600 gamma have been given to a schizophrenic. Using 50 gamma as a minimum effective dose, this is only 1/90,000 of the lethal dose. Unquestionably, this is an amazing spread between the effective and the lethal dose.

The first workers to carry out research were struck by the analogy between the intoxication produced by LSD-25 and mescaline delirium, although the active doses of these two products are quite different; LSD-25 is 2000 times more effective than the mescaline on a weight basis.^{27/} An analogous relationship has been found when comparing the toxicity of the two substances in cold-blooded animals. The lethal dose of mescaline in tadpoles is 100 to 1000 times greater than that of LSD-25.

In addition, mescaline produces important changes in hepatic function demonstrable by the usual laboratory tests, whereas, LSD-25 produces a much slighter change which is made evident only by an ultra-sensitive test.

Psychophysiological Effects of LSD-25

As far as systemic effects are concerned, both normal and psychopathic subjects respond in almost the same manner to LSD-25 and may, therefore, be considered as one group. However, this is not the case with the mental effects; therefore, normal and psychopathic patients have to be considered separately in this respect.

Up to the present, LSD-25 has usually been administered orally, generally in the morning on an empty stomach. It is active in doses as small as 10 gamma. (Ten gamma would occupy no more space than the point of a pin). A dose of 40 to 100 gamma is active in most cases. Doses as high as 600 gamma have been well-tolerated by psychopathic patients. In general, psychopathic patients show greater resistance to the systemic and mental effects than do normal subjects.

The first effects of an active dose of LSD-25 generally appear within one-half hour with a maximum delay in the onset of three hours. Maximum effectiveness is reached on an average after 2 hours, and the effects persist from 3 to 6 hours. Delayed effects may be observed for 1 or more days but rarely for more than 1 week.

The symptoms produced by LSD-25 have been considered by W. A. Stoll as expressions of acute exogenous psychosis, analogous to those produced

by alcohol, opium, cocaine, hashish, mescaline, and the amphetamines. These latter substances are, however, only active in the higher doses.

There is no uniform reaction to LSD-25. Two main types of reactions may, however, be distinguished: (1) Manic, expansive reaction with psychomotor excitement, euphoria and less frequently depression; (2) A schizophrenic reaction with slowing of mental processes, inhibitions, autism, depersonalization and hallucinations.

The majority of subjects present a mixture of these extreme types. The manic response to the action of LSD-25 is believed to be due to its effect on the sphere of intention, and the schizophrenic reaction to the action on the sphere of affect.

In general, LSD-25 tends to reinforce pre-existing tendencies, producing a caricature of the subject; the cyclothymic patient often becomes euphoric while the schizoid becomes a true schizophrenic. Thus, LSD-25 reveals latent tendencies, and its effect may be considered, to a certain degree, as a personality test. Past experience has shown that LSD-25 produces such an overwhelming emotional and intellectual upheaval in the individual that any experiments with this substance must be very rigidly controlled. Once in a Swiss mental hospital, a practical joker sneaked a few granules of LSD-25 into a staff nurse's coffee. The frantic girl, apparently driven to believe that she had become schizophrenic, leaped to her death from the hospital rooftop. 18/

DeShon, 17/ Rinkel, 47/ Hecker, 41/ and others have described in summary articles the mental changes experimentally produced by LSD-25 which was administered 17 times to 15 normal adult volunteers. The drug was administered orally in doses ranging from 20 to 90 gamma (in most cases, one gamma per kilogram of body weight) in about one-half of a glass of water at 0830 hours on the day of the experiment, the subject having eaten no food since the previous evening. The main observations throughout the experiment were on the clinical psychiatric picture. Routine neurological and circulatory system examinations were not done, but signs occurring in these areas were noted if observed.

Results of these investigations are presented in the six following categories:

SUBJETIVE SYMPTOMS - These symptoms were present in all subjects. They were usually the first to appear, lasting from 15 minutes after administration of the LSD-25 until bedtime. The most common subjective symptom was a decrease in appetite. Frequent complaints were headache, giddiness, faintness, and tremulousness and shaking. A sense of poor

coordination, which could not be ascertained objectively, was frequent. Next in incidence were subjective feelings of weariness and fatigue; chilliness and coolness of the whole or part of the body; fullness, lass, and "funny feelings" in the abdomen; numbness of the whole or part of the body; headache; vertigo; lightness; drowsiness; nausea; and stiffness.

CHANGES IN THINKING AND SPEECH - These symptoms were found in all of the experiments. The most frequent type of disturbance was difficulty in the power of expression and concentration. Next there occurred retardation, press of ideas, hesitancy and indecision, blocking, and impairment of abstract thinking. Less frequently observed were poverty of thought, looseness and disconnection, and distractibility. These changes in thinking and speech appeared within 45 minutes after administration of the LSD-25 and lasted into the late afternoon.

CHANGES IN EMOTION, MOOD, AND AFFECT - These alterations, which were present in all of the experiments, appeared from 15 minutes after the administration of the LSD-25 until evening. Clear cut blunting of affect and suspiciousness were the most common symptoms in this category. Tension and apprehension, as well as feelings of unreality with disturbances in body images, were noted in the majority of observations. Euphoria with a shallow elation and silliness were often seen as were depression, combined with dependency, indecision, insecurity, passivity, and feelings of being "lost." Hostility and resentment were observed in some instances and, on rare occasions, ambivalence and intensified feelings of reality and greater understanding were noted.

DISTURBANCES OF PERCEPTION - These disturbances were common; those of visual perception predominated. Individuals would see rippling, or movements of objects, or the objects would vary in size and shape. Color disturbances were common, such as seeing yellow, orange, or pink colors where there were none. Disturbances of gustatory and auditory perception were less frequent; the latter disturbances were mainly in distinguishing the origin of a sound - distant or near. Time sense was disturbed in 11 of the experiments and was characterized by the feeling of time being either accelerated or retarded. The phenomena appeared from 40 minutes to about 7 hours after the ingestion of the LSD-25.

DISTURBANCES IN BEHAVIOR - These manifestations were seen in 15 experiments from 25 minutes after the administration of LSD-25 until evening. Underactivity, with lack of spontaneity and initiative, was most commonly observed. Overactivity or inappropriate behavior was rarely noted. Often behavior was associated with psychomotor manifestations such as smiling, giggling, and laughing which seemed more

appropriate than inappropriate. Aggressiveness, dramatization, playfulness, perplexity, and negativism occurred only occasionally.

MORBID IDEAS AND SENSORY EXPERIENCES - These experiences included ideas of reference and ideas of influence. The visual hallucinations were all formed images, but in one subject these were preceded by crude flashes of light. Three visual illusions, which appeared in many experiments, were of complex visual interpretation which, however, the subject did not believe; for example, seeing a thermostat on the wall as a crucifix, although really knowing that the experience was an illusion. The one instance of auditory hallucinations was of bells. Two instances of gustatory hallucinations were of metallic and other "funny" tastes. One instance of haptic hallucinations was a rather vivid experience in a subject of his trousers being wet from urine. The morbid ideas and sensory experiences appeared most frequently from 1 hour and 30 minutes after the administration of LSD-25 at 0330 hours in the morning to early afternoon.

The course of reaction to LSD-25 was presented in three phases within the first 12 to 16 hours, and a fourth phase appeared as an after-effect. Phase I, the prodromal phase, represented the period between the administration of the drug and the height of the reaction. The effects were usually subjective symptoms and appeared from 20 minutes to 1 hour and 30 minutes after the LSD-25 had been administered. Phase II represented the height of the reaction or the gross symptomatic departure from normal. It lay within a time span of 1 hour to over 5 hours after the drug had been ingested. Phase III was the period from the height of the reaction until evening. This phase was characterized predominately by a reduced activity, poverty of thought, flat affect, indifference, and a shallow feeling tone comparable to a simple schizophrenic reaction type. None of the 15 individuals who were subjected to LSD-25 had returned to normal when last seen by the authors from 1500 hours to 1900 hours on the day of the experiment. The effects in phase III were not necessarily a continuation of those in phase II. None of the phases was clearly demarcated, and their time limits for a given experiment could be determined only roughly and in retrospect.

Phase IV included the after-effects which lasted from one to several days. It was not seen in all subjects nor closely observed in any of them. Although all subjects reported that they felt normal the following morning, a few were noted to be more obtused in behavior and speech, more indolent, and perhaps more introspective for several days following the experiment. A striking observation throughout the day of the experiment was the appearance of signs and symptoms in waves. Where symptoms were of long duration, such as indifference and blunting of affect,

there were at least wave-like alterations in their intensity. The subjective symptoms were for the most part transient; although they were scattered throughout the day of the experiment, there was a tendency for them to cluster at the beginning and to a lesser extent at the end of phase II. In general, there was much more uniformity of the clinical psychiatric picture in phase III than in phase II. In 11 experiments, phase II was decidedly schizoid, and in one experiment each, manic-like and schizo-affective.

Katz 12/ published his personal and subjective reactions after taking LSD-25. Further, by describing his visual hallucinations at the time of their occurrence, an artist was able to sketch and then reproduce in vivid colors those bizarre fantasies of the human mind which seem to be somewhat commonplace to the schizophrenic. He stated that for hours he inhabited a nightmare world in which he experienced the torments of hell and the ecstasies of heaven. Since there are no words in the English language to convey the sensations, visions, illusions, hallucinations, colors, patterns and dimensions which his disordered mind revealed, he stated that he will never be able to describe adequately what happened during his excursion into madness.

He volunteered to become a temporary madman in the interests of medical research on mental illnesses. This is one phase of research where some of the guinea pigs have to be humans; animals cannot describe their sensations. The mental condition produced by this drug closely resembles acute schizophrenia, the most prevalent and most serious form of mental disease in Canada. It is reported that one-half of the patients in mental hospitals suffer from some form of this terrible mental torture.

In 1952 Stoll 33/ submitted 11 normal adults to the Rorschach test, these being under the influence of 50 gamma of LSD-25 and repeated it at a later date without the LSD-25. A Rorschach syndrome was produced by the disinhibition of the thought processes with a decrease of precision and wealth of content. In spite of the small number of cases from which to judge, the changes do not seem to be accidental since the relevant factors become changed in a corresponding sense and lead to a logical conclusion. The clinical picture of LSD-25 intoxication, corresponding to the LSD-25 influenced Rorschach syndrome, is regarded as unspecific and as an instance of the exogenous reaction type. Both typical psychopathological traits occur as do others suggestive of schizophrenia. Upon repetition of the test without LSD-25, similar and often identical results were obtained. The test subjects, however, often mentioned, upon repeating a response, that without the LSD-25 this response would not have occurred to them.

With "stressetic oxidativity", a new psychophysiological procedure, Sloan and Doubt 18/ observed significant changes in their ECG parameters. The results indicated increased autonomic lability in 11 healthy controls as well as in 12 patients with predominant depression, but unmodified functioning in the 7 schizophrenics tested.

Therapeutic Use of LSD-25

By artificially creating a condition like schizophrenia, as in the case of Katz, 19/ investigators hope to find the answers to a number of hitherto baffling questions. The psychiatrist wants to know: What does he see? What does he think? How does he think? How can he best be approached by a therapist? Answers to such questions are not easy to obtain from the chronic psychotic who has little or no insight and is usually uncommunicative. The biochemist seeks information which may finally lead to a cure for schizophrenia. What toxic substance is present in the psychotic which is absent from the body of the normal person? If this substance can be identified, then it is conceivable that a chemical agent can be created to counteract it. This could theoretically lead to the cure of half of the mental patients.

Since it was previously shown that LSD-25 usually produced a euphoria in mental patients, a study was made 20/ on the affect, cognition, and expression of 5 "normal" patients and 15 depressed patients. The "normal" patients received a single oral dose of 20 gamma, and the depressed patients received between 20 and 100 gamma by mouth daily for a month. Physiological reactions included rise in blood pressure and pulse rate, mydriasis, and incoordination; but in a few cases there was a profound fall in blood pressure and pulse rate. Unpleasant side effects were nausea, paroxysmias, and tension. Mental changes included euphoria or dysphoria, and hallucinations of all modalities. Ideas were transmitted into visual hallucinations of extra-ordinary plasticity. Most patients reacted with anxiety to these distortions in reality and became constricted. Infrequently, the doctor-patient relationship was improved with freedom of affect but not content. Occasionally, the latent content of the hallucinations was elicited by free association. Of the 15 depressed patients, 3 recovered to their pre-psychotic level, 4 recovered from their depression and were considered improved, 4 derived no benefit, and the treatment of 4 was discontinued prematurely.

Within the limits of this sample, LSD-25 does not appear to have a significant therapeutic advantage over other drugs in cases of depression, although it appears to be valuable as an adjuvant in a number of cases. It presents some disadvantages. The anorexia it produces may accentuate

weight loss. There is some tendency for anemia to appear after prolonged dosage, although this may be referable to reduced food intake. Insomnia is often aggravated.

The possibilities of personality explorations through direct communication envisaged by Stoll have not realized. While LSD-25 was not of value in promoting free verbal exchange, it is of potential use in personality exploration by the analysis of the hallucinations which it produces; for example: one patient reported a colorful medieval pageant and made a sketch of it. After the effects of LSD-25 had worn off, the sketch was presented to the patient who at first could make nothing of it. On free association, the patient brought up the idea that the medieval figures were really psychiatrists, with whom the patient had been associated. One figure was drawn with an open door for a mouth and a window for the one good eye. This psychiatrist talked too much and saw only half of the patients' difficulties. Another figure drawn slantwise or leaning was considered a drunkard. A third was pictured as a knight with a visor drawn both open and closed. Associations to this drawing suggested that the psychiatrist was two-faced. A fourth armored figure was in reality a female, suggesting that he was effeminate. The medieval setting with its rich pageantry and helpless figures suggested the ambivalence and disappointment about psycho-therapy. Thus, neither the patient nor the psychiatrist was left in doubt as to the patient's negative feelings which had previously gone unrecognized.

By contrast, projective testing during LSD-25 intoxication was less revealing than that done during the normal waking state. All patients showed marked constriction in the Form-Interpretation test. It was inferred that the patient attempted to compensate the effects of LSD-25 by an increased effort at adjustment.

These data appear in keeping with Condrau's observation 12/ that no definite conclusions can be drawn as to the diagnostic and therapeutic value of LSD-25.

Benedetti 56/ administered 2 single 50 gamma doses of oral LSD-25 within a span of 2 hours to a patient with an alcoholic hallucinosis. At the beginning of the third hour an acute hallucinatory psychosis was observed which lasted for four hours. During this psychosis two separate, but simultaneously occurring groups of psychopathological phenomena were observed. The first included those optical and spatial hallucinations, and the second was strongly suggestive of the classical alcohol hallucinosis, differing only in the preponderance of optical disturbances.

LSD-25 aids psychiatry in the following manner: 59/111/ it is highly suited for the experimental production of intoxication due to its

simple method of application and because it produces no personal antagonism in the patient during introduction; (2) it possesses a didactic value in self-experiments of the physician; (3) in psychotherapy it facilitates the contact approach with the patient; (4) as a therapeutic shock agent, it appears to give results similar to other methods. Interestingly, the LSD-25 intoxication, after an initial mania-like stage, can be shaded as depressive catatonic, delusional, or paranoid. Such shades or colorings depend, in all probability, more upon personal disposition than upon direct action of LSD-25, which, like many other poisons, can apparently only produce the unspecific syndrome of an acute exogenous reaction type. It is hardly suitable in the framework of normal psychology as a personality test, in spite of the many individual differences occurring during intoxication. Like all intoxicants it discloses pathological tendencies. These, while not so important in everyday life, permit conjecture of the manner in which a person may become psychotic.

A chemical analysis of normal cerebrospinal fluid has disclosed the presence of 11 amino acids: conspicuous by its absence is the amino acid tryptophane. Tryptophane is, however, one of the constituents of LSD-25. In practically all noxae, resulting in an exogenous reaction type one can expect the following: (a) pathological decomposition of protein; (b) that the substances of protein decomposition may enter the cerebrospinal fluid; (c) that these substances are probably closely related to the amino acid tryptophane which is a constituent of LSD-25. This similarity between tryptophane and LSD-25 may only be accidental. However, it may serve as an indicator that LSD-25 may also occur in human metabolism. Whether the body metabolism is capable of forming such a chemical substance under certain circumstances cannot be theoretically decided.

Busch and others ^{43/} administered LSD-25 to 29 patients with various type of mental disturbances. They expressed the belief that the drug induces a controllable toxic state within the nervous system which re-activates anxiety and fear with apparently just enough euphoria to permit recall of the provoking experiences. It does this without the sluggishness of speech difficulties so frequently encountered with mescal. On the basis of this preliminary investigation, LSD-25 may offer a means for more readily gaining access to the chronically withdrawn patients. Further, it may serve as a new tool for shortening psychotherapy.

The effects of LSD-25 and mescaline were studied in schizophrenic patients by Hech and others ^{48/}. It was found that psychological changes were produced in these patients and that their mental symptomatology was

markedly aggravated. The observations made with the above-mentioned drugs on normal individuals were compared with those of schizophrenic patients. Mescaline and LSD-25 are drugs that disorganize the psychic integration of a person. This disorganization is much more apparent in schizophrenics than in normals. The reactions of 59 schizophrenic patients who were given synthetic mescaline sulfate were classified under the following headings: (1) physiological symptoms in the autonomic, motor, and sensory spheres; (2) disturbances of perceptual activity, (3) mental content, (4) emotional alterations. Anxiety increase was the most frequent emotional change in schizophrenic patients under the influence of the drug. Many patients displayed hostility, and paranoid manifestations were very frequent.

Frederking ^{50/} employed both LSD-25 and mescaline in psychotherapy. In the course of early experiments, he noticed that the state of intoxication, so produced, was meaningful and significant, its content being similar in character to those of dreams. Each period of intoxication brought out particular characteristics of the person on whom the experiment was conducted. It seemed to be an attempt to present and solve his important problems. The author observed that his patients, in their respective states of intoxication, as in their dreams, generally produced those contents that were at the time ripe for expression and for transformation in the direction of a cure. In one particular case, a man accused of murder claimed that he had no recollection of the deed. Under the intoxication of 0.5 gram of mescaline and 75 gamma of LSD-25, the accused admitted that he had not committed the crime but that "another one of him" had done it. It was concluded that although the accused had actually committed the murder, it was done while in a state of subconsciousness, a fact considered earlier by the author (Frederking).

The many phenomena such as colored pictures and experiences of bodily transformation, are either purely symbolic in character, or represent childhood, sometimes to the moment of birth.

The indications for a treatment of this kind must be strictly defined, and particular circumspection is indicated with very anxious patients suspected of schizophrenia. The physician must have submitted to an intoxication himself to be able to realize its possible effects. The effect of mescaline is stronger and more overwhelming. However, LSD-25 is usually more effective in bringing out reminiscences.

Delay and others ^{118/} recently showed that LSD-25 produced 2 syndromes, in addition to other disturbances. The first was the acute exogenous toxic syndrome of Stoll; the second was described as the hypertrophy syndrome of the exterior personality.

Abramson et al. 112/ have recently criticized some of the earlier reports on the effects of low doses of LSD-25 on normal subjects. They found that for a given group of individuals suitable evaluation of responses to this drug could not be made without the use of a zero dose control group. Further, at the time when their data were compiled there were no investigations in the literature which justify the conclusions that the symptoms are significantly related to LSD-25 intoxications. On the basis of tests performed on 26 nonpsychotic, intelligent adults who were given from one to three doses of LSD-25 (zero, 25-75 gamma, and 100-225 gamma), and to whom a questionnaire investigating changes in the physiological and perceptual phenomena was given at hourly intervals, the following conclusions were drawn by the authors.

1. Symptoms most significantly related to the ingestion of 50 gamma of the drug are (in order of decreasing significance): unsteadiness, dream-like feeling, paresthesias, inner trembling, pressure in ears, difficulty in focusing vision, weakness, lightness of limbs, lips draw back as if smiling, dizziness, drowsiness, sensitivity of skin, and peculiar feeling of limbs. Less significant, but probably related are: increased salivation, increased appetite, sweating, cold, and fatigue.

2. Symptoms most significantly related to the ingestion of 100 gamma of the drug are (in order of decreasing significance): things moving about subjects, unsteadiness, paresthesias, weakness, dream-like feelings, illness, nausea, dizziness, sensitivity of skin, peculiar feeling of limbs, inner trembling, sweating, lightness of limbs, blurred eyesight, difficulty in focusing vision, and objects seeming too far away. The less significant but probably related symptoms are: feeling of choking, numbness of lips, difficulty in breathing, cold, pressure in ears, and alteration of shapes and colors.

3. There may be differences in subjective severity and quality of the symptoms which are reported under both the 50 - and 100 - gamma doses of the drug. However, several symptoms are common to both the 50 - and 100 - gamma doses, but a greater degree of response was noted under the high dose. The symptoms common to both are: feeling of illness, heaviness of limbs, nausea, funny taste in mouth, objects seeming too far away, and anxiety.

4. For the two drug doses, there is a significant correlation of .83 between the relative position of symptoms, according to frequency of positive response.

5. The average number of symptoms, out of 4, reported has, under zero dosage is about 3; under 25-75 μ gram it is approximately 10; and under 100-225 μ gram it is about 14. The differences among the three groups are all statistically reliable at better than the .01 level of significance.

6. The peak effect under zero dosage occurs in the first 1/2 hour, and that of the low dose occurs 1 1/2 and 2 1/2 hours after the drug. The peak for the high dose occurs 1 1/2 hours after the drug, and the effect is longer lasting than for either of the other dosages. These statements were based on group results and individual variability is not considered here.

7. The number of symptoms a subject reports under a low dose correlates .90 with the number he reports under the high dose. Although the average number of symptoms increases, he maintains his relative position within the group. There is also a relationship as high as .65 and .60 between subjects relative position under zero and under low and high doses of LSD-25, respectively. This indicates a fairly high degree of predictability of the number of responses on the basis of the number of responses under the placebo.

8. The reliability of responses to the questionnaire has been found high. Test-retest correlation as high as .77 was obtained in comparing the total number of symptoms reported at two separate testings under the same dosage.

9. The number of symptoms reported and the subject's body weight have been shown either to be unrelated or not related in the expected direction.

In 1952, a man ergot poisoning epidemic broke out in the village of Saint-Hospice, France, during 1952, where the entire population of the village was believed to have been infected by bread from ergot-bearing rye, is typical. The hallucinations, the general detached hysteria, and temporary mental impairment of the victims are typical of reactions to ergot.

LSD-25 was reported by Weyl⁵⁴ to relax the mind and to produce an increased urge to talk. Advantage of this fact can be utilized both for therapeutic uses and for operational uses. Valuable disclosure may be obtained from persons under LSD-25 intoxication since the ability to think is not markedly impaired. The process of disciplined, logical abstract thinking, retained in almost all cases of intoxication, could however, only be accomplished with considerable effort.

It was reported by a Hungarian scientist that to the best of his knowledge (1944 and earlier) narco-analysis was not employed in examination in that country. Narco-hypnosis was sometimes used for treatment but never for examination.²¹

Prior to World War II the police were not known to employ aktedron to elicit confessions from prisoners. However, judging by the results of treatments of today, this source believed that this drug was being used, although he has no direct evidence.

In talking with a Hungarian police officer and handwriting experts who had been employed during the early stages of the affair-Kindertry, the source concluded that the Cardinal was drugged. His confession was induced by the alternate use of aktedron and scopolamine, the former speeding up physiological reactions and the latter slowing them down. The source reports having heard of this method being used. It was estimated that if this procedure were carried on for four days, all of

ie Cardinal's inhibitions would be completely annihilated. Further, he would have no concern for moral codes, family, or ethics.

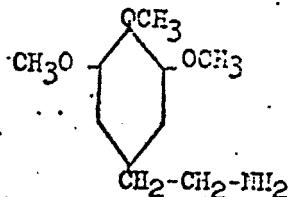
On 20 March 1953, Dr. Imre Zador, a nephew by marriage of Dr. Weil, Hungarian Minister in Washington, was arrested for the improper use of the drug evipan. This may be a clue to the origin of charges that Dr. Weil was the man who administered the drugs to Cardinal Mindszenty. Whether Weil was mistaken for his nephew or it could have been that Weil was at one time associated with Zador in truth serum research.⁽²⁷⁾

Related Drugs

The systematic use of drugs for the production of artificial ryotheses is not new, but rather dates from the early work of Kraepelin in 1893, according to Mayer-Gross.⁽²⁸⁾ Experiments have been performed in which mescaline, hashish, bulbocapnine, cocaine and similar chemical substances produced excitation of the central nervous system and other results which characterized them as strategic medical agents.

Mescaline is found in wide use as an intoxicant to produce ecstatic states for special religious occasions among Red Indian tribes in Mexico and in North America near the Mexican Border. The mescal buttons chewed by the Indians were identified as parts of a cactus plant. Early reports disclose that the drug was mentioned in the description of this part of Mexico by Schagun early in the 16th century and that the "prophetic" quality of peyotl, the native name of the prepared cactus, was probably known to Aztec medicine before the conquest by Cortez.

The active ingredient in peyotl was studied in 1898, and the formula elucidated in 1918. Mescaline is 3, 4, 5 - trimethoxyphenylethylamine. It has the following structure:



It should be realized that the outward behavior of the subject acutely intoxicated with mescaline is relatively normal. He may be absorbed in his experiences and will talk about freely but rationally. Only if the intoxication has become extreme may he lose control of himself and sink into a sleep-like stupor or delirium. Hashish, in contrast,

addition, it has been suspected that inadequate detoxication of similar substances in the liver may lead to their accumulation in the blood, causing mental disorder. Hence, the study of hepatic function is important in the etiology of psychiatric diseases.

In a recent publication Huxley⁵⁵ pointed out the close similarity of the chemical composition of mescaline and adrenalin. Subsequent work indicated that LSD-25 had a structural biochemical relationship to these compounds. Then came the discovery that adrenochrome, which is a product of the decomposition of adrenaline, can produce many of the symptoms observed in mescaline intoxication. But adrenochrome probably occurs spontaneously in the human body. In other words, each one of us may be capable of manufacturing a chemical, minute doses of which are known to cause profound changes in consciousness. Certain of these changes are similar to those which occur in schizophrenia; a plague of the Twentieth Century. Is the mental disorder due to a chemical disorder? And is the chemical disorder due, in turn, to psychological distresses affecting the adrenals?

The action of mescaline is to inhibit the production of enzymes which regulate the supply of glucose to the brain which is in constant need of sugar. When the normal ration of sugar is reduced, the ability or faculty to remember and think straight is little affected; visual impressions are greatly intensified; the will suffers a profound change for the worse; and, interest in space is diminished and interest in time falls almost to zero.

To most people, mescaline is almost completely innocuous. Unlike alcohol, it does not drive the taker into uninhibited action. Under the influence of mescaline, a man minds his own business and suffers no compensatory hangover. Of the long-range consequences of taking mescaline regularly very little is known. Although superior to cocaine, opium, alcohol and tobacco, it is not the ideal drug. Unfortunately, there is a minority who find in the drug only hell or purgatory.

At different times, Hoch and others⁴⁹ administered sodium amyral, pervitin, and mescaline to each of 16 patients suffering from the pseudoneurotic form of schizophrenia (Group I), 24 patients suffering from an overt form of schizophrenia with slight to moderate deterioration (Group II), and 9 schizophrenic patients with severe deterioration (Group III). In the first group, sodium amyral showed a normalization of 75 percent of the patients. With pervitin, 56 percent of the patients normalized, whereas under mescaline no normalization took place. Instead, in every patient under mescaline an intensification of some aspects of the existing clinical picture was achieved. In Group II, 62.5 percent

of the patients showed normalization with alytal, 29.2 percent normalization with pervitin, and an intensification with mescaline in 16.0 percent. In Group III, normalization with alytal was 44 percent, and with pervitin 22.2 percent. Again mescaline intensified some aspects of the clinical pictures in all patients.

Pennes 100/ administered sodium alytal, pervitin hydrochloride and mescaline sulfate to 55 schizophrenics. In addition, 25 of these patients received LSD-25. The pharmacological action of sodium alytal was classified as a normalizer of clinical symptomatology; mescaline and LSD-25 as intensifiers; and, pervitin tended to produce an unstable state with equal representation of both normalization and intensification.

Solms 108/ tested the monoethylamide of lysergic acid (LAE) on both normal and mentally sick patients. Small doses administered subcutaneously to normal people produced indifference, paralysis of the mind with intensive depersonalization, and insomnia. Administered to schizophrenics with paranoid-hallucinatory states, it produced a state similar to a reversible chemical lobotomy. LAE may therefore be regarded as a new type of sedative which is different from the barbiturate and morphine type drugs, and also from the sympathicolytic and parasympathicolytic drugs.

Global Availability of ErgotMethods for Increasing Production of Ergot.

Measures which have been or could be employed by nations to increase their supplies of valuable ergot drugs as well as LSD-25 are listed as follows in ascending order of difficulty of accomplishment from the standpoint of scientific capability:

The Introduction of More Efficient Harvesting and Storage Techniques. -- This could be carried out at a low cost and with a minimum of scientific effort in countries where labor is cheap and in which there is a great deal of centralized control of farming. Such a program might effect a substantial increase in ergot production. Approximately 50 percent of the ergot on grain crops is lost during the harvesting and threshing because the sclerotia being very loosely attached to the host plant are easily jarred loose. They fall to the ground and are overlooked. However, once the ergot is harvested, adequate storage facilities should be made available immediately to prevent deterioration of alkaloid content. Ergot deteriorates steadily unless and until it is properly treated and stored. Exceptionally slow collection and improper storage are some reasons the so-called "Russian ergot" never measured as high in alkaloid content as did the ergots from other countries.

The Selection of Highly Susceptible Host Crops and High Yielding Strains of Ergot. -- Rye is the major crop which is most susceptible to ergot infection and is therefore used commercially. Crop susceptibility is important, but the actual infection is governed by weather conditions. Susceptibility may be altered by the introduction of late or early blooming rye under favorable climatic conditions. Certain strains of ergot produce more of one alkaloid than another. It is also known that ergots are highly mutable and strains are mutable. Strain variation actually occurred in Norway several years ago when a scientist reported that he had discovered ergot which contained absolutely no alkaloids.

In comparative breeding tests Daufel 119/ found that it was more advantageous to grow ergot on tetraploid rye than on diploid Pethken rye; it not only formed larger sclerotia - due probably to better nutritional conditions - but was more readily infected than the diploid rye. The alkaloid content in percentage is somewhat higher in the larger grains than in the smaller grains. The test area per square meter yielded under like conditions 3 times the amount of alkaloids.

Development of Field Inoculation Techniques. -- The actual mechanics of inoculation are critical but intricate. This technique consists of collecting conidia spores from infected plants and applying these spores to the host flower. A. Stoll of Switzerland has developed a machine which punctures the nodes of the rye inflorescence plant, and the method is used in other countries. Actual inoculations require a great deal of skilled labor as efficient inoculation requires individual attention. Much less efficient techniques might include spraying the plants with sclerotia just before the flowering period or flooding the earth with spores just after the last frost. Despite the technique of inoculation used, the results will depend largely on weather conditions.

The More Efficient Utilization of Alkaloidal Content of Ergot in the Manufacture of Drugs. -- The efficient production of high yields of alkaloid content from a given amount of raw ergot requires the ultimate in pharmaceutical skill. This has been done by Sandoz Ltd., and others. Nevertheless, research in this area offers a definite challenge to scientists.

Biosynthesis. -- Comparatively speaking, research in the biosynthesis of ergot has barely scratched the surface. Claviceps purpurea has been grown on artificial media, and although there are conflicting reports on the quality and commercial value of this product, several countries are actively studying this procedure. If and when complete biosynthesis is accomplished on a practical scale, knowledgeable sources feel that Sandoz will probably be responsible for it. One indication of success in this venture would be the marked curtailment of their raw ergot procurement. The partial synthesis of some of the ergot alkaloids and the total synthesis of one alkaloid - ergonovine - has already been accomplished.

One or all of these steps could be undertaken by any nation, depending upon the long-range demand for ergot drugs and upon the level of scientific effort, personnel, and facilities allotted to this objective. 37/

Switzerland has manifested interest in certain phases of U.S. work which pertains to the biosynthesis of ergot alkaloids. 30/

Cultivation of Ergot in the Soviet Bloc

Naturally occurring ergot is considered of commercial value in Bulgaria, Czechoslovakia, Eastern Germany, Hungary, Poland and Romania. The ergot of eastern European origin has a lower alkaloid content than most western European varieties.

Bulgaria. -- Special areas have been set aside for growing ergot in Bulgaria. (64) Whether the pharmaceutical industry of that country is capable of processing raw ergot is, as yet, unknown. In the past Bulgaria has been one of the best sources of supply of ergot containing alkaloid ergotamine. (65)

Czechoslovakia. -- Successful cultivation of ergot has been reported in Czechoslovakia. The methods used are those which reportedly were developed and published by the Swiss. The ergot cultivation program is carried out by the Division of Plant Cultivation of the Ministry of Agriculture. (66) Czech farmers are being encouraged to cultivate this crop. (67) The government is also reported to be paying a good price for it. (68)

Eastern Germany. -- Ergot is now cultivated in the Plant Research Institute of the Academy of Science, Gatersleben. The Plant Research Institute undertook the cultivation of ergot as a result of a failure in 1951 to obtain from the East German and middle German rye fields enough ergot of sufficient potency to meet the pharmacopoeial standard of East Germany. (69)

Large-scale field experiments involving inoculation procedures were carried out in 1952 and 1953; (70) and the constancy of alkaloid content of various indigenous strains as well as Hungarian, Portuguese, and Finnish strains was recently reported after an extensive and well-documented survey by the Plant Research Institute. (71)

Ergot extract, valued at 50.2 thousand DM (German Dist Marks), was produced during the first half of 1953, at VEB Arzneimittelwerk, Dresden. (72) Twenty kilograms of Secale cornutum extract (ergot) were to be delivered to the Russian administration in East Germany in 1953. (73) Ergotamine and ergotoxine are currently listed as available in the 1954 "Arztekalender." (74) Ergot products are not currently listed among the State reserves of pharmaceutical supplies. (75)

There is also a laboratory which is exclusively devoted to research on ergot alkaloids at Arzneimittelwerk, Dresden (AWD), located in the former Madaus and Company, Gartenstrass 19/21 in Dresden-Radebeul. In addition, work on ergot is carried out in the Biological Institute at this plant. (76) This work may be connected with artificial culture methods for growing ergot. One report indicates that an unsuccessful attempt has been made at this factory to grow ergot in submerged culture. A fungus grew but it contained none of the ergot alkaloids. (77)

Hungary. -- Ergot is grown in Hungary and is known to have been exported before World War II. Hungary was at one time regarded as one of the best sources of supply of ergot containing ergotazines. 67/

Research was reportedly undertaken in 1953 to develop artificial culture of ergot. A Hungarian research installation, located near the city of Budapest, has conducted experiments on field spraying with the spores and conidia of ergot, using 90-100 kilograms (90-220 lbs.) per hectare (2.471 acres).

Poland. -- In Poland, the people are being encouraged by radio to collect ergot and send it to the provincial ergot buying officer because "considerable quantities of raw, unprocessed ergot are needed in a certain chemical process". 69/ Most of the known research on ergot is carried out under the Department of Agriculture. The Institute of Phytopathology of the Agricultural School, Poznan, is doing research on this problem. The artificial cultivation of ergot has reportedly begun in both the field and in the laboratory. "In the laboratory, by cultivating ergot in artificial nutrients, it has proved possible to obtain fungus formations similar to sclerotia". Laboratory produced ergot reportedly contains the three active substances: ergotoxine, histamine, and tyramine which are formed in ergot under natural conditions. 70/

Russia. -- Ergot was collected for export at least up to mid-1943, and depending upon the climate, 1000 to 3000 kilograms of ergot were collected annually. 68/

Soviet Union. -- Research on ergot cultivation and collection is centered in the Ministry of Agriculture. Some of the work has taken place at the Institute of Plant Protection, Leningrad Academy of Agricultural Sciences, Leningrad. Experiments conducted in 1939 indicated that the spraying of rye with a solution containing ergot conidia was a suitable method for commercial purposes. It has since been reported that there were still further problems to be solved. These included the cultivation of artificial media, the pharmacological testing of sclerotia of other fungi, and the development of new strains of ergot which could be grown on plants other than rye.

In recent years no Russian grown ergot has appeared in foreign markets. Ergot has occurred naturally in the rye fields of Russia for many years, and it probably has not diminished. This may be the result of its low alkaloid content which makes it commercially unattractive. 68/ There is speculation among ergot specialists that Russian ergot is mixed with the Spanish and Portuguese quality product and sold as the latter. The mixtures have at times appeared quite obvious.

Cultivation of Ergot in Other Countries

In Western Europe, ergot is cultivated through artificial inoculation of rye in commercial quantities principally in Switzerland, Austria, and West Germany. Ergot in Europe, generally, is produced over an area of some 2500 to 4000 acres with an average yield of 40 kilograms per acre during normal years, the chief producer being Switzerland with some 2000 acres. Ergot is also cultivated to a lesser extent in Japan and India. India also collects large amounts of natural ergot. Natural ergot also occurs naturally in fairly large quantities in the province of Manitoba, Canada, and in the United States, principally in Minnesota. However, it is collected commercially only when the price of the European material becomes so expensive that the cost of labor is not a financial deterrent. 4/

Some attempts at artificial cultivation have been made in the United States, but these have not been economically successful because of the foreign competition. The best available information indicates that the annual production in Switzerland is about 50 tons; Austria and Germany produce less than 10 tons each; Japan produces approximately 5 tons. 76/ Portugal and Spain are noted for producing quantities of higher quality ergot, which occurs naturally in those areas where cereals are grown in the Iberian Peninsula. 85/

India. -- In 1952, the government of Madras, India, sanctioned a plan for the cultivation of ergot on a 40 acre plot in the Nilgiri Hills of Madras with a production target of 2500 lbs. per year. According to the director of Agriculture of the government of Madras, experiments have shown that ergot of high alkaloid content can be produced in that area. Some specimens are said to contain double the alkaloid content of the best imported varieties. 26/ It is reported that prior to 1953, 75 tons of wild ergot were shipped to Sandoz yearly for several years. None were shipped in 1953. 86/

Japan. -- Japan grows ergot as a commercial product and there has been some basic research in the field of artificial fermentation. M. Ako and coworkers of the Takeda Research Laboratory, Japan, have published reports on the alkaloid productivity of the ergot fungus. 82/

Switzerland. -- During World War II, the Sandoz firm in Switzerland, unable to obtain supplies of ergot because of the exigencies of war, started to grow their own. Switzerland was and still is the main world producer of finished ergot preparations. Currently, Sandoz purchases raw ergot on contract from several countries including the United States.

One source visited Sandoz in June 1951 and reported that the company has a new process for making artificial ergot. Sandoz has been able to isolate this fungus and grow it in tanks, similar to penicillin. 19/ Although this process is possible, no confirmation has been received to date. This process may not be completely satisfactory since Sandoz still obtains ergot from their own rye fields. 2/ The above process may merely be large-scale production of the more innoculant used to infect rye.

The possibility of tank culture is supported by the fact that some Swiss ergot fields were not harvested and that Indian wild ergot was not imported in 1953. Previous shipments of ergot from India amounted to 75 tons per annum for several years. 85/

Only Sandoz of Switzerland is considered by most sources to be expert at the special technique of inoculation. They are somewhat secretive about this process, and as a result, it is very difficult to learn their degree of success. It is believed that rye is inoculated with a culture of spores suspended in a fluid medium. A wire brush impregnated with the material is drawn by hand across the head of the rye, inoculating the whole head. There are two main reasons for the artificial cultivation of ergot. First, Sandoz hopes to attain a higher yield, a steadier supply, and some control over the costs involved. Second, they are trying to control the alkaloids in the ergot by the preparation of certain strains of fungus.

In Switzerland as in other countries where ergot is produced by artificial inoculation, machines have been developed for the collection of ergot. 76/

United States. -- Recent attempts have been made in the United States by several research groups to produce ergot alkaloids by fermentation methods. The methods were similar to those used for the preparation of antibiotics. Theoretically, at least, since ergot disease of rye is caused by a fungus which can be maintained in culture, this process is feasible. To date, the work has been mainly concerned with the development of suitable growth media. Strain selection of Claviceps has also been started.

Although field inoculation has been successfully accomplished for many years on an experimental basis for laboratory use, inoculation on a profitable commercial scale has not been accomplished in the United States. 37/

The United States has 55 acres for ergot production (1952), 45 are in Michigan and 10 in Minnesota.

Trade in Ergot and Ergot Alkaloids

The latest quotations of February 1954 indicate that ergot can be obtained on prompt shipment from Portugal at 16 shillings (\$2.24) per lb. Many sources have stated that small amounts of ergot are processed into the basic alkaloids in various countries, but the largest producer is Sandoz Ltd., Basel, Switzerland. Most international trade is, therefore, conducted with this company. One U.S. company is known to have purchased 100 grams of ergot alkaloids from Sandoz in 1951. 10/

Various sources reported numerous purchases of ergot and its derivatives by the Satellites throughout the world, indicating a notable interest of the Soviet Bloc in these substances. Specific shipment have included:

1. Hungary purchased 35 tons of ergot from Belgium through Central-Imex. 77/
2. A notorious East-West trader contracted to purchase 250 grams of ergotin (80% concentration) from Laboratories Espanoles Zalta S.A., Madrid. 78/ This shipment went to an Austrian receiver who purchased an additional lot of 250 grams of ergotin, making a total of 500 grams. 79/
3. Portuguese agents also canvassed Spain, purchasing large amounts of ergot at a very high price for shipment behind the "Iron Curtain" through Portuguese ports. 77/
4. Sometime during 1951, the Soviets purchased a large quantity of ergot derivative from Sandoz, Basel, Switzerland. This was probably the largest order Sandoz ever received. The drug involved was either LSD-25 or d-lysergic acid, probably the former (according to source). The quantity supplied was allegedly sufficient for approximately 50,000,000 normal doses. 80/ This amount far exceeds estimated world production, however, and the amount shipped if any, was probably much less.
5. In 1952, the Yugoslav Government purchased 700 grams of ergotmine from Intersanitas SA, of Lugano, Switzerland. This purchase was for a military office in Belgrade. 81/ 25/

Possibility of Stockpiling Ergot

It is unlikely that raw ergot would be stockpiled as such because of its extreme tendency to deteriorate. There are no ideal facilities for storing it over a period of years. Even the predrying and subsequent vacuum storage of ergot is expensive and not always effective. It is, therefore, assumed that if any stockpiling were undertaken, the total alkaloids of the ergot would be first converted into Lysergic acid or that one particular alkaloid would be isolated. In either case the product would then be relatively stable and could be more easily stored. 87/

APPENDIX C

Installations and Persons Associated With Research on Ergot

I. Soviet Bloc

USSR

All-Union Institute of Plant Protection, Academy of Agricultural Sciences imeni I. I. Lenin, Leningrad. -- The following persons have been associated with the All-Union Institute of Plant Protection. Their publications relating to ergot are cited.

BILAI, V. A. and PEGOLICHKA, M. N. Poisonous Fungi on Kernels of Cereals, 1946.

BOLOTNIKOV, S. M. and NOVOSICKAYA, S. A. "Contribution to the Quantitative Determination of the Alkaloids of Secale cornutum," Pharmacy, Moscow, vol 6, no 4, 1945, p 28.

GREBENNIKOV Winter Rye in Siberia, Novosiborsk, 1949, p 53.

LYNOVSKY, I. P. "Ergot and Ergotism (Rafania)," Problems of Nutrition, vol 3, no 5, 1934, p 24.

MASALAB, N. A. Methods of Cultivating Ergot for Medicinal Purposes, State Publishing House of Medical Literature, Moscow, 1941, p 33.

MARGIASEVA, V. A. "Prognosis of the Anticipative Development of Ergot," All-Union Institute of Plant Protection, Leningrad, 1935, p 105. In: Journal of Medicine and Agriculture, No. 1, 1935.

"Method of Prognosis of the Development of Claviceps Purpurea Tul.," Proceedings of the Scientific Research Works of the All-Union Institute of Plant Protection, Leningrad, 2A 1935, 1936, p 535.

"The Principal Pests and Diseases of Crop Plants," Lenin Academy of Agricultural Sciences, Leningrad, 1936, p 146.

MUSHNIKOVA, K. S. "Grain Ergots and Measures of Combating Them," 1934, p 24.

OKOLOV, F. and AKHIEV, J. "Decrease in the Toxic Properties of Ergot in the Process of Bread Making," Translation of the Sanitary Hygiene Institute, Ginza, Moscow, 1929, p 117.

OSHEV, A. and SHCHEPETKOV, A. "Removal of Ergot from Rye Seed," Selection and Seed Growing, vol 19, no 12, 1952, p 71.

PIDOPLICHKA, M. M. and SILAI, V. I. "Poisonous Fungi on Kernels of Cereals," Ukraine Academy of Sciences, vol 19, no 12, 1952, p 71.

PROKOPEV, N. V. and SHAPIRO, S. D. Production of Liquid Extracts of Ergot (Ergotina) in Ampules for Injection, Medical Industry of the USSR, 1949, p 33.

RIMSKAYA, M. and AKIMOV, I. "Data on Ergot Fat Constants and on the Stability of its Toxic Properties in Relation to the Period of Preservation," Translation of the Sanitary Hygiene Institute, Ginza, Moscow, 1929, p 129.

SMORODINTSEVA, E. D. "Mental Disorders as Remote Sequels of Ergotism," Translation of the Ural Scientific Psychiatric Institute, vol 2, 1935, p 122.

TAT'LAMIN, A. R. "Production of Vitamin D," Food Industry, Moscow, 1943, p 62.

VLADIMIRSKII, S. V. "Geographical Distribution of Ergot of Rye in USSR and Zones Where Its Harmful Effects Have a Serious Significance," Soviet Botany, no 5, 1939, p 77.

ZABOLOTHAYA, Ye. S. "Alkaloids of Ergot". Tr. VILAR, No X, Medgiz, (All-Union Inst. of Research of Medicinal and Aromatic Plants) Moscow, 1950

Czechoslovakia

1. Charles University, Prague. -- The following persons have been associated with Charles University.

SKARNITZEL, Dr. (fmu) - Is a Professor of Pharmacology. He lectures frequently on ergot and acts as adviser to the ergot cultivation program.

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ZDENEK, Dr. Myslivecek - Was Chief of the Psychiatric Clinic in 1952. This clinic, in 1952, was working on various drugs, such as pentothal, evipin, insulin, and ergotin. (Pentothal-sodium was used to interrogate political prisoners at this clinic with some success, according to one unconfirmed report.) 90/

2. Ministry of Agriculture, Division of Plant Cultivation. -- The Division of Plant Cultivation monitors the ergot cultivation program.

NOVAK, Dr. (fnu) - Is known to have worked for the Ministry and on location in the ergot fields.

3. Ministry of Agriculture, Research Institute for the Cultivation of Plants. -- Docent Dr. Rudolf KUCHERA was directly connected with the ergot program. Currently residing in Zbraslav. 89/

4. Medicinal Herbs National Enterprise, in Zbraslav and Vitavous. -- This enterprise purchases, handles, and processes medicinal herbs. It also organizes their cultivation and collection 89/

5. Pharmaceutical and Biochemical Research Institute, 17 Kourińska, Prague 12. -- Dr. J. J. RYJAK of this institute has requested reprints of two U. S. articles on ergot and ergot preparations. 91/

6. Other persons who have been connected with research on ergot. -- Their publications are listed.

BERNASEK, J. and VOTAVA, Z. "Study of the Effect of Certain Ergot Substances", Journal of Czechoslovakian Medicine vol 88, p 593 1949.

BLAZEK, Z. and KUCHERA, M. "Current Status of Artificial Ergot Production", Journal of Czechoslovakian Medicine, vol 85, p 1281, 1940.

NEUMANN, J. "Effect of a New Alkaloid of the Ergot Group on the Heart", Journal of Czechoslovakian Medicine, vol 88, p 500, 1949.

POLAK, E. "On the Relation of Ergotamine and the Action of Electrolytes", Bull. Internat. cl. Sc. Neth. Acad. Sc., Prague vol 27, p 440, 1925.

SZABO, S. "Ergobasine in labor", Medical Messenger, vol 63, p 24, 1941.

East Germany

1. Plant Research Institute of the Academy of Sciences,
Gatersleben, Institute of Plant Diseases. -- The following persons
have been associated with this institute.

MOTHE, Prof. Dr. K. and SILBER, H. - Reported 7/ that this Institute decided to cultivate ergot as a result of a failure to obtain sufficient high quality ergot from the East German and Middle German rye fields to meet the pharmacopeial standard of East Germany.

MUEHLE, Prof. Dr. - Is head of an ergot project currently in progress. This project, undetermined in scope, is scheduled for completion by 1956. *3/54 5/1954*

2. Arzneimittelwerk Dresden (AWD). -- Complete laboratory engaged in research on the ergot alkaloids is located at the former "Haus" and Co., Gartenstrasse 19/21 in Dresden-Radebeul. 75/595.

3. Biological Institute of Arzneimittelwerk, (AWD) Dresden -- This Institute is also engaged in research on ergot.

SIEBECK, Dr. Walter - Is head of ergot research at this Institute.

Hungary

1. Agriculture Research Station, Herman Otto 15, Budapest. -- This station covers approximately 15 to 20 acres. The medical section covers approximately 4 acres. Work here includes research on medicinal plants.

BEKESY, Dr. Nikolaus - Investigated the alkaloidal content of various European and American ergot samples. He has also worked on artificial cultivation and special apparatus for inoculation.

RUDOLF, Prof. De Giovannini - Is director of the Research Stations. Experiments on medical plants in early 1949 included work on ergot, and intensive research was undertaken to grow ergot on artificial media. 57

2. University of Szeged, ... In 1949 this University had 3 departments engaged in research on ergot. They were the Department of Pharmacognosy, Department of Pharmacology, and the Department of Bacteriology.

East Germany

1. Plant Research Institute of the Academy of Sciences, Gatersleben, Institute of Plant Diseases. -- The following persons have been associated with this institute.

MOTRIS, Prof. Dr. K. and SILSER, H. - Reported 7/ that this Institute decided to cultivate ergot as a result of a failure to obtain sufficient high quality ergot from the East German and Middle German rye fields to meet the pharmacopeial standard of East Germany.

MUENLE, Prof. Dr. - Is head of an ergot project currently in progress. This project, undetermined in scope, is scheduled for completion by 1956. 93/ 94/

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SIEBICK, Dr. Walter - Is head of ergot research at this Institute.

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1. Agriculture Research Station, Herman Otto 15, Budapest. -- This station covers approximately 15 to 20 acres. The medical section covers approximately 4 acres. Work here includes research on medicinal plants.

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RUDOLF, Prof. De Giovannini - Is director of the Research Stations. Experiments on medical plants in early 1949 included work on ergot, and intensive research was undertaken to grow ergot on artificial media. 97/

2. University of Szeged. -- In 1949 this University had 3 departments engaged in research on ergot. They were the Department of Pharmacognosy, Department of Pharmacology, and the Department of Bacteriology.

IVANOVICS, Dr. Gyorgy - Antibiotic specialist, Department of Bacteriology, was involved in aspects of alkaloid investigations in 1949.

JANCSÓ, Dr. Miklós - Under the Department of Pharmacology, was involved in aspects of ergot alkaloid investigations.

Poland

1. Department of Agriculture, Institute of Phytopathology of the Agriculture School in Poznań. -- Włodzimierz LASECKI is an assistant at this Institute. He has written a paper entitled "Ergot, the Enemy and Friend of Man" which indicates a keen awareness of the therapeutic and unconventional uses to which ergot may be put. 70/

2. Ministry of Health, The Institute of Medicinals, Warsaw. -- This Institute coordinates and plans all scientific research on medicines in Poland and is one of the probable installations which would engage in ergot research. 92/

II. Other Countries

Austria

1. University of Graz. -- The following persons have been connected with this Institute.

HECHT, Dr. Martin (location is not certain) - Has a specific interest in ergot and is the son of Dr. Walter Hecht. He is currently engaged in research on inoculation methods. He claims to have obtained 240 kilograms of ergot per acre with these inoculation methods. He employs a motor driven injection machine with a capacity of one to two acres per hour. 96/

HECHT, Dr. Walter - Is well-trained in botanicals and has had a specific interest in ergot for several years.

Japan

1. Takeda Research Laboratory. -- M. ABE has published reports on research on ergot fungus and the production of alkaloids in ergot fungus in culture medium. 82/

2. Experimental Farm for the Cultivation of Medicinal Plants, Kyoto, Japan. -- This farm is attached to the National Hygienic Laboratory. 83/

KAWATAKI, Dr. T. - has had a continuing interest in the development of ergot and its alkaloids.

3. Nakomoto-Toki Co., Inc., Tokyo. -- This Company maintains experimental ergot farms.

TOJO, Katsuo - is managing director of this company and is also interested in ergot production. He has visited the U.S. to obtain information on the subject. 83/

NAKAMURA, Taisuke - has visited the United States for information on this subject.

4. Other Japanese scientists -- The following persons have published articles on ergot.

HASEMOTO, T. Yakugaku Zasshi A. J. Pharm. Soc. Japan, vol 66, 1946, p 22.

OGATA, A. J. Pharm. Soc. Japan, vol 52, 1932, p 25.

OGIU, K. OKAMOTO, T., SHIMONOTO, K. Fol. Pharm. Japan, vol 14, 1948-49, p 76.

OTANI, F. J. Pharm. Soc. Japan, vol 52, 1932, p 25.

SUGIMOTO, S. Fol. Pharm. Japan, vol 31, no 110, 1941.

TAKEMOTO, T. J. Pharm. Soc. Japan, vol 64, 1944, p 225.

Switzerland

1. Sandoz Pharmaceutical Ltd., Basel. -- The following persons are connected with research on ergot.

STOLL, Dr. Arthur - Is President of the Sandoz Pharmaceutical Ltd. He is a world authority on the industrial preparation and use of the ergot drugs. One reference points out that he used ergot in the treatment of animals suffering from the effects of chemical warfare agents. However, when the threat of this type of warfare ceased during the World War II, he stopped his investigations. 80/

HOFMANN, Dr. A. - Was the first investigator to use LSD-25 on himself for the purpose of testing the psychogenic effects of the substance. In addition, he was one of the early investigators

who accomplished the preparation of LSD-25 by converting
lysergic acid into the diethyl amide derivative.

West Germany

1. Kali-Chemie, AG, 20 Salzgitter bei Hannover. -- Dr. Ing. O. REULLEAUX
of this firm has stated that work on the isolation of the ergot
alkaloids is in progress.

2. Institute of Pharmaceutical Chemistry, Mainz University. --
Prof. Dr. NOCHINSKI reported progress in the production of ergot
alkaloids in saprophytic culture at a meeting of the German Pharma-
ceutical Society in October 1953. 99/

France

1. University of Strasbourg. -- Madame Chauduc VILLARD reported the
formation of ergot alkaloids in vitro, obtaining up to 0.7 percent
alkaloids in an eight week old culture. 102/

APPENDIX D

Glossary of Scientific Terms

ANALYSIS-Evaluation of an emotion-laden experience during its session with an understanding psycho-therapist.

ATROPHIC-Free of nerve substance secreted by nerves which sets in motion the leading to muscular contractions.

CHOLERA-Condition marked by coldness and cyanosis of the hands and feet.

COLDNESS-Condition marked by coldness and cyanosis of the hands and feet.

DEPRESSANT-Alcohol or benzodrine.

ALKALOID-A large group of organic basic substances found in plants. Usually bitter in taste and physiologically active.

AMPHIBIOTIC-Simultaneous existence of contradictory and contrasting (love and hate) toward the same person.

VALERIAN-Cinnamaldehyde.

ANOREXIA-Loss of appetite for food.

ANXIETY-A psychoneurosis characterised by apprehension and accompanied by a variety of other symptoms such as excitability and depression.

ATAXIA-Loss of muscular coordination.

HYOSCYAMINE-Alkaloid from the SOLANACEAE; used as an anti-spasmodic in gas poisoning; is also called dl-hyoscyamine.

HYPNOTIC-Condition of being dominated by subjective, self-centered thought or behavior.

NERVOUS SYSTEM-The functional division of the nervous system which includes the glands, heart and smooth muscles with their innervation.

STONONINE-Alkaloid derived from Corydalis bulbosa. It has an effect on the reflex and motor activities of striated muscle and is recognized as a psychogenic agent.

CATININE--An alkaloid extracted from tea and coffee; used as a cardiac, respiratory, renal and psychic stimulant.

CATALEPSY--A condition characterized by a waxy rigidity of the muscles and in which the patient tends to remain in any position that he is placed.

CATATONIA--A form of schizophrenia characterized by negativistic reactions, phases of stupor or excitement, and impulsive or stereotyped behavior.

CENTRAL NERVOUS SYSTEM--The brain and the spinal cord, including their nervous and end organs. Also called cerebrospinal or voluntary nervous system.

CEREBRAL CORTEX--Cortex of the brain composed mainly of gray and granular substance.

CEREBROSPINAL NERVOUS SYSTEM--Synonymous with Central Nervous System.

CHLORAL HYDRATE--Used as an anodyne, hypnotic, and antispasmodic in insomnia, mania, delirium tremens, hysteria, tetanus and labor.

COCAINE--An alkaloid from the leaves of Erythroxylon coca; paralyzes the ends of the sensory nerves; stimulates the central nervous system; mainly used as a local anesthetic.

CHOREO-ATHETOSIS--Referring to both chorea and athetosis, chorea is a nervous affection marked by muscular twitching. Athetosis is a condition marked by slow repeated, involuntary, muscular distortion of parts of a limb or almost the entire body.

COMPULSION--An irresistible impulse to perform some act contrary to one's better judgement.

CYCLOTHYMIA--The recurrent alterations from manic to depression states as seen in certain psychoses.

DEPERSONALIZATION--Loss of the sense of personal identity, or the personal ownership of the parts of one's body.

DEPRESSION--An emotional state characterized by dejection, unpleasant ruminations or forebodings.

Diencephalosis--Disease of the posterior division of the prosencephalon or forebrain.

DIBENAMINE (hydrochloride)--N-(2-chloro ethyl) ditbenzylamine hydrochloride used for hypertension. Occasionally causes mental confusion and postural hypotension.

DIURESIS--Increased secretion of urine.

DYSARTERIA--Stammering, stuttering or other imperfect utterances due to disorder in the nervous system.

ENDEMIC--Pertaining to or prevalent in a particular district or region. Said of a disease which occurs more or less constantly in any locality and is not sporadic or epidemic.

EPILEPSY--Pertaining to, or affected with, epilepsy, a disease characterized by fits or attacks of loss of consciousness, with a succession of tonic or clonic convulsions.

ETIOLOGY--The sum of knowledge regarding the causation of any disease.

EUPHORIA--Well-being; absence of pain or distress.

EXOGENIC--Develop or originating outside the body.

HALLUCINOSIS--A psychosis marked by hallucinations.

HAPTIC HALLUCINATION--A tactile hallucination or hallucination of touch.

HASHISH--Female flower tops of Cannabis sativa, a variety of common hemp. Cannabis is antispasmodic and narcotic. In large doses it produces mental exaltation, intoxication, and a sensation of double consciousness. Also known as MARIJUANA.

HEBEPHENIC--Pertaining to hebephrenia, a clinical form of dementia praecox, (schizophrenia) marked by rapid deterioration, hallucinations, absurd delusions, senseless laughter, and silly mannerisms.

HEXAMETHIONIUM--The bromide has been recommended as an autonomic nervous system blocking agent. The compound is also used in the form of its iodide.

HYDROGYNE--Hydrogenated ergot alkaloids, specifically dihydroergocornine methanesulfonate, dihydroergoeristine methanesulfonate and dihydroergocryptine methanesulfonate (used in peripheral vascular disease and hypertension).

HYPERKINETIC--Excessive mobility.

IDEAS OF REFERENCE--An idea which causes the possessor to suppose that the words and actions of others refer to himself or to project the causes of his own imaginary difficulties upon someone else.

ISOMERS--A set of substances which have the same number of atoms, but differ in the order in which the atoms are arranged in the molecule.

LACHRYMATION--The secretion and discharge of tears.

MANIC--Pertaining to or affected with mania, a phase of mental disorder characterized by an expansive emotional state, elation, hyperirritability, overtalkativeness or flight of ideas.

MESCALINE--From mescal buttons, the flowering heads of Anhalonium or Lophophora cactus. A poisonous alkaloid, it produces an intoxication with delusions of color and music.

MESENCEPHALOSIS--Disease of the mid-brain, the smallest of the six divisions of the brain.

METABOLISM--The sum of all the physical and chemical processes by which living organized substance is produced and maintained, and also the transformation by which energy is made available for the uses of the organism.

METHEDRINE--Trade name for d-Desoxyephedrine Hydrochloride; also called Pervitin. A central nervous system stimulant.

MICTURITION--The passage of urine.

MYDRIASIS--Dilation of the pupil.

NEGATIVISM--An emotional disorder characterized by stubbornness, refusal, and rebellion against authority. Also an adjustment mechanism by which the individual unconsciously fails to recognize the existence of a problem or obstacle, or of the unpleasant facts that confront him.

NEUTROPHILIA--Increase in the number of neutrophil leucocytes in the blood.

NICOTINIC ACID--Also known as Niacin, anti-pellagra vitamin. Has been used to produce vasodilation.

OXYTOCIC--Shortening the process of child-birth. A medicine which accelerates delivery.

PANDEMIC--Widely epidemic.

PARANOIA--A chronic, slowly progressive psychotic disorder marked by the presence of systematized delusions which are built up in a logical form.

PARESTHESIA--Morbid or perverted sensation; an abnormal sensation.

PARTURITION--The act or process of giving birth to a child.

PASSIVITY--A state marked by delusional feelings of being influenced by others or by outside forces or influences.

PATHOLOGICAL--Pertaining to that branch of medicine which treats the essential nature of disease, especially of the structural and functional changes caused by disease.

PHEDRINE--A derivative of amphetamine identical with methedrine; used to stimulate the central nervous system.

Mescaline--The flowering tops of the Mexican cactus, Ashelonium; used by the natives to produce a state of intoxication marked by feelings of ecstasy. Contains the drug mescaline. 135/

PATHOPHYSIOLOGY--The science of bodily functions in disease, or as modified by disease.

PIRAZINE--The passage of abnormally large amounts of normal urine.

PIRIMIDYL ACTION--Tending to increase blood pressure.

POL--2-Penyl-2-imidazoline. Used as a vasodilator in peripheral vascular disease.

PSYCHOSIS--A form of schizophrenia.

PSYCHOTIC--Originating on the basis of psychological factors; a term also applied to LSD-25, hashish, belladonna, mescaline, and other drugs which cause mental effects.

PSYCHOMOTOR--Pertaining to motor effects of cerebral or psychic activity.

PSYCHOSIS--A profound mental disorder, usually involving the total personality; the individual's mental functions are so profoundly disturbed that he is incapacitated from participating in everyday activities.

PSYCHONEUROSES--A disturbance in bodily function, thinking, feeling, and conduct due to emotional tensions which have developed as a result of deprivations, frustrations, and conflicts; a functional emotional disorder.

PSYCHIATROLOGY--The pathology of mental disorders; the branch of medicine which deals with the causes and nature of mental disease.

WAISCH TEST--A test for intelligence which also measures the emotional elements of the personality.

WANDERER--Resembling schizophrenia; a term applied to the seclusive, social and introspective type of personality.

WERNICKE--A psychotic condition, usually occurring during or shortly after adolescence and characterized by disorientation, loss of contact with reality, disorganized patterns of thinking and feeling, and ataxia.

WITOLINE--An alkaloid from the root of certain of the Solanaceae plants. A poisonous nerve depressant, mydriatic and hypnotic.

XYLONAL--Proprietary name for the monosodium salt of isomethyl-lactic acid. Used as a sedative before general anesthesia.

ZYGOMERIC COMPOUND--Compound in which the molecule contains the same number of atoms as another, but in which the spatial arrangement of the atoms is different.

ZYGOMERIC COMPOUND--Having a destructive effect on sympathetic fibers; also transmission of nerve impulse in autonomic ganglia.

ZYGOSITY--Secondary sensation accompanying an actual perception; the feeling of a sensation in one place due to stimulation of another place; also the condition in which a stimulus of one kind received as sensation of a different sense, as when a sensation of color.

ZYANOSIS--Rapidity of respiration; a respiratory neurosis characterized by shallow breathing.

TOKIN--A poisonous substance of microbial, vegetable or animal origin.

VASOCONSTRICITION--The constriction of blood vessels leading to decreased blood flow to a part.

VASOMOTOR--Nervous control over the contraction or dilation of blood vessels.

VEGETATIVE--Vegetative system, the sympathetic nervous system. Also means to function involuntarily or unconsciously.

FIGURES 1-10

Laboratory Experiments Showing
the Effects of LSD-25

Figure 1. Life Cycle of Ergot, Source of Lysergic Acid

Ergot is the natural source of special alkaloids, yielding lysergic acid as a hydrolysis product. The grain-like ergot is the end result of a special fungus infection (*Claviceps purpurea*), affecting such crops as rye. The spores are brought to the young ovaries of the rye by wind, insects and most recently and effectively, by large-scale spraying of laboratory cultures.

- a. Head of rye with prominent hardened, dark-red fungus bodies: ergot.
- b. Sprouting ergot with several stalked globular heads.
- c. Flask-shaped cavities imbedded in the surface of a single head.
- d. Single cavity with numerous tube-like sexual sacs or ascii.
- e. Filiform ascospores in closed and open sacs.
- f. Single ascospore, capable of infecting rye flowers, forming a mycelium therein.
- g. Mycelium, spreading in the grain tissue, forming bead-like, asexual spores (conidia) for further infections.

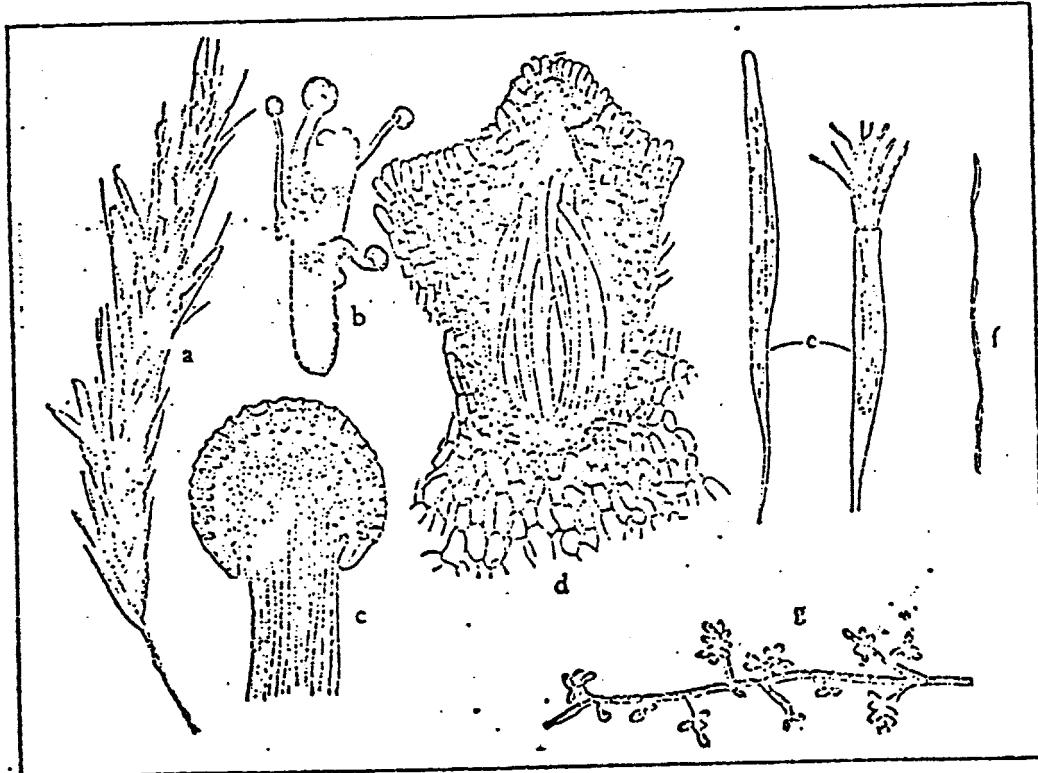
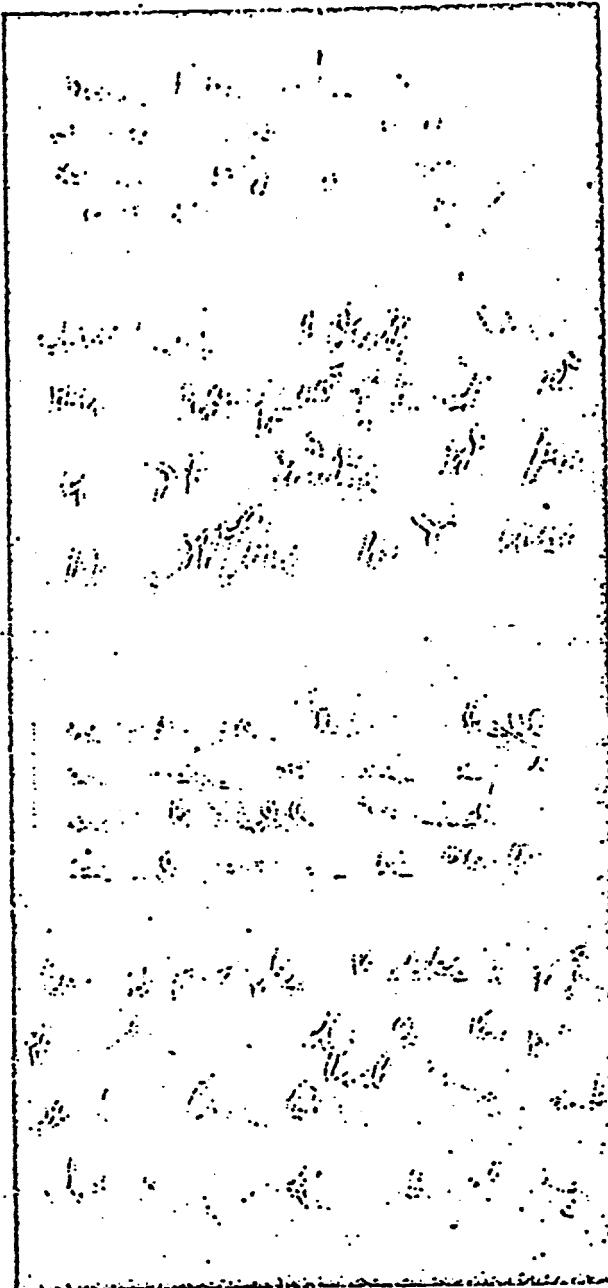


Figure 2. Effect of LSD-25 on Handwriting.

By Dr. Woyl

The handwriting, under the influence of LSD-25, became shaky; the much enlarged letters spread out, often separated, and frequently became unintelligible.



a. Normal writing test.
(Test Person 3.)

b. LSD-25 writing test,
4 hours after 60 gamma
LSD-25 administration.
(Test Person 3.)

c. Normal writing test.
(Test Person 21.)

d. LSD-25 writing test,
3 hours after 60 gamma
LSD-25 administration.
(Test Person 21.)

Figure 3. Effect of LSD-25 on Drawing Tests. 16

By Laszlo Matofi

The interference of LSD-25 with his ability to draw was strikingly illustrated in self experiments by the author. LSD-25 produced different psycho-pathological reactions of the hebephrenic type. The drawings show a tendency to expansions and some relationship to pictures produced by psychotic patients.

At 9:15, 50 gamma of LSD-25 were taken orally.

At 9:35, test person was completely normal. Drawing A.

At 10:15, an additional 50 gamma of LSD-25 were taken orally.

At 10:40, test person felt less certain, saw object rightly but could not draw it correctly, interrupted drawing repeatedly. Drawings B and C.

At 11:45, test person failed in successive attempts, the contours of the model appeared normal, but not those of the drawings. Drawings D, E, and F.

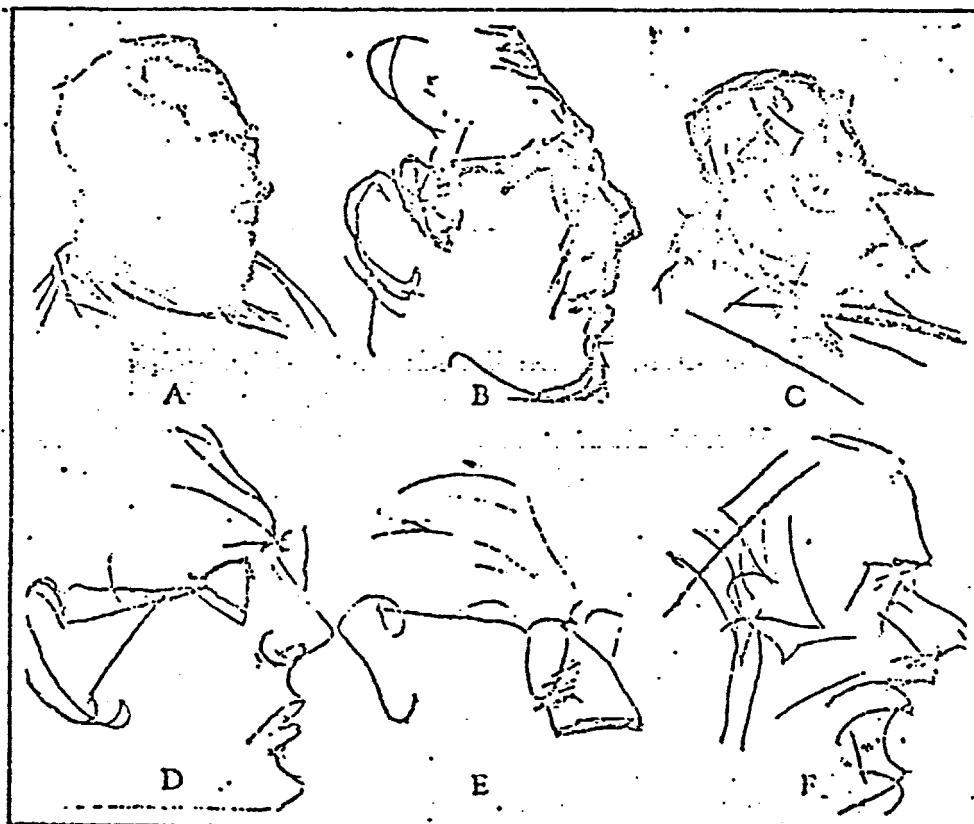
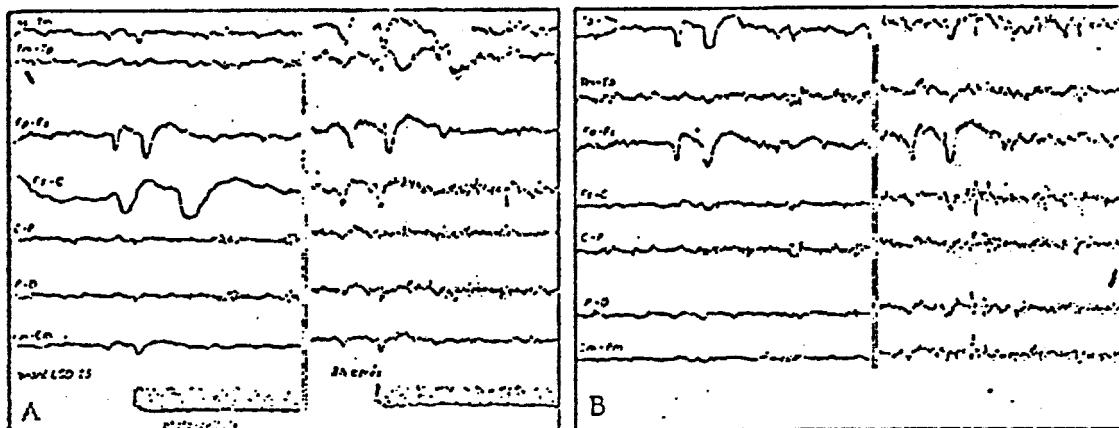


Figure 4. Effect of LSD-25 on the Human Electro-
Encephalogram. 61/

By Gastaut et al.

The electro-encephalograph records brain waves, or electric potentials originating in the brain, by means of electrodes placed upon the scalp and nearby surfaces, as indicated specifically in the graphs and below. LSD-25 causes a slight increase in the alpha-rhythm and the occurrence of the beta-rhythm in the central regions.



Description of the Electrodes:

Ta-anterior temporal; Tm-middle temporal; Tf-posterior temporal; Fp-polar frontal; Fz-upper frontal; C-central; P-parietal; O-occipital; Fm-median frontal; Cm-median central; Pm-median parietal.

The 7 graphs in A above represent leads from the right half of the scull-hemisphere and the central line.

The 7 graphs in B above represent those from the left half and the central line.

The tracings to the left of the vertical separation--recorded before LSD-25 injection--are characterized by an alpha-rhythm from the parietal, temporal and occipital regions of 10 cycles per second without a central beta-rhythm.

The tracings to the right--recorded 3 hours after injection of LSD-25--show the alpha-rhythm from the same regions with 13 cycles per second, and a beta-rhythm in the central regions with 21 cycles per second.

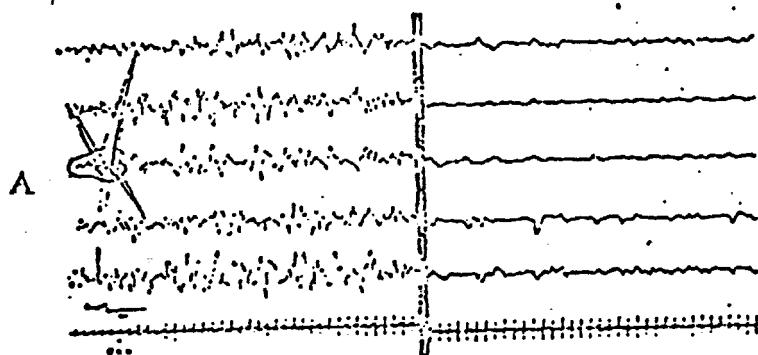


Fig. 1. — Aplatissement du tracé avec 20 microgrammes/kg de L.S.D. 25. À gauche, le tracé spontané ; à droite, le tracé après injection de L.S.D. 25.

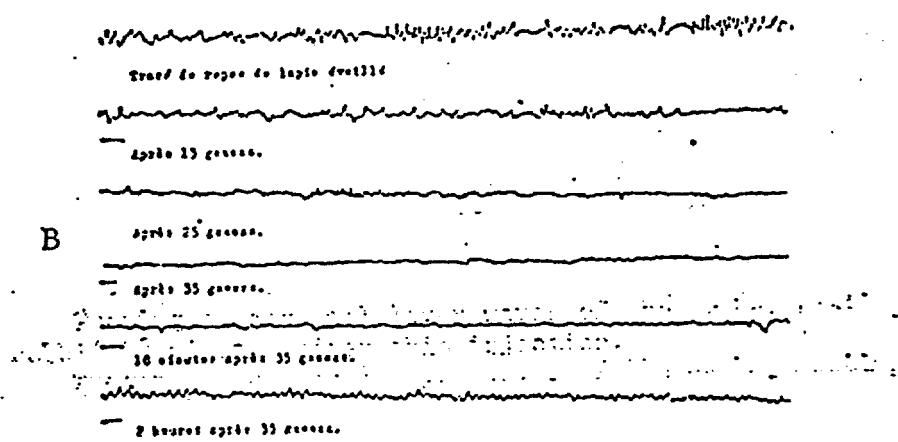


Fig. 2. — Aplatissement progressif du tracé par de petites doses de L.S.D. 25. (Les doses sont indiquées dans leur totalité pour un lapin de 2 kg 500.)

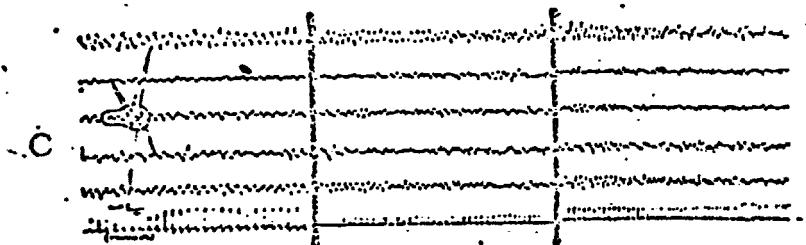


Fig. 3. — Réponse du tracé préalablement aplati par la L.S.D. 25 à différentes fréquences du stroboscopie.

Figure 5. Effect of LSD-25 on the Electro-Corticograph
of the Rabbit.

By J. Delay et al.

The electro-corticograph, as a record, results from the use of electrodes in direct contact with the cerebral cortex. The most characteristic result, so different from the electroencephalogram, is the flattening of the tracing by LSD-25, signifying the suspension of the spontaneous rhythmic activity of the brain. This contrasts with the persistence of responses to the intermittent light stimulation of the stroboscopes.

A. Tracing of cortical layer waves. At left: normal; at right: flattening after injection of 40 gamma/kg LSD-25.

Tracing of cortical layer waves of the awake, resting rabbit.

Tracing of cortical layer waves of the awake, resting rabbit after injection of 15 gamma LSD-25.

Tracing of cortical layer waves of the awake, resting rabbit after injection of 25 gamma LSD-25.

Tracing of cortical layer waves of the awake, resting rabbit, after injection of 35 gamma LSD-25.

Tracing of cortical layer waves of the awake, resting rabbit 18 minutes after this injection.

Tracing of cortical layer waves of the awake, resting rabbit 2 hours after this injection.

B. Progressive flattening of wave tracings by small doses of LSD-25 in rabbit (2.5 kg.)

C. Responses of wave tracings, previously flattened by LSD-25, to different speeds of the stroboscope.

Figure 6. The Rorschach Test for the Effect of LSD-25
on the Mind. 35/

The well-known psychological test, also referred to as the ink-blot test, measures certain traits and general personality trends, based upon the subject's interpretation of ink blots of varying design and color. These tests must be analyzed by experienced diarnosticians, who may gain an insight in the psychological structure of individuals and thus discover hidden emotional tensions, repressions and attitudes. It is logical therefore, to use this test also on individuals under the influence of LSD-25, since this psychogenic substance affects the emotions and personality in general.

This test was actually carried out by W. A. Stoll on 11 adult subjects without apparent mental abnormality, under the influence of LSD-25, after receiving 30 gamma orally. Not less than 3 months later the test was repeated without LSD-25. Comparison of the results with and without LSD-25 indicated a general loosening of mental processes, disinhibition of affectivity and fluency of thought processes. The Rorschach syndrome under the influence of LSD-25 corresponds to the clinical picture of an intoxication that is regarded as unspecific and as an instance of the exogenous reaction type. Besides typical psycho-organic traits others occur suggestive of schizophrenia.

This is, therefore, one further test that may be carried out on humans to examine the effect of psychogenic agents. Ink blots from the Rorschach tests are illustrated to indicate to the reader the greater variety of mental impressions suggested by these indefinite forms. No matter what the patient's interpretations--whether he sees a bat, a gorilla, waiters bowing to each other, a girl riding on a horse or perhaps a man's face in the shadows--he unknowingly exposes his intimate fantasy of life and general personality trends.

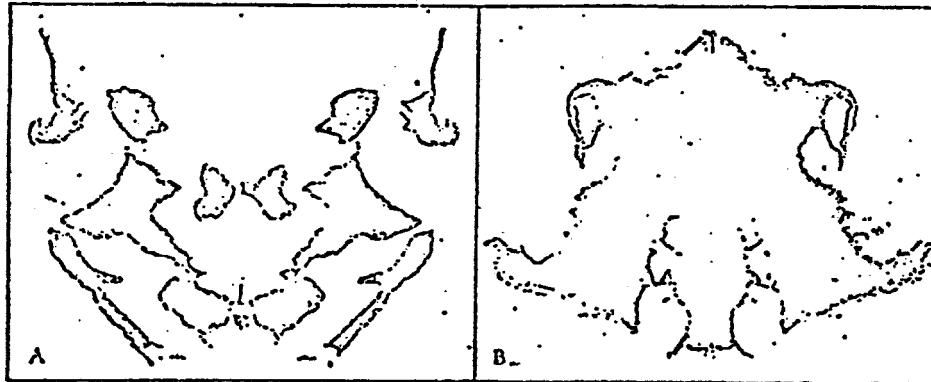


Figure 7. Effect of LSD-25 on the Blood Adrenaline Level and Mental Processes.

By D. W. Liddell and N. Weil-Malherbe

The psychological effects of drugs and their applications in psychiatry are of great interest, although little is known thus far of their mechanism of action. The authors therefore undertook to study the changes of blood adrenaline levels and to correlate them with mental changes. Adrenaline was determined on samples of plasma taken from 3 patients after oral administration of 40 gamma LSD-25, and the results were plotted on the accompanying chart.

These biochemical studies showed that one can distinguish 3 phases in psychotic patients after oral or intravenous administration of LSD-25:

1. An initial rise of the adrenaline level.
2. Its drop below the starting level.
3. A secondary rise.

The rising adrenaline concentration, seemingly associated with tension and anxiety, often with shivering and an appearance of goose flesh; the falling adrenaline concentration apparently connected with relaxation and euphoria.

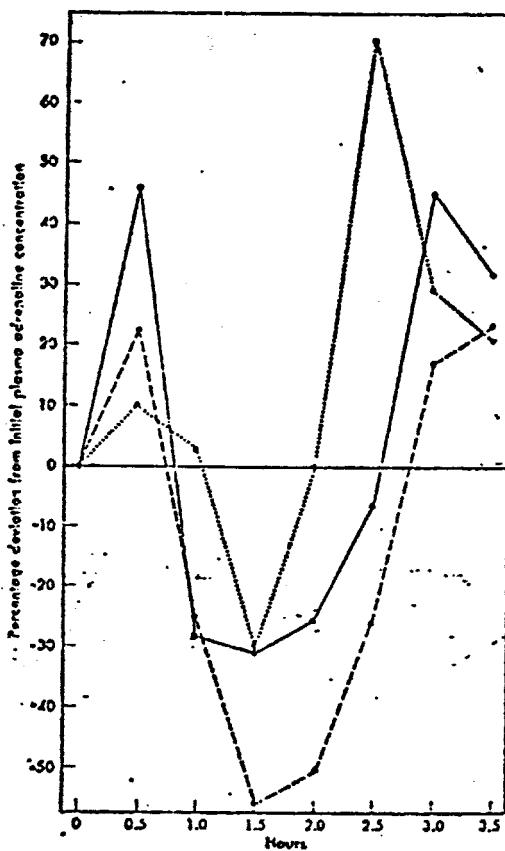
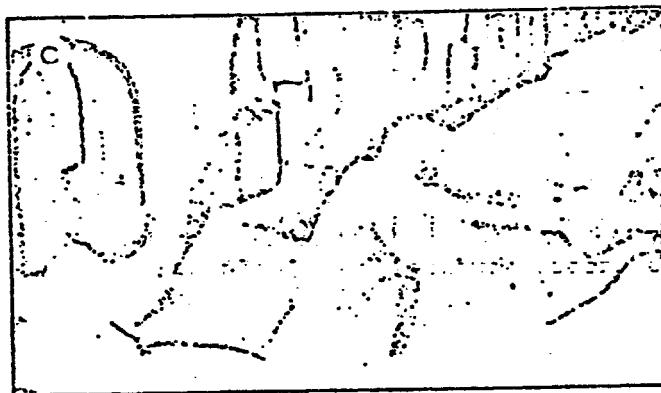
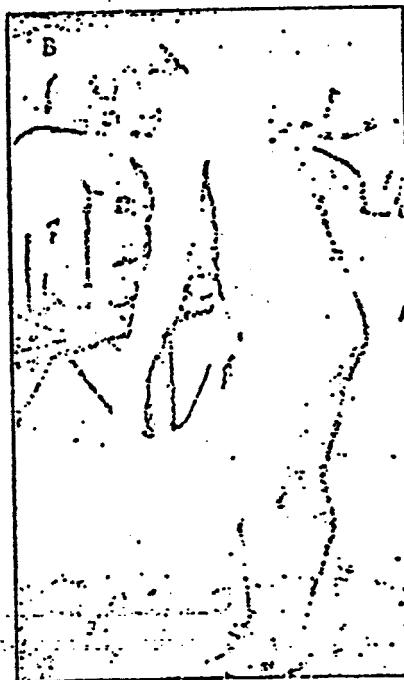
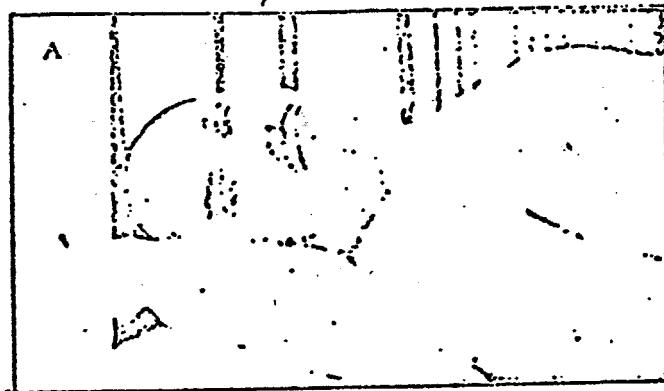


Figure B. Mental and Muscular Disorder Resulting from
Large Amounts of LSD-25. 1957

By U. de Giacomo

The administration of 300 to 500 gamma LSD-25 to psychotic patients led to results not unlike those observed after administration of bulbocapnine-experimental catatonia.



A. Face fixed and inexpressive.

B. Leaning posture of head and trunk.

C. Greatly prolonged muscular inaction; head, arms, and legs raised above the bed level.

Figure 9. Effects of LME and LSD-25 on the Movement of
the Waltzing Mouse.

By E. Rothlin and A. Corletti

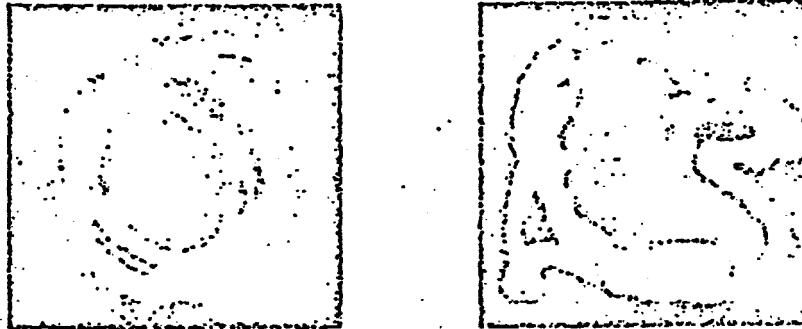
The waltzing mouse represents a special strain, having a congenital and hereditary tendency to carry out characteristic intermittent circular turn or waltzing movements, illustrated below in a slow moving picture record.

These movements are possibly caused by a disturbance of coordinating functions in the brain stem. There is now evidence that psychogenic substances such as ergot alkaloids and their derivatives variously affect this behavior and thus present a new method for their study.

After administration of ethyl- and diethylamide (LME and LSD-25) derivatives of lysergic acid, (the hydrolysis product of the ergot alkaloids,) only partial turns are carried out with short turns to the left and right.



a. Slow moving picture record of a waltzing mouse.



b. Course of movements of a waltzing mouse before (left), and after (right), the injection of 2 mg. per kg. lysergic acid ethylamide (and LSD-25). Time exposure in the dark, the animal having been rendered luminous.

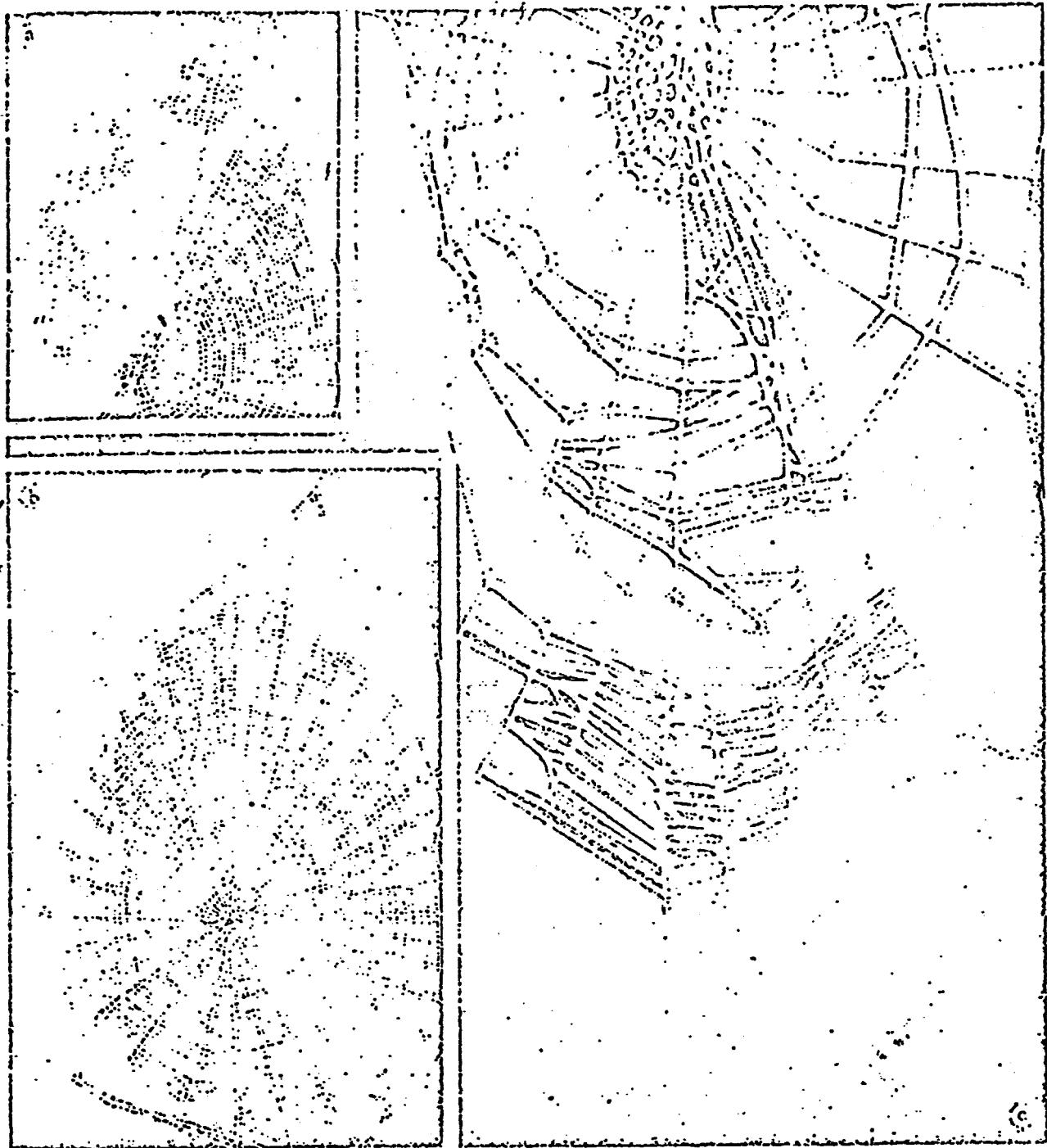


Figure 10. The Effect of LSD-25 on a Spider's Weaving Ability.

By P.Witt

While man shows marked constitutional and temporal fluctuations in both subjective and objective tests, the spider, with a rather highly organized nervous system, shows only slight fluctuations. Its urge for web construction may be used as a sensitive qualitative and even quantitative reagent for drug influence, provided the tests are made during the warm season of the year.

With LSD-25 the spider produces a perfect web, since the distractions are evidently dulled; thus he can concentrate on its construction and an improved exactitude of the angles. (In contrast with mescaline there is an increasing irregularity in the construction of the web and a decreased accuracy of the angle structure.) Methedrine or pervitin overstimulates and thus prevents coordination and completion of the web.

- a. Normal web; presenting spiral threads, coiled around spokes, which radiate from the hub or the spider's resting place.
- b. LSD-25 web; perfected by the improved utilization of stimuli, the greater exactitude of the angles, the check on distractions.
- c. Methedrine web; incomplete and spoiled by over-stimulated, restless and restricted weaving.

G 7
-3-

Office Memorandum • UNITED STATES GOVERNMENT

TO : [REDACTED]

DATE: 12 September 1955

FROM : Chief, Domestic Field Office

228-55

SUBJECT: Case 1 [REDACTED] A U.S. Medical Center

1. In response to WA 2874 we wired today as follows: "Dr. US physician

"center's material used at the meeting in April 1955 was mescaline analogues, not LSD which has no derivatives. US scientist, with assistance of [REDACTED], is doing the investigating and has studied over 100 compounds of mescaline." *(calico artist high concentration)*

The physician

2. Dr. [REDACTED] had this additional information which he said he was sure you were aware of: [REDACTED] either instigated or are associated with [REDACTED] Research Institute, Inc., in this program, which has a grant from the Government, Washington, D. C. The products being used have all been synthesized. They have studied the effects of these drugs and have been working on the relationship between the structure of phenethylamines and their effects on the enzyme activity of the brain with the aim of finding a mescaline analogue which will antagonise the action of mescaline. [REDACTED] also stated that a person who is a pharmacologist at [REDACTED] is also investigating mescaline analogues.

Two scientists

3. Dr. [REDACTED] informed [REDACTED] his investigation of Rivea Corymbosa or Pitie is going forward, and he expects to have a report on this in late October. He is most enthusiastic about this research.

4. When [REDACTED] was here in April 1955, he told [REDACTED] that he felt sure he could get a supply of mushroom alkaloids from Amanita Pantherina. If you have a supply available, would you please send it on to this office?

5. Have any steps been taken to get a clearance on [REDACTED] (see our memo 114-55 of 25 April 1955). [REDACTED] feels that it would be most helpful in his investigations to have [REDACTED] "on the team". [REDACTED] returned to the [REDACTED] in July 1955 after a two-or-three-year period of loan to the U. S. Public Health Service in Washington. Please let me know if you do not have the necessary biographical material for a name check, and I will forward it to you.

354.

INFORMATION REPORT

COUNTRY: USSR/International/Canada

SUBJECT: Use of Metrazol in Sovbloc for
Interrogation and Brainwashing/
Negation of LSD-25 and Adrenochrome
by Frenquel

Rpt. # 00-A-46967

Dist. date 10 Oct. '55

ACQUIRED: [REDACTED] Date: Sept. '55

SOURCE: US citizen, chemical research director for one of the large pharmaceutical companies in the US. He is directing a rather extensive research program for his company, including work on tranquilizing agents. He has been a very cooperative source and has furnished much information on psychogenic agents.

1. [REDACTED] {British subject who has been in Canada for three years} [REDACTED] has said that the drug most frequently used in the Sovbloc for interrogation and brainwashing is Metrazol. The hallucinatory and painful experience with this drug is said to be so severe that after one shot the subject is amenable to anything in order to forestall receiving another shot. Metrazol is widely used to bring on shock in the treatment of schizophrenia.
2. It has come to my attention that Frenquel, when taken intravenously, negates the hallucinatory experience induced by LSD-25 and adrenochrome. This has been reported in the literature by Fabing*, although the drug is still in the clinical stage and is not yet on the market.

* gamma isomer of Meratran

** Dr. Howard D. Fabing, Christ Hospital, Cincinnati, Ohio

American Medical Association Journal
American Public Health Association Journal
Bulletin of U.S. Army Medical Department
Bulletin of Hygiene
Current List of Medical Literature
Epidemiological and Vital Statistics
Epidemiological Report Monthly
Epidemiological Report Weekly
Excerpta Medica
Journal of Infectious Diseases
Lancet
Medical Bulletin
Pharmacy International
Psychological Abstracts
Public Health Reports
Tropical Disease Bulletin
Vital Statistics

- (a) Chemical warfare products.
- (b) Radioactive materials other than the atomic bomb.
- (c) Biological warfare products, exotic organisms, or atypical strains of the etiological agents of our endemic diseases.

2. WHAT SIGNIFICANT EVIDENCE OF WARFARE FOR YOUR FUTURE EFFECT.
(weeks or months)

- (a) Illnesses or deaths in significant groups due to the cumulative effect of chemicals, or radioactive materials which indicate enemy intent.
- (b) Medical evidence of planting of the following for delayed effect upon man or animals.
 - (1) Physical devices or alterations to cause injury, illness, death or hunger deficiency.
 - (2) Pathological agents of illness.
 - (3) Infects human, insect or animal vectors of disease.
 - (4) Infects intermediate host of disease.
 - (5) Infects definitive hosts of disease.
- (c) Unusual outbreaks of communicable diseases; with periods of incubation between short and long; certain diseases with insidious onset; diseases with subacute symptoms; nidi of high incidence with or without high mortality.
- (d) Communicable diseases affecting animals and transmissible to man.
- (e) Evidence of deliberate alteration of the purity, potency, or suitability for the purpose intended of medical supplies.

3. WHAT SIGNIFICANT EVIDENCE OF WARFARE FOR IMMEDIATE OUTCOME.
(On, off, if off. (months or years))

- (a) Insidious communicable diseases of man or animals which are significant in type and/or incidence and distribution.
- (b) Insidious debilitants; non-communicable illnesses of man which are indicative of enemy intent.
- (c) Insidious animal diseases not communicable to man, but affecting food supply or domestic work animals.
- (d) The use of chemicals for long delayed effect.
- (e) The use of physical methods, and materials other than chemicals or biologicals for long delayed effect.
- (f) Medical evidence of psychological warfare.

I. B. Sources of Supply

The level of Soviet microbiology, biochemistry, and nuclear sciences and the potential for mass production of Bi, Cr and Ra products for attack on extensive areas appears to be below that of the U.S.-aligned nations, but, it appears that the U.S.S.R. is capable of producing sufficient quantities of these agents and other products for clandestine use against selected groups or in limited areas.

A sufficient quantity of Bi, Cr, or radio active materials needed to produce significant effects could be sent from Russia to the U.S. These products can be sent through the diplomatic mail, or by ship, plane, balloon, or smuggled into the United States in various ways. There are many simple ways of planting the material after delivery. Vectors of disease such as infected lice, fleas, mosquitoes, or rodents can be delivered through the air, by individuals, or delivered in shipments of materials, for example; outbreaks of bubonic plague occurred in one of the Latin American Republics due to infected fleas on gunny sacks which were shipped from India. A devastating malaria epidemic in Brazil followed the landing of planes from Africa which carried one of the world's most dangerous mosquitoes which established breeding foci throughout an area of several hundred miles.

There are a number of products which might be employed by saboteurs for unconventional warfare which are manufactured for industrial purposes in this country and which may be obtained on open market. Anti-cholinesterase chemicals are used as agricultural insecticides. One plant which manufactures these chemicals is located in Fullerton, and, in fact during the past summer a worker in this plant died from brief accidental exposure to a very small quantity of the material. Highly toxic rodenticides, such as "antu" and "1050" are used extensively by city health departments for anti rat campaigns.

Extremely minute quantities of at least ten beryllium compounds can cause poisoning. At least four of the compounds produce acute illnesses. Air concentrations containing twenty-five micrograms per cubic meter of air will produce an acute form of illness ending in death. A toxic effect from smaller doses is a form of illness called "Delayed Chemical Pneumonitis" in which clinical symptoms do not appear for months or years after exposure to the compounds. Contamination of air, furniture and other articles can result in incapacitation or death. The average physician would confuse the diagnosis with other diseases. These compounds are available in many factories and in deadly quantities in manufactured articles, such as fluorescent light bulbs, in buildings all over the U.S.

II. MEDICAL EVIDENCE OF POSSIBLE USE OF UNCONVENTIONAL WARFARE AGENTS
AMERICAN U. S.

It is reasonable to suppose that in event evidence of use of methods of unconventional warfare by the Soviet against an allied nation should come to hand, we should anticipate that similar efforts would be attempted in this country. Should the method used be based upon biological, chemical or radiological products not unusually encountered in the area attacked, such use would be convincing evidence of warlike intention and capability of execution. Intelligence must therefore be on the alert critically to scrutinize and evaluate all information regarding outbreaks of unusual diseases or illness, or unusual manifestation of endemic diseases in our allied nations.

III. EVIDENCE OF USE OF AGENTS OF UNCONVENTIONAL WARFARE IN THE U. S.

The appearance of illness of a kind unusual in the region or in the persons affected; an illness which is not unusual in a locality or in an affected group, but which is more widespread in its extent; or an illness which is not unusual per se, but which is unusual in its clinical course would raise a suspicion that unconventional warfare had been initiated.

While there is no doubt that radioactive substances have immediate, cumulative or delayed effects on man, depending upon the substance used, it would seem that because of the scarcity of such materials through open channels in this country and the difficulties inherent in transportation in significant quantities from other countries, it is unlikely they would be used in unconventional warfare. This conclusion is fortified by the fact that other materials of known lethal effect and simple of dissemination are readily available.

So far as is known, knowledge of the effects of ultrasonic waves upon man has not progressed to a point where the use of this modality might be anticipated in unconventional warfare.

Identification of any illness as resulting from UF or CW materials or brought about by other methods of unconventional warfare is dependent upon a high index of suspicion on the part of our physicians, and of our public health authorities, and upon careful clinical and epidemiological studies.

It can be anticipated that the appearance of an unusual illness in any part of the country, particularly in our cities, would be promptly reported to the appropriate public health authority by the physicians of the community. In the same manner, unusual prevalence or unusual severity or other manifestation of a not unexpected disease would also be promptly brought to the attention of the appropriate authorities. It is to the public health organizations of our various governmental units that we must look to differentiate between an illness or its manifestation, resulting from a natural chain of circumstances and results brought about artificially by

CENTRAL COUNCIL

MEDICAL ASPECTS OF UNCONVENTIONAL WARFARE

I. CAPACITY OF THE USSR TO CONDUCT UNCONVENTIONAL WARFARE.

- A. Availability of medical and other personnel.
 - (a) Organized and directed by the Soviet.
 - (b) Unorganized sabotage.
 - (c) Sources of personnel.
 - (1) In Russia and the satellites.
 - (2) In neutral countries and our allied nations.
 - (3) Within the U. S.
- B. Sources of supply of products.
 - (a) EW, CW, RW and other products in enemy nations.
 - (b) Materials now available to the enemy in the U. S.
 - (1) Those which require planting.
 - (2) Those which do not require planting.

C. Conditions in U. S. affecting vulnerability to agents of unconventional warfare.

- (a) Favorable and unfavorable conditions in the U. S.

II. MEDICAL EVIDENCE OF POSSIBLE USE OF UNCONVENTIONAL WARFARE AGENTS AGAINST U. S.

- A. Medical evidence that unconventional warfare has been accomplished in an allied nation.
 - (a) By EW, CW or RW products
 - (b) By other means.

III. EVIDENCE OF USE OF AGENTS OF UNCONVENTIONAL WARFARE IN THE US.

- A. Medical evidence that unconventional warfare has been accomplished
 - (a) By EW, CW or RW products
 - (b) By other means.

Office Memorandum • UNITED STATES GOVERNMENT

355

TO : Dr. [redacted] Chief, N/OSI.

DATE: 3 November 1955

FROM : [redacted] N/SI

SUBJECT: Report of interview with [redacted], a 23-year old airman, former Chinese POW, who was operated upon for appendicitis while in their custody.

1. [redacted] Airman [redacted] reported that the only anesthesia he had at the time of surgery must have been an injection he received in the right forearm about 15-20 minutes beforehand.

2. After listening to his account it is my opinion that [redacted] undoubtedly was operated on under local anesthesia.

3. [redacted] reported that he became ill on the 2nd of August 1954 about 1700 hours and was operated upon at 2⁴/400 hours. Fifteen minutes prior to surgery he was given an injection in the right forearm with a syringe which was, as he described it, one inch in diameter, 6 inches long and 2/3 full. It raised a large welt on his forearm. At surgery he was draped and was unable to see anything. He reported that he felt a few initial cuts with a knife before the incision was made. He felt considerable pain but did not struggle or cry out during the procedure. He has a typical McBurney incision.

4. [redacted] probably misinterpreted the pricks of needle injecting the local anesthesia as knife pricks. It is well known that the Russians are using local anesthetics extensively.

356

MEMORANDUM FOR THE RECORD

14 November 1955

SUBJECT: Report on interview with Major [redacted] USAF

A US officer

1. Major [redacted] was interviewed on November 9, 1955 regarding the type of anesthesia used on him during operations he had while a Chinese Communist prisoner of war.

2. He stated that four different operations were done and that each time an intravenous anesthetic was used except for one which was so minor that a local anesthetic was given. It appears, therefore, that conventional methods of anesthesia were used.

The man

3. Major [redacted] is a 33 year old air force officer who was shot down over North Korea January 12, 1953 and wounded in the left leg at the same time. He was unable to walk, so he stayed where his parachute landed. The temperature was below freezing, and he was bleeding from the wound in the left leg. He remained in this spot until the next day when he was discovered by some peasants who took him to a hut. Soldiers arrived later and he was taken to a hospital that evening.

4. He remained there 6 weeks before the amputations were started. These were all apparently for frostbite and were done in 4 stages. He was given no preoperative medication. He did receive penicillin and intravenous glucose while in the hospital but no blood. He was interrogated several times during his stay in the hospital which lasted 6 months. He was then transferred to prison, and kept in solitary 1½ months. He was repatriated August 4, 1955.

The officer

5. Major [redacted] has numerous fingers of both hands amputated, and an amputation of the left leg below the knee. He goes about in a wheel chair or on crutches. He is currently at Walter Reed Army Hospital.

Copy sent to [redacted]

Please return to [redacted]

357

November 16, 1955

Dear [redacted]:

As I told you I would, I was down in Washington for several meetings, and for that reason was unable to get to answer your questions before this. First, as concerns the use of flickering lights in interrogation: The inquirer says that it is "evident that this method is used to confuse or exhaust the man;" actually within recent years there has been a considerable interest among neuro-physiologists, neurologists, and psychiatrists, and the phenomenon of increased excitability of the motor cortex following sensory stimulation and incidental to this the use of straboscopic light stimulation was devised by Henri Gastaut, a French investigator who first reported on the combination of this type of photic stimulation with the added use of metrazol ~~and carbarane~~. We have had considerable experience with this particularly in the activation of certain cases of latent epilepsy, and Doctors [redacted] and [redacted] have reported on it quite extensively.

It has been recognized that internal light stimulation for certain can cause a grand mal type of seizure in a small percentage of epileptics. By using this phenomenon the epileptic threshold can be established.

There are a few persons who can have their cortex driven by certain frequencies of light stimulation and associated with this there are some peculiar dissociated experiences. On occasion we have had such persons actually hallucinate. All of them have some measure of illusions as a consequence of this.

It is evident also that light is not the only sensory stimulus which can produce this effect. Sonic activation has also been reported (see Arellano et al) in EEG Clin. Neurophysiol. 1950, 2:215-217.

There is rather extensive literature on the subject which can be gotten together for you if you wish.

November 16, 1955

You mention your willingness to help us obtain certain medications and drugs were they not ordinarily available, and I would now like to ask about the possibility of getting a C-14 tracer on lysergic acid. I had mentioned to you our planned work on the detection of it in various nucleii in the central nervous system by utilizing a technique of having it fluoresce under ultraviolet light. As you can appreciate, we are dealing in extremely small quantities and for that reason feel that it would be well to be more accurate as well as to detect small quantities by the use of a radioautograph technique that is having the brain slices take their own photographs on film the exposure being accomplished by the presence of radioactive carbon.

I will be glad to spell out the foregoing in more detail if it would be helpful. Then, too, sometime ago we talked about the possibility of our studying Amanita pantherina toxicity provided some of the substance could be made available. We have set up a program whereby we can look into the Rivina coronifera you sent me with a view toward running down the responsible factors.

With kindest regards,

Sincerely,

Es working on
Amanita phalloides

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MEMORANDUM FOR: DIRECTOR, CENTRAL INTELLIGENCE

SUBJECT : Memorandum to the Secretary of Defense
outlining Agency Research on Effects of
Psychochemicals

The memorandum requested by you on 1 November (reworded
as requested on 28 November) addressed to the Secretary of Defense
is attached hereto. It covers briefly the Agency's research in the
field of psychochemicals and offers our co-operation on any Depart-
ment of Defense program in this field.

Chief, DD/P

Attachment (1)
Memorandum noted above

Distribution:

Copy # 1 w/attachment - DCI
Copy # 2 - [redacted]/OC
Copy # 3 - [redacted]/CD

Copy # 1 of 3 copies

5-5-72

FROM :

229 Admin

DATE 2 December 1953

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SUBJECT: Memo on Psychochemicals

Attached hereto is the revised version of the memorandum to the Secretary of Defense prepared for the Director's signature. For your convenience, I am enclosing a carbon copy of the original memorandum. (118-008 A)

55-173

13 Dec 55

360

UN-CLASSIFIED	CONFIDENTIAL	SECRET		
EXECUTIVE SECRETARIAT				
Routing Slip				
Executive Secretary 76-5349				
TO	ACTION	INFO	DATE	INITIAL
1 DCI				
2 DDCI				
3 S/MC				
4 DDS&ET		TX		
5 DDI				TAC Dec 55
6 DDA				Bellwether
7 ADDO				1976
8 D/DCI/IC				
9 D/DCI/NIO				
10 DGS				
11 LC				
(12) IG				
13 Compt				
14 D/Pers				
15 D/S				
16 DTR				
17 Asst/DCI				
18 SAO/DCI				
19				
20				
21				
22				
SUSPENSE				
<p>Remarks:</p> <p>Found today by [redacted] in his continuing review of AWD material (80 boxes!)</p>				
Executive Secretary 20 JUN 1976				

2427 (1-75)

55-174

defensive measures. More data should be accumulated if it is desired to predict the precise effect upon a given individual under given circumstances. It would appear to be important that field trials be made to determine the effects on groups of people or on individuals engaged in group activities.

5. This Agency's scientists who have been responsible for this research in psychochemicals have maintained close and effective liaison with various research and development groups in the Department of Defense who are aware of our interest and, in varying degrees, of our progress in psychochemicals. Some of these individuals are:

Dr. L. Wilson Greene, Technical Director, Chemical Corps, Chemical and Radiological Laboratories,

Army Chemical Center

Dr. Bruce Dill, Scientific Director, Chemical Corps, Medical Laboratory, Army Chemical Center

Dr. Alexander Mazzoni, a scientist at the Medical Laboratory, Army Chemical Center

Capt. Clifford P. Pinches, Chief, Biological Sciences Division, Office of Naval Research

Brig. Gen. Don D. Flickinger, ARDC, U.S.A.F.

Lt. Col. Alexander Batlin, Office of the Assistant Secretary of Defense (Research and Development)

6. In addition, this Agency has provided financial support for certain projects in the field of psychochemicals being conducted by the Chemical Corps and by the Office of Naval Research. We have noted with considerable interest the current Department of Defense study of the potential importance of certain psychochemical materials including LSD which is being carried out by the Ad Hoc Study Group on Psychochemicals under the Technical Advisory Panel on CW and BW of the Office of the Assistant Secretary of Defense for Research and Development. If our accumulated information, experience and professional contacts can be of any assistance, this Agency gladly offers its co-operation in this program.

ALLEN W. DULLES
Director.

(1 December 1955)

Distributions:

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65-177

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19 December 1955

294-55

Chief, ~~the C.I.C. Facility~~

Case ~~115~~ - ~~the C.I.C. Facility~~ ✓

Reference: ~~the~~ letter of 13 December 1955

1. I am enclosing two copies of a paper on Serotonin which you requested in your referenced letter. The bibliography of this paper is not available at this time but can be had at a later date if you feel it is necessary. The other paper you requested will be forwarded in a few days. The author is on vacation at the present time.

2. ~~the~~ is now in the picture, much to ~~the~~ satisfaction. His indoctrination was proper and impressive. Personally, I was very much impressed with him.

3. Research on Piule is going on in advance of schedule. ~~he~~ inferred to that he will have some interesting findings to give you in due time.

4. ~~the~~ is directing this research and has brought in top men from pharmacology and chemistry to work on it along with two bright fellows from his division. All of those working on this are most enthusiastic.

5. ~~the~~ gave me the following information about this research at this time (I quote from my notes and I hope they make sense): "There is an extensive investigative program going on preliminary to our use of Rivea Corymbosa as a human hallucinogen." "We are running down basic alkaloids and gluco-resins giving them to monkeys, dogs, rats and mice preparatory to administering them to humans." "We are also running down its chemical content and its physiological and psychological effect on lower animals which have been trained in conditioned reflexes."

6. One thing that could delay the program is the fact that they are running short of Piule. Could you again send a quantity of Piule, in the same amount as you sent before?

7. ~~the~~ is most enthusiastic about your comments pertaining to "C-14 tag on Lysogenic acid." This also applies to *Amanita Phalloides*, and he hopes that this material will be on its way soon.

8. ~~the~~ is aware of the article, which you described, in the November 1955 issue of *Johns Hopkins magazine*.

9. ~~_____~~ in the ~~_____~~ library informed me that an article appeared in the Canadian Medical Association Journal entitled, "A Glimpse of Neurophysiology in the Soviet Union." This article is by Dr. Wilder Penfield and is in the Journal of November 1, 1955 - Volume 75, page 191. ~~_____~~ is very much interested in this and has asked ~~_____~~ for it. It may be that you have this information. Dr. Penfield is well known by the neurosurgeons and psychiatrists at ~~_____~~. He is not expected to be ~~_____~~ in the near future.
10. ~~_____~~ will be interested to receive information referred to in your letter pertaining to "flickering lights in certain European countries."
11. ~~_____~~ is also acquainted with the paper prepared in September by Dr. Pfeiffer of Emory College.
12. Has there been any new development with the gibbon monkeys? I understand that a letter has gone to Dr. ~~_____~~ from the ~~_____~~ stating its interest.
13. Another request which I hope can be granted, though it seems doubtful, is for a couple of monkeys for research. The ~~_____~~ has only one monkey available now that can be used for research. If you can locate any monkeys, please let me know and also let me know if there will be a charge.

a cta signature

name dictated

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5/13

MEMORANDUM FOR THE RECORD

SUBJECT: Discussions of MKNAOMI with [REDACTED]

1. On 25 June 1975 I met with [REDACTED] at his apartment at [REDACTED] to probe his recollections of the relationships between TSD and Ft. Detrick in the MKNAOMI project. [REDACTED] was in TSD from 1952 until 1962, serving as Chief of the Division during the last two years of that period. [REDACTED] of OGC and [REDACTED] of ORD were also present and participated in the discussions. [REDACTED] was told that he need not become involved but he expressed a complete willingness to provide whatever help he could.

2. It was explained that MKNAOMI had been discovered only recently as a result of personal recollections by people not directly involved and that available records left large gaps in our ability to understand what had taken place. [REDACTED] stated that the Detrick project had been established and was used as a source of specialized technical support in the areas of BW and CW. He agreed that its origins were in the early 1950's. Its establishment was a rather natural step in view of OSS experience which had involved the development and use of two types of lethal tablets and other exotic weapon devices.

3. [REDACTED] stressed that the relation with Detrick was an informal one and was never defined with any precision. He seemed to be unaware of the 1952 Memorandum of Understanding between the CIA and the Army's Chief Chemical Officer which apparently was the charter for the association. Furthermore, he noted that well defined programs were not established but that work pursued lines considered to be intriguing by Ft. Detrick or requested by the CIA. Funding was not tied to tasking and he suggested that Agency money was not strictly accounted for in terms of effort expended strictly in our behalf. The arrangement worked because of close personal ties between involved personnel at Detrick and the Agency. MKNAOMI activities covered a broad spectrum and involved the development of materials useful for many different purposes. Insofar as affecting human behavior was concerned, interests ranged from very temporary minor disablement (such as inability to deliver a speech well) to more serious and longer incapacitation to death.

4. According to [REDACTED] some well established guidelines for the management of work in this area existed. No written records were kept; verbal communications, close associations among the people involved, and human continuity kept the program together. Since there were swarms of requests of TSD to provide support of weird sorts which might involve this type of activity, it was agreed TSD would always respond to such requests negatively unless approval by the DDP (i.e., the Deputy Director) had been given prior to the contact. According to [REDACTED] this rule was always followed. Normally, he was tipped off at the DDP staff meeting that someone had a need for support in this area and then arrangements were made to put

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in contact with the Project Officer. He stated that in no case he could remember had any direction or requests for support come from outside the Agency.

5. From [redacted] account, compartmentation was extreme. When contact was made with DDP approval, it was done with the Chief of the Chemistry Branch [redacted] in [redacted] day) and, after having set up the contact, [redacted] would never learn anything more about the affair. Indeed, according to his account, he was never apprised in any detail as to the specific type of support involved in specific requests though he was aware in general terms as to the types of things involved. Others in TSD — apparently including all but those few officers personally involved in relations with Detrick -- were entirely excluded from any knowledge of these matters.

6. In amplifying his statement about the number of requests for support in this area, [redacted] provided a number of examples. These included suicide agents for the U-2 pilots, L-pills, means for incapacitating guards or guard dogs, material to anesthetize the inhabitants of a building so as to allow its entry, material to dissolve the Berlin Wall, aphrodisiacs for operational use, etc. He gave the impression of TSD's being besieged with wild ideas for which they were to provide the magic potion that would make them work. Few were seriously considered.

7. When asked directly about any knowledge he may have about specific MKNAOMI support to assassination planning, [redacted] stated that he had none. He said that he was aware of a whole raft of schemes relating to Castro that were discussed before and immediately after the Bay of Pigs but that he never knew which, if any, were taken seriously. He did indicate, however, that some requests for support approved by the DDP had apparently involved assassination. He had no personal involvement in these or knowledge of them.

8. When asked about personally targeted harrassment operations, [redacted] stated that he knew of none and that the use of harrassment agents had focused on breaking up meetings, affecting crowds, etc.

9. It was clear that -- to some extent -- MKNAOMI was wrapped up with the drug activities of MKULTRA in [redacted] mind. He recalled ULTRA as a funding mechanism that was used to handle both drug research and [redacted] the first because of its sensitivity and the second because of [redacted] concerns. He noted that the drug activity was characterized -- like MKNAOMI -- by a strict compartmentation policy and an avoidance of creating a written record. He spoke of nearly all the drug work as having been related to-interrogation uses and noted that TSD received numerous requests to find aids to the interrogation process.

10. [redacted]

11. When asked about the keeping of records of MKNAOMI materials stored in TSD, he stated that it was unlikely that any very elaborate or systematic scheme was

[redacted] was never, in fact, Chief of the Biology Branch which in this period, was responsible for the Ft. Detrick project. The Chemistry Branch reference is incorrect for the period. CR 75-12

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employed. The policy of avoiding written records would have acted against such an approach and he doubted that any real records were maintained. [REDACTED] did not find it surprising that unexpected things had been discovered in storage in OTS: it was the nature of the business that peculiar things were kept on hand. He related a story of finding six sticks of ancient -- hence particularly dangerous -- dynamite stored above the DCI's office in the Central Building.

12. In conclusion, the interview shed little new light on MKNAOMI but did put the activity and the way it was managed into somewhat better perspective. Though some of what he related was surprising, it was believable. The most notable point made was the unusual -- even by Agency standards -- compartmentation and security maintained with regard to the Detrick project.

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17 January 1958

MEMORANDUM FOR: Deputy Director of Security

FROM: Career Management Officer

SUBJECT: Report Concerning Certain Techniques in Hypnosis

1. This report is based upon a request by the Deputy Director of Security for information concerning the contact made by this writer with Dr. ██████████ during the undersigned's recent visit to California. A separate section of this report includes a suggested program for preparing and training individuals in the use of this technique.

2. Contact was made with Mr. ██████████ on 4 December 1957 at his medical clinic in ██████████, California. This gentleman had written an article which appeared in the text ██████████ by Dr. ██████████. In this article, he set forth information describing the use of a rapid method for the induction of hypnosis. It was the undersigned's intention to contact Dr. ██████████ and confer with him regarding certain questions which arose in discussions this writer had with Mr. ██████████, S.A., Mr. ██████████, Chief, I.R.D., and CIA ██████████. This was during the time when other hypnotic techniques were being reviewed by these individuals and this writer. Rather than merely covering six basic questions with Dr. ██████████, this writer spent approximately three hours with the doctor learning the theory of the technique, its background, case histories, and witnessing an actual demonstration of the technique. So that this report may be concise, the six questions posed to Dr. ██████████ will be used to include much of the information covered in this meeting.

A. Since 1954 (the date of the publication of the referred book) have you realized continued success in the use of this rapid induction technique?

ANSWER: Dr. ██████████ stated that he has used this technique for approximately fourteen years in his medical practice with over a thousand patients. He advised that he has 867 of these experiences documented. All of his efforts to date have been successful.

B. Are there any groups or individuals utilizing this technique in the eastern part of the United States?

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ANSWER: Dr. ██████ had no knowledge of any such groups or individuals. He explained that he acquired this technique through his contact with a professional hypnotist, ██████████. He has not had any contact with Mr. ██████ for the past three years. The last information ██████ had regarding ██████ was that he was a Chief Petty Officer in the Navy. After this introduction to the technique by ██████ developed his experience in the use of this technique personally and does not know of any other individual or group utilizing this technique at the present time.

C. How much time do you believe is necessary to master this technique?

ANSWER: Dr. ██████'s response was that the mechanics of the technique can be mastered in from fifteen to twenty seconds. However, as with so many other techniques, experience and practice lend themselves to refinement and sophistication in using this technique.

D. Is it absolutely necessary to have the cooperation of the patient for successful use of this technique?

ANSWER: In the opinion of Dr. ██████, it is highly desirable to have the cooperation of the patient, and in all of his experiments, people coming to him are in need of assistance and are generally willing to cooperate in order that Dr. ██████ may assist them in answering whatever needs brought them to his office. There are individuals, he added, who demonstrate involuntary resistance to any induction technique. In these cases, where it is found that the technique has been unsuccessful after one, two, or possibly three tries, the individual is "prepared" for hypnosis by use of such drugs as sodium erythrol, sodium pentothal, or a new drug which Dr. ██████ is presently using with great success entitled "Horeaval." These drugs are administered intravenously, and then the same technique procedure is exercised with these patients.

E. Would you consider training people in this technique?

NOTE: Because of the nature of the response made to Question C, this point was not emphasized in our discussions, but the question was asked Dr. ██████, and his comment reflected his thinking that the actual instruction or training associated with this technique could be confined to seconds or minutes with an individual whose background in psychology or hypnosis would furnish him with the other techniques necessary in inducing a hypnotic state in individuals. He emphasized the fact that

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confidence in the technique and a high degree of proficiency would be achieved through practice and experience.

7. Actually, how dangerous is this technique?

MURKIN: It was the opinion of Dr. ██████ that this technique is completely safe. The doctor formed his opinion as a result of employing this technique in over a thousand cases which involved both sexes and individuals from 2½ to 77 years of age. This opinion was further substantiated by his professional knowledge of the technique. He admitted that if the carotid artery and the vagus nerve were depressed for prolonged periods of time that this would have devastating effects upon the individual. However, in his experiments, in properly utilizing this technique, the individual is in the trance state after approximately six seconds, during which this technique has been used. This is an entirely safe procedure.

3. Fach

According to the boy, other than for some slight discomfort, he realized no pain throughout the operation. Dr. [redacted] emphasized that the absence of pain could not be attributed solely to hypnosis and that the use of the local anesthetic was a factor. That the anesthetic could be administered to such a sensitive area without pain points up the influence of hypnosis in facilitating the performance of the operation. Dr. [redacted] stated that he has used this technique in psychotherapeutic situations involving stuttering, alcoholism, smoking, and masturbation. He has also used this technique in minor operations, as well as on two occasions in C-section operations. He has discovered this technique to be completely reliable and highly successful. In cases where individuals have demonstrated certain anxiety or emotional manifestations

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Dr. [redacted] advised that a few light slaps across the face would bring these individuals back in proper perspective.

4. DISCUSSION OF THE TECHNIQUE. The technique utilized by Dr. [redacted] is designed to overwhelm the individual with suggestions after he has been placed in a receptive condition to such strong suggestions. The procedure involves placing the subject in either a sitting or standing position. At this point the individual is encouraged to select a position on the ceiling at which to gaze, and at the same time he is told to breathe deeply for several cycles. The operator's left hand is placed behind the subject's head at the top of the neck to support the head and prevent muscular "flinching." The right hand pushes the subject's head back until he is gazing almost directly upward. The operator then presses the right thumb and index finger against the vagus nerve and carotid artery on each side of the Adam's apple, and pressure is exerted with both fingers directly to the rear rather than in any sort of a pincer movement. This is done in order to avoid any constrictions in the subject's breathing. While the right hand is operating as described above, the left thumb and second finger are pressed firmly against the neck just below the mastoid behind each ear. This is also done to produce a slightly detached feeling. While these pressures are being applied, the operator then "pours on" the suggestions. This operation should take from four to ten seconds. The amount of time involved is determined by the point in this process when the individual relaxes completely in the hands of the operator. It is at this point that the pressure is released, and the individual is permitted to recline if he is in a seated position, or he is eased into a chair if he is in a standing position. During this time the operator's fingers remain in their positions for a psychic stimulant to this processsing. The suggestions are continued and a deeper trance state is attempted. Also, post-hypnotic suggestions can be presented at this time. If this procedure proves unsuccessful, Dr. Whitlow advised that it should be tried a second and third time, and if there is no success, then the hypnotic drugs, as mentioned earlier in this memorandum, should be used. The purpose of this technique is to permit the operator to "reach" the subconscious of the individual with the greatest success and facility. It is at this point where the usual hypnotic techniques may be utilized to determine such things as the state of the trance. Catalytic tests and the phenomena of regression may be attempted.

5. STAGES IN PREPARATION OF INDIVIDUALS IN THE UTILIZATION OF THIS TECHNIQUE. The following is a suggested program offered by this writer for possible use in the development of individuals who would be competent to utilize this technique in furthering the security measures and objectives of this Agency.

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a. Selection of Team Members. The primary criteria for the selection of individuals for such a training program would be the determination on the part of each individual that this is a working process. Even though there is a so-called danger factor, they will be able to resolve any such concern in their thinking. This writer, because of his previous experience in hypnosis programs undertaken by the Office of Security, would recommend such individuals as Mr. [REDACTED], Mr. [REDACTED] and the writer as candidates for such training.

b. Comprehensive Review of the Literature. For those on the team who are not completely conversant in articles and texts relating to the phenomena of hypnosis, it is recommended that this be considered the first phase of this training program. With a review of the literature as a background, all team members would have some permanent foundation upon which to base their advanced training. Group sessions should take place during which pertinent or interesting items should be discussed to enrich the background of all concerned.

c. Formal Training. For those individuals on the suggested team who have not had formal training by professional hypnotists, this, in the opinion of this writer, would serve a very worthwhile purpose. In dealing with an individual who considers hypnotism as his prime field, instruction can be received on other hypnotic techniques which can be interrelated with this rapid technique to enhance its success.

d. Determination of Assets. Following a review of the literature and the formal training in this program, it is recommended that at this point a review should be made to determine what assets should be utilized in this program. For instance, it might be that in order to lessen the resistance of an individual to the hypnotic induction process, the use of subliminal projection may be considered. This technique has achieved success in commercial advertising, as "Eat Popcorn" or "Drink Coke" projected on a screen in certain movie theaters for 1/3000 of a second at five-second intervals. It may be that subliminal projection can also be utilized in such a way as to feature a visual suggestion such as "Obey [REDACTED]" or "Obey [REDACTED]" with similar success.

e. Determination of Objectives. It would be at this stage of the programming that clearly defined objectives should be established. With a clear-cut series of objectives, the program will have the clarity necessary so that it will not become merely a pseudo-scientific experiment which will drift

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*Office
of the
Chief, OD/MS*

Chief, OD/MS

8 December 1961

(44)

Chief, Security Research Staff, OS

Cytomel

1. During the course of recent discussions between representatives of this Agency and Dr. [REDACTED] and [REDACTED], the use of a relatively new drug named Cytomel was explained by [REDACTED], who, as you know, is a well-known psychiatrist and one of the board members of the [REDACTED] Clinic at the University of [REDACTED] Medical School and hospitals. Details follow.

2. In discussing the handling of acute alcoholic cases, particularly those who are in delirium or even approaching a serious physical condition, Dr. [REDACTED] stated that he and his associates have recently been testing cytomel. Dr. [REDACTED] stated that this drug has had an absolutely amazing effect on the breaking up of DT's and counteracting alcoholic overindulgence. According to Dr. [REDACTED] this drug, when given in heavy doses, generally intravenously, will break up DT's and alcoholic convulsions or alcoholic embarrassments often in a matter of a few minutes. He cited examples where the drug had been used with startling effect, and Dr. [REDACTED] [REDACTED], who was present, stated that he too had begun use of the drug in acute alcoholic cases. Both doctors stated that this was particularly valuable in situations who are violent and are hallucinating and control is necessary as soon as possible. Dr. [REDACTED] suggested that this might be of some use to the Agency, suggesting that this could be used as heretofore stated. Agency representatives present at this meeting immediately asked Dr. [REDACTED] if this drug would have an intense sobering effect which might serve for operational reasons to which Dr. [REDACTED] replied that it would be definitely useful in that connection and that it should be examined most carefully.

2. Dr. [REDACTED] stated that Cytomel now comes in apparently capsule form of 5 MG but that heavy dosages of 25 MG were being used experimentally. Both doctors suggested that the drug could be used very effectively if placed under the tongue or given rectally, although as mentioned previously in a clinical way it was being used intravenously. When questioned as to whether or not there were side effects, both doctors stated that there were no side effects that had been established.

3. When questioned as to whether the drug could be used as a preventative or a technique for maintaining sobriety even when heavy drinking was required, both doctors were of the opinion that it would probably be highly efficient along these lines.

4. When asked the name of the drug house producing cytomel, Dr. [REDACTED] believed that it was Ciba and indicated that he would gather literature on the drug and send it immediately to Mr. [REDACTED] of the Office

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of Security.

5. In view of the above, it is the opinion of the Agency representatives who held the discussion that medical authorities of the Agency should undertake an examination of the properties of this drug with a view toward its possible operational use as outlined. It is suggested that if this drug has such properties and is as effective as indicated by Dr. [redacted] and Dr. [redacted], perhaps it could be made in the form of a "life-saver" or a throat lozenge, which could be carried by an Agency representative in a routine manner and which would not create undue interest if placed in the mouth.

6. Mr. [redacted] will forward any information received on the drug cytomel to your office immediately upon receipt.

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Brownfield and Associates
CONSULTATION ONLY

[REDACTED]
M. D.
M. D.
M. D.
M. D.

[REDACTED]



December 8, 1961

[REDACTED]
[REDACTED]
Washington 8, D. C.

Dear Mr. [REDACTED]:

Enclosed is The New England Journal of Medicine, which contains the article on Intravenous Cytomel. You may make photostatic copies of this article and then return the magazine to me for my files. The I.V. Cytomel works beautifully on cases of acute alcoholism. It is not available as yet for general use.

What you are more interested in is the use of oral Cytomel. This too has brought exceedingly good results in the clearing of acute alcoholism. We generally give a 25 or 50 microgram tablet. Very shortly the person is sober.

Since Cytomel is a thyroid drug, one should not continue on such medication since it will depress the thyroid so much that after five days of continuous medication the thyroid gland is totally depressed. However, with one or two tablets of Cytomel the effect will be minimal.

As I pointed out to you, it may well be that an agent who has to drink to be sociable while on an important assignment could slip a tablet in his mouth after taking several drinks and should be sober within twenty to thirty minutes. Cytomel is supposed to oxidize the alcohol. I believe that this could be an important adjunct to your work. Certainly it is worthwhile to study it further. No doubt you will want to get some qualified specialist in internal medicine to pass his judgment upon it. Make sure, however, he is truly qualified and knows something about the study before passing a decision. I sincerely hope this will be of help to your department.

It was such a very great pleasure to meet with you, Mr. [REDACTED] and Mr. [REDACTED] and to discuss our mutual problem. Rest assured should the situation arise again, I will handle it to the best of my ability.

With all good wishes,

Sincerely,

[REDACTED]

[REDACTED]

58-5

INTRAVENOUS TRIIODOTHYRONINE IN ACUTE ALCOHOLIC INTOXICATION*

Preliminary Report

MIGUEL GARCIA, M.D.,† ROBERT HENKEL AND MARC HURWITZ§

WORCESTER, MASSACHUSETTS

THE effect of the thyroid hormone, L-tri-iodothyronine, in rapidly sobering up acutely intoxicated alcoholic patients has been mentioned by Rawson, Koch and Flacht and by one of us (M.G.).¹ Since the previous reports pertained to topics other than the management of acute alcoholism, however, the details concerning this mode of treatment were not included. Our current experience with the intravenous use of a preparation of the hormone in the therapy of acute alcoholism — one that employs an objective parameter of changing levels of alcoholic intoxication, serial blood alcohol determinations — has been most impressive. The following report is intended to present, in brief, our findings in 12 patients with acute alcoholism treated intravenously with L-tri-iodothyronine as compared with 8 untreated, acutely intoxicated controls.

MATERIALS AND METHODS

The 20 patients, 14 males and 6 females, were selected at random for this study from the patients admitted to the Alcoholic Ward of St. Vincent's Hospital. The ages ranged from twenty-seven to fifty-eight years. Owing to the limited number of patients with acute alcoholism admitted to the hospital per week and available for study, no attempt was made to match the controls and treated patients by sex, age or approximate size. The random process employed to assign acutely intoxicated patients to the control or treated groups consisted only of withholding or administration of the hormone on alternate weeks during the interval of investigation. Fortunately, the average value of initial blood alcohol levels for the two groups fell in the same approximate vicinity: 338 mg. per 100 ml. for the treated patients and 321 mg. per 100 ml. for the controls (Fig. 1). Three patients assigned to the control group and 1 assigned to the treated group were excluded from the present data because the initial blood alcohol levels obtained on them were less than 150 mg. per 100 ml. — an arbitrary level generally accepted to indicate definite intoxication.

The majority were known to have chronic alcoholism, with several previous admissions to the hospital for excessive drinking. The solution for intravenous use was prepared from sodium tri-iodothy-

ronine powder. Once dissolved in a solution of pH 10.5 and refrigerated, it will remain stable for approximately five to seven days; it is stable at room temperature for one or two days. A dose of 200 microgram was selected for all treated patients in this study. Specimens for blood alcohol levels were drawn before and at intervals of two, four and eight hours after administration; specimens were drawn from the controls at the same intervals. The method described by Leisheit² was utilized in the chemical determination of blood alcohol concentration, and all specimens were run in duplicate.

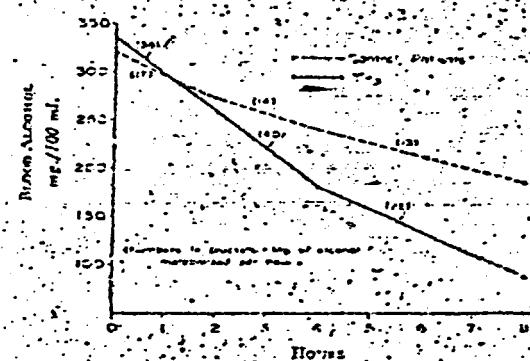


FIGURE 1. Rate of Decline of Blood Alcohol in Treated and Control Alcoholic Patients.

 T_3 = tri-iodothyronine.

In addition to the decline in blood alcohol, the following clinical criteria were employed to assess change toward sobriety: ability to give a rational history in patients initially in a stuporous state; ability to walk a straight line; ability to hold arms and fingers outstretched without a noticeable tremor; and disappearance of the odor of alcohol from the breath (as estimated by several observers).

RESULTS

As shown in Tables 1 and 2, the mean rate of metabolism of alcohol — as expressed in terms of the decline in blood alcohol in milligrams per 100 ml. per hour (Widmark's beta) — was 52.1 mg. in the treated patients, as compared with 15.0 mg. in the controls. The decline was twice as rapid in the former. The fall in blood alcohol had particular therapeutic value in patients such as A.L. and R.H., whose initial

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Graph prepared by Smith Kline and French Laboratories, Philadelphia.

ALCOHOLIC INTOXICATION - TIGLIOSI & ET AL.

levels of blood alcohol approached the lethal limits of intoxication. Figure 1, a composite plating of the serial blood alcohol levels in both treated and untreated patients, shows that the greatest increment in decline occurred in the first two to four hours in the treated patients.

A statistical analysis of these data, employing the Fisher "t test" for unpaired data,⁸ showed the results for the effect of the hormone on decline of blood alcohol to be highly significant ($t = 8.6$; $p < 0.001$).

As judged clinically, the great majority of patients were considered to be relatively sober within two hours of the intravenous injection of tri-iodothyronine by the criteria previously mentioned. The disappearance of the alcoholic odor from the breath within this two-hour period was particularly striking and uniformly observed. In comparison, among the controls, an alcoholic odor persisted on the breath for six to ten hours.

The ability to obtain a rational medical history within one or two hours in patients who have consumed large quantities of alcoholic beverages and are admitted to the hospital in a stuporous or semicomatose state is probably the greatest practical advantage of this method of therapy. The following case history is illustrative:

TABLE 1. Effect of Tri-iodothyronine on Rate of Blood Alcohol Decline in 12 Treated Patients.

PATIENT	Blood Alcohol Level			Rate of Blood Alcohol Decline
	BEFORE TREATMENT	1 HR. AFTER TREATMENT	5 HR. AFTER TREATMENT	
	mg./100 ml.	mg./100 ml.	mg./100 ml.	mg./100 ml./hr.
F.M.C.	320	260	120	43
T.M.G.	240	165	100	33.0
P.G.	410	315	200	31.2
L.C.	355	250.5	170	23
A.L.	430	240	216	140.5
R.H.T.	435	362	261	169
H.S.	320	256	230	167
O.C.	260	100	25	14
S.P.	340	310	278	101
A.W.	370	330	201	125
A.W.	320	240	150	24
D.O.L.	190	116	50	12
Averages	326	200	151	82.5 Mean ± 23.2 S.D.

A.W., a 45-year-old truck driver, was admitted to the Alcoholic Ward in a semicomatose state. The intern on duty in the emergency room stated that he had been brought in by police ambulance after being found unconscious in the street. The patient did not respond to questioning or painful stimuli, save from briefs on the face and nose, and a strong odor of alcohol on the breath. Physical examination was negative. No relatives who might supply the doctor in answering vital information about the previous or any prior

medical illnesses could be found. The police officers could not say whether or not the patient had been hit by a car or had sustained any head injury. The vital signs were all normal with the exception of a blood pressure of 170/110.

On arrival on the Alcoholic Ward, blood was drawn for baseline alcohol and other blood chemical findings, and 200 micrograms of tri-iodothyronine was administered by vein. Within 1 hour the patient was able to sit up in bed and was fully oriented. He was then able to give a lucid history, which confirmed the impression of alcoholic intoxication and

TABLE 2. Data in Untreated Control Patients.

PATIENT	Blood Alcohol Level				Rate of Blood Alcohol Decline
	1 HR.	2 HR.	4 HR.	8 HR.	
	mg./100 ml.	mg./100 ml.	mg./100 ml.	mg./100 ml.	mg./100 ml./hr.
H.B.	220	180	163	120	12.3
F.T.	360	318	309	275	13.3
R.N.	370	338	326	245	15.6
L.C.	255	224	227	144	18.9
C.T.	420	332	345	200	17.5
A.M.	325	226	260	205	15.0
J.H.	190	162	130	85	13.4
T.H.	368	331	302	224	14.2
Averages	321	237	234	200	Mean 15.0 S.D. ± 2.21

($t = 8.6$; $p < 0.001$)

was negative for trauma. He also mentioned that he was hypertensive and usually ran a systolic blood pressure of 230. Within 50 minutes of the intravenous injection he was able to walk a straight line and to hold out his hands without obvious tremor. Four observers could no longer detect the odor of alcohol on the breath. He subsequently slept in short naps until approximately 8 hours after admission to the ward, when he complained of being shaky and tremulous. The blood alcohol had then fallen from an initial value of 378 to 125 mg. per 100 ml. He was then given 100 mg. of promazine intramuscularly, which alleviated the symptoms. The remainder of the 24-hour hospital stay proceeded uneventfully.

DISCUSSION

An admirable review by Harger and Hulpien⁹ of numerous studies concerning the natural rate of decline of blood alcohol levels in both acutely intoxicated human beings and laboratory animals has shown that the average value for Widmark's beta is 15 mg. per 100 ml. per hour, with a range of 12 to 23 mg. These authors further state that, to their knowledge, no drug that is without harm to the body and can significantly increase the disappearance rate of alcohol from the blood has as yet been found -- including such present day therapeutic measures as glucose-insulin infusions and various vitamins for parenteral administration. Although the present data are derived from a limited number of cases, they demonstrate a fairly consistent increase in the rate of alcohol metabolism to double the control values in patients receiving tri-iodothyronine intravenously, as well as a prompt sobering-up effect, which can be observed clinically.

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Studies concerning the effect of thyroid hormones on alcohol metabolism when given by various routes of administration are presently in progress. Although a limited experience with tri-iodothyronine given sublingually by Dr. Kest, and ourselves shows this route to be effective, its therapy can only be given to the co-operative alcoholic patient. The experience of Catz¹ and others with oral administration has been disappointing, and in view of the unpredictable rate of absorption, this route is not recommended.

It is to be emphasized that our present findings indicate that intravenous or sublingual administration of tri-iodothyronine is merely a useful adjunct to the presently available methods of treatment of acute alcoholism, such as parenteral infusion of fluids, vitamins and tranquilizers, and not a means unto itself. We believe, however, that it has a unique effectiveness in the first unconvinced situation in which a comatose or semicomatose patient with a strong odor of alcohol on the breath is taken to the hospital by ambulance or police escort and is unable to give a clear medical history. Since several hours usually elapse before the attending physician can determine whether or not the condition is due to alcoholism alone, or is complicated by serious medical, surgical or neurologic catastrophe, an effective means by which one can rapidly sober up such a patient sufficiently to obtain a first-person history of events is highly desirable. In contrast, the administration of sedatives or tranquilizers does nothing to accelerate the sobering-up processes, and may actually hinder them.

Among the 12 patients given 200 microgram. of tri-iodothyronine intravenously and followed closely for any change in vital signs or untoward responses, no side reactions or evidence of toxicity has been observed. Freedom from any untoward reactions has likewise been seen in an additional 10 patients given the hormone intravenously, in 18 patients given 100 to 200 microgram. sublingually and in several dog experiments.³ Considering that 200 microgram. of the hormone is the equivalent of approximately 0.1 to 0.5 gm. (6 to 8 gr.) of desiccated thyroid and that an excess of circulating thyroid hormones is known to have a detrimental influence on cardiac function, both by a direct toxic effect on the myocardium and by potentiating the action of the catechol amines, we exercised great caution in attempting to exclude any patient with known coronary-artery disease from the treated group. Adrenal insufficiency is likewise a second contraindication to thyroid-hormone therapy. A possible exception, which may be considered a side reaction to therapy, has been the observance of moderate tremulousness and nervousness in 1 patient six

hours after receiving 200 micrograms of thyroid hormone. This state of rapid alcohol withdrawal rather than to the administered thyroid hormone. In the future an attempt to verify this hypothesis will be made by intravenous injection of alcohol at the time such symptoms as tremulousness and nervousness occur.

One patient with active delirium tremens manifested by auditory and visual hallucinations was likewise treated with tri-iodothyronine intravenously. Since the blood alcohol on admission was reported to be 25 mg. per 100 ml. the effect of the drug on the rate at which alcohol was metabolized could not be determined. The hallucinations disappeared, however, within one hour of the injection, and did not reappear.

Finally, one can only speculate about the precise site of action of the hormone in accelerating the natural pathways of alcohol metabolism. Considering that numerous studies by Heizel, Chatnock and Géod² and others have been unable to detect a significant effect of intravenously administered tri-iodothyronine on tissue metabolism earlier than eight hours after injection, it seems probable that the acceleration of alcohol metabolism is not dependent in full on a general enhancement of body metabolism but more probably is a direct effect on the hepatic enzyme systems that convert alcohol to acetaldehyde. This, of course, remains to be proved. In fact, studies by Wolff and Wolff⁴ have demonstrated an inhibiting action of thyroid hormones on yeast alcohol dehydrogenase in vivo, so that (if the theory outlined above is correct) other pathways of alcohol detoxification, such as the catalase reaction, may be involved.

SUMMARY AND CONCLUSIONS

An investigation of the use of thyroid hormone L-tri-iodothyronine in the management of acute alcoholism has shown this agent to have a prompt sobering-up action when given intravenously in a total dosage of 200 microgram. Among 12 patients who received this treatment and were compared with 8 untreated, acutely intoxicated controls, the following results were obtained: the rate of blood alcohol decline averaged 15.0 mg. per 100 ml. per hour in the controls and 32.1 mg. per 100 ml. per hour in the treated patients; patients given the hormone were judged to be clinically sober and able to give a rational medical history within two hours after the injection; the odor of alcohol was undetectable on the breath two hours after treatment, although it persisted for six to ten hours in the untreated controls. Intravenous therapy appears to be a valuable adjunct in the treatment of acute alcoholism, particularly when such a patient is admitted to the hospital in a stuporous or semicomatose state secondary to severe intoxication and is unable to give a coherent medical

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clues about the value of intravenous injection of triiodothyronine in the routine management of acute alcoholism; our preliminary studies have shown a fair uniformity of response in blood alcohol curves and clinical assessment of sobriety. It is hoped that this report will prompt others to verify our findings.

REFERENCES

- Pearce, R. W., Koch, H., and Fisch, F. D.: Thyroid hormones and sexual health. In Horowitz, *Brain Function and Behavior*. Proceedings of a conference on neuroendocrinology held at Johns Hopkins, New York, 1958. Edited by H. Horowitz. New York: Academic Press, 1959, pp. 375-382.
- Gifford, M.: Onset and course of hypothyroidism during alcoholism. *J. Clin. Endocrinol.* 20: 619-621, 1950.
- Lehrer, H. C.: Quantitative determination of ethyl alcohol in blood. *U. S. Armed Forces M. J.* 2: 339-342, 1956.
- Kane, S., and Huie, M. E.: Terminal blood alcohol concentrations in one-hour intervals of some alcoholics. *J. Stud. Alc.* 15: 451, 1954.
- White, G.: Some evidence of use of drugs on physiological data. *M. J. Stud. Alc.* 2: 257-261, 1954.
- Hutson, R. N., and Hopkins, H. R.: *Pharmacology of Alcohol*. In *Alcoholism*. Edited by G. N. Thompson. 500 pp. Springfield, Illinois: Thomas, 1956. Pp. 412-422.
- Carr, R.: Personal communication.
- Cooley, M.: Unpublished data.
- Hornig, B. S., Charnock, J. S., and Good, B. P.: Comparison of early metabolic effects of triiodothyronine and thyroxine in man. *J. Clin. Endocrinol.* 20: 357-363, 1956.
- Wolf, J., and Wolf, E. C.: Effects of hormones on human lymphocytes. *Biochem. et Biophys.* 10: 25-29, 1954, 1955.

MYCOTIC ENDOCARDITIS FOLLOWING INTRACARDIAC OPERATIONS*

Report of Four Cases

BONG HAK HYUN, M.D., D.Sc. (Med.),† AND FRED C. COLLIER, M.D.‡

PHILADELPHIA

MYCOTIC endocarditis, especially after cardiac surgery, has seldom been observed.¹⁻³ Bacterial endocarditis complicating recovery from such operations, however, is not uncommon,³⁻¹² is usually disclosed by blood culture and is often responsive to appropriate antimicrobial therapy. No distinction between mycotic and bacterial endocarditides can be made on clinical grounds. Therefore, investigation of postoperative fever calls for procedures that will identify fungi as well as bacteria.

It would seem that mycotic endocarditis is increasing.¹⁻⁴ If true, this would not be surprising, considering the ubiquity of fungi and the rapidly expanding field of cardiac surgery. Within a nine-month period, 4 cases of endocarditis due to *Candida albicans* were observed in two of the hospitals associated with the University of Pennsylvania School of Medicine, and they are summarized in this communication. The first case has been reported in detail elsewhere,⁵ but, because of the rarity of reports of this condition, it is included in brief along with the other 3 reported for the first time.

CASE REPORTS

Case 1. A 49-year-old man (P.H.P. 152301) was admitted to the Presbyterian Hospital in Philadelphia, where the diagnosis of mitral insufficiency was established. Circumferential suture of the mitral ring was performed 7 days later, without incident. No antibiotics had been given preoperatively.

*From the Laboratories of the Presbyterian Hospital, A, Philadelphia and the Department of Pathologic Anatomy, Hospital of the University of Pennsylvania.

†Associate Professor of Pathology, Medical College of Virginia, Richmond, Va.; formerly a research pathologist, Department of Research, Division of Medical Research, U.S. Public Health Service.

On the 12th postoperative day fever and chills developed, and the blood culture was positive for *Staphylococcus aureus*. Penicillin therapy was initiated. When the oral route was substituted for the parenteral route of penicillin administration at the end of 8 weeks fever promptly recurred, and blood cultures were again positive for *Staph. aureus*. Despite resumption of parenteral administration the patient's condition deteriorated; it improved somewhat on ACTH, cortisone and desoxycorticosterone acetate. Again, substitution of the oral for the parenteral route of penicillin administration resulted in prompt reappearance of *Staph. aureus* in the blood stream, and the patient died 105 days after operation.

Autopsy revealed thrombotic material containing both *C. albicans* and *Staph. aureus* adherent to the circumferential suture, the posterior half of which was lying free in the left atrio-ventricular cavity.

Case 2. A 37-year-old man (H.U.P. 021230) was admitted to the Hospital of the University of Pennsylvania suffering from aortic stenosis. After direct catheterization of the left side of the heart hemopericardium developed. Sixteen days later the patient underwent aortic valvotomy by finger fracture. Preoperatively, he had been given penicillin and streptomycin for 2 weeks.

The immediate postoperative course was marked by fever, the temperature ranging from 99 to 102°F. Replacement of penicillin and streptomycin by tetravaccine was accompanied by more severe pyrexia, and the original regimen was re-established, with the addition of chloramphenicol. Multiple blood cultures were negative until the 30th postoperative day, when blood and iliac-marrow cultures were positive for *C. albicans*. Massive antibiotic therapy, utilizing amphotericin B, penicillin, bacitracin and nystatin, was then instituted. Five days after the 1st positive blood culture, Osler's nodes and conjunctival petechiae developed. Nystatin and azolidione were given intravenously to the patient, who died 33 days after the 1st positive blood culture and 2 months after the operation.

The significant autopsy findings included cardiac hypertrophy, partially alleviated stenosis of the aortic valve, which was covered by fungus-laden vegetations, and a fistula between the right sinus of Valsalva and the right atrium (Fig. 1). Mycotic emboli were present in the right iliac artery, the iliofemoral and the segmental pulmonary artery to the left upper lobe.

Case 3. A 75-year-old man (H.U.P. 071315) was admitted to the Hospital of the University of Pennsylvania suffering from aortic stenosis. Direct catheteriza-

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Dear [redacted],

Reference is made to numerous cables concerning the [redacted] case, the latest one in our possession being the cable from [redacted] which arrived here 2 January 1962.

As you realize, our interest in the case is in connection with the ARICIDE-type activity carried out by apparently the military in connection with this case. We have talked to Dr. [redacted], and also to our sources here, but we have been unable to come up with any information concerning this particular activity or the individuals participating in it in any way. Dr. [redacted] is convinced that the drug is not the P-1 but is possibly an amphetamine type.

We think that through your sources, and particularly your interest in the [redacted] case, you might be able to obtain technical information in this connection. While it is recognized that extreme care must be used in seeking this information since the cables all indicate this is most sensitive and our sources on the scene must not be exposed, we nevertheless believe that some sort of inquiry could be made so that we could subsequently learn the nature of the drugs used and the techniques.

If the technical reports cannot be obtained or at least a resume of these reports, perhaps the names of the participating personnel could be obtained and we could examine them to see if we had any point of contact.

We are most anxious to learn the nature of this operation, particularly since there was some success indicated and the Army apparently is considering using it world-wide, which as you recall is in direct contrast to their previously stated position on using chemicals in connection with interrogation.

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John De [redacted] FRIDAY 11-Aug
Baldwin had no knowledge but will [redacted]
A confidential informant of known reliability at [redacted] ingrine

learned unofficially from a military intelligence type that an important case (penetration) was broken not because of a polygraph as reported but was achieved by a chemical or drug (something) given to the penetration orally. Whatever was given a confession apparently resulted.

Source, in addition, reported that military intelligence has opened up a program all over the world using this new technique. Source also reported that two high ranking officers from the Pentagon plus a medical officer conducted the above and administered this new technique in the aforementioned case. Source in passing information reported that this is highly sensitive business and extreme caution must be used to avoid any disclosures.

Inquiry unofficially from our friends, Sid G. et al. indicates no knowledge of same.

One of our very closest medics has no specific information but thinks it may be something of the amphetamine family. This medic indicates that there is a new chemical which might be the one being used. This chemical referred to has been manufactured by a major pharmaceutical outfit and was o.k.'d by Federal Drug Administration approximately three weeks ago. Apparently the Veterans Administration also has run tests on it. Possibly NIH may have some idea with

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Dr. [redacted] or Dr. [redacted] knowledgeable. It has also been learned
that the Department of Defense did not have any mechanism for
conducting tests on this chemical.

Another source has indicated that this same chemical was
approved by Federal Drug Administration on 20 July 1961.

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18 June 1962

If you recall, this is the case that we discussed some time ago concerning the successful use of the drug on a subject. [REDACTED] according to this has found out that the drug is LSD. Please return the cable after you have noted it.

Appreciated sincerely;

[REDACTED]
6/18/62

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I November 1963


MEMORANDUM FOR THE RECORD

SUBJECT: International Federation for Internal Freedom (IFIF)
ALPERT, Richard, Ph. D.
LEARY, Timothy F., Ph. D.
Drugs, Mind Affecting, Agency Policy Regarding

1. Reference is made to the articles (attached), "The Hallucinogenic Drug Cult," appearing in The Reporter, 15 August 1963; "The Strange Case of the Harvard Drug Scandal," appearing in the 5 November 1963 issue of Look; and, numerous other articles recently appearing in magazines and in the public press on the same subject. These articles concern the use of certain hallucinogenic drugs (particularly LSD, mescaline, peyote, and psilocybin), some mind affecting mushrooms, and others by various groups for experimental purposes, often of a quasi-religious nature.

2. In the Spring of 1963, Harvard University fired Dr. Richard ALPERT, a psychologist, from its staff for non-control of use of the above-mentioned drugs for experimental purposes. His associate, Dr. Timothy F. LEARY, also a psychologist, left the University about the same time. These professors had been using hallucinogenic drugs in experiments involving undergraduate students and after a series of attacks by faculty and by outside sources, the University was forced to remove both of these individuals from its staff. Somewhat earlier, Drs. ALPERT and LEARY had set up an organization known as the International Federation for Internal Freedom (IFIF), which obviously was a cover for additional experimental work in the hallucinogenic drugs. After their dismissal from Harvard and the attacks on their activities by the Division of Food and Drugs of the Massachusetts Department of Public Health and by the Federal Food and Drug Administration, the two doctors transferred their activities to Mexico where they claimed that they would have more

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freedom. However, several chapters of the IFIF were organized in different parts of the United States, particularly at Los Angeles, New York City, and with the main office at Cambridge, Massachusetts. Another chapter was organized at Mexico City, Mexico.

3. SRS/OS has for a number of years been engaged with certain other Agency areas in research and operational work with some hallucinogenic drugs. This work has been under rigid Security and Agency control, and the then Director of Security, Colonel Edwards, laid down rigid instructions that these types of drugs were not to be used under any circumstances on Agency personnel. Operational use of the drugs was handled through a special committee under the specific control and only with consent of Mr. Richard Holmes, DDP.

4. It should be noted that the aforementioned hallucinogenic drugs are considered by the Office of Security and by the Medical Office as extremely dangerous. Uncontrolled experimentation has in the past resulted in tragic circumstances and for this reason every effort is made to control any involvement with these drugs.

5. SRS has not been able to determine whether any staff employees of the Agency have engaged in the unauthorized taking of any of these drugs, but there is information that some non-Agency groups, particularly on the West Coast, have taken these drugs in a type of religious experimentation. While as previously mentioned there are no staff employees involved, some individuals known to have taken the drugs have sensitive security clearances and are engaged in classified work.

6. Any information concerning the use of this type of drug for experimental or personal reasons should be reported immediately to Chief/SRS/OS with all specific details furnished. In addition, any information of Agency personnel involved with the International Federation for Internal Freedom, or with Drs. ALPERT or LEARY, or with any group engaging in this type of activity should also be reported.

Chief/SRS/OS

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PROJECT BLUEBIRD/ARTICHOKE

1. The basic memorandum explained the origins of Project BLUEBIRD/ARTICHOKE in OSI. This addendum concerns the indications of activity by other offices in this program.

2. The bulk of the material in OSI files concerns the work of OSI in analyzing foreign activities related to the use of drugs and psychochemicals in interrogations. There are however memoranda for the record concerning Agency meetings at least through 1955. These MRs contained brief references to work being done under the auspices of other offices in the U.S. In at least one instance OSI provided support for the domestic R&D effort when an OSI chemist, an expert in toxic plants, went to [redacted] in December 1952 to pick up some plants with "anesthetic qualities" for subsequent evaluation.

3. At just what time Project ARTICHOKE changed from an inter-agency program concerned with production of intelligence on foreign activities to an agency-operated R&D program (the forerunner of MKULTRA?) is not clear from the files. By late 1952, however, a change had taken place and the players now were the Security Officer, CIA, the Chief, Medical Services, Chief, TSS as well as the AD/OSI. A paper of 16 July 1953 from the Security Officer, CIA to ARTICHOKE representatives, entitled "Restatement of Program", notes the following basic aims:

- a. to perfect techniques utilizing existing drugs, hypnosis, and other elements for the extraction of information from individuals whether willing or not.
- b. to provide field teams for testing, experimenting and refining techniques for the extraction of information from indigenous personnel under field conditions.

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Downgraded per Authority
of Classifier #063758
6 February 1975

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c. arrange for research and experimentation for the development of means for the control of the activities and mental capacities of individuals whether willing or not."

Other items through (i) concerned other details of the program.

4. A note in the record dated 23 October 1953 by Dr. [REDACTED] (Scientific Advisor to the AD/OSI) notes that "IS&O has prepared a new set of "by laws" for the Committee, which will include approval of testing of drugs on volunteers among Agency personnel". A reference of 29 October 1953 also by [REDACTED] refers to draft memoranda to be returned to the ARTICHOKE Committee, one of which is entitled "Experimental Project Utilizing Trainee Volunteers". No copy of this memorandum could be found. A record of a conversation between Dr. [REDACTED], AD/OSI and Dr. [REDACTED] of OIS dated 14 December 1953 refers to the Schwab activity at Detrick and contains the following cryptic notation:

"Lovell knew of Frank R. Olson. No inhibitions. Baring of inner man. Suicidal tendencies. Offensive usefulness?"

5. Another [REDACTED] MR dated 5 February 1954 reports on discussions with a representative of [REDACTED] concerning a visit to [REDACTED] for the purpose of collecting certain flowers, making an extract and testing. It notes "complication. TS wants lab facilities for extraction -- two human patients to try it on there -- delicate situation in G. Afraid untoward accident don't want to get mixed up in clinical testing." The record contains no follow-up on this proposed field work.

6. One of the last references in OSI files to ARTICHOKE is in the form of a copy of a trip report filed by [REDACTED] of the Office of Security following a visit he made to the [REDACTED], 6-11 April 1955 for discussions with Dr. [REDACTED] and others regarding research on drugs for intelligence purposes. This trip report contains intimations of more than casual Agency interest in U.S. use of drugs for intelligence purposes. Follow-up papers were submitted by the Chief, [REDACTED] Field Office through mid-1955 and Dr. [REDACTED] of OSI was on the distribution.

~~TOP SECRET~~

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31 JAN 1975

MEMORANDUM FOR THE RECORD

SUBJECT: Project ARTICHOKE

ARTICHOKE is the Agency cryptonym for the study and/or use of "special" interrogation methods and techniques. These "special" interrogation methods have been known to include the use of drugs and chemicals, hypnosis, and "total isolation," a form of psychological harassment.

A review of available file information obtained from Office of Security resources failed to reflect a comprehensive or complete picture of the ARTICHOKE program as participated in by the Office of Security. Fragmentary information contained in a variety of files previously maintained by the Security Research Staff (SRS) reflected several basic papers which described, in general terms, the program known as ARTICHOKE. Information contained therein indicated that prior to 1952, the Office of Security had studied the use of drugs and chemicals in "unconventional interrogation." These studies were evidently coordinated with the Agency unit which was then called OSI. OSI at that time apparently was the coordinating unit within CIA.

One paper reflected that an Office of Security team as early as 1949-50 experimented with drugs and hypnosis under a project called BLUEBIRD. This paper also reflected that by 1951 actual interrogations utilizing drugs were conducted by a combined team of Office of Security and Office of Medical Services personnel, but few details were available.

File information indicated that in 1952, overall responsibility for Project ARTICHOKE passed from OSI to the Office of Security. References to operational use of drugs as an aid to interrogation since that time were found in various files, but few details concerning these experiments were reflected. A memorandum, subject title: Project ARTICHOKE, dated 21 November 1952, by Mr. Sheffield EDWARDS, reflected

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transfer of control of Project ARTICHOKE from OSI to the Office of Security. The memorandum indicated that I&SO (Office of Security) should call upon the research and support facilities of the CIA Medical Staff and the Office of Technical Services as required. Responsibility for the evaluation of foreign intelligence aspects of the project were to remain with OSI.

The unit within the Office of Security which apparently coordinated Project ARTICHOKE activities was SRS, with Mr. [REDACTED] for many years the focal point. Details of Office of Security involvement in individual Project ARTICHOKE operational utilizations were found in very few instances. A reference in an SRS log (1951-67) reflected, however, that SRS had been involved in the experimentation and use of hypnosis "from the start." In the same reference, it was stated that "SRS has examined and investigated numerous unusual techniques of interrogation including psychological harassment and such matters as 'total isolation!'" The SRS log referred to above, which covered a period from 1951 to 1967, indicated that, as of 1967, "the term ARTICHOKE is not in general use now, and drug interrogation is conducted from the recommendation of an Agency committee of which the Chief, SRS, is the Office of Security representative." No record was found which reflected when or if overall responsibility for Project ARTICHOKE was transferred from the Office of Security to any other Agency component.

One of the few areas where detailed information was available was concerned with hypnotic experiments. A log of hypnotic experiments conducted by Office of Security personnel was reviewed. The log reflected that numerous (probably several hundred) experiments with hypnotism were conducted in Agency buildings, apparently utilizing the staff employee volunteers as subjects. In some instances, representatives from Agency components other than the Office of Security were present. The log reflected hypnotic experiments during 1951, 1952, and 1953. It could not be determined from available file information when the hypnotic experiments actually began or were caused to be ceased. No record was located which reflected hypnosis utilized as an actual operational tool in the field. In connection with hypnotism, it appears that SRS utilized an Agency employee, one [REDACTED], as an informant in various societies dealing with hypnotism to keep abreast of current developments in the field.

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Few references were found pertaining to the area of "total isolation" as an interrogation aid. A memorandum pertaining to this subject, dated 21 March 1955, was written by Mr. [REDACTED] of SRS to the Director of Security. The paper discussed "total isolation" techniques as an operational tool of potential. Another paper (a sterilized version, probably written by an element of the Department of Defense) dated 16 March 1955, reflected the results of "total isolation" experiments on six volunteers, all members of the U.S. military. No reference was found to any additional experiments in this field, nor was any reference found which reflected actual use of this technique in an operational situation.

As far as the experimentation and/or utilization of various drugs is concerned, references to a few instances were located, but little detail was available, and it was clear from the files that much of the detailed information probably was maintained by Agency units other than the Office of Security, i.e., the Office of Medical Services and the Office of Technical Services.

Among the instances where details were located in which drugs were used in an operational environment under the auspices of Project ARTICHOKE, were the following:

(a) In 1954 three subjects were interrogated by a Project ARTICHOKE team utilizing drugs of an unspecified nature. The three subjects were identified as [REDACTED], [REDACTED] and [REDACTED] in a memorandum dated 13 January 1955, with a cover sheet signed by Mr. [REDACTED]. The interrogations took place in [REDACTED], and the memorandum mentioned injections of "solution #1" and "solution #2," but these drugs were not further identified. It was noted in the memorandum that the cases were handled "under straight drug techniques -- hypnosis or narco-hypnosis was not attempted."

(b) A memorandum dated 20 January 1959 to Mr. [REDACTED] from [REDACTED] indicated that a field request had been made for a "P-1 interrogation." The writer [REDACTED] identified a "P-1 interrogation" as one using LSD. Approval was granted on 27 January 1959 by the initials [REDACTED], presumably Mr. [REDACTED]. No further reference to the case could be found, thus no details were available.

391 (487)

(c) A series of cables between [redacted] and Headquarters in 1955 requested ARTICHOKE interrogations for nine persons. No disposition in this instance was found, however, a transmittal slip affixed to the materials dated in 1960 indicated that the ARTICHOKE interrogations probably did not actually take place in [redacted] at that time.

(d) A memo contained in the security file of [redacted] reflected that an ARTICHOKE team was dispatched to [redacted] in June 1952 to conduct ARTICHOKE interrogations on [redacted]. No further reference to this operation was noted, and no disposition could be found.

(e) In the case of [redacted], [redacted] operation in [redacted], drugs were utilized in the interrogation which took place in [redacted]. Again, details of the operation were not available. However, an interview with the Office of Security representative who participated in the interrogation revealed that a form of LSD was used in this instance. In this case, approval was granted by Headquarters for the ARTICHOKE interrogation. A memorandum dated 6 July 1960, signed by Mr. [redacted], Deputy Director of Security, reflected that approval for use of drugs in this case was granted at a meeting of the Drug Committee on 1 July 1960 and cabled to [redacted].

As stated earlier, little detail was available in file information concerning the conduct of actual cases utilizing Project ARTICHOKE techniques. It appears obvious, however, that the few cases noted above were only a small part of the actual utilization of ARTICHOKE techniques in the field. For one thing, almost no information was available for the period prior to 1952, so that Project BLUEBIRD experiments and operations were not noted specifically. In addition, annual reports of accomplishments found in SRS log materials reflected a substantial amount of activity in the Project ARTICHOKE area. The review for 1953-1954 stated in part that SRS had "dispatched an ARTICHOKE team for permanent location in an overseas area." The review for 1954-1955 stated in part that SRS conducted numerous ARTICHOKE experiments and "prepared and dispatched an ARTICHOKE team to an overseas area to handle a number of sensitive cases."

391 (487)

Review of file materials consistently reflected that the Office of Security exercised caution in the utilization of drugs under the ARTICHOKE Program. Although it is apparent that SRS for a number of years was engaged with certain other Agency components in research and operational work with hallucinogenic drugs, the work was apparently conducted under strict controls. As previously stated, no information pertaining to when or if control of Project ARTICHOKE was transferred from the Office of Security to another Agency component was located. Apparently, SRS at one time maintained an inventory of ARTICHOKE materials which contained numerous drugs of all types including LSD-25. A memorandum dated 14 October 1957 requested authorization for SRS to transfer ARTICHOKE materials and apparatus to Dr. [REDACTED] of Medical Services. The memorandum was written by Mr. [REDACTED] and approval to transfer the materials was granted by Mr. [REDACTED] on 17 October 1957.

In the review of file information contained in SRS materials, one incident which occurred in November 1953 appears worthy of note. Although it was not clear from file information whether or not the incident occurred under the auspices of Project ARTICHOKE, the incident did involve use of LSD in an experimental exercise. One Frank OLSON, a civilian employee of the Department of the Army, committed suicide a week or so after having been administered LSD by an Agency representative. Details concerning this incident apparently will be reported in a separate memorandum, but it appears that the drug was administered to several unwitting subjects by a Dr. GOTTLIEB, at that time a branch chief in TSS (now OTS). A short time after the LSD was administered, the subjects were told that they had been given LSD. On the day following the experiment, OLSON began to behave in a peculiar and erratic manner and was later placed under the care of a psychiatrist. A few days later, OLSON crashed through a window in a New York hotel in an apparent suicide.

A memorandum dated 1 December 1953 from the IG Staff caused the impoundment of all LSD materials. Information contained in the above mentioned files reflected that the drug had been administered without the prior knowledge or approval of the Office of Security or the Office of Medical Services.

(483)

It should be noted that the information contained herein is based on resources available within the Office of Security only, and no effort has been made to delve into files of other Agency units such as the Office of Medical Services or the Office of Technical Services. As the reader is by now acutely aware, insufficient information was available to provide a clear understanding of either Project BLUEBIRD or Project ARTICHOKE. Investigative efforts reflected that numerous files and collected data had been routinely purged or destroyed in the normal course of events at some time in the past.

PROJECT MKULTRA was an unclassified project for training CIA sensit. pro ts in TSD/DDP (as then style) approved by Allen Dulles on 3 April 1953. Cryptonym MKDELTA covered DDP policy and procedure for use of biochemicals in clandestine operations, being established 20 October 1952, part of which (the subject of this memorandum) was funded and handled under MKULTRA.

This activity was inspected by the Inspector General in 1963. It was found that over the preceding ten year period the program had explored avenues of control of human behavior involving such subjects as radiation, electro-shock, psychology, psychiatry, sociology and anthropology, [REDACTED], harassment substances, and paramilitary devices and materials. At the time of the inspection in 1963 TSD doctrine was described as being to the effect that testing of materials under accepted scientific procedures does not disclose the full pattern of reactions that may occur in operational situations, leading to TSD's initiating a program in 1955 of covert testing of materials on unwitting U.S. citizens.

The project was compartmented and funded through sterile channels, employing pharmaceutical houses, specialists, hospitals and federal institutions, through which a search was conducted for new materials, (e.g. psilocybin from Mexican mushrooms; a fungi occurring in certain crops). The second phase involved testing on voluntary participants. The final phase involved application to unwitting subjects in normal situations commencing in 1955 under an informal arrangement with individuals in the Bureau of Narcotics, under which two of its employees on the West Coast conducted tests. A similar arrangement was made for the East Coast in 1961.

In a number of instances the test subject became ill for hours or days, including hospitalization in at least one case. While evaluations indicated some operational value in the tests, it was noted that scientific controls were absent, in addition to the basic ethical problem.

It is understood that the unwitting testing was suspended following the inspection although other aspects of the program continued, with annual decreases in funding until the program was phased out in the late 1960s.

17 January 1975

75-7

79 (480)

3 February 1975

MEMORANDUM FOR THE RECORD

SUBJECT: Project ARTICHOKE

1. In the conduct of investigating Project ARTICHOKE, attempts were made to locate and review all available Office of Security information pertinent to Project ARTICHOKE. The information base for the memorandum "Tab A" was the materials found in old SRS files, specifically a box of materials provided out of retirement from [REDACTED]. The referenced box of materials also contained a file entitled "LSD," pertaining primarily to one Frank OLSON. Much of the information contained in the "LSD" file appeared to be I.G. file information. The Office of Security file on Frank OLSON was not reviewed as the OLSON matter was to be handled separately by a different reviewer.

2. In searching Office of Security records, an indices card for a Project BLUEBIRD was found in SRD, reflecting an OS file number 69 20S. However, an exhaustive effort to locate such file met with negative results. No record was found in SRD of any file entitled Project ARTICHOKE. It was speculated that perhaps the Project BLUEBIRD file was purged or destroyed routinely, and perhaps the indices card was inadvertently left in the file. However, the fact remains that although an indices card reflecting Project BLUEBIRD was found, no file could be located.

3. In attempting to locate all available information pertinent to Project ARTICHOKE inquiry, Messrs. [REDACTED], [REDACTED], and * were contacted and their assistance was obtained.

4. As reflected in "Tab C," a memorandum was prepared utilizing information from DDS&T sources. Old OSI information was reviewed for pertinent information regarding Project BLUEBIRD and Project ARTICHOKE.

*CIA Officer

5. According to Mr. ██████████, a review by Office of Medical Services personnel for pertinent Project ARTICHOKE materials initially failed to reflect relevant data. However, Dr. ██████████ of Medical Services is reported to maintain certain sensitive files in his own safe, and on his return to duty, will search further for pertinent Project ARTICHOKE materials.

6. In response to direction by Mr. ██████████, Mr. ██████████ of DDS&T was contacted on 31 January 1975 in an attempt to review OTS records for pertinent Project ARTICHOKE materials. Mr. ██████████ reported that a discussion with Mr. Sayre STEVENS revealed that OTS had no pertinent records available. Mr. ██████████ reflected that the Office of the DDS&T had "gone back to OTS seven or eight times" to obtain Project ARTICHOKE information, but none apparently remained in OTS. It has been reported that ██████████ destroyed a number of boxes of materials prior to his termination of Agency employment.

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DMS.

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10 FEB 1975

NOTE: These 2 memos were seen by
D/MS on Friday, 7 Feb 75.

jv

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5 February 1975

MEMORANDUM FOR THE RECORD

SUBJECT: Review of Project File

1. At the request of D/MS I reviewed the Project file which had been maintained and held by D/MS. The request stems from an earlier requirement from senior Agency Official for information on this Project.
2. The purpose of my review was to select for reproduction documents from the file which would be representative of the file and which would show development and direction of the Project. This I have done and a group of documents have been reproduced and assembled. These will be forwarded to the Inspector General through a senior Agency Official. A copy of those items forwarded will be maintained in a separate file by D/MS.

Agency Physician

CL BY: 061378

31 December 1983

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3 February 1975 *LJH*

MEMORANDUM FOR THE RECORD

SUBJECT: Request from Agency Official, for Information on Project File

1. On 28 January 1975 at the close of the regular morning staff meeting, senior Agency Official kept the group to brief them on Mr. Colby's meeting with the Rockefeller Commission on 27 January 1975. At the conclusion of that briefing he handed out a list of questions for information. As I understood it these were questions that had come out of Mr. Colby's meeting the previous day with the Commission. One of the questions centered around the Project. The responses were to be in by close of business 28 January 1975. On returning to the office I gave the list of questions to OMS Officer and asked him to contact those people in the office he needed to in order to compose a reply and instructed him specifically to contact an Agency Physician, on the Project or any similar projects. I told OMS Official that I remembered participating in [redacted] sometime during my assignment in [redacted] in a so-called Project activity and I stated that to the best of my recollection two Security officers and a Psychiatric Staff consultant visited Germany for the purpose of using this technique on a foreign national of interest to the Agency. I advised him that I had no other knowledge of this Project. This report of mine was included in the summary we prepared and forwarded to a senior Agency Official on 28 January 1975. OMS Officer could find no documentation referring to anyone else in the office having knowledge of the Project and it was so stated.
2. A couple of days later I received a call from a Senior Agency Official who stated that an Agency Official, had in some file somewhere found a memorandum referring to the Project with a meeting being held with C/Security C/Medical Staff, and others attending said meeting. I advised Senior Agency Official that we had checked all available records and could find no documentation of any kind on the Project. I advised him that there was only one place

CL BY: 061378

31 December 1983

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SUBJECT: Request from ADDA for Information on Project File

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that had not been looked at and this was Dr. [REDACTED] private safe. Dr. [REDACTED] was then on TDY in [REDACTED] and was not due to return to duty until 3 February 1975. Some consideration was given to opening that safe by

cial Dr. [REDACTED] secretary, who had the combination to it. However, that step was not undertaken and senior Agency was aware of that and he expressed his willingness to wait for D/MS to return to duty before pursuing this matter further.

3. On 3 February 1975 on Dr. [REDACTED] return to duty, I briefed him on this matter and shortly thereafter he advised me that he had a file on the Project which had been in his private safe. He stated that he had scanned it but had not read it fully and he wanted me to see the file and know of its existence for two reasons. Firstly, that as OMS Officer, I should know about it and secondly there is material in it that confirmed my participation in one effort by the so-called Project team in [REDACTED] in 1954. I went through the file and later told him that this is the first time I was aware of the existence of the file and secondly it was the first time that I was aware of and had read a report on this particular Project I participated in. He asked me to go through the file again identifying those documents which gave indication of the development and the history of the Project. This I have done and have paper-clipped those documents I thought to be pertinent. He then called senior Agency Official in my presence and advised him that he had found some data on the Project. Senior Agency Official invited him to his office immediately for further discussion.

OMS Officer

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14 FEB 1975

MEMORANDUM FOR THE RECORD

SUBJECT: Project

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1. Following the Morning Meeting of 3 February (which had been chaired by a senior CIA official) I was invited to stay on and meet with an Agency official. He was interested in discussing the project. He reported that Mr. Colby at his second meeting with the Commission had discussed matters with them that were not contained in the allegations but which bore some degree of sensitivity. Among these, according to the senior CIA official, he discussed the project. Sometime after that meeting, the Director was phoned by the Chairman of the Commission in that project since some allegation had been made that a staff employee had died by reason of drug experimentation. The senior CIA official ~~owed~~ me the file material that he had on this incident as reported by the Office of Security. He went on to say that there were no records available on the project as to how it came into being or the nature of its purpose, and he wondered if I had such information. I advised that I thought that I probably did not but would review our material to see if such were the case.

e. After leaving the senior CIA official around 10 o'clock and arriving at my office, I found a file entitled project lying on my desk as placed there by my secretary who had found the same in my private safe. This file contained a miscellany of material relating to the project for the years 1952-1958 at which time the record ends. I subsequently met with an Agency physician and then later in the day with a senior CIA official.

2. On learning of the existence of this file, I reviewed the material contained therein but did not perform a detailed scrutiny. I then invited a CIA physician in and advised him of my meeting with the senior CIA official that morning and the existence and presence of my file on the project. I told him that I wanted him to be aware of the file and also of its contents, and I requested that he read the material contained therein. I stated that it was my intention after he read the material to advise the senior CIA official aware of the file's existence. I also stated that it was my intention to make available to the senior CIA official copies of those documents that recorded the early history of those organizational developments pertaining to the project. I stated that I also intended to advise the senior CIA official that the file contained other information -- technical in nature -- along with the identities of some individuals, and that I intended not to make this information available to him but would make him aware of its existence. I stated that if he, a CIA physician, after reading the file would have any additional views, I would appreciate his advice.

CL BY: 003027

E2 IMPDET

31 December 1982

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SUBJECT: Project

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3. The CIA physician indicated later in the day that he had read the file over and that he had paperclipped those items that he thought were of some significance in documenting the record of the early project history. He was in agreement with my approach and had no further suggestions to make. I then made an appointment to see the senior CIA official and took the file in its entirety with me.

4. In the meeting with the senior CIA official I advised him that my file contained a variety of information pertaining to project and that apparently any information relating to the Project that had come my way during the years 1952-1958 had been filed by previous secretaries in this one file location. As such, the file contained copies of documents relating to the early founding of the project and some of its developmental features, at least developmental questions. The file also contained technical information which was of a reporting nature to our Medical Office. I stated that I intended to make copies available to him of the documents pertaining to the early history. I also stated that I felt that I had responsibility for protecting individuals who had participated in the project in earlier days and did intend to safeguard such information. The senior CIA official advised that the Committee on which I served had similar feelings and were not inclined to reveal identities but were inclined to make references in terms of IDEN A, IDEN B, etc., with some basic reference document containing true identities held in custody by the Agency. With his agreement, I then proceeded to show him the project file. This was not done in detail. I merely showed him the general content of material with examples of material that I proposed to make available and examples of material I proposed not to make available. He was accepting of this approach. I also noted that the material was labeled TOP SECRET and felt obliged to retain that level of classification in providing him with documentation. At this point, he phoned the Inspector General and advised him that the project file was available in my custody and that I proposed to make material available to him and wondered if the level of classification would provide any problem. Apparently, the senior CIA official was assured that such classification as not a problem, and it was agreed at that point that I would proceed as planned.

5. On returning to my office, I met again with the CIA physician and briefed him as to the foregoing. I asked the CIA physician to review the file once more and to identify those documents that

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SUBJECT: Project

would provide the background information on the project. I suggested he do this at a more deliberate pace since there did not seem to be any need for an immediate deadline. The CIA physician agreed to this and he got together with me again on the 5th of February, having studied the file in greater detail and paperclipped those documents that he thought satisfied the request and my stipulations. I accepted the CIA physician's judgment and asked that he get together with my secretary to make two copies of those documents paperclipped and also to prepare a covering memorandum that was appropriate for the transfer of this information. (One set of documents was to be retained for our records and the other set to be forwarded through A-DD/A to the Inspector General.) It was also understood that the document would be prepared and transported in accordance with TOP SECRET procedures.

6. This task was accomplished. I asked the CIA physician to prepare a Memorandum for the Record as to his participation in these events and to provide a copy of that memorandum, along with a copy of the material that had just been documented as part of the project file. I stated that I would prepare a Memorandum for the Record as to my contributions in this matter and would show it to him before it also would be placed in the project file.

Director of Medical Services

OMS/[REDACTED] (13Feb75)

Distribution:

Orig Only - D/MS private files

75-88

403

(526)

DISTRIBUTION II

P MILITARY WRITER

WASHINGTON (AP) - THE ARMY ANNOUNCED TODAY ITS INVESTIGATORS HAVE DISCOVERED THAT A CIVILIAN PSYCHIATRIC PATIENT DIED AFTER RECEIVING DRUG INJECTION IN A 1950 TEST UNDER ARMY CONTRACT.

IT WAS THE FIRST DEATH REPORTED AS A RESULT OF EXTENSIVE ARMY-SPONSORED DRUG EXPERIMENTS DATING BACK MORE THAN 20 YEARS. THESE EXPERIMENTS INVOLVED ABOUT 4,000 SOLDIERS AND CIVILIANS.

PENTAGON SPOKESMAN JOSEPH LAITIN CALLED A NEWS CONFERENCE TO ANNOUNCE DISCOVERY OF A FILE REVEALING THE DEATH OF A 42-YEAR-OLD MALE CIVILIAN PATIENT "IN THE COURSE OF A DRUG TEST PROGRAM ADMINISTERED BY THE NEW YORK STATE PSYCHIATRIC INSTITUTE UNDER AN ARMY CONTRACT."

THE PENTAGON WITHHELD THE NAME OF THE VICTIM, AS WELL AS OTHER NAMES IN THE CASE, SAYING THIS WAS DONE WHILE IT TRIED TO LOCATE SURVIVING RELATIVES AND ATTEMPTED TO PIECE TOGETHER MORE INFORMATION IN THE CASE.

THE ONLY OTHER DEATH REPORTED SO FAR IN THE DISCLOSURES OF DRUG EXPERIMENTS BY GOVERNMENT AGENCIES WAS ATTRIBUTED TO A CENTRAL INTELLIGENCE AGENCY OPERATION 22 YEARS AGO. IN THAT CASE, DR. RAND OLSON, PLUNGED TO HIS DEATH FROM A HOTEL WINDOW SHORTLY AFTER HE WAS GIVEN LSD WITHOUT HIS KNOWLEDGE.

LAITIN SAID A REPRESENTATIVE OF THE ARMY INSPECTOR GENERAL DISCOVERED A FILE DISCLOSED THE SECOND DEATH WHILE EXAMINING RECORDS LAST THURSDAY IN A VAULT AT THE EDGEWOOD ARSENAL IN MARYLAND. THE INSPECTOR GENERAL IS CONDUCTING AN INVESTIGATION OF THE ARMY'S TEST PROGRAMS WITH LSD AND OTHER DRUGS DATING BACK TO THE 1950s.

MORE

Published Aug. 12

Recd.

75-176

 TOP SECRET SECRET CONFIDENTIAL UNCLASSIFIED

SUBJECT: (Optional)

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Information for Rockefeller Commission

FROM: Acting Director of Medical Services
1D-4061 Headquarters

EXTENSION

I.O.

6677

DATE

28 January 1975

TO: (Office designation, room number, and building)	DATE		OFFICER'S INITIALS	COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)
	RECEIVED	FORWARDED		
1. Associate Deputy Director for Administration 70-25 Headquarters	28 Jan 1975			
2.	5		22	
3.	5		22	
4. J. Twit	10 Feb 1975			
5.				
6.				
7.				
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FORM 610 USE PREVIOUS EDITIONS
3-42 SECRET CONFIDENTIAL INTERNAL
USE ONLY UNCLASSIFIED

75-13

28 January 1975

(427)

MEMORANDUM FOR: Associate Deputy Director for Administration
SUBJECT : Information for Rockefeller Commission

As requested at the morning meeting today, following
is information from this office relating to the list of
topics provided of interest to the Rockefeller Commission.

a. Aid to Other Administrations

[REDACTED]

[REDACTED]

[REDACTED]

c. Artichoke Program

No current OMS personnel are or were involved
in this program, and there are no records in ONS relating

CL BY: 011950

31 December 1983

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to this program. Undersigned, however, has a personal recollection of this program involving the period (1953-58) while assigned as Agency medical officer in [REDACTED]. During that period an Office of Security team accompanied by an OMS psychiatric consultant visited [REDACTED] and requested my assistance in the debriefing of a foreign national. Drugs were used in this debriefing and it was my understanding that this was part of the Artichoke Program.

d. Ultra Program

No current OMS personnel are or were involved in this program, and there are no records in OMS relating to this program. (In its support of Agency operational activities the Operations Division of OMS has an occasional ad hoc requirement for the operational use of drugs. This is always for use with a foreign national, and this has no connection with the Ultra Program.)

[REDACTED]
[REDACTED]
Acting Director of Medical Services

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Declassified By

Authority of:

107475 07 2 FEB 1977

DD/S&T# 066/75

6-201 375

MEMORANDUM FOR: Mr. Knoche

SUBJECT : Status of the Deputy Director for Science
and Technology's Adherence to the Director's
Instructions on Questionable Activities

With regard to questionable activities by the DD/S&T,
the following is a status report by subject.

Speech Processing Activity

OEL has adhered strictly to the DCI's instructions. Two exceptions were made, one was Judge Sirica's request for use of the equipment, and loan of the equipment to NSA. Both requests were approved by the Director.

Support to the White House

OTS has not been in contact with the White House since the DCI instruction was issued.

Foreign Intelligence Operations within the United States
and Technical Surveillance

OTS/AOB Technical Surveillance activity in the United States has conformed to the revised instruction since its issue on 8 February 1974.

(b)(3)

In all cases where the operation is targeted against Americans, AOB participation has been confined to equipment (and concealment where appropriate) issue and training, at sites removed from the target or LP. As before, DCI approval has been obtained, and DCI orders complied with. Where Americans were involved, consideration has been given to any possible jeopardy of Agency operations; we have received full disclosure of the operations in question; and we have obtained assurance in writing that the law was not being violated by the requesting Agency.

Declassified By

Authority of:

107475 07

2 FEB 1977

SUBJECT: Status of the Deputy Director for Science
and Technology's Adherence to the Director's
Instructions on Questionable Activities

(b)(3)

U.S. Postal Service, Office of the Chief Postal Inspector

OTS has not been involved in penetration of the U.S. mails since the instruction was written. No briefings have been given since the instructions were written.

Relations with DEA

In accordance with the memorandum of the DCI dated 8 February 1974, OTS has not rendered support to DEA domestic operations.

Care in Relation to Significant Domestic Events

OTS has not been involved in any such events since the instruction went into effect in August 1973.

Influencing Human Behavior

All activity of this sort ended in 1967. There was, therefore, no activity of this sort in 1974.

Declassified By
Authority of:

~~██████████~~ 187475 ON 2 FEB 1977

SUBJECT: Status of the Deputy Director for Science
and Technology's Adherence to the Director's
Instructions on Questionable Activities

(b)(3)

Support to Department of Defense Elements

During 1974, OTS has been extremely careful to obtain appropriate concurrences in their dealings with DOD elements. Concurrence has been obtained in all cases of document issuance, training, and loan of equipment to DOD elements from either the DDO or Operations Staff/DDO, his designated representative. These concurrences are filed under "Support to the Military" in the office of OTS Chief of Operations.

Support to the Law Enforcement Assistance Administration (LEAA)

This has been strictly adhered to by OTS since February 1974.

Relations with the Department of State

OTS has not changed its relations with the Department of State since the DCI instruction.

(b)(3)

Declassified By
Authority of:

187475 CR 2 FEB 1977

SUBJECT: Status of the Deputy Director for Science
and Technology's Adherence to the Director's
Instructions on Questionable Activities

(b)(3)

Testing of Equipment in the U.S.

OTS, ODE, and ORD have been extremely careful that test plan implementation carefully follows all facets of this instruction.

Relations with Customs

ORD has complied with the DCI's instructions.

Assistance to FAA

ORD has complied with the DCI's instructions.

Exchanges with FBI on Imagery

ORD has complied with the DCI's instructions.

The Deputy Director for Science and Technology has complied with all of the DCI's guidelines on Questionable Activities.

Sayre Stevens
Associate Deputy Director
for
Science and Technology

Declassified By

Authority of:

187475 CN

12 FEB 1977

SAINT FRANCIS MEMORIAL HOSPITAL
900 Hyde Street, San Francisco

CURRENT PROBLEMS IN RESEARCH

Influence of Magnesium Pemoline on Learning to Read

Progress Report

This paper is a preliminary report on an experiment designed to test the influence of magnesium pemoline on a complex learning task, learning to read.

Learning may be defined as the modification of behavior by experience, or stated more simply, the acquisition of skill or knowledge. Memory is the capacity to recall past thoughts, ideas and mental images. Sometimes the definition of memory is extended to include the capacity to perform previously learned skills. For practical purposes, the words learning and memory describe similar or identical things. Learning is a process; memory is a capacity or a storage bank.

For the past five decades it has been accepted generally that the process of learning must be a chemical or a physical and chemical phenomenon. However, very little was known about its details. Quite recently, a mass of research has converged on the problem, as illustrated by one bibliography of 571 papers (1).

The vast majority of the reports in this area deal with experiments on animal subjects and in most instances the learning tasks are extremely simple, such as learning T-mazes and learning a conditioned avoidance response in a jump-out apparatus. Where human subjects have been used, learning tasks have been limited to problems such as those using a discrimination-reaction apparatus, or by reproduction of a design or picture, exposed and then removed from sight. Many investigators exhibit an understandable tendency to interpolate data from experiments of this kind to practical problems of education, mental retardation or senile memory deficits.

It is now feasible to test the interpolations from simple learning tasks to a complex, time-extended learning problem, specifically, learning to read. A new system of instruction, Conversational Reading, provides a means for accelerated reading instruction(2). Persons who are literate but who are not necessarily trained teachers perform the teaching role. Reading skills can improve up to several

grade levels during an 8-12 weeks teaching period. The system of instruction is well adapted to prison teaching situations and was used in a prison, the California Medical Facility at Vacaville, for the present study.

There is not complete unanimity of opinion regarding the action of magnesium pemoline. Plotnikoff reported that the drug enhanced the acquisition and retention of a conditioned avoidance response to electric shock in rats, in contrast to methamphetamine, which did not enhance this response (3). Beach and Kimble, using a similar apparatus, found that rats injected with magnesium pemoline had an increased spontaneous activity, that they tended to jump more quickly at a conditioned stimulus, but they did not exhibit "enhancement by magnesium pemoline" of learning and memory (4).

Concurrently, observations were being made on the effects of magnesium pemoline on human subjects. Cameron administered the drug to a group of patients with senile brain changes and found an increase in alertness and a reported improvement in the ability of subjects to reproduce geometric drawings (5). Ronald Smith, using refined psychological methods for measuring short-term memory, found no facilitation of learning, memory or performance in normal adult men (6). Cameron criticized Smith's conclusions, stating that Smith tested his subjects 3 hours after drug administration, whereas Cameron felt that the drug achieved statistically significant "improvement" only after one month of administration (7). Cameron submitted a table in this paper which showed an increase of "Mean I.Q." from 73.5 to 82.2 over a month. Also, Cameron implied that "brain-damaged humans" might respond better to magnesium pemoline than normal subjects.

The literature regarding magnesium pemoline which has been cited may be summarized as sometimes open to criticism of experimental method, sometimes contaminated by anecdotal material, and generally contradictory. One of the most interesting controversial points in the literature was the question of whether magnesium pemoline acted to stimulate RNA polymerase activity. Glasky and Simon reporting in the affirmative (8), and Morris, et.al. defending the negative (9).

Experimental Procedures

The present study was undertaken at the California Medical Facility at Vacaville, a state prison*. Volunteer

* Supported by a research grant from Abbott Laboratories, North Chicago, Ill. Grateful acknowledgement is made to the Department of Corrections of California, to Lester J. Pope, M.D. Superintendent, C.M.F., and to Ralph Urbino, Research Director, Solano Institute for Medical and Psychiatric Research.

subjects were selected from the prison population according to the following criteria: I.Q. 85 or above and 2 or more years below the level of reading skill which would be expected from schooling and I.Q. From a pool of 50 subjects, 20 pairs of men were selected, so that each member of a pair was as close as possible to his opposite number in I.Q., schooling, measured reading skill, race and cultural background. Through a system of random numbers, the men in each pair were split to form the experimental and control groups. Thus, in the beginning, experimental and control groups were made as comparable as possible. Later losses of men, principally through transfers out of the institution, but in some cases because of abnormal initial laboratory findings such as elevated SGOT, resulted in some replacements which were not paired as accurately as the original group. Members of the experimental group received a 25 mg. tablet of magnesium pemoline each morning; members of the control group received a placebo. Throughout the experiment there was no instance wherein any individual, subject, inmate teacher, or investigator broke the code. All subjects were led to believe that they were taking the drug; no subject ever questioned this. There were no illnesses attributable to the drug, and no complaints of adverse reactions.

The principal teaching activity was carried out between 6 P.M. and 9 P.M. evenings. Individual instruction was supplemented by language laboratory tapes and by co-ordinated assigned reading. Enthusiasm for the program was great. One 17 year-old, deemed unable to sign a waiver for liability immunity because of his age, carried his petition to remain in the study to such an administrative level that he was allowed to remain in the teaching program, without medication or placebo. He is not included in the statistics.

Most subjects completed the entire 60 lessons of the Basic Program of Conversational Reading, approximately 12 weeks. They were tested prior to the experiment, at the 40th Lesson (8 weeks), and after the 60th Lesson. A few subjects were transferred out of the institution before completing the 60 Lessons, and for these men, test scores run only to Lesson 40.

Measurement of reading skills deserves some discussion. A cardinal rule, often disregarded, is that a method for teaching a skill such as reading must be measured by an instrument or by instruments extrinsic to the method being studied. Otherwise, if the measurement is intrinsic to the method, such as a vocabulary test made up of words taught, spuriously high improvement scores are found. In the

present study, two quite different commercially-available tests were used, the Stanford Achievement Test for Reading and the Gilmore Oral Reading Test. The former has a word-meaning or vocabulary section and a paragraph-meaning, or comprehension section. The Gilmore is a test wherein the subject reads selected and standardized material aloud and is questioned on content. It is scored according to vocabulary and comprehension. All subjects were tested with both of these instruments before medication or instruction began, at the 40th Lesson, and at the end of the experiment after completion of the study. A few subjects were transferred from the institution after the 40th Lesson and had no testing after the 60th Lesson.

Results

The results of this experiment are expressed in reading test scores, or measures which are designed to indicate the grade level of a subject, measure his improvement with training, and in this experiment determine if magnesium pemoline has a measurable effect on the learning process. Measuring instruments are two commercially-available tests, one of which (Stanford Achievement Test) is directed toward silent reading skills, the other (Gilmore Oral) is based on oral reading, followed by questioning to determine comprehension. Alternate forms of the tests are used to avoid practise effects.

The actual scores of the tests are expressed in grade levels. Thus if a subject scored 4.0 before training and 5.5 at the end of 60 lessons, it would be concluded that he increased in reading skill, according to the test, by 1 1/2 years.

Experimental and control groups in this experiment were compared with regard to both tests and at testing after the 40th Lesson and after the 60th Lesson. Both groups improved, but there was a consistent tendency for the control group to improve more than the experimental group. Although the average differences sometimes appeared to be appreciable, simple statistical measures of significance of difference failed to show that any single difference was significant. It was our opinion that the array of differences favoring the control group could not be manipulated statistically as a set of independent variables, since all were part of a single experiment.

It is possible that there are more appropriate ideas regarding statistical interpretation. Therefore, we have decided to confine ourselves to presentation of raw data and means in this preliminary report.

Table I indicates the grade level reading scores of 22 experimental subjects on the Stanford Achievement Reading Test, and the Gilmore Oral Reading Test before training or medication, after forty lessons (8-10 weeks) and after sixty lessons (12 or more weeks). Table II is similar to Table I, except that control group data are presented. Table III presents the means of the Stanford and Gilmore tests for experimental subjects. Table IV presents the means of the Stanford and Gilmore tests for control subjects.

Finally, Table V presents the mean grade level gains in reading for the control and the experimental groups, after forty lessons and after sixty lessons, on the Stanford, the Gilmore and the means of the two independent tests. This table represents the average gain in grade level years. The average gains range from .61 years to 1.77 years for the learning period. Comparison of the control group scores with the magnesium pemoline experimental group scores indicates an 11 out of 12 superiority of control group gains over experimental group gains.

One question of experimental design was thought to deserve consideration. It was stated earlier that the original experimental and control groups were set up with subjects in each group paired for I.Q., tested reading level and other pertinent variables. Later, with drop-outs and transfers, it was necessary to introduce new subjects in one or the other groups who did not have opposite numbers. To check the possibility that these changes may have introduced new factors, a table was made which included only subjects who were among the original pairs. Table VI presents the means of the Stanford and Gilmore tests for paired individuals only. Members of each pair are opposite one another. It will be noted that controls improved on the average by 1.32 years, while experimental subjects improved .67 years, at the 40th Lesson. Similar differences are seen at the 60th Lesson level although there were 4 drop-outs among the control group. It is thus apparent that the observed but not statistically significant differences between experimental and control group exists when the cases are limited to those originally paired.

Discussion

One interpretation of the data presented in this paper is that no evidence is adduced to support the hypothesis that magnesium pemoline, administered in a daily dose of 25 mg. over a period of many weeks, facilitates learning in a complex, long-range learning situation, specifically a reading training program. The conclusion suggests itself that generalization regarding the functions of "learning" and "memory" from earlier experiments may have been premature. The possibility suggests itself that the animals in Plotnikoff's experiment and the human subjects in Cameron's experiment may have performed as they did because they were stimulated or made more alert, and not because their learning was reinforced. A controlled human experiment reported by Gelfand et al., demonstrates the stimulant effects of magnesium pemoline of fatigued subjects (10).

Close examination of the data reported here leads to another interpretation. At Lesson 40 and again at Lesson 60, both the Stanford and the Gilmore measures of reading proficiency consistently show the control group to be leading the experimental group in reading improvement. Preliminary calculations not reported here indicated that no single comparison of control and experimental groups was statistically significant. No final conclusion can be made that the control group subjects in this experiment were better learners than those given magnesium pemoline. However, the consistency of the data could lead to the speculative hypothesis that magnesium pemoline could have a deleterious effect on learning and memory.

A modern view of learning is that it can be divided into at least two phases, an early, largely electrochemical or reverberation circuit phase, and a later consolidation phase which depends on the synthesis of specific neuronal nucleoproteins (11). Conceivably, a drug could have a favorable effect on the first phase and a deleterious effect on the second phase.

The data presented in this paper which are at most suggestive that magnesium pemoline may have an adverse effect on learning could be related to the findings of Burns et al. (12). Subjects were required to learn a complex discrimination-reaction problem. Magnesium pemoline, as well as amphetamine were reported to have a possible deleterious effect on learning, although there was an insufficient number of cases to afford statistically significant results. The Burns experiment would certainly be an example of first-phase memory, while the experiment reported here, dealing with long-term acquisition of reading-skills, is an example of second-phase memory.

One criticism of this study would be that the dose of magnesium pemoline was insufficient. It is possible that administration of larger amounts of the drug would clarify some of the problems which have been raised, and at the same time afford an opportunity to search for side-actions of magnesium pemoline.

Summary

Prisoner volunteers, interested in improving educational deficiencies in reading, were given an intensive program in reading training over a period of 10-12 weeks and concurrently given a daily dose of 25 mg. of magnesium pemoline. Control subjects, equally motivated and similarly selected, received the same training and placebo medication. The tested reading skills of both groups of subjects improved markedly. By test, control group subjects improved consistently more than experimental group subjects but the differences in improvement did not reach levels of statistical significance.

James A. Hamilton, Ph.D., M.D.
Farel D. Footman, B.A.

Number 6
April 9, 1969

References Cited

1. Bogoch, S.: The Biochemistry of Memory (Oxford Univ. Press, London, 1968), p. 219-243.
2. Hamilton, J.A., Brimley, G.M., Footman, F.D., Schauf, E.T., and Petraske, A.R.: Current Problems in Research: Conversational Reading. St. Francis Memorial Hospital, San Francisco, 1967.
3. Plotnikoff, N.: Magnesium Pemoline: Enhancement of Learning and Memory of a Conditioned Avoidance Response. Science, 151, p. 703 (1966).
4. Beach, G. and Kimble, D.P.: Activity and Responsivity in Rats after Magnesium Pemoline Injections. Science, 155, p. 698 (1967).
5. Cameron, D.E.: Evolving Concepts of Memory. MSS., 1966. This manuscript was Dr. Cameron's address at the meeting of the Society for Biological Psychiatry as reported in Time, June 24, 1966.

6. Smith, R.G.: Magnesium Pemoline: Lack of Facilitation in Human Learning Memory and Performance Tests. Science, 155, p. 603 (1967).
7. Cameron, D.E.: Magnesium Pemoline and Human Performance. Science, 157, p. 958 (1967).
8. Glasky, A.J., and Simon, L.N.: Magnesium Pemoline: Enhancement of Brain RNA Polymerases. Science, 151, p. 702 (1966).
9. Morris, N. R., Aghajanian, G.K., and Bloom, F.E.: Magnesium Pemoline: Failure to Affect *in vivo* Synthesis. Science, 155, p. 1125 (1967).
10. Gelfand, S., Clark, L.D., Herbert, E.W., Gelfand, D.M., and Holmes, E.D.: Magnesium Pemoline: Stimulant Effects on Performance of Fatigued Subjects. Clin. Pharm. and Therapeutics, 9, p. 56 (1968).
11. Flexner, L.B.: Dissection of Memory in Mice with Antibiotics. American Scientist, 56, p. 52 (1968).
12. Burns, J.T., House, R.F., Fensch, F.C., and Miller, J.G.: Effect of Magnesium Pemoline and Dextroamphetamine on Human Learning. Science, 155, p. 849 (1967).

Table I
Grade Level Reading Scores
 Magnesium Pemoline

Subject	Stanford Reading Achievement			Gilmore Reading Test		
	Base Score	After Lesson Forty	After Lesson Sixty	Base Score	After Lesson Forty	After Lesson Sixty
r 13	4.5	6.7	7.5	5.1	5.2	5.5
16	2.5	3.5	3.9	4.5	4.4	4.4
os 17	4.3	5.3	4.3	4.1	5.2	5.5
n 21	5.9	6.4	7.1	5.2	6.6	7.1
23	4.2	5.1	5.1	4.2	4.7	5.2
za 25	5.7	7.2	7.5	3.2	5.4	7.4
26	5.5	7.1	7.3	5.3	6.6	6.5
a 28	5.9	4.9	5.5	4.5	4.8	4.9
38	5.4	4.7	5.2	4.3	5.0	6.1
tte 45	5.1	4.9	5.1	4.4	5.1	5.6
old 47	4.1	4.2	4.6	4.5	5.5	5.3
n 49	5.2	5.4	6.7	4.1	5.4	6.2
s 50	2.1	3.0	3.3	3.1	3.3	3.6
el 51	5.9	5.1	5.2	5.0	5.8	5.6
53	5.1	5.3	5.5	5.2	6.0	5.6
an 59	2.3	3.6	3.9	2.8	4.0	4.5
ngs 60	4.9	4.9	5.3	3.6	5.5	6.1
48	5.1	6.5		3.8	5.8	
52	3.5	4.3	5.6	3.6	4.9	5.1
ns 54	4.8	6.3	6.5	4.1	4.7	5.2
on JC	2.9	3.4	4.5	1.0	1.5	3.0
YC	3.9	4.3	5.1	3.8	3.9	4.2
Sum	988	1121	1147	894	1093	1126
Mean	4.49	5.10	5.46	4.06	4.97	5.36
N	22	22	21	22	22	21
Improvement		.61	.97		.91	1.30

Table II
Grade Level Reading Scores
 Control Group

Subject	Stanford Reading Achievement			Gilmore Oral Reading Test		
	Base Score	After Lesson Forty	After Lesson Sixty	Base Score	After Lesson Forty	After Lesson Sixty
12	5.2	5.1	6.1	5.9	5.0	5.5
14	3.7	3.5	5.0	3.2	5.5	5.5
15	5.7	8.0	6.9	4.9	5.8	5.8
rd 18	5.1	6.4	5.9	4.7	6.2	5.8
rt 22	4.3	6.8	9.0	5.4	4.9	5.3
s 30	4.9	4.7	5.2	4.5	5.9	6.8
z 31	4.0	7.8	9.5	2.2	4.6	4.5
33	1.9	4.9	6.1	4.2	5.5	5.4
35	5.3	5.2	6.8	4.3	5.2	5.5
i 36	4.2	5.8	6.1	4.3	5.3	5.8
; 37	5.3	6.3	7.0	3.4	6.4	5.5
n 46	5.2	6.3	6.1	4.4	5.8	6.0
. 58	4.1	5.5	7.4	4.4	4.5	4.1
61	4.6	4.2	3.2	4.8	6.1	6.5
son	63	4.9	7.2	4.6	6.4	6.8
65	5.4	6.4	6.7	4.7	6.6	
24	4.6	7.3		4.3	4.4	
27	4.5	4.2		5.8	7.1	
32	6.0	5.9		4.7	5.2	
41	4.7	5.8		3.4	5.2	
57	3.2	5.8		4.4	4.5	5.0
SP	4.6	4.7	5.3			
Sum	1014	1278	1084	967	1220	967
Mean	4.61	5.81	6.38	4.40	5.55	5.69
N	22	22	17	22	22	17
Improvement		1.20	1.77		1.15	1.29

Table III
Grade Level Reading Scores
 Magnesium Pemoline

Subject Number	Mean of Stanford and Gilmore Tests		
	Base Score	After Lesson Forty	After Lesson Sixty
13	4.7	5.9	6.5
16	3.5	3.9	4.1
17	4.2	5.2	4.8
21	5.6	6.5	7.3
23	4.2	4.8	5.2
25	4.5	6.3	7.6
26	5.4	6.8	6.9
28	5.2	4.9	5.2
38	4.9	4.9	5.7
45	4.7	5.0	5.4
47	4.3	4.8	5.0
49	4.6	5.4	6.5
50	2.6	3.2	3.4
51	5.5	5.5	5.4
53	5.2	5.7	5.5
59	2.6	3.8	4.2
60	4.2	5.2	5.7
48	4.5	5.9	6.2
52	3.5	4.6	5.3
54	4.4	5.5	5.8
JC	1.9	2.5	3.8
YC	3.9	4.1	4.7
Sum	941	1104	1202
Mean	4.28	5.02	5.46
N	22	22	22
Improvement		.74	1.18

Table IV
Grade Level Reading Scores
 Control Group

Subject Number	Mean of Stanford and Gilmore Tests		
	Base Score	After Lesson Forty	After Lesson Sixty
12	5.5	5.1	5.8
14	3.4	4.5	5.3
15	4.9	6.9	6.9
18	5.0	6.1	5.9
22	4.5	6.5	7.5
30	5.1	4.9	5.3
31	4.3	6.9	8.1
33	2.1	4.8	5.3
35	4.7	5.3	6.1
36	4.2	5.5	5.8
37	4.7	5.8	6.5
46	4.3	6.4	5.8
58	4.2	5.6	6.7
61	4.5	4.3	3.7
63	4.9	6.6	6.3
65	5.0	6.4	6.8
24	4.7	7.0	
27	4.4	4.3	
32	5.9	6.5	
41	4.7	5.5	
57	3.3	5.5	
--SP	4.5	4.6	5.2
Sum	988	1250	1030
Mean	4.49	5.68	6.02
N	22	22	17
Improvement		1.19	1.53

Table V
Mean Grade Level Gains in Reading

	<u>Control Group</u>		<u>Magnesium Pemoline</u>	
	Forty Lessons	Sixty Lessons	Forty Lessons	Sixty Lessons
Stanford Achievement	1.20	1.77	.61	.97
Gilmore Oral	1.15	1.29	.91	1.30
;	;	;	;	;
Mean of Stanford and Gilmore	1.19	1.53	.74	1.18

Table VI
Comparison of Subjects Originally Paired
 Mean of Stanford and Gilmore Tests

Subject	<u>Control Group</u>		Subject	<u>Magnesium Pemoline</u>		
	Base Score	After Lesson Forty		Base Score	After Lesson Forty	After Lesson Sixty
24	4.7	7.0	---	13	4.7	5.9
12	5.5	5.1	5.8	51	5.5	5.5
46	4.3	6.4	5.8	59	2.6	3.8
27	4.4	4.3	---	16	3.5	3.9
18	5.0	6.1	5.9	26	5.4	6.8
14	3.4	4.5	5.3	45	4.7	5.0
41	4.7	5.5	---	17	4.2	5.2
30	5.1	4.9	5.3	28	5.2	4.9
31	4.3	6.9	8.1	53	5.2	5.7
22	4.5	6.5	7.5	60	4.2	5.2
57	3.3	5.5	---	47	4.3	4.8
58	4.2	5.6	6.7	25	4.5	6.3
37	4.7	5.8	6.5	38	4.9	4.9
63	4.9	6.6	6.3	21	5.6	6.5
15	4.9	6.9	6.9	50	2.6	3.2
65	5.0	6.4	6.8	49	4.6	5.4
Sum	729	940	769	717	830	896
Means	4.56	5.88	6.41	4.48	5.18	5.60
N	16	16	12	16	16	16
Improvement	1.32	1.85		.70	1.12	

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27 August 1975



SUBJECT: Termination of Unwitting Testing With Behavioral Drugs

1. With the destruction of the MKULTRA files in early 1973, it is believed that there are no definitive records in CIA that would record the termination of the program for testing behavioral drugs on unwitting persons.

2. In a memorandum for the Deputy Director of Central Intelligence dated 17 December 1963, Subject: Testing of Psychochemicals and Related Materials, the Deputy Director for Plans recommended the continuation of the unwitting testing program with the Bureau of Narcotics. The Acting Director of Central Intelligence in his reply dated 24 December 1963 stated that after discussion the Director recommended that the matter be considered in depth after the first of the year and that in the meantime "please continue the freeze on unwitting testing."

3. There is no record, to our knowledge, that this freeze was ever lifted. In June 1964 the Acting Director of Central Intelligence, in approving continuation of the general research project, stated that "unwitting testing will be subject of a separate decision." Existing records, however, do not indicate whether a decision on unwitting testing was later made. The consensus is that the freeze was never lifted.

4. As the actual testing was conducted by personnel in the Bureau of Narcotics there may be some better record in its successor organizations.

Concur:

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INSPECTOR

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13 August 1975

MEMORANDUM FOR: Legislative Counsel

SUBJECT : Drug-Related Death of Harold Blauer

The Offices of the General Counsel, Inspector General, Security and Technical Services have searched their files for any evidence of a CIA association with the death on 8 January 1953 of Harold Blauer while a patient at the New York State Psychiatric Institute. The results of the search were negative except for the attached Memorandum for the Record, dated 29 January 1954. The Army Inspector General informed me that the Army's Special Operations Division, Fort Dietrick (the unit that Frank Olson was in) had a contract for two years with the Psychiatric Institute (1952-53) to test various mescaline-related and other drugs that the Army was interested in. Blauer died 2-1/2 hours after an injection of an apparent overdose of 450 milligrams of EA 1298. The estate sued New York State for \$500 K; it was settled out of court for \$125 K. If there is any Agency connection at all, it would involve possible Army use for the settlement of funds CIA transferred to the Army on an annual basis starting in FY 1953 in support of a mutual program. We did not require an accounting by the Army for the use of these funds. See the attached memorandum to the DCI from the IG, dated 20 May 1975.

Donald F. Chamberlain

Donald F. Chamberlain
Inspector General

Attachments a/s

DATE

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with his initials per 200-410
(A)(1), (3), (4)

SO 3-193
29 January 1954

MEMORANDUM FOR: The Record
SUBJECT: Chemical Corps

1. On 19 January 1954 [] received a telephone call from Chemical Corps, Security Officer located in the Pentagon.

[] asked [] if he had heard that the Chemical Corps was being sued? [] answered, "No." He then asked [] if the suit grew out of an incident that occurred a little over a year ago? [] stated that it did.

3. Facts of the referenced incident as reported by []

Prior to DD/P/TSS taking both an active and financial interest in certain activities conducted by Chemical Corps relative to experiments involving the use of Chemical Compounds, the Chemical Corps had a contract with the New York Psychiatric Institute which is affiliated with Columbia University. []

[] was the Institute's principal investigator. He was carrying out experiments involving the injection of Mescaline derivatives into patients. In this particular case the patient died. Relatives of the deceased (name unknown) have brought the action.

4. [] had been advised of these facts by [] civilian employee of the Medical Laboratory, Army Chemical Center, Edgewood, Maryland.

5. [] and [] both advised "we had no funds involved nor were we involved in anyway"; however, the Chemical Corps was keeping TSS informed of their various activities along these lines. At no time had TSS requested this experiment. Chemical Corps' contract is for approximately [] We took a [] financial interest in this phase of research around 25 February 1953, after the referenced incident occurred.

6. [] was contacted by [] on the 20th and advised him we did not want the Agency's name mentioned in connection with the case since we were in no way involved. [] advised he had been so informed and that he now knew the Agency was not connected or involved in this case. He further assured [] that the Agency would not be mentioned and that he would keep us informed in the event Chemical Corps were to receive any undue publicity. Further information supplied by [] was that the lawyer was a military man, (presumably a reserve officer) and had been advised the case involved military connections. The lawyer stated he would give the case no publicity. And finally the reason for [] contacting the Agency in the first place was to see if we could help them in anyway to han-

4/1

20 MAY 1975

MEMORANDUM FOR: Director of Central Intelligence
SUBJECT : CIA Activities at Fort Detrick, Frederick,
Maryland

1. In early 1952, CIA effected an agreement with the Army Chemical Corp for the performance of certain research and development work by the Army Chemical Corp at the laboratory facilities of Special Operations Division, Army Biological Laboratories, Frederick, Maryland.

2. The purpose of the CIA (TSD) project at Camp Detrick was to maintain a research and development competence in the biological and engineering sciences in a special security environment to assist in meeting the need for a minimal support capability in defensive and offensive BW/CW. The program was divided into four functional categories as follows:

a. Maintenance of a stockpile of incapacitating and lethal agents in readiness for operational use;

b. Maintenance, assessment and evaluation of a designated balance of biological and chemical disseminating systems for operational readiness;

c. Adaptation and testing of a non-discriminable micro-bioinoculator (device for the clandestine inoculation with BW/CW agents) to determine compatibility with various materials and to assure that the microbioinoculator cannot be identified structurally or easily detected upon a detailed autopsy; and

d. Provide technical support and consultation on request to meet ad hoc requirements related to offensive and defensive BW/CW.

3. This program, which continued until early 1970, was budgeted, on the average, for approximately _____ per year. Currently available figures indicate the following expenditures for this activity:

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4 I advised Mr. Helms that the written report on MKULTRA and its sub-projects would be prepared in draft and in one copy only which would be discussed with him and with Chief, TSD, and a decision made as to whether any portions of the report might be pulled out and made a part of the full report on TSD or remain in the sensitive "one copy only" annex. This was agreed to. It was also agreed that other sensitive projects covered during the survey will be included in the "one copy only" annex. Note: John Vance will handle MKULTRA and knowledge of this program will be kept to an absolute minimum.

J. S. Earman
Inspector General

Distribution:
original only - JSE

Note: Mr. Helms advised me on 24 May 1963 that he had briefed the Director on the MKDELTA program and in particular had covered the "testing" which concerned me. Mr. Helms said the Director indicated no disagreement and therefore the "testing" will continue. I reiterated to Mr. Helms my concern about MKULTRA as a whole and that John Vance is drafting a paper on this project in one copy only, which I will discuss with Helms. He agreed that possibly the time has come for a new charter to be drawn. From what I have learned from Vance, this is a must and not a possibility. I also told Mr. Helms that Chief, TSD, is in complete agreement that the new charter for MKULTRA is needed.

JSE

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Note by D.C. (S)

15 SEP 1975

MEMORANDUM FOR: Director of Central Intelligence

SUBJECT : MKULTRA/MKDELTA

Statement from IG Report of 26 July 1963.

1. MKULTRA encompasses the R&D phase of a program concerned with "the research and development of chemical, biological, and radiological materials capable of employment in clandestine operations to control human behavior. The end products of such research are subject to very strict controls including a request for the personal approval of the DD/P for any operational use made of these end products."
2. MKULTRA is the R&D phase, MKDELTA denotes the DD/P system for control of the operational employment of such materials.
3. "It is firm doctrine in TSD that testing of materials under accepted scientific procedures fails to disclose the full pattern of reactions and attributions that may occur in operational situations. TSD initiated a program for covert testing of materials on unwitting US citizens in 1953."
4. "The final step in the research and development sequence is the delivery of MKULTRA materials and the MKDELTA control system governing their employment in clandestine operations."
5. "As of 1960 no effective knockout pill, truth serum, aphrodisiac, or recruitment pill was known to exist. MKDELTA was described as inherently a high-risk, low-yield field of operations."

7. In a 1960 Gottlieb report (IG has no copy of this), he observed that the Clandestine Services had encouraged TSD on various occasions to develop and maintain the operational capability in special drugs and chemicals, but that TSD had received little or no guidance in directing the work and that the Clandestine Services had up to that time shown little inclination to use the end products operationally.

8. Specific records are scarce, but below are listed summaries of actual uses:

Donald F. Chamberlain
Donald F. Chamberlain
Inspector General

(1)

29 November 1963

MEMORANDUM FOR THE RECORD

SUBJECT : MKULTRA PROGRAM

1. A meeting was held in General Carter's office on 29 November 1963 to discuss the subject program. Those present, in addition to General Carter, were Messrs. Helms, Kirkpatrick, [redacted] Gottlieb, and Earman. The main thrust of the discussion was the testing of certain drugs on unwitting U. S. citizens. Dr. Gottlieb gave a brief history of the MKULTRA program which was not in any way at variance with the IG report of August 1963 on this subject.

2. Messrs. Gottlieb and [redacted] argued for the continuation of unwitting testing, using as the principal point that controlled testing cannot be depended upon for accurate results. General Carter, Mr. Kirkpatrick, and I do not disagree with this point. We also accept the necessity for having a "stable of drugs" on the shelf and the requirement for continued research and development of drugs--not only for possible operational use but also to give CIA insight on the state of the art in this field and in particular to alert us to what the opposition is or might be expected to do in the R&D and employment of drugs.

3. [redacted] noted that there was no disagreement with the recommendations of the IG survey on MKULTRA with the exception of the unwitting testing problem. In response to a query from General Carter, he stated that since the IG report such testing has been held in abeyance.

4. General Carter made it clear that he understood the necessity for research and development of all types of drugs, to include their testing. However, he was troubled by the "unwitting aspect". This led to a brief discussion on the possibility of unwitting tests on foreign nationals, but according to [redacted] this had been ruled out as a result of several conversations he recently had with senior chiefs of stations--too dangerous and the lack of controlled facilities. (This seemed an odd conclusion

to me since the same dangers exist in the U. S. and from what we were able to find out during our survey, the facilities we have for uncontrolled testing leave much to be desired--I made a point of this.)

5. After further discussion, it was agreed:

- a. That the charter of MKULTRA would be revised along the lines recommended in the IG survey.
- b. The procedures for testing drugs are to be reviewed and new alternative proposals submitted.
- c. If it is concluded by the DD/P that unwitting testing on American citizens must be continued to operationally prove out these drugs, it may become necessary to place this problem before the Director for a decision.

6. I made the point that the IG survey had found other problems with the MKULTRA program in addition to the unwitting testing, but stated if the charter is rewritten along the lines recommended, I believe these problems would be corrected.

7. NOTE: The IG Survey of MKULTRA was handed to [redacted] after the meeting for his use in redrafting the charter.

J. S. Earman
Inspector General

JSE:cm

1 July 1963

MEMORANDUM FOR THE RECORD

SUBJECT: MKULTRA - Comments of
Chief, TSD, on Draft Report of Inspection

1. I called [redacted] to acknowledge receipt of Dr. Gottlieb's comments on John Vance's draft report of inspection of MKULTRA, TSD. I said I felt this reply was very helpful in explaining the TSD position on the most critical points on our IG recommendations,

[redacted] testing on unwitting subjects,

[redacted] I reminded [redacted] that his rebuttal dealt with only three of the ten specific recommendations we had made in our IG report. He replied that the balance of these recommendations really all related to tightening up the administration of the charter and that he personally welcomed the opportunity to have this spelled out in greater detail. I said I felt that our recommendations went quite beyond the field of administration and cited in particular the problem of

[redacted] --I said this was much more than an administration problem, and that we would like to know what solution he and Dr. Gottlieb proposed to improve

[redacted] tended to dismiss this problem partially on the grounds that it was a function of a personal relationship between him and who ever might be the DD/R at any given time, and partially because he didn't think there was any dogmatic or systematic solution.

2. I told [redacted] that we would prefer not to submit our MKULTRA paper to the DD/P without some more explicit statement from him on the problem of

[redacted] and that we also felt Dr. Gottlieb's three page indorsement failed to comment on our detailed proposals for tightening up the administration of MKULTRA activities. Mr.

I appreciated this but felt that they had registered their views on the most important points at issue, and they urged us at this stage to go ahead and submit our report with the Gottlieb indorsement as it now stands to DD/P.

3. Recommendation: I think we have little to gain by massaging this report any further and recommend that we submit it to the DD/P with a request for his specific comments on our recommendations. I recommend that we redraft the last recommendation on the audit function in accordance with the proposal of


E. J. Applewhite

*Except from 1957 TC "operation of
TSO*

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*Except from 1957 TC "operation of
TSO": (5)*

7. Influencing Human Behavior

- a. Influencing human behavior is a most complex subject and very difficult to describe and evaluate in terms of accomplishment,

cost, and potential benefit to clandestine operations. The whole

field includes medical, physiological and psychological aspects and

while there has been much speculation on the subject very little of

a positive nature is known about the extent to which human behavior can

be predicted, directed and controlled. Chemical Division has launched

a program having some specific goals in view and has now reached a point

in progress where a review of the program should be made to determine

if the effort should be continued and what course it should take.

b. Because of the scarcity of positive knowledge, much time

and money is being spent on fairly basic research and extensive testing

and experimentation. This type of activity cannot be measured in terms

of concrete results nor can dollar values be applied. It requires an

appraisal of the objectives of the program from the point of view of the

operational benefits to be derived, weighed against the allocation of

R&D manpower and funds.

c. In considering the objectives, it is helpful to examine the

operational problems the program is designed to meet. One of the major

problems is that of improved interrogation techniques. Many different

methods are used to break down an individual's resistance to interrogation

but there is always doubt about the accuracy and reliability of informa-

tion obtained by the classical methods of pressure, duress or torture.

The use of drugs or psychochemicals in this respect is not new. So-called

"truth serums" have been used, sometimes successfully but more often not.

The approach being taken by Chemical Division is to use psychochemicals

to create within the individual a mental and emotional situation which

will release him from the restraint of self-control and induce him to

reveal information willingly under adroit manipulation.

d. Related to the improvement of offensive interrogation techniques is the development of defensive measures against opposition interrogations. Knowledge gained in the former will lead to counter-measures for the protection of Agency personnel and information concerning Agency activities. This is another objective of the program.

e. The potential use of psychochemicals in political action operations is well recognized, although it has not been explored as thoroughly as might be expected. Chemical Division includes it as an objective of its program to be prepared to support or make such operations possible. Non-chemical methods of accomplishing political action operations are also included in the program.

f. Lesser objectives but perhaps of equal importance are

and practical aid to case officers in handling agents. In total, the objectives are considered to be sound. Certainly, research leading to a better understanding of the workings of the human mind is an essential element of intelligence and anything that contributes to the prediction of human behavior or makes possible its direction or control is of inestimable value.

g. Some concrete results have been achieved. Six specific products have been developed and are available for operational use. Three of them, P₁, C₁, and C₂, are discrediting and disabling materials which can be administered unwittingly and permit the exercise of a measure of control over the actions of the subject. These have been used in six different operations on a total of 33 subjects. The other products are

K_2 , a knockout material used to facilitate unconsciousness; K_3 , an alcohol extender which produces a degree of inebriation out-of-proportion to the amount of alcohol consumed and; A_2 , which is a stimulant similar to Benzedrine in its effect but without its undesirable after-effects.

A manual has been produced which analyzes methods used by Communist security forces in the arrest, interrogation and indoctrination of "enemies of the state." Two other manuals of lesser distinction have been published. One describes methods of administering drugs or chemical materials surreptitiously and misdirecting attention of a subject. The other is devoted to [redacted]

[redacted] and methods of influencing free choice. Other studies are still in process which, it is anticipated, will produce more profound knowledge on the subject of influencing human behavior.

At the present time, there are a substantial number of active projects concerned with substantive research in the behavioral field.

Since many of them include other activities, it is not practical to try to segregate those contracts which have direct application or to apportion those with multiple objectives. The total extent of the effort, however, can be fairly accurately described.

- i. Extensive research is being conducted by two organizations in which the Agency has substantial interests. One is the [redacted] a research foundation with headquarters in Washington. It is supported in part by the Agency and is used principally as a funding mechanism to finance research projects. In addition to its use as a cover facility, it provides useful information in several areas of medical research and

permits the inclusion of areas of special interest in research sponsored by [redacted] The medical member of CD Staff is accredited to [redacted] The other organization is the [redacted]

[redacted] This is wholly supported by the Agency as a cover facility. The Society has two full-time employees and a high-level Board of Directors who ostensibly provide funds for research in the lesser known ecological aspects of humanity. As a cover facility, it is more effective and less costly than [redacted]

j. Substantive research in the behavioral field is being conducted under contract at several universities throughout the country. The

University [redacted] is exploring the effects on human tissue of lysergic acid, the principal ingredient of P. [redacted] Uni-

versity is working on knockout materials while [redacted] University

is searching for antidotes for similar materials. At [redacted] University,

researchers are seeking an antagonist for ethyl alcohol to provide a

defense against intoxication. At the University [redacted] one of the

country's foremost authorities on hypnotism is examining the validity of

the hypnotic state and measuring the effect of hypnosis on the human mind.

A project at [redacted] University is concerned with research in neurology

to determine the effect of emotional stress and the resulting structural

damage to the brain or other tissue of the human body.

k. A major problem in the behavioral program is that of arranging for and conducting the essential tests and experimentation which produce the basic data for the development of techniques and the application of the end product to operational use. This is a time-consuming and costly

process but one which must be accomplished carefully and thoroughly. There are no shortcuts or substitutes which can be applied. Because of the unconventional use of the materials involved, CD has had added difficulty in obtaining expert services and facilities to conduct tests and experiments. Some of the activities are considered to be professionally unethical and in some instances border on the illegal. These difficulties have not been entirely surmounted but good progress is being made. Another problem is raised by the lack of professional knowledge of lysergic acid, the basic substance with which CD is concerned. Very little research has been done by the medical profession and CD is breaking new ground in its efforts to develop this material for operational use.

1. Preliminary tests and experiments are generally conducted on animals. For this purpose, CD has engaged the services and facilities of such institutions as:

The National Institute of Mental Health conducts tests on its zoology to study the effects of P and knockout material and has provided information of operational value. Human experimentation is more difficult to accomplish. The best results have been obtained from mental institutions such as

Narcotics Addiction Hospital, Lexington, Ky.,

An arrangement is in process with the

which is expected

to produce valuable results. Even with all the data gathered from these institutions there remains a considerable area of doubt. These tests and experiments are conducted under controlled conditions and the results may be quite different from those obtained in the operational use of the

material. In this respect, [] must be considered as experimental as well. Much more testing must be conducted before the behavioral program can be considered to have accomplished its objectives.

In almost five years since Fiscal 1952 the program has cost approximately [] this includes funds to support the

] and part of the cost of supporting

[] It also includes part of a grant to

[] to aid in the construction of a wing devoted to mental illnesses.

Concrete results achieved thus far are difficult to justify in relation to cost. No price can be attached to the intangible value of the extensive contracts established with outstanding members of the medical

and other scientific professions. At this point in time it is impossible to assess accurately the potential of the program or to estimate the value of the anticipated results. It is believed, however, that the program should be continued with the adjuration that it be conducted as economically as possible.

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31 July 1975

MEMORANDUM FOR THE RECORD

SUBJECT: [File Review]

(4)

1. The undersigned has reviewed three folders labeled [redacted]. These folders contain reports and miscellaneous correspondence pertaining to a classified contract between the Agency and the National Institute of Mental Health, U.S. Public Health Service. Under this contract the NIMH conducted tests of various hallucinogenic drugs including LSD. The stated purpose of the experiments was "to find synthetic analgesic and antitussive drugs which are as safe or safer than codeine." The file indicates this work was initiated by the Department of Defense prior to 1951 and continued under Agency sponsorship from 1951-52 through 1962. Funds were initially transferred through the Office of Naval Research and presumably this mechanism was used throughout the contracting period. Funds involved varied between [redacted].
2. Actual testing of the drugs was performed by NIMH personnel at the National Institute of Mental Health, Addiction Research Center, Lexington, Kentucky. According to documents in the file, testing was accomplished on animals and human volunteers. The file indicates that the human volunteers were patients at the facility in Lexington. The Agency project renewal states that the tests "are accepted as standards for legal action by the Committee on Drug Addiction and Narcotics, National Research Council". There is no indication in the files that testing was done on unwitting humans.
3. The file does not indicate what use the Agency made of the results of the project. A report entitled "Final Progress Report" is contained in file folder #3. This report summarizes the results of the project through 1962 and states that the project will continue with NIMH financing. The report states that the goals of the project were realized. Among the results were the discovery of two useful analgesics (Darvon and Versidyl) and an antitussive (Romilar) as well as a number of other drugs which may offer a substitute for codeine.

Sanitized

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Executive Register
75-8671/5
INSPECTOR GENERAL
75-3871

(6)

31 OCT 1975

MEMORANDUM FOR: Director of Central Intelligence
FROM : Inspector General
SUBJECT : Kennedy Committee Interest in IG Surveys of OTS

1. This memorandum is for your information.
2. OLC recently asked us to review the IG surveys of OTS for information of possible interest to the Kennedy Committee. Of the three such surveys (1957, 1963, and 1971), only the 1957 report had not been reviewed previously. Our review of the 1957 report revealed several references to the drug related aspects of Project MKULTRA. Copies of a number of pages from that report have been sanitized and coordinated with Dr. Stevens for passage to OLC and, we presume, eventually for the Kennedy Committee. They contain the following matters of interest.
3. The organization, functions, and methods of operation of Chemical Division (CD), TSS are described. MKULTRA appears as a funding procedure for sensitive R&D programs including expenditures in the field of influencing human behavior. A section on influencing human behavior includes a general description of CD's interest and objectives, mentioning improved interrogation techniques through the use of psychochemicals and the development of defensive measures against hostile interrogation.

4. In discussing the problem of arranging for tests and experimentation in the behavioral program, the following statement is made:

"Some of the activities are considered to be professionally unethical and in some instances border on the illegal. These difficulties have not been entirely surmounted but good progress is being made. Another problem is raised by the lack of professional knowledge of lysogenic acid, the basic substance with which CD is concerned. Very little research has been done by the medical profession and CD is breaking new ground in its efforts to develop this material for operational use."

5. The report notes that preliminary tests are conducted on animals, and the best results in human experimentation have been obtained from mental institutions under controlled conditions. It goes on to comment on "security" hazards surrounding some aspects of the human behavior program as follows:

"Precautions must be taken not only to protect operations from exposure to enemy forces but also to conceal these activities from the American public in general. The knowledge that the Agency is engaging in unethical and illicit activities would have serious repercussions in political and diplomatic circles and would be detrimental to the accomplishment of its mission."

6. Apart from the general descriptions and statements outlined above, the 1957 report does not go into detail on the subject of human experimentation. It makes no recommendations on discontinuing such activities. Its recommendations on the subject of human behavior involve

Donald F. Chamberlain
Donald F. Chamberlain
Inspector General

cc: OLC
DDS&T

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(G)

03 OCT 1975

MEMORANDUM FOR: Inspector General

SUBJECT : Destruction of Drug and Toxin Related Files

1. On your instructions, I have investigated the destruction of Agency records related to drugs and toxins. This investigation was conducted between 17-30 September 1975 and was limited to avoid interfering in any way with other ongoing investigations of this matter, including that of the FBI.

2. I discussed this matter with the following people:

Dr. Sayre Stevens, ADD/S&T

3. Summary Conclusions: The investigation focused on four areas:

a. Destruction of files related to MKULTRA and the continued existence of any such files or papers.

-- No existing drug-related MKULTRA material was located.

Dr. Gottlieb appears to have authorized destruction of MKULTRA drug-related files and may have been directed to do so by Mr. Helms.

-- MKULTRA files formerly held in Records Center may have been destroyed on 30 January 1973 rather than 31 January 1973. The Chief of Records Center protested destruction of those files on 2 February 1973.

-- The investigation also uncovered material related to MKULTRA in the minutes of the CIA Research Board for 1953-1962.

-- No satisfactory explanation has been found concerning some MKULTRA material retired to Archives, not recorded as having been destroyed, and not yet located.

b. Destruction or continued existence of other files possibly related to drugs.

-- Three boxes of material formerly stored in Records Center were destroyed in January 1973 when the MKULTRA material was destroyed. One box of this material deals with environmental sampling for BW and CW manufacturing activity. OTS is currently attempting to identify the projects dealt with in the material in the other two boxes.

-- Some material dealing with the testing of drugs on human volunteers has been reviewed by OIG.

-- Approximately one safe drawer full of Dr. Gottlieb's papers was destroyed by his secretary at his orders in June 1973, shortly before he retired. No detailed description of this material is available.

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c. The existing MKNAOMI records and the question of whether records related to the Agency's involvement in toxin programs have been destroyed.

-- Two MKNAOMI files exist. They contain Agency documents covering the period 5 May 1952 to 18 February 1970, as well as reports originated by Camp Detrick during the period 1960-1969.

-- This material does not present a detailed history of MKNAOMI activity. However, Dr. Stevens has determined that it was standard procedure to keep little or no record of this project's activities. He does not believe any papers were removed from these files.

-- Dr. Stevens has also determined that there are no existing Army records on this project or on the Special Operations Division at Fort Detrick.

-- Some MKNAOMI papers may have been included in Dr. Gottlieb's papers destroyed in June 1973, but we have no evidence of this.

d. The system for retiring records to Records Center and Archives, records retrieval, and records destruction.

4. MKULTRA: This investigation has turned up no existing drug-related MKULTRA files.

a. OIG files contain a number of documents which refer to the destruction of MKULTRA files in 1973. Copies of these documents are attached at Tab A. In general, these documents indicate that the MKULTRA files were destroyed on the instructions of Dr. Sidney Gottlieb, then Chief of TSD, on 31 January 1973. Both Branch files and records retrieved from archives were destroyed.

b. A 17 January 1975 MOR by [redacted] states, "Over my stated objections the MKULTRA files were destroyed by order of the DCI (Mr. Helms) shortly before his departure from office."

In a 15 August 1975 MOR, [redacted] Chief, OTS/BAB, describes a discussion with Dr. Gottlieb "early in 1973" in which the latter said he had received a call from Mr. Helms who had instructed Dr. Gottlieb to destroy all files pertaining to drug research and associated activities.

c. Records Center files contained a handwritten MOR dated 2 February 1973 with attachments by [] former Chief, Archives and Records Center (see Tab B). [] comments on destruction notices for Job No. 68-746 (MKULTRA) and 68-256 (seemingly other drug related files). He records his belief that the files should not have been destroyed. He also notes that he checked with [] OTS/RMO, who agreed with him that the project files should have been retained. [] is also reported to have determined that Dr. Gottlieb authorized destruction of the files. The destruction notices attached to [] MOR show that Job Nos. 68-255 and 68-746 were destroyed on 30 January 1973. (N.B.: 31 January 1973 seems to be the commonly accepted date in the documents under Tab A.)

d. Copies of the Chemical Branch/Biological Branch and Chief, OTS Records Retirement Files are attached at Tab C. The shelf lists for Job Nos. 74-75 and 62-1153 in the Chief, OTS file list three files associated with MKULTRA:

-- [] Subproject W-Project
MKULTRA - May 1956 through October 1975"

-- [] Subproject AA - Project
MKULTRA - May 1959 through May 1960"

-- [] Subproject AC - Project MKULTRA -
September 1959 through January 1960."

I recalled these files from Records Center and reviewed them. They concern [] and have nothing to do with drugs or toxins. I briefed Dr. Stevens on them on 22 September. He noted that there is a considerable quantity of material on the []

[aspects of MKULTRA. None of the files related to those aspects of the project have been destroyed.

e. [OTS/RMO, reviewed the material contained in ten boxes recalled from Records Center by OTS because of their possible association with the drug program.] 25 September memorandum to OIG describing the contents of those boxes is attached at Tab D. These boxes contained a considerable amount of material dealing with animal screening tests involving various drugs, but they contain no material dealing with tests involving humans or identified as connected with Project MKULTRA.

f. Paragraph 1-b of [25 September memorandum] mentions an MKULTRA file and other material of possible interest which appear on a shelf list of the historical files of OTS/Missions and Programs Staff which had been transferred to Archives in the only deposit ever made to Archives by OTS under File Nos. HO-22 and HO-146-148. On 29 September, [] and I reviewed the following Archival material at Records Center:

-- Reviewed by []

File No HO-22 - "TSD-Technical Growth [] 1952-61"

File No. HO-146 - "Research Board - Administrative"

File No. HO-148 - [] Contract File"

-- Reviewed by Mr. []

File No. HO-147 - "Research Board."

[] found no material concerning MKULTRA drugs, or toxins in the files he reviewed. According to the shelf list associated with

these files, MKULTRA and [] material had been retired to Archives in Box No. 1, HO-22. The shelf lists bear no indication that the material in question was removed from Box 1 or destroyed. Therefore, [] Archives Technician, conducted a thorough search of Box 1. No MKULTRA or [] material was found.

At my request, [] then checked the record on access to Box 1 since its retirement to Archives. The check revealed that boxes 1, 2, 5, 7, and 8 of this single OTS deposit had been returned to [] on 8 January 1975 (See Tab E). [] recalled handcarrying the boxes to [] then recalled passing them to the Missions and Programs Staff which had requested them. [] speculates that the boxes were probably returned to Archives within a standard 30 day loan period because the Tab E form bears no indication that he had to remind [] to have them returned (Archives SOP).

[] 1 October 1975 memorandum concerning this matter is also attached at Tab E. [] appears convinced that the missing items were connected with MKULTRA's [] aspects. Whether true or not, these items are still missing without explanation.

g. My review of HO-147, "Research Board" revealed several documents which indicate that the CIA Research Board which existed from 1953 to 1962 received several briefings by Dr. Gottlieb and others on at least some aspects of the drug and toxin programs.

Copies of those documents are attached at Tab F.

5. Other Drug Related Files

a. The shelf list attached to Records Center Job No. 68-256 (referred to in subparagraph 4-c above) describes three boxes of files that were also destroyed in January 1973. These files were probably related to the drug program, but the projects with which they deal have not all been identified by OTS. Box 3 of this lot contained files related to Projects [redacted]. Dr. Stevens has informed me that [redacted] is preparing a description of these projects. They involved environmental sampling for BW and CW manufacturing activity. [redacted] told me on 2 October 1975 that OTS "tribal memory" and financial files are now being put to work to identify as many as possible of the project files listed in Boxes 1 and 2.

b. On 24 June 1975, acting on orders of Mr. Duckett, [redacted] of the DD/S&T inspected approximately 35 boxes of OTS holdings at Records Center in search of material which might have some bearing on the drug-related investigation. (See 23 September 1975 NOR by [redacted] at Tab D.) Their search revealed six boxes of possible interest which were returned to Headquarters for review. These boxes were included in the 10 boxes reviewed by

[and described in his 25 September 1975 memorandum also at Tab D. Three files from those boxes dealing with Project [] were reviewed by [] OIG, in July 1975. [] involved testing of drugs on human volunteers by various institutional CIA contractors. A copy of [] 31 July 1975 MOR covering his review is attached at Tab G.

c. Approximately one safe drawer full of the personal files of Dr. Sidney Gottlieb was destroyed on Dr. Gottlieb's orders in June 1973, shortly before his retirement. The files were destroyed by []. At the time, [] had been Dr. Gottlieb's secretary for only six weeks, during three of which Dr. Gottlieb was in Europe. [] was new to TSD and knew nothing about TSD activities, crypts, projects, etc. She remembers destroying some technical journals and papers written by Dr. Gottlieb as well as files dealing with Sensitive personnel matters and some SECRET SENSITIVE papers about which she can recall nothing.

6. MKNAOMI:

a. On 23 September 1975, I discussed with Dr. Stevens his investigation of Project MKNAOMI. Dr. Stevens is convinced that no papers were removed from the two extant MKNAOMI files. He believes the gaps in the files are the result of a conscious policy on the part of those involved to keep very little paper on the project from its inception in 1952 to its demise in 1970. All of the people formerly connected with the project to whom Dr. Stevens has spoken assert that the practice of keeping little or no record of the activity was standard MKNAOMI procedure.

b. In his discussions with the Army, Dr. Stevens learned that the Army had no records on MKNAOMI or on the Special Operations Division, Fort Detrick. He surmises these records were destroyed when the BW/CW materials were destroyed at the President's order.

c. Tab H contains a chronological list of Agency documents contained in the two MKNAOMI files. These documents cover the period 5 May 1952 to 18 February 1970. They do not represent a detailed account of MKNAOMI activity over the years, but I believe the procedure described by Dr. Stevens and outlined in subparagraph 6-a above could at least partially account for the lack of such a detailed record. In addition to the Agency documents listed in Tab H, the MKNAOMI files contain a number of reports and papers which originated at Camp Detrick. These documents are variously dated within the time-period 1960-1969.

d. One final consideration deserves mention in connection with the possible destruction of records related to MKNAOMI. The destruction of one safe drawer full of Dr. Gottlieb's personal papers in June 1973 -- described in subparagraph 5-c above -- could have included the destruction of some MKNAOMI records, given the sensitivity of this activity. However, we have no evidence this was the case.

7. Records Retirement System: The following information was briefed to me on 29 September by [] OTR/RMO, [] Acting Chief of Records Center, and [] Archives Technician. From the OTS standpoint, [] states that these procedures have been in force

since 1967 when he became RMO. He can make no statement concerning how closely they were followed before that time.

IG Subject
IG 75-3228

(8)

20 OCT 1975

MEMORANDUM FOR: Director of Central Intelligence
FROM : Inspector General
SUBJECT : Destruction of Records on Drugs and Toxins

Action Requested:

1. None. This memorandum is for your information.

Background:

2. At your request, we looked into the destruction of Agency records related to drugs and toxins. We limited our investigation to avoid interfering with other ongoing investigations of this matter, including that of the FBI. We held discussions with several people in the DD/S&T, Records Center, and Archives and reviewed a number of OTS files. Our findings and conclusions follow.

Summary Conclusions:

3. MKULTRA Records: This was an umbrella project for funding sensitive TSD activities including research into methods for controlling human behavior:

-- No drug-related MKULTRA files were turned up during our investigation.

-- A number of documents concerning the destruction of MKULTRA drug records are attached at Tab A. In general, they show that the records were destroyed on the instruction of Dr. Sidney Gottlieb, then Chief, TSD, on 31 January 1973. Both Branch files and records retrieved from Archives were destroyed.

-- Tab A also contains statements by Messrs. [redacted] of OTS. These statements indicate that the destruction of MKULTRA drug files was ordered by Mr. Helms.

-- Tab B contains a 2 February 1973 MOR by [redacted] former chief of Archives and Records Center. The destruction notices attached to [redacted] /MOR show that the records bearing Job No. 68-746 (MKULTRA) and Job No. 68-256 (other files possibly dealing with drugs as well as with BW/CW detection) were destroyed on 30 January 1973 rather than the more commonly accepted 31 January 1973 date mentioned in most of the Tab A documents.

-- We identified three MKULTRA files which, it turned out, deal with [redacted] aspects of the project. According to Dr. Sayre Stevens, no files related to those aspects of MKULTRA have been destroyed.

-- However, some MKULTRA material is mentioned on a list of items retired to Archives by OTS on 11 March 1974. There is no record of destruction of this material, but a careful search has failed to turn it up. The box containing this material was recalled from Archives by OTS on 8 January 1975 and returned to Archives sometime thereafter, probably within thirty days. OTS advises that the MKULTRA crypt in this instance was not related to drug activity but to [redacted]

The fact remains, however, that the material is missing with no satisfactory explanation.

-- We reviewed an Archives file containing the minutes of the CIA Research Board from 1953-1962. The minutes mention several briefings of the Board by Dr. Gottlieb and others on at least some aspects of the drug and toxin programs. Copies of these documents are attached at Tab C.

4. MKNAOMI Records: This was a TSD project at Camp Detrick which maintained an R&D competence to provide a minimal support capability in defensive and offensive BW/CW:

-- There are two existing MKNAOMI files. These files contain CIA documents covering the period 5 May 1952 to 18 February 1970 and reports originated at Camp Detrick during the period 1960 to 1969.

-- These files do not present a detailed account of MKNAOMI activity over the years. From his investigation of the project, Dr. Stevens has concluded that gaps in the files are the result of a conscious policy on the part of those involved to keep very little paper on the project from its inception in 1952 to its demise in 1970. People formerly connected with the project interviewed by Dr. Stevens asserted that the practice of keeping little or no record of the activity was standard MKNAOMI procedure.

-- Dr. Stevens also learned that the Army has no records on MKNAOMI or on the Special Operations Division, Fort Detrick. He surmises these records were destroyed when the BW/CW materials were destroyed at the President's order.

-- There is one final consideration connected with the possible destruction of records related to MKNAOMI. Approximately one safe drawer full of Dr. Gottlieb's personal files were destroyed by his secretary at his order in June 1973, shortly before Dr. Gottlieb's retirement. The secretary was new to OTS at the time and had been working for Dr. Gottlieb for only six weeks. She knew little about OTS activities, crypts, or projects. She remembers destroying some technical journals, papers written by Dr. Gottlieb, some files dealing with sensitive personnel matters, and some SECRET SENSITIVE papers about which she recalls nothing. Given the sensitivity of MKNAOMI, some MKNAOMI papers could have been included among those destroyed in June 1973. However, we have no evidence this was the case.

-- In general, we concur in Dr. Stevens' belief that no papers were removed from the two extant MKNAOMI files. MKNAOMI records-keeping procedures appear to account at least partially for the lack of a continuous detailed record of MKNAOMI activity over the years. Some papers relating to MKNAOMI may have been destroyed in June 1973 or at some other time, but this cannot be demonstrated with the information now available to us.

5. [] and Other Drug Related Material: [] involved CIA contractors testing drugs on human volunteers:

-- On 24 June 1975, on Mr. Duckett's orders, [] of his office examined OTS holdings at Records Center in search of material which might have some bearing on the drug related investigation. Six boxes of material of possible interest were returned to the Office of the DD/S&T for review. Subsequently, they were returned to Records Center. Later these were recalled by OTS with an additional four boxes of files from Records Center.

-- We reviewed three files from these boxes in July 1975. These were files on Project [] which involved the testing of drugs on human volunteers by various institutional contractors of CIA. A copy of the 31 July 1975 MOR covering our review is attached at Tab D.

7-20

-- OTS/RMO, reviewed the ten boxes of OTS files recalled from Records Center. In addition to the material described above, these boxes contain a considerable amount of material dealing with animal screening tests of various compounds, but they contain no material dealing with tests involving humans or identified as connected with Project MKULTRA. Memorandum covering his review is attached at Tab E.

-- Three boxes of OTS material formerly stored in Records Center were destroyed by OTS in January 1973 at the time of the destruction of MKULTRA records. (MOR at Tab B comments on the destruction of this material.) Some of the records in these three boxes dealt with environmental sampling for BW and CW manufacturing activity

. At least one file listed as "Project ARTICHOKE - 1951-1954" must have dealt with drug-connected activities. OTS has attempted to identify the activities covered by the balance of the missing material with little success to date. A 10 October 1975 memorandum describing the OTS efforts in this connection is attached at Tab F.

-- On 3 October 1975, the Director of Medical Services forwarded to us copies of unaddressed, undated, and unsigned documents dealing with LSD-25 (See Tab G). These documents were unearthed by OMS from the Archives files of its Operations Division. They were found in a folder labeled "TSD File, 1956-1960."

6. We believe it likely that a thorough search of Agency records -- particularly DDO operational records -- would continue to produce additional pieces of the drug activity puzzle. We believe it unlikely that such a search would produce any major intact repository of information on this subject. Recognizing that such a search would heavily burden people already overtaxed with investigative activities, we are inclined to doubt that the return would justify the investment.

Donald F. Chamberlain

Donald F. Chamberlain
Inspector General

42

~~SECRET~~

(570)

MEMORANDUM FOR THE RECORD

SUBJECT: Discussions with [REDACTED] on MKNAOMI

'75

1. On 27 June I met with [REDACTED] in my office to discuss MKNAOMI in the hopes he could shed additional light on the tasking of that project and any operational support it possibly may have provided. [REDACTED] joined the Agency early in 1958 and served as Chief of the Biology Branch of TSD from September 1961 until January 1968 when he retired. He was personally deeply involved in the MKNAOMI project which was the responsibility of his branch. [REDACTED] of OGC, [REDACTED] of ORD, and [REDACTED] of OTS were also present during these discussions.

2. At the outset, [REDACTED] spoke very strongly of his need to maintain the cover with which he left the Agency in 1968.

[REDACTED]

3. I began the interview by giving [REDACTED] a run-down on our understanding of the Ft. Detrick project and the image of that effort projected by the limited record of the MKNAOMI file. I pointed out that one of the clearly defined purposes of the project as stated in TSD documents was to maintain a stockpile of lethal agents and disseminating systems in readiness for operational use and that this in association with the current furor about assassinations had caused some obvious concern within the Agency about this program which had not been alleviated by available records. It was our hope that [REDACTED] could fill some gaps in our knowledge. He was told that whatever he could provide should be given on a complete voluntary basis and that he should feel free not to say anything if he so chose.

4. [REDACTED] responded immediately by stating that it was essential we understand that while discussions were held and work done on things that might appear questionable, there was a clear understanding among all involved that they would never actually be used operationally because of inherent stops built into the Agency approval system that assured final approval for use would never be given. Thus, he characterized the whole MKNAOMI effort as a kind of Never-Never-Land involving all sorts of unfettered discussion in isolation from reality. He provided

E2 IMP DET
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S70

full assurance that "the Company" had nothing to worry about: none of the lethal or incapacitating products of MKNAOMI had ever been made available to anyone for operational use.

5. Some time was spent questioning ██████ about the requirements that shaped the MKNAOMI project. He stated that these had all been generated internally within TSD. He recalled no requirements having been levied by anyone within the Agency but not a part of TSD. Later in the interview, however, he noted that he had had discussions relevant to this matter with ██████████, but with no one else. He recalled no case in which requirements or direction were received from outside the Agency. It was simply the view of TSD that such a capability as NAOMI could provide was a reasonable one for the Agency to possess. Moreover, he noted that the inherent unreliability of biological agents and processes basically limited the utility of the NAOMI product. He pointed out that lots of work was done on incapacitants, none of which could be used because of an inability to find complete assurance that no serious lasting effects might result from their use. He contended at some length that the work done by Ft. Detrick was really defensive in nature. BW applications suitable for clandestine use were developed and tested only in order to understand the offensive threat the Agency faced. In some contradiction to this, however, he indicated that systems for use against dogs or for incapacitating humans were actually thought to be needed additions to the Agency's capabilities. In making his case for the defensive concerns of MKNAOMI he cited the vulnerability studies undertaken by Ft. Detrick.

6. ████████ confirmed that the responsibilities of the Special Operations Division centered on the development and testing of special applications of BW weapons. Our relations were fairly informal and relied upon liaison between Ft. Detrick and TSD being conducted by a very limited number (several) of designated project officers. He also confirmed that virtually no written records on the project were maintained. Funding was provided by the Agency simply to support the overall activity of SOD and apparently was not accounted for on a tasking basis. ████████ averred that the arrangement was based on the premise that work done in response to special Army requirements would be of interest to the Agency. This was particularly true since the Army Special Forces were SOD's principal customer and the Agency faced many of the same problems as this element of the Army. He left the impression that rather than provide tasking to Ft. Detrick, TSD simply selected developments of interest from an internally generated program. When asked about maintaining records of material transferred to the Agency, ████████ responded that very little such material was in fact given to TSD and that it was unlikely any records were kept.

7. A considerable amount of time was spent questioning ████████ specifically about the provision of agents or delivery systems developed at Ft. Detrick to operational elements of the Agency. He stated flatly that he had never had occasion to do so. ████████ was shown a Ft. Detrick memo in the MKNAOMI file covering a conference with the Agency at which he was present which indicated he requested the Agency be provided with 5 staph. enterotoxin (food poisoning) tablets by 1 April 1962. He was asked the purpose of his request. ████████ responded by

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(S70)

saying he was glad this specific question was asked since it enabled him to clarify what was obviously a source of some misunderstanding. It was his practice, he said, to levy such requests upon SOD with specific due dates simply to mask any possible future request which might be made for real operational purposes. Thus, periodic requests for material and delivery systems were made so that a purposeful one would not stand out as unusual. He further stated that the enterotoxin development was one the Army had been engaged in which we thought might be of use to us as a means for temporarily incapacitating guards. No mention was made of the obvious discrepancy between this view and the contention that our interests were purely defensive in nature. [redacted] was told that one of the schemes suggested for use against Castro involved the treatment of the inside of a diving suit with Madura Foot, a non-specific fungal skin disease. At the same conference as noted above, considerable attention was given to the development of Microsporum Gypseum (a fungal agent producing severe skin disease) and direction was reportedly given by [redacted] that it be prepared in a form suitable for dusting clothes, pillows, etc. He was asked if this direction was related to the Castro gambit. He stated categorically that it was not and was not related to any identified operational use of the agent. Rather, it was another example of the type of tasking he levied on Ft. Detrick. He claimed he had no knowledge of the diving suit affair or of any other plot to incapacitate or assassinate Castro -- or anyone else, for that matter. He did state later that tranquilizing materials obtained elsewhere but loaded into syringes at Ft. Detrick (because of the sterile facilities there) had been given to case officers for use in [redacted]. On no other occasion had Ft. Detrick material been provided to the DDP.

7. The MKULTRA drug work came up a number of times. At the outset of the discussions, and repeatedly throughout them, he stated -- though not asked -- that he had no knowledge of any unwitting testing of drugs. Rather, animal tests and ultimate testing with human volunteers had been all that was required. In these cases well established test protocols had been used. He stated that this activity had been his principal concern.

8.

[Redacted]

9. [redacted] spent some time describing other activities apparently involving Ft. Detrick, though that was not always clear. These things included materials that would cause the rapid corrosion of metal products displayed at trade fairs, POL contaminants that would destroy petroleum stocks, reagents that would cause structural failures in a number of different materials, crop contaminants that would prevent their passing customs controls (e.g., unacceptably high DDT levels), etc. He knew of no actual uses of harassment materials against targeted individuals as opposed to uses for crowd control or meeting disruption.

10. In summary, it must be said that the discussions with [redacted] were far from satisfying. Many of his responses appeared to be less than forthcoming

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and were not altogether believable in the light of information available elsewhere. Since he appears to be the sole accessible participant in the MKNAOMI project who was deeply involved in it during its most provocative period, there seems to be little more that can be done now in establishing the extent of support provided actual operations during the early 1960's.

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MEMORANDUM FOR THE RECORD

SUBJECT: Discussions with [REDACTED] on MKNAOMI

1. On 30 June I met with [REDACTED] in my office to discuss with him his knowledge of the MKNAOMI project. [REDACTED] entered on duty with the Agency in October 1967 and served as Chief of the Chemistry Branch from March 1969 to April 1970. Also present during the interview were [REDACTED] OGC, [REDACTED] ORD, and [REDACTED] of OTS.

2. I informed [REDACTED] that whatever information he could give us about the project he should do so voluntarily, and that he was under no compulsion to provide any information he chose not to.

3. Sometime was spent giving [REDACTED] an understanding of what we knew about Project MKNAOMI and outlining the principal gaps in our knowledge. The nature of the project and its stated purpose of maintaining biological agents and delivery systems in a state of readiness for operational use, when juxtaposed with the current allegations about assassination plots, obviously caused great concern within the Agency. We wished to get a better understanding of precisely how the project was used and to determine whether or not it had in fact provided direct operational support. The discovery of a substantial amount of shellfish toxin in storage in OTS had created an additional problem. We could not ascertain from whence it came, or whether or not it was included in an inventory of materials held for the Agency by Fort Detrick which we presumed had been destroyed.

4. Dr. [REDACTED] said that he was prepared to help in any way he could and would provide whatever information he had. He stated at the outset that during his period in OTS the project had for all intents and purposes been dormant. Virtually nothing was going on with the project at the time of his first exposure to it, and indeed his first reaction had been one of surprise that the Agency was acting so conservatively in this area.

5. The matter of the inventory of Agency material held by Fort Detrick came up immediately. [REDACTED] was shown the unsigned letter to the Director requesting guidance as to the disposal of reserve stocks. He identified the date of that memo of 18 February 1970 as being in his handwriting. He did not recall whether the memo was actually signed. He did indicate that several months later he was told by [REDACTED], the Chief of TSD, to personally go to Fort Detrick and inform the Army that whatever materials they had of ours should be considered theirs to be destroyed or kept as the Army wished. It is his understanding that that material was in fact destroyed. In response to a query about the shellfish toxin, [REDACTED] stated that that material had in fact been called back from Fort Detrick and was

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stored on the basis of his own decision which resulted from conversations with [REDACTED]. It was their belief that the cost and difficulty of isolating the toxin were so great that it simply made no sense to have it destroyed. He pointed out that [REDACTED] of Fort Detrick had worked for over ten years in developing the process whereby the toxin could be prepared in pure form. It was simply their "arbitrary" decision that it should not be left for destruction. Apparently no one, including [REDACTED], was told of this decision or the fact that the material had been returned to OTS. As Dr. [REDACTED] recalled, this took place prior to his being told by [REDACTED] to inform Fort Detrick that destruction of the material on the inventory list could occur. Though toxins were not originally included in the Presidential Order for BW materials destruction, the DOD subsequently did so include it. [REDACTED] stated that he probably should have taken steps at that time to see that it was destroyed. [REDACTED] was present during this discussion and took no issue with [REDACTED] account. Neither could recall precisely how the material was delivered to OTS but agreed that only three possibilities existed: it was brought back by either [REDACTED] or by [REDACTED] or delivered by someone from Fort Detrick. The latter possibility was considered to be the most likely. [REDACTED] was certain that the shellfish toxin in storage in OTS is the same toxin as that listed on the inventory. No resolution as to the discrepancy between the amounts could be found. [REDACTED] reported that a recalculation of the amounts in storage based upon labels showed that 11.4 grams are actually on hand. Since it is in several different forms and complete reliance is placed upon labeling, however, no real discrepancy may actually exist.

6. In response to a question as to the servicing of operational requirements, [REDACTED] stated categorically that he had never received an operational requirement for MKNAOMI materials during his tenure in OTS. The most he ever received in that vein were questions as to the state of the art in terms of what might be possible. He apparently had to respond frequently in a negative way to questions about the availability of instantaneous incapacitants. A principal interest in such a capability was expressed both by Agency personnel and Army Special Forces in relation to a desire to knock out a Viet Cong leader before he could render himself unable to talk. No such capability existed; nor was the development of such a capability in the near term foreseeable.

7. In discussing the way in which the project was managed, [REDACTED] generally confirmed earlier information on the subject. Virtually no written records were generated. Indeed he stated that during his association with the project he had never seen an operational file on the project. Funding generally supported SOD's operations without close accounting on a tasking basis. During his period, the program pursued by SOD was almost entirely one of its own making. He stated that his role was essentially one of keeping track of what was going on. Moreover, he pointed out that he had no mandate from [REDACTED] to initiate any new efforts within the project. He made it clear that the requirements of the Army Special Forces were the driving force defining SOD activities. He stated that Special Forces' interest included a number of weird things, definitely among which was assassination. He also stated, however, that there was no way in the world that such an interest could be documented. SOD's program centered on or about "the big

five". This term referred to five special delivery systems for BW agents which [REDACTED] were being developed for specific use by Special Forces. Included among these was the micro projectile project -- which appears to be identical to the micro-bio-innoculator -- in which so much Agency interest was shown. Neither [REDACTED] nor [REDACTED] could remember what the other four delivery systems were. Special Agency interest had been shown toward soluble projectiles primarily as a means for introducing larger amounts of incapacitants into the body and in dog incapacitating systems. The latter were apparently actually tested on the guard dogs maintained in earlier times at Isolation. The use of Nalline as an antidote had proved very effective so that the dogs completely recovered in about five minutes after its administration. Nearly all of this work had been started and reached its high point before [REDACTED] time.

8. In general, [REDACTED] characterized his experience with the project as having been very uneventful, continuously diminishing in level, and not at all of major interest or significance.

9. In summary, I found the discussion with [REDACTED] helpful and entirely believable. He has, I think, cleared up the question as to how we became the unwitting possessor of our shellfish toxin store. He stated that it was handled with extreme care always. Undoubtedly it was simply transferred from one freezer to another and in his view continually kept under adequate control. [REDACTED] was certain that nothing had been done with it subsequent to its delivery during the time he remained with the Agency. [REDACTED] has given assurances that it was untouched subsequent to that. [REDACTED] account of the winding down of MKNAOMI is consistent with our records.

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14 MAR 1963

MEMORANDUM FOR: Agency Official

SUBJECT: Policy and Procedures for the Use of Drugs
in Connection with the Agency Mission

1. There have been several recent inquiries within the Agency office to policy and procedures with respect to the use of drugs. The results of your recent conversations with an Agency Staff, the Medical Staff and the Office of Security lead us to believe that it would be advisable, at this time, for the Agency office components interested in this problem to convene informally with representatives of the Medical Staff and the Office of Security and produce recommendations as to policy and procedures in this highly sensitive area. I am anxious that this be done at the earliest opportunity.
2. I should like to ask you to chair an informal committee consisting of representatives of the Agency office, the Medical Staff and the Agency staff to accomplish the following purposes:
 - a. Recommend an Agency policy covering the use of drugs.
 - b. Recommend procedures under which the [REDACTED] can be fully informed in each case prior to making a determination as to the drug most likely to accomplish the desired results, the risk factors involved, and the procedure under which the drug is to be administered.
 - c. Recommend an Agency program for the identification of drugs which best meet the several operational needs of the Agency office.

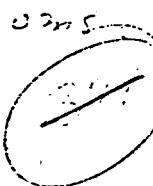
(SAC) Richard Helms

RICHARD HELMS
Agency Officer

cc: S/RS
S/S
I/CS (Info)
C/CS (Info)

TS #203503
PG 1 of 1
5-8-13

4/26



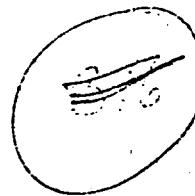
The Medical Staff believes the need for the use of drugs as an aid to operations is established. It is, therefore, recommended that the following policy be enunciated:

Drugs may be used as an aid to operations in selected cases. They will not be used without appropriate authorization nor as a substitute for inadequate managing techniques. The application of this principle requires the closest and most responsible scientific and operational direction available. Therefore, it shall be the policy of this Agency to assure that the ingredients, quantities, and administration of such drugs will be determined by legally and professionally qualified personnel, and that potential subjects for such drug administration will be determined by duly appointed operational authorities.

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#396



14 May 1958

MEMORANDUM FOR: Deputy Chief, CI Staff

SUBJECT: Operational Use of Chemical Agents
and Attachments (Draft)

The draft has been very carefully reviewed and is concurred in its entirety with the following two exceptions:

(1) The fourth sentence of page 1 reads: "a permanent supervisory committee." It is recommended that this be changed to: "a permanent advisory committee."

(2) Paragraph 4 recommends the directive which states: "a temporary committee composed of." It is recommended that this be changed to: "an advisory committee composed of."

[REDACTED]
Deputy Chief, CI

Distribution:

Orig & 1 - Addressee
1 - [REDACTED]
1 - C/AS
1 - C/TBS

58-24

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 UNCLASSIFIED INTERNAL ONLY CONFIDENTIAL SECRET

ROUTING AND RECORD SHEET

SUBJECT (Optional)

FROM:

C/A/S/CD
1303 "J"

NO.

DATE

20 May 1958

TO: (Officer designation, room number, and building)	DATE		OFFICER'S INITIALS	COMMENTS (Number each comment to show from whom. Draw a line across column after each comment.)
	RECEIVED	FORWARDED		
1. Deputy Director of Security Post 5th "I" Wing,			[REDACTED]	The attached is for your refer- ence and use. Your attention is invited to the article "What is a Wring" which appears on the second page.
2.			[REDACTED]	
3.			[REDACTED]	
4.			[REDACTED]	
5.			[REDACTED]	
6.			[REDACTED]	
7.			[REDACTED]	
8.			[REDACTED]	
9.			[REDACTED]	
10.			[REDACTED]	
11.			[REDACTED]	
12.			[REDACTED]	
13.			[REDACTED]	
14.			[REDACTED]	
15.			[REDACTED]	

FBI - 110 FORMS

 SECRET CONFIDENTIAL INTERNAL USE ONLY UNCLASSIFIED

291

ENDO-STOMA MEDICINE AND SURGERY

THE END-STOMA

The end-stoma is a stoma which is formed at the distal end of the bowel. It is usually formed in the rectum or sigmoid colon. It may also be formed in the transverse colon, descending colon, or in the small intestine. It is usually formed in the rectum or sigmoid colon because it is easier to reach and to suture.

The end-stoma is a stoma which is formed at the distal end of the bowel. It is usually formed in the rectum or sigmoid colon. It may also be formed in the transverse colon, descending colon, or in the small intestine. It is usually formed in the rectum or sigmoid colon because it is easier to reach and to suture.

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It is a simple

stoma

and is

RECOMMENDED READING BY THE AMERICAN COLLEGE OF SURGEONS

This section contains a list of recommended reading by the American College of Surgeons. The list includes books and articles on the general principles of the treatment of diseases of the digestive system, as well as more specific chapters on various conditions.

Books on the treatment of the diseases of the digestive system include:

Stomach and Bowel Surgery by W. H. Nichols

Practical Manual of Surgery by W. H. Nichols

This section contains a list of recommended reading by the American College of Surgeons. The list includes books and articles on the general principles of the treatment of diseases of the digestive system, as well as more specific chapters on various conditions.

Books on the treatment of the diseases of the digestive system include:

Practical Manual of Surgery by W. H. Nichols

of the *Archaeopteryx* and the *Archaeopteryx* of the *Archaeopteryx*. The first is the *Archaeopteryx* of the *Archaeopteryx*, the second is the *Archaeopteryx* of the *Archaeopteryx*.

Spiraea and *Hebe* are the two most common shrubs in the garden, and the latter is the more abundant. The former is a tall, upright shrub, with long, slender, drooping branches, bearing numerous small, white flowers, which are very fragrant. The latter is a smaller shrub, with shorter, more compact branches, bearing clusters of small, white flowers, which are also very fragrant.

What is a Bond?

Much of the information available on the effects of urbanization on water resources has been derived from studies of relatively small-scale urban areas. The effects of large-scale urbanization on water resources have been less well studied. In addition, the effects of urbanization on water resources have been studied more often than the effects of water resources on urbanization. This paper attempts to address some of the gaps in our understanding of the effects of large-scale urbanization on water resources.

So far as we could learn, he had no wife, and had no children. He died at his home in New Haven, Conn., on Dec. 20, 1895, aged 75 years.

and other like documents which
he also has or will receive of his brother
and of other persons.

The author's signature is also given to his
own musical compositions throughout the book.
Reference is made to the author's musical ability in the
preface to the first edition of his book.

W. H. D. Green, of the Boston, Mass.

118 The most important point in the present system of government is, that it is a
119 good and safe system, and that it is a simple, practical one. The great
120 importance of a simple, practical system of government, lies in the fact that
121 it is the best system, and that it is the easiest system to administer. A good system can have
122 nothing to do with the complexity of its machinery, or the difficulty of its
123 working. A good system is a simple system, and a simple system is a good system. The simplicity of a system
124 depends upon the number of its parts, and the complexity of a system depends upon the number of its
125 parts. The simpler a system is, the more easily it can be understood, and the more easily it can be
126 managed. The simpler a system is, the more easily it can be applied to the needs of the people, and the
127 more easily it can be made to work. The simpler a system is, the more easily it can be
128 understood, and the more easily it can be applied to the needs of the people. The simpler a system is,
129 the more easily it can be understood, and the more easily it can be applied to the needs of the people.

the first time in history that the people of the United States have been compelled to pay for their freedom.

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Office Memorandum • UNITED STATES GOVERNMENT
(SAC)

TO : [REDACTED]

DATE: 20 January 1959

FROM : [REDACTED]

SUBJECT: Attached

1. Mr. [REDACTED] called at 11:00 A.M., 20 January in connection with the attached document. He stated that the document was not delayed in reaching the Security Office but had been routed wrongly, and he had sent the document to [REDACTED] for study and concurrence if Security approved the operation. [REDACTED] stated that TSS had approved and that the Officer to give the P-1 was familiar with its use and had worked with the technique in Europe. He stated he would call the Medics and he was certain that their approval would be forthcoming. He stated he thought he could save time and a committee meeting by sending the paper around for concurrence or disapproval and requested that we act on same. He stated that the case was an old one, that everything as far as he could tell was in order and that approval would be needed in the Field by 1 February.

2. Examination by the writer reflects that for a P-1 interrogation, there is sufficient information in the attached to recommend approval provided, of course, the usual Security precautions are taken as to control of Subject, physical surroundings, and Subject's health. It is the writer's belief, however, that we should ascertain specifically if this is to be a true P-1 interrogation; that is by use of LSD. If a P-1 interrogation is to include other types of procedures used in the Artichoke Operations, further study is recommended including a specific that in either case medical authority will be present during the operation.

Subject is [REDACTED]
I approved the request
provided there was an
understanding of the
techniques to be used
in applying P-1.

27 Jan 59

58-2

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Office Memorandum • UNITED STATES GOVERNMENT S

TO : Deputy Director of Security

DATE: 23 April 1959

FROM : Chief/SRS [REDACTED]

SUBJECT: ARTICHOKE - Apparent request for use of (attached)

Per your instructions, the writer talked to [REDACTED] on 21 April 1959 in this matter. [REDACTED] said he is aware of case, which he described as very low-level type. He said no official request for Headquarters permission re ARTICHOKE has come in. [REDACTED] said if request is made he will receive it and then let all committee members know immediately. He stated it would be impossible for anyone to use ARTICHOKE in this case without his knowledge.

[REDACTED] had not seen this cable.

58-31

435

435

Office Memorandum

UNITED STATES GOVERNMENT

TO : Chief/SRS / [REDACTED]
THRU : Deputy Chief/SRS / [REDACTED]
FROM : [REDACTED]

DATE: 15 September 1959

SUBJECT: Possible Use of Drugs and Hypnosis in [REDACTED] Operational Case

Reference is made to previous discussions concerning the above. [REDACTED] forwarded the attached memo which is self-explanatory. [REDACTED] also talked to the writer and stated in view of the TSS paper the attempt had to be cancelled. Dr. [REDACTED] was so notified. [REDACTED] is unhappy about this, but he believes that it would be useless to try to force the issue now.

My view is similar to [REDACTED] in that I felt it was a good chance to try something unusual, with the knowledge that the results could be to a certain extent pre-tested before any final commitment was made of the subject. The cost seemed to me to be very little in view of the possible experience and knowledge that could be gained. [REDACTED] I'm sure, agreed with this view.

Attached are some notes regarding the background of the problem. Please note also [REDACTED] comments on the back sheet.

Attachment

58-3

443

CLASSIFIED MESSAGE

347
DATE 12 JUNE 62

TO DIRECTOR

FROM
ACTION
INFO

OB

ROUTING

1		3
2		5
3		6

JUNE 12 1559Z 62

ROUTINE

IN 10035

DIR CITE

REF:

12-45528

CONFIDENTIAL SOURCE INFORMED THAT DRUG USED WAS LSD.
 ONLY CASE OF SIX THAT WAS SUCCESSFUL. TEAM FROM HQS
 BELIEVED UNDER DIRECT CONTROL ACSI. MAY BE ABLE OBTAIN
 NAMES AND FURTHER DETAILS LATER.

END OF MESSAGE

58

453



29 August 1973

MEMORANDUM

SUBJECT: Influencing Human Behavior

Any experiment or use of drugs or other techniques for influencing human behavior will be undertaken only with the Director's specific approval and in no case on unwitting American citizens.

58-105

454

20 SEP 1973

MEMORANDUM FOR: Director of Central Intelligence

SUBJECT : Protection of Project OFTEN Information

1. This memorandum contains a recommendation in paragraph 5 relating to the protection of information compiled under Project OFTEN. A brief description of Project OFTEN, its intelligence objectives, and the nature of information compiled are provided as background.
2. Project OFTEN was initiated in 1966 with intelligence objectives of compiling information on pharmacological and chemical products affecting behavior so as to enhance the Agency's capability to detect and nullify manipulation of U.S. personnel by means of these materials. Information from a number of sources was obtained.

58-194

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6. The information compiled under Project OFTEN should be preserved for possible future use should a need arise for means of detecting and nullifying the use of behavior-control materials on Agency personnel. Until that need arises, however, the use of the Project OFTEN information should be carefully controlled and not be made available without the Director's specific approval. Consequently, we recommend that all Project OFTEN information be transferred to a secure storage area under your direct control.

CARL E. DUCKEY
Deputy Director
for
Science and Technology

58-195

CONTAINER NO.

Box 6

MKULTRA	93	June 58 - July 59	C-284
"	89	Nov 58 - Jan 60	C-288
"	90	July 59 - March 60	C-297
"	91	Feb 1963	C-300
"	92	Nov 58 - Oct 59	C-308
"	93	Oct 59 - Nov 67	no C number
"	93	Financial May 59 - Feb 68	
"	94	July 60 - Oct 61	no C number
"	95	July 59 - Dec 61	C-318
"	96	July-Aug. 59	C-323
"	99	Oct 61	C-326
"	100	June 59 - Nov 64	C-333
"	100	Data Sheets	
"	104	Jan 60 - July 61	C-347
"	105	Aug 61 - Sept 67	no C number
"	109	Jan 60 - July 65	C-352
"	110	Jan 62 - May 64	no C number
"	110	Financial Aug 60 - Mar 65	
"	113	Mar 60 - Mar 65	C-365
"	113	Financial Mar 60 - May 66	
"	116	Apr 59 - Apr 64	C-373

Box 7

MKULTRA	118	Sept 60 - Jan 64	R-11
"	120	Aug 1960	R-13
"	120	Apr 64 - Mar 67	
"	121	one paper - Sept 61	R-14
"	129	one paper - July 61	R-29
"	133	Jan 61 - 1965	R-36
"	135	June 1961	R-42
"	138	Oct 62 - June 63	no number
"	139	Sept 61 - Apr 66	" "
"	140	Feb 62 - Apr 66	" "
"	141	Dec 62 - Jan 67	" " /141 Finan. 4/62-
"	143	Nov 62 - July 64	" "
"	144	May 61 - Feb 66	" "
"	144	Financial Apr 63 - Jan 67	" "
"	145	Jan 63 - Jan 67	" "
"	145	Financial July 63 - Oct 66	

Continued Box 7 next page

Chief, Security Officer, CIA Office

(Officer)

BRANCH BB

SECTION

817001

APPLICATION IS MADE FOR RETIREMENT OF THE RECORDS DESCRIBED BELOW.

DESCRIPTION OF FILE SERIES (Specify Name of File, Content, Function, Department and successive numbers if
only to list records. Use Form No. 1220, RECORDS SHELF LIST (Check appropriate box below.)

Project File (1951 - 1967)

Actual date 3 Jan 13

NOTE: Chief, TSD, Deputy Chief, TSD and Chief, TSD/BB are the only
persons authorized access to these records.

SEARCHED	INDEXED	SERIALIZED	FILED	SEARCHED	INDEXED	SERIALIZED	FILED
✓	✓	✓	✓	✓	✓	✓	✓
CLASSIFICATION OF RECORDS	CONFIDENTIAL	TOP SECRET	SECRET	CLASSIFICATION OF RECORDS	TOP SECRET	SECRET	CONFIDENTIAL
EXCERPT	✓	✓	✓	EXCERPT	✓	✓	✓
APPROPRIATE ALLOCATION ACTIVITY PER MONTH	Once per month possibly.						

ADDRESS	ROOM	EXTENSION	LOCATION OF RECORDS	SIGNATURE OF RECORDS SYSTEM
South Building	235	2802	DATE	CIA OFFICER
PART III (TO BE COMPLETED BY THE AREA RECORDS OFFICER)				

TYPE OF MATERIAL	RECORDS	NON-RECORDS
RESTRICTIONS ON USE OF RECORDS (If no restrictions, write "None")	Authorization to use of these files restricted to Chief, TSD, Deputy Chief, TSD and Chief, TSD/BB.	

DISPOSITION AUTHORIZATION			
DATE SCHEDULE OR AUTHORITY	7342/63, Item 2		

BUILDING	ROOM	EXTENSION	DATE	SIGNATURE OF AREA RECORDS OFFICE
Central	225	3283	29 March 68	CIA OFFICER

SPM 100 USE PREVIOUS EDITIONS.

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1758 1750

DESCRIPTION AND DATES

Box 1

MKULTRA 1 Mar. 1953 - Sept 1955 C
 " 2 May 53 - Feb. '60 C-104
 " 3 Sept 53 - Apr 54 C-109
 " 4 July 53 - Feb 59 C-110
 " 5 July 53 - May 54 C-111
 " 6 May 53 - June 54 C-112
 " 7 May 53 - June 54 C-113
 " 8 May 53 - June 54 C-114
 " 9 May 53 - Jan 57 C-112
 " 10 July 53 - Nov 54 C-115
 " 11 April 53 - Oct. 55 C-116
 " 12 March 1953 C-106
 " 13 Mar 54 - July 55 C-122
 " 14 Apr 53 - Jan 54 C-124
 " 15 Feb 54 - Mar 63 C-126
 " 16 Feb 54 - Feb 55 C-127
 " 17 Feb 54 - Sept 55 C-130
 " 18 Mar 54 - Dec 54 C-136
 " 19 July 54 - July 55 C-137
 " 20 Jan 54 - Dec 54 C-143
 " 21 Feb 54 - Mar 63 C-146
 " 22 Feb 54 - Feb 55 C-153
 " 23 Feb 54 - Sept 55 C-156
 " 24 Feb 54 - Sept 55 C-156
 " 25 Mar 54 - Dec 54 C-168
 " 26 July 54 - July 55 C-169
 " 27 Sept 53 - Apr 59 C-111
 " 28 May 55 - Mar 57 C-170
 " 29 Feb 55 - June 56 C-171
 " 30 Mar 55 - Oct 57 C-172
 " 31 Jul 55 - Nov 61 C-122
 " 32 Nov 55 - Nov 62 C-113
 " 33 File 1 of 3: 6 Rpts - Jan 55 - May 60 C-113
 " 34 " 2 of 3: July 55 - Aug 60
 " 35 " 3 of 3: Jun 60 - Aug 62 C-172
 " 36 Feb 54 - Apr 56 C-129
 " 37 May 55 - Mar 57

Box 2

MKULTRA 43 Feb 55 - June 56 C-170
 " 44 Mar 55 - Oct 57 C-171
 " 45 Jul 55 - Nov 61 C-127
 " 46 Nov 55 - Nov 62 C-122
 " 47 File 1 of 3: 6 Rpts - Jan 55 - May 60 C-113
 " 48 " 2 of 3: July 55 - Aug 60
 " 49 " 3 of 3: Jun 60 - Aug 62 C-172
 " 50 Feb 54 - Apr 56 C-129
 " 51 Nov 55 - Nov 62

Continued Box 3 next page

		DESCRIPTION AND DATE	
Box 3	MKULTRA 51	April 1955 - 1962	C-179
	" 52	Dec 1955-June 1964	C-183
	" 53	July 1954-July 1961	C-184
	" 55	Sept 10, 1958	C-190
	" 56	8 June 59 - 27 Nov 59	C-195
	" 57	Feb 1956-June 1957	C-196
	" 58	Feb 1958	C-198
	" 60-1	Organization & Security, June 1956-Sept 1961	C-201
	" 60-3	Substantive Rpts & Proposed Projects, Dec 56-Jul 5	
	" 61	Apr 56 - Jan 61	C-204
Box 4	MKULTRA 62	Sept. 553-5555563	C-206
	" 62	June 59-May 65	
	" 62	Financial June 56-May 64	
	" 63	June 59-Feb 60	C-207
	" 64	One Financial Rpt - 1957	C-208
	" 66	Aug 56-Apr 60	C-213
	" 68	Sept 57-Oct 60	C-228
	" 70	Dec 57-May 58	C-237
	" 72	Feb 58-Feb 59	C-239
	" 74	Dec 57 - June 61	C-234
	" 75	Sept 57	C-242
	" 76	June 58-Feb 59	C-243
Box 5	MKULTRA 78	Dec 57-Oct 64	C-249
	" 78	Financial Sept 57-March 65	
	" 79	Dec 57-Nov 58	C-254
	" 80	Jan 58-Feb 65	C-257
	" 80	Financial Aug 58-June 65	
	" 81	Sept 57-Jan 59	C-269
	" 82	Dec 57 - Mar 60	C-270
	" 83	June 57-July 60	C-274
	" 84	Feb 58 - Jan 61	C-273
	" 85	Dec 58-(one report)	C-278
	" 86	May 56-June 62	C-280
	" 87	Oct 56 - July 63	C-281
	" 87	Financial May 58-Oct 66	

Continued Box 6 next page

DDP

PIVOT

ISD

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SECTION

458-1

DESCRIPTION AND DATES

NON Y

MKULTRA 146 Aug 63 - Sept 64
" 147 Oct 63 - May 67
" 148 Nov 63 - Sept 64
GRANT 151 Feb 66 - Dec 67
" 152 May 66 - June 66

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58-1

DDP		T	B1	1-756 1704
CONTAINER NO.		DESCRIPTION AND DATE		
Box 6	MKULTRA	93	June 58 - July 59	C-284
	"	89	Nov 58 - Jan 60	C-288
	"	90	July 58 - March 60	C-297
	"	91	Feb 1962	C-300
	"	92	Nov 58 - Oct 59	C-308
	"	93	Oct 59 - Nov 67	no C number
	"	93	Financial May 59 - Feb 63	
	"	94	July 60 - Oct 61	no C number
	"	95	July 59 - Dec 61	C-318
	"	96	July-Aug. 59	C-323
	"	99	Oct 61	C-326
	"	100	June 59 - Nov 64	C-333
	"	100	Data Sheets	
	"	104	Jan 60 - July 61	C-347
	"	105	Aug 61 - Sept 67	no C number
	"	109	Jan 60 - July 65	C-352
	"	110	Jan 62 - May 64	no C number
	"	110	Financial Aug 60 - Mar 65	
	"	113	Mar 60 - Mar 65	C-365
	"	113	Financial Mar 60 - May 66	
	"	116	Apr 59 - Apr 64	C-373
Box 7	MKULTRA	118	Sept 60 - Jan 64	R-11
	"	120	Aug 1960	R-13
	"	120	Apr 64 - Mar 67	
	"	121	one paper - Sept 61	R-14
	"	129	one paper - July 61	R-29
	"	133	Jan 61 - 1965	R-36
	"	135	June 1961	R-42
	"	138	Oct 62 - June 63	no number
	"	139	Sept 61 - Apr 66	" "
	"	140	Feb 62 - Apr 66	" "
	"	141	Dec 62 - Jan 67	" " /141 Finan. 4/62-
	"	143	Nov 62 - July 64	" "
	"	144	May 61 - Feb 66	" "
	"	144	Financial Apr 63 - Jan 67	" "
	"	145	Jan 63 - Jan 67	" "
	"	145	Financial July 63 - Oct 66	

Continued Box 7 next page

~~Chief, Records Center~~ APR 1 1961

APPLICANT'S STATEMENT FOR RETIREMENT OF THE RECORDS DESCRIBED BELOW

EXPLANATION OF FILE RECORDS (Checklist: Name of File, Contents, Function, Management and Enclosure Codes.)

Project Dates (1951 - 1967)

~~SELF LIST (check appropriate box below)~~

Chief, TSD, Deputy Chief, TSD and Chief, TSD/BB are the only persons authorized access to these records.

SEARCHED	INDEXED	SERIALIZED	FILED	APPROPRIATE REFERENCES ACTIVITY PER MONTH	
DE	1-SD	SEARCHED INDEXED SERIALIZED FILED	APPROPRIATE REFERENCES ACTIVITY PER MONTH		
APPROPRIATE REFERENCES ACTIVITY PER MONTH	Once per month possibly.				
LOCATION OF RECORDS					
BUILDING	ROOM	EXTERIOR	DATE	SIGNATURE OF RECORDS SYSTEM	
South Building	235	2802	27 March 1966	CIA Officer	

~~CONFIDENTIAL - DEFENSE ATTACHE REG B-5~~

Once per month possibly.

		LOCATION OF RECORDS		SIGNATURE OF RECORDS CUSTODIAN
BUREAU	ROOM	EXTERIOR	DATE	
South Building	235	2802	27 March 196	CIA Officer

PART II (TO BE COMPLETED BY THE AREA RECORDS OFFICER)

Authorization to use of these files restricted to Chief, TSD; Deputy Chief, TSD, and Chief, TSD/BB.

DISPOSITION AUTHORIZATION

SITE SCHEDULE OR AUTHORITY

BUILDING	ROCK	EXTENSION	DATE	SIGNATURE OF AREA RECORDS OFFICE
Central	225	3283	29 March 65	CIA Officer

100-000-00000-00000

58-1

459
29 January 1975

SUBJECT: Behavioral Drugs

1. CIA has had a recurring interest in behavioral drugs.

This is a matter of general interest in the field of intelligence,

both as a defensive measure against drugs that might be administered ~~use~~
~~or foreign~~
to Americans, to influence their behavior, [or that might be admin-
istered under undetermined conditions to influence the behavior
of persons hostile to the United States.] The earliest record of an
interest in this stems from the WWII period when there were
indications of Soviet interest in this sort of thing, the most famous ~~example~~
of which was the bizarre confessions of Cardinal Mindszenty in
February 1949.

2. Between 1949 and 1956 ~~the~~ undertook the analysis of
foreign work on certain unconventional warfare and techniques
with the general objective on developing protection for information
of vital significance to the security of the U.S. Initial phases
included the review of drug-related work at institutions such as
and at NIH.

[REDACTED]

[REDACTED]

[REDACTED]

St. John C. S.

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There also was an extensive review of foreign literature particularly work on the Soviet Bloc. Project BLUEBIRD was instituted with the objective of (a) discovering means of conditioning personnel to prevent unauthorized extraction of information of them by known means, (b) the possibility of obtaining control of an individual by application of ~~weak~~ interrogation techniques, (c) memory enhancement and (d) defensive means for preventing hostile control of Agency personnel. In August 1951 the Project name was changed to ARTICHOKE. In 1952 the Project was transferred from the Office of Scientific Intelligence to the predecessor to the present Office of Security, with OSI retaining responsibility for evaluation of foreign intelligence aspects of the matter. 5

Among materials considered was Lysergic Acid Diethylamide (LSD). A proposal was made in late 1953 to experiment with LSD using Agency personnel. OSI records indicate that no such experiments were undertaken.

3. The predecessor organization of the Office of Technical Service maintained liaison with personnel at Camp Detrick, whereby they met once or twice a year to discuss questions of behavioral drugs. At one such meeting at Deep Creek Lake in Maryland, November 1953, with seven representatives from Camp Detrick and three from CIA, eight of those present were administered

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LSD, which had been placed in a bottle of cointreau. Personnel were not advised of this until 20 minutes after they had partaken of the substance. Of the two that did not take it one did not drink refrained because of alcoholic beverages and the other ~~had~~ a heart condition. One of the members of ~~the~~ group, a civilian employee of the Department of Army by the name of Frank R. Olson, had serious after-effects. He was sent at CIA expense to New York in company of a CIA employee where he received treatment from a psychiatrist between ~~the time that~~ 24 November and ~~November 1953, when~~ he threw himself through a window in his room on the tenth floor of the Statler Hotel at 2:30 A/M. on 28 November. CIA, through a document of 9 December 1953 signed by its General Counsel, certified that the death of Dr. Olson resulted from "circumstances arising out of an experiment undertaken in the course of his official duties for the United States Government," as the official ~~representation~~ ^{position} ~~of~~ established ^{established} ~~survivors~~ receiving purpose of the ~~death~~ of Dr. Olson to receive compensation from the BEC. Official reprimands were issued by the DCI to two CIA employees involved in the unwitting administering of this drug.

5. On 20 October 1952 ~~a~~ formal policy was established by the DD/P for the use of biochemicals in clandestine operations. ^{established} This was brought under a special funding procedure ~~on~~ on 3 April 1953. The program involved various means of possibly controlling

~~as~~ human behavior, of which drugs were only one aspect, others being radiation, electro-shock, psychology, psychiatry, sociology, anthropology, harrassment, substances and paramilitary devices and materials. Under the code name MKULTRA/MKDELTA the project deal with pharmaceutical houses, specialists, hospitals, and federal institutions through which a search was conducted for new materials. Among these materials were psilocbin from Mexican mushrooms, a fungus occurring in certain crops, and LSD. After laboratory testing a second phase involved testing on voluntary participants. The final phase involved application to unwitting subjects, in uncontrolled situations, commencing in 1955 under an informal arrangement with individuals in the Bureau of Narcotics. Such tests were conducted from time to time until 1963 when the Inspector General discovered the activity and raised questions about it. ^{Project} Records do not now exist, but it is understood that unwitting testing was not renewed and the remainder of the program was gradually phased out in the late 1960's. In a number of instances the test subject was ill for hours or days following the application, with their being hospitalized in at least one case.

6. Project OFTEN was conducted by ~~██████████~~ in which attention was given to possibly defensive drugs that could be used to protect an individual against hostile applications of drugs. The program

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was also interested in testing drugs that might induce aberrant behavior on the part of persons to whom the materials were administered. This progressed through laboratory ^{and clinical} testing, finally involving testing on some 20 volunteers in the laboratories at Edgewood Arsenal. This program was terminated in _____.

need for
details

112-113

4/60

Behavioral Drugs, and Testing

1. CIA has had a recurring interest in behavioral drugs. The subject is of general interest because of the operational applications that could be made against Agency employees by hostile forces, for which there would be a defensive requirement, as well as for possible use against foreigners to influence their behavior. The earliest record of this interest dates to the post-WWII period when there were indications of Soviet interest in the use of drugs for such purposes, the most famous example being the bizarre confessions of Cardinal Mindszenty in February 1949.

2. In the past CIA's interest in behavioral drugs was expressed in at least three programs, which have been identified. These programs apparently proceeded on largely independent courses, subject to some informal coordination by a group referred to as the ARTICHOKE Committee, which started in April 1952. This mechanism provided the means for exchanging information and for deciding which components would assume responsibility for certain study and research. Representation on the ARTICHOKE Committee was from the Offices of Scientific Intelligence (OSI) and Medical Services (OMS) and the predecessor organizations of the Offices of Security (OS) and Technical Services (OTS). The ARTICHOKE Committee initially was concerned with drugs that would assist in interrogation, but the concept expanded to include drugs that would serve as a defense against hostile application to Agency employees as well as drugs that would afford some control when administered to an individual. Remaining records, which are not complete, refer to sodium pentothal and sodium amyta, as well as LSD.

BLUEBIRD/ARTICHOKE

3. In 1949 the Office of Scientific Intelligence (OSI) undertook the analysis of foreign work on certain unconventional warfare techniques, including behavioral drugs, with an initial objective of developing a capability to resist or offset the effect of behavioral drugs. Preliminary phases included the review of drug-related work at institutions such as

There also was extensive review of foreign literature, particularly work

DATE, SUBJECT, PARAGRAPH 8 AND
IDENS 6-12 ARE DECLASSIFIED BY
AUTHORITY OF THE DCI ON 24 JULY
1975. THE BALANCE OF THIS DOCUMENT
RETAINS ITS SECRET CLASSIFICATION
AND SENSITIVE DESIGNATION.

~~SEARCHED CL NY.2.1.776~~

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in the Soviet Bloc. This program shortly became Project BLUEBIRD with the objectives of (a) discovering means of conditioning personnel to prevent unauthorized extraction of information from them by known means, (b) investigating the possibility of obtaining control of an individual by application of special interrogation techniques, (c) memory enhancement, and (d) establishing defensive means for preventing hostile control of Agency personnel.

4. In August 1951 Project BLUEBIRD was renamed Project ARTICHOKE which, in 1952, was transferred from OSI to the predecessor organization of the Office of Security. OSI did retain a responsibility for evaluation of foreign intelligence aspects of the matter and in 1953 made a proposal that experiments be made in testing LSD with Agency volunteers; OSI records indicate that no such experiments were made. OSI's involvement in this project was terminated in 1956. Meanwhile, the emphasis given ARTICHOKE in the predecessor organization to the Office of Security became that of use of materials such as sodium pentothal in connection with interrogation techniques and with the polygraph.

5. There are references to ARTICHOKE Teams travelling to Europe and East Asia during the 1950s, for the apparent purpose of interrogation of foreign agents, but the results of such operations are not revealed by existing records.

MKDELTA/MKULTRA/MKSEARCH

6. On 29 October 1952 a formal policy was established by the Deputy Director of Plans (as then styled, now Deputy Director for Operations) for the use of biochemicals in clandestine operations (MKDELTA). This was in anticipation of the development of behavioral drugs, but was never implemented operationally. MKDELTA research was brought under a special funding procedure established on 3 April 1953 (MKULTRA). The program considered various possible means for controlling human behavior of which drugs were only one aspect, others being radiation, electro-shock, psychology, psychiatry, sociology, anthropology, harrassment substances, and paramilitary devices and materials. There were contacts with individuals at such institutions as the [REDACTED] and the [REDACTED] as well as with various pharmaceutical houses, hospitals and federal institutions, the names of which are no longer available.

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Among the materials studied were psilocbin from Mexican mushrooms, a fungus occurring in certain crops, and LSD. Following laboratory testing a second phase was begun which involved testing on voluntary participants. The final phase involved application on unwitting subjects, in normal social situations, commencing in 1955 under an informal arrangement with individuals in the Bureau of Narcotics. Originally conducted on the West Coast, a similar arrangement was instituted in 1961 on the East Coast. Such tests were conducted from time to time until 1963 when the Inspector General discovered the activity and questioned the program. At that time it was reported that in a number of instances test subjects became ill for hours or days following the application, and there was one reported instance of hospitalization, the details of which are no longer available. Project records do not now exist, but it is reported that the project was decreased significantly each budget year until it was completely terminated in the late 1960's.

7. Following the Inspector General's challenge of the program, there was a review of its nature and it was resubmitted for approval under the name of Project MKSEARCH. The written proposal did not specify whether testing was to be limited to volunteers. Records indicate that the DCI did not approve unwitting testing; it is understood that there was no renewal of this aspect of the activity. Funding for MKSEARCH commenced in FY-1966, running through 1972. There were various research activities carried on under it, but the only aspect related to behavioral drugs deal with an inquiry in improvement by drugs of learning ability and memory retention; under this there is a record of testing at Iden 1 State Prison in Iden 5 on volunteers.

Drug-related Death of an Investigator

8. The predecessor organization of the Office of Technical Service was the focal point for the operational investigation of behavioral drugs, although none of the office's records on this activity are in existence, having been destroyed in January 1973. As noted above it participated in the meetings of the so-called ARTICHOKE Committee. That office maintained liaison with personnel at Iden 6, with whom meetings were held once or twice a year to discuss questions involving behavioral drugs. At one such meeting at Iden 7 in Maryland, Iden 8 1953, with seven representatives from Iden 6 and three from CIA, eight of those present were administered LSD which had been introduced into a bottle of Cointreau. Although records of an inquiry by the Inspector General into the incident indicate that those present

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(initials)

discussed testing on unwitting persons, and agreed in principle that such a program should be explored, none of them were advised until some 20 minutes after they drank the Cointreau that it had been treated with LSD. Of the two who did not take it, one did not drink alcoholic beverages at all and the other refrained because of a heart condition. One of the members of the group, a civilian employee of the Department of Army named Iden 9, had serious after-effects. He was sent at CIA expense, with an escort from CIA to New York where he received treatment from a psychiatrist, commencing Iden 10. While in New York for this treatment he threw himself through a closed window in his room on the tenth floor of the Iden 11, falling to his death. CIA, in a document of Iden 12, signed by its General Counsel, certified Iden 9 death resulted from "circumstances arising out of an experiment undertaken in the course of his official duties for the United States Government." This was the official position of the Agency, established for the purpose of assuring that the survivors of Iden 9 received compensation from the BEC. Iden 9 had experienced some instability and delusions prior to the incident, and it was judged that the drug served to trigger the act leading to his death. Reprimands were issued by the DCI to two CIA employees held responsible for the incident.

OF TEN/CHICKWIT

9. In 1967 the Office of Research and Development (ORD) and the Edgewood Arsenal Research Laboratories undertook a program for doing research on the identification and characterization of drugs that could influence human behavior. Edgewood had the facilities for the full range of laboratory and clinical testing. A phased program was envisioned that would consist of acquisition of drugs and chemical compounds believed to have effects on the behavior of humans, and testing and evaluating these materials through laboratory procedures and toxicological studies. Compounds believed promising as a result of tests on animals were then to be evaluated clinically with human subjects at Edgewood. Substances of potential use would then be analyzed structurally as a basis for identifying and synthesizing possible new derivatives of greater utility.

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10. The program was divided into two projects. Project OFTEN was to deal with testing the toxicological, transmissivity and behavioral effects of drugs in animals and, ultimately, humans. Project CHICKWIT was concerned with acquiring information on new drug developments in Europe and the Orient, and with acquiring samples.

11. Samples of drugs and chemicals were obtained from drug and pharmaceutical companies, government agencies such as Edgewood, NIH, FDA and the Veterans Administration, as well as from research laboratories and individual researchers. Most of the materials came from the drug industry, consisting largely of substances that had been rejected because of undesired side effects from the point of view of medicinal use.

12. A panel was established to review the program, with membership from [REDACTED], and the predecessor organization of the [REDACTED]. Meetings were held periodically, and briefings were given senior officials from time to time. The principal contractor under OFTEN was Iden 2, commencing FY-1966. The association with Edgewood started with a transfer of funds to Edgewood in FY-1967, for work to be done by Iden 3 under CHICKWIT. Synthesis of new drugs and derivatives was contracted with Iden 4, starting FY-1971. Data from this program was merged [REDACTED] with test data and information from other sources. One substance identified as a potential incapacitant was in an area known to be the subject of research by the Soviet Union, being considered a potential threat to U. S. leaders because of the ease with which it could be administered.

13. CIA's program was terminated in January 1973, its final billing from Edgewood being received in April of that year. Edgewood did not progress to testing materials on human volunteer subjects under the work sponsored by CIA.

14. With CIA's termination of the program, the program data was withdrawn [REDACTED] and limited records being sequestered and stored under special controls where they still are.

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INFLUENCING HUMAN BEHAVIOR

ACTIVITY: Factors Influencing Human Behavior

PROGRAMS: To understand and identify factors which contribute or are believed to contribute to influencing human behavior. The studies fall into three categories: (a) personality factors; (b) techniques; and (c) methods to detect whether or not the techniques have been used. The categories are interactive, that is, it is impossible to do studies in category (c) without also going through procedures (b) and selection procedure which fall in category (a).

Because the terms "influencing behavior" or "controlling behavior" can readily be misconstrued, it is important to define the terms and to understand the procedures that were pursued, how and by whom. By "influence and control" is meant increasing the probability of occurrence of an outcome at least for predictive purposes. Techniques that have been examined are [REDACTED] In each instance, our projects effectively supplemented a research program that was already on-going in the principal investigator's facility, which was being funded by non-Agency sources and the results of which had already been published, at least, in part in the open professional literature. In short, the unofficial or at least not-formalized policy has been to identify acknowledged expertise through open professional literature and supplement already on-going research programs. None of the work has been classified, the association with the Agency commonly was classified. Completed studies of the research have been published without acknowledgment of Agency sponsorship.

CONTRACTOR: Iden 1,
1965-1967

[REDACTED]

CONTRACTOR: Iden 1,
1974

[REDACTED]

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INFLUENCING HUMAN BEHAVIOR (continued) 75-99

A great many of the Behavioral Science research projects are dependent upon human volunteer subjects. Current practice is to adhere strictly to the HEW guidelines concerning the use of human subjects and all current contracts carry language to that effect, as well as assurances that the anonymity of volunteer subjects will be maintained. Prior to the existence of the published HEW guidelines, the working policy followed by [redacted] was to have the principal investigators adhere to the institutional professional, and ethics criteria that were ordinarily used. In short, research subjects being used on Agency-sponsored research were to be treated no differently than research subjects on projects sponsored by other U.S. Government or private groups.

[Redacted]

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1. Offices within CIA that were responsible for monitoring or supporting experimentation involving human subjects are the Office of Technical Services (OTS), Office of Research and Development (ORD), Office of Scientific Intelligence (OSI), and the Office of Security (OS).

A. Describe the functions and responsibilities of the offices.

OTS

Formerly known as Technical Services Staff (TSD), OTS provides a variety of technical and scientific support to the intelligence collection effort.

ORD

a. ORD "is responsible for research and exploratory development directed toward (a) anticipating intelligence problems and analyzing them in conjunction with the responsible or producing components to identify the range of possible solutions, (b) assessing and advancing emerging technologies, processing techniques, and analytical methodologies applicable to the identified solutions, and (c) selectively investigating the feasibility of reducing the new concepts to practical use. Additionally, directed technical support is provided to other Agency components, as appropriate."

b. ORD fulfills those responsibilities through a many-disciplined research program encompassing activities in the physical, life, and social sciences. Research program activities include life sciences research in "behavioral sciences, physiology, and the related physical science materials with emphasis on assessment, health, bionics, narcotics, and biological and chemical warfare materials." These responsibilities are specified by Agency regulation. It should be noted that the responsibility for "narcotics and biological and chemical warfare materials" is misleading. A more correct statement would be "narcotics control and detection/identification methods for biological and chemical warfare materials." We have requested a change in the wording of the regulation in order to convey the true responsibilities of the Office of Research and Development.

75-239

OSI

The Office of Science and Intelligence is responsible for producing intelligence on foreign scientific and engineering research and advanced technology in the physical and life sciences. As part of this mission the Life Sciences Division produces intelligence on Soviet and PRC biomedicine; [REDACTED]

[REDACTED]; biological and chemical warfare; worldwide food research, technology and practices; and on worldwide human and animal epidemiology.

OS

Responsible for physical security of CIA facilities, property, and information; security clearances of personnel employed by, associated with, or of interest to CIA; and security support to other components of CIA.

B. Describe the types of human use experiments monitored or supported directly or indirectly by these offices.

OTS

OTS was involved in a program to monitor the behavior of individuals under the influence of drugs. Following laboratory testing, the second phase of the program involved drug testing on voluntary participants. The final phase (1955-1963), conducted in conjunction with officers of the Bureau of Narcotics, involved application on unwitting subjects in normal social situations.

ORD

a. The types of human experiments monitored or supported by ORD were essentially those of:

- 1) Identifying personality traits, characteristics, skills or aptitudes that may be useful in the selection of Agency employees--including physiological means for establishing (credibility) bona fides of foreign agents.

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S55

Included in this category is research leading to the identification and codification of cultural, psychological, personality and conversational traits having a potential for use in developing models of cultural/personality profiles for assessing foreign individuals. Such models would help to determine observable characteristics that indicate whether the foreign possessor of intelligence information is lying, being evasive, being candid and possibly susceptible to recruitment as an intelligence source. The models will also be used in assessing the reliability and the bona fides of foreign agents who are providing information. Such models would have application in the polygraph interview setting where sensors to measure physiological responses are attached to the subject. They would also have application to direct conversation in which a foreign source may be assessed. In this setting, information could be obtained through proper exploitation of cultural, psychological and personal characteristics of the foreign individual.

2) [REDACTED]

G

OSI

No involvement.

OS

OS studied the effects of various drugs, chemicals, and hypnosis for possible use as interrogation aids.

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zation transfer of functions involving human experimentation projects, the reasons for the reorganization or transfer, and who ordered it.

OTS

In 1962, OTS management began to orient its behavioral activities toward the use of psychological assessments to support active operations and away from peripheral long-range research. This trend continued until the middle or late 1960's when OTS totally disengaged from human experimentation research.

ORD

No documentation relating to "a reorganization or transfer of functions involving human experimentation projects" was found in ORD files. People whose association with ORD dates back to the 1968-69 period recall a redefinition of ORD/TSD responsibilities at about that time. Under the redefinition, ORD was to have a greater role in research projects with long term goals while TSD would concentrate more on the short term operational aspects.

OSI

No information.

OS

No information.

2. Was Dr. Sidney Gottlieb ever assigned to any office identified in question number 1? Whether or not he was assigned to such offices --

A. What was his position with the CIA?

1951-1956 - Chief, Chemical Branch, Technical Services Staff

1957-1958 - Assigned overseas with the DDP with no technical responsibilities.

1959-1960 - Assistant to the DDP for Scientific Matters

1961-1962 - Acting Chief, Technical Service Division Research and Development (TSD/R&D)

B. What were his duties?

The organization and functions of TSD changed frequently. The immediately available written records are not precise on Gottlieb's specific duties. The responsibilities of the Chemical Branch in the early 50's were to:

1. Initiate and conduct a research and development program in chemistry and biology designed to provide new or improved capabilities, equipment, materials and techniques to support Clandestine Services Activities.
2. Request initiation of development and production contracts with other Government agencies, private firms, and monitor those activities.
3. Assist when called upon to solve technical problems in the chemical/biological field.
4. Advise and assist when required in technical aspects of operational planning.
5. A thorough study of the intelligence implications of selected drugs was one of the projects of the Chemical Branch.

C. When did he serve?

See 2A

D. Who was his immediate supervisor?

Dr. Gottlieb's immediate supervisors were:

- 1952-1957 - Chief, TSS
54-60 - Special Scientific Advisor
1960-1962 - Chief, TSS
1962-1966 - Chief, TSD
1966-1973 - The DDP

E. Who were his subordinates?

[REDACTED] - Retired
[REDACTED] - Retired
Dr. Robert Lashbrook - Retired

As Dr. Gottlieb occupied increasing responsible positions, finally as Chief TSD, a large number of people in very diverse positions ultimately reported to him.

3. Was Dr. Robert Lashbrook ever assigned to any office identified in question number 1? Whether or not he was assigned to such offices --

A. What was his position with the CIA?

From the memory of those associated with Dr. Lashbrook, he served as a chemist/biologist in Chemistry Branch and later in the Research Branch which was formed from the Chemical Branch of TSD.

B. What were his duties?

Dr. Lashbrook's duties would have been to conduct research appropriate to the charter of the Chemical Branch described in the response to question #2. These duties are known to have included a study of the olfactory capability of dogs and work on selected drugs.

C. When did he serve?

Dr. Lashbrook is recalled to have been an employee of the Technical Service Division from about 1952 to 1964.

D. Who was his immediate superior?

Dr. Lashbrook's immediate superior was Dr. Gottlieb.

E. Who were his subordinates?

Dr. Lashbrook worked alone and with contractors. As far as can be recalled, he had no supervisory responsibility.

4. Who authorized Messrs. Gottlieb and Lashbrook to conduct the experiment that involved Dr. Frank Olsen and at least three others as human subjects, and for what purposes was the experiment conducted?

A. Identify the drugs or chemicals used in the experiment. (153)

On 13 April 1953, Mr. Allen W. Dulles, Director of Central Intelligence, approved a program related to research and development of a capability in the covert use of biological and chemical materials. The subsequent experiment involving Dr. Frank Olsen was part of that program and was conducted to observe the effects of a specific drug in a conference setting.

LSD was used in the experiment.

B. How many times and at what dose level were the drugs or chemicals administered to the subjects?

The drug was administered one time, at an unknown but apparently low level.

C. How were these drugs or chemicals administered to the subjects?

The drug was put in a bottle of cointreau.

D. Who administered the drugs or chemicals to the subjects?

The identity of the individual(s) actually administering the drug is unknown, although three CIA officers were reprimanded for their roles in the incident.

E. Was there medical supervision of the experiment?

There was apparently no medical supervision of the experiment.

5. Has CIA ever supported, directly or indirectly, experiments involving human subjects at or through federal facilities for drug research and rehabilitation of drug addicts in or near (see letter of 25 September from Senator Kennedy for listing).

The records available to CIA do not contain a complete listing of federal facilities or other institutions pertinent to this question. From 1952 to 1962, the Agency had a classified contract with the National Institute of Mental Health, U.S. Public Health Service with the purpose of finding a synthetic

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or other than codeine. Actual testing of drugs was performed by NIMH at National Institute of Mental Health, Addiction Center, Lexington, Kentucky. Testing was done on animals and human volunteers (patients at the facility in Lexington). The Agency terminated the contract in 1962 with a report that the goals were realized. Apparently the project continued with NIMH financing.

[REDACTED]

Records also show funding of research may have been provided to [REDACTED]

[REDACTED], and [REDACTED]
The precise nature of the activity has not been identified.

6. Please provide details of the nature of the records and documents that were destroyed in 1973 pertaining to human subjects.

In January 1973 [REDACTED], advising that he was acting on instructions from DCI, Richard Helms, ordered the destruction of all records association with drug research and testing. On 31 January 1973, seven boxes of progress reports from 1953 through 1967 were recalled from the archives and destroyed. In addition, 25 copies of a booklet entitled, "LSD-25, Some Un-Psychedelic Implications," were destroyed.

7. Prior to and subsequent to 1973, what provisions did CIA make for medical follow-up on human subjects who participated in experiments that were supported or conducted, directly or indirectly, by CIA?

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SFS

Medical supervision of the drug experiments by the Office of Technical Service varied widely since they were conducted through a variety of different mechanisms. In the case of the Lexington, Kentucky hospital, experiments were conducted by a well-trained and competent staff of MD's and psychiatrists. In other cases experiments were conducted with no apparent medical oversight. The nature of other experiments was such that no medical follow-up was required.

8. Prior to and subsequent to 1973, what control has CIA exercised in monitoring and reviewing human use in experiments that CIA supported or conducted, directly or indirectly, and in assuring that there was adequate informed consent from those human subjects involved in such experiments?

Some of the drug experiments conducted by the Office of Technical Service were conducted on unwitting subjects. The bulk of the experiments as indicated in paragraph 1b, however, involved consenting subjects. Prior to 1973 the Agency followed the normal practices and procedures established by the institutions where the work was conducted. Subsequent to late FY 1973, the Agency has required in all new contracts that the institutions involved adhere to HEW Guidelines by requiring compliance with the following contract provision:

"In the performance of this contract, the Contractor will assume responsibility for adhering to established and accepted professional, ethical, and legal practices in the use of human subjects for research purposes. This will include the maintenance of medical confidentiality of the individual subjects' records and the maintenance of anonymity in data forwarded to the Sponsor."

Once the research is underway these procedures are periodically reviewed by the project officer assigned to monitor the research.

9. Have there been any deaths in connection with human use experiments that were conducted or supported, directly or indirectly by CIA? If so, provide details.

We know of no deaths in connection with human use experiments conducted or supported directly or indirectly by CIA other than the Dr. Olsen case.

10. Have there been any injuries in connection with human use experiments that were conducted or supported, directly or indirectly, by CIA? If so, provide details.

We know of no injuries in connection with human use experiments.

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11. Pl . sup . y a copy of all documents relating to
the Frank Olsen case.

4, 51

(55)

This has been done.

12. Has CIA used the John D. Rock Fund, the Society [REDACTED] Fund, the Society [REDACTED] Fund, or [REDACTED] Inc., as an intermediary in funding or supporting in any matter experiments involving human subjects? If so, provide details.

CIA records show that [REDACTED], the Society [REDACTED] and the [REDACTED] might have been used as intermediaries in funding experiments involving human subjects. Complete details of their use has not yet been developed. In FY 1965, funds were transferred to the [REDACTED] under a non-U.S. Government association agreement for the research described in question 13. Funds were transferred to [REDACTED] in 1973 for collection and analysis of psychological test data of human subjects. There is no indication the [REDACTED] was used as an intermediary in funding or supporting experiments involving human subjects.

13. Have CIA personnel conducted experiments involving human subjects other than the experiment that involved Dr. Frank Olsen and at least three other persons?

ORD

The one instance in which ORD personnel have been directly involved in conducting experiments with human subjects occurred in Orlando, Florida during December, 1964. The subject allegedly had transdermal optical perception. The tests were observed by a contractor under a classified association contract that had been funded through the [REDACTED] Fund. In addition to the contractor, the subject's father was present during all testing. No drugs were used. With this one exception, all ORD sponsored research involving human subjects has been conducted by contractors.

OSI

In 1971 the Office of Scientific Intelligence and the Office of Security, did participate in a polygraph experiment on a voluntary human subject. This subject was a yoga expert who claimed to be able to manipulate his autonomic nervous system and thus be able to "beat the polygraph." Our interest was in studying Soviet countermeasures to the polygraph.

OS

The Office of Security conducted experiments with hypnosis in connection with the polygraph. The experiments (1951-1953) involved volunteer Agency employees.

14. Besides those entities mentioned in question number 12, has CIA used any other domestic fund, foundation, society, private or Government agency, or organization as an intermediary in funding or supporting in any manner experiments involving human subjects?

OTS

The Office of Naval Research was used by the Office of Technical Service as an intermediary to fund a classified contract between CIA and NIMH (1952-1962) to test various drugs.

ORD

See Tab A.

OSI

None.

OS

OS files indicate that the [REDACTED] Foundation and the [REDACTED] Foundation were used by other components as funding intermediaries in research, although there is no direct reference to human subject experimentation as a part of the research.

15. Has CIA used any foreign fund, foundation, society, private or government agency, or organization as an intermediary in funding or supporting in any manner experiments involving human subjects?

We are not aware of any use of a foreign funding intermediary to support human experimentation.

16. Has CIA used the U.S. Navy, Air Force, Army, Marines, or Coast Guard as an intermediary in funding or supporting in any manner experiments involving human subjects?

OTS

The Office of Naval Research was used by the Office of Technical Service as an intermediary to fund a classified contract between CIA and NIMH (1952-1962) to test various drugs.

ORD

See Tab B.

17. Has CIA ever made arrangements, directly or indirectly, to have a public, private, or military entity in a foreign country conduct experiments involving human subjects in a foreign country?

We are not aware of any arrangements for a public, private, or military entity in a foreign country to conduct experiments involving humans in a foreign country. We are continuing our search for information on this question.

14. Research Funded Through - Other than Department of Defense

<u>Contractor</u>	<u>Dates</u>	<u>Reason For Research</u>	<u>Description of Research</u>	<u>Remarks</u>
Item #1	FY 1964-1966	To enhance our capability to screen personnel.	Polygraph research that involved attachment of sensors for recording physiological responses. No drugs were used.	Association U.S. Government was classified.
Item #2a	FY 1965-1967	To enhance our capability to screen personnel.	Polygraph research that involved attachment of sensors for recording physiological responses. No drugs were used.	FY 1965-67 association with U.S. Government was classified.
2b	FY 1968-1969	To examine information elicitation techniques.	Sleep suggestibility studies that involved the attachment of sensors. No drugs were used.	FY 1968-69 association with U.S. Government was classified.
2c	FY 1971-1976	To examine new techniques for obtaining information.	Interrogation research that involved the attachment of sensors for recording physiological responses. No drugs were used.	FY 1971-76 association with U.S. Government was classified.
[REDACTED]	FY 1965	To determine whether unusual sensory processes could be used for intelligence purposes.	Attachment of sensors for recording visual and tactile sensory processes. No drugs were used.	FY-65 association with U.S. Government is covered in answers to questions 12 and 13. (11/10/75)

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16. a) Research Funds Through - Air Force Office of Scientific Research 1 July 1968 17 October 1971

<u>Contractor</u>	<u>Dates:</u>	<u>Reason for Research</u>	<u>Description of Research</u>	<u>Remarks</u>
Inst. for Mental Sciences	FY 1965- 1972	To enhance our capability to screen personnel.	Polygraph research that involved attachment of sensors for recording physiological responses. Depressants and stimulants (seconal and amphetamines) were used to establish the physiological arousal levels in subjects. This took place in the 1967-1968 contract year on a small number (8-12) of volunteers who had given informed consent.	From FY-65 through FY-68 this was a classified association. The identity of the contractor is included in this instance because contractor has acknowledged the association in the report. From FY 1969 through 1972 Agency contracted directly with [redacted] on an unclassified association basis. That decision was in response to the findings of the Katze Commission.
Iden #3	FY 1965	To enhance our capability to screen personnel.	Polygraph research that involved attachment of sensors for recording physiological responses. No drugs were used.	Classified association
University of [redacted] School of Medicine	FY 1967	To evaluate speech indices and patterns to determine their usefulness in assessing humans.	Interview techniques were developed and evaluated through personal interviews. No drugs were used.	Classified association in FY-67. Classified association was discontinued in the FY-68 in response to the findings of the Katze Commission.

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Classification NV 880100

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b) Research Funded Through - Office of Naval Research

<u>Contractor</u>	<u>Dates</u>	<u>Reason For Research</u>	<u>Description of Research</u>	<u>Remarks</u>
1 #5	FY 1964-1970	To enhance our capability to screen personnel.	Polygraph research that involved attachment of sensors for recording physiological responses. No drugs were used.	The identity of the contractor in this instance is inc because the Agency contracted direct with [redacted] on an unclassified association basis FY1969. Until this time the associate had been classified. The decision for unclassified association was in the response to the findings of the Katzenbach Committee.
	FY 1966-1969	To enhance our capability to screen personnel.		
	FY 1966-1969	To determine whether unusual sensory processes could be used for intelligence purposes.	Extrasensory research that involved the attachment of sensors for recording coincidence of brain waves in three subjects when only one of the three was stimulated by visual, auditory or tactile means. No drugs were used.	75-244 461 [Redacted]

15 c) Research Funded Through - Department of Army

<u>Contractor</u>	<u>Dates</u>	<u>Reason For Research</u>	<u>Description of Research</u>	<u>Remarks</u>
Ident #7	FY 1971-1973	Protection of US VIP's based on intelligence indications that the Soviets were actively working on similar substances.	Analysis of the results of drug testing using human subjects.	A review of t activity h mined that were not us research test human subject were used in the analysis evaluation of obtained from or from data by others in experiments.

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EXTRACT

DIARY NOTES

Executive Director-Comptroller

22 April 1970

2. [REDACTED] and Drs. [REDACTED] were in to brief me on [REDACTED] drug research program. I am satisfied that it is being well managed. They told me that the program costs about [REDACTED] a year excluding staff salaries, which probably means a total cost of about [REDACTED]. [REDACTED] and [REDACTED] both feel that, if we are going to be in this business, [REDACTED] for external research is about the minimum we should spend, and I have no quarrel with this.

5877

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SUBJECT: Summary of Inspector General's Report of
Inspection of MKULTRA

1. TSD, through its MKULTRA mechanism, has invested an average of approximately \$10 million per year since 1953 chiefly in the research, development, and supply of chemical, biological, and other materials useful in the control of human behavior in clandestine operations. The principal end uses of these materials include a) harassment agents, e.g. for disrupting meetings; b) disabling agents and drugs used in conjunction with psychological techniques in recruitment, countermeasures, and interrogation; and c) The operational use of the latter two categories is tightly controlled in the DD/P under CSI No. 220-10, MKDELTA MATERIALS.
2. Many phases of the research in the control of human behavior involve a high degree of sensitivity. The professional reputations of outside researchers are in jeopardy since the objectives of such research are widely regarded as anti-ethical or illegal. Disclosure of American capabilities in the use of such materials could escalate their application by competing intelligence services. There was evidence available of the use of these materials by other services and the survey recommends that
3. The inspection of MKULTRA indicated that most projects are conceived and administered with a minimum of paperwork and procedure. The search for new materials and the successive stages of testing of their effects on animals and on volunteer humans under laboratory conditions is performed according to professional standards. A final stage of testing involving the application of materials to unwitting American citizens involves physical risk for the individuals and substantial security risk to CIA.
4. The principal conclusions of the inspection are that the operational controls over MKULTRA need strengthening; improvements are needed in the administration of the research projects; the final testing of substances under simulated operating conditions is judged to involve excessive risk to the Agency. This report, accordingly, carries recommendations for the revision of the MKULTRA charter in the light of ten years of operating experience and of the inspection findings. It specifically recommends the termination of testing of substances on unwitting American subjects.

7 August 1975

MEMORANDUM FOR THE RECORD

SUBJECT: Meeting with []

1. [] O/DDS&T) and I met with [] in [] yesterday. He met us at the airport and took us to his home where we had our discussion, returning us to the airport for our flight back to Washington.

2. [] stated that he had a copy of his corrected transcript of a telephone conversation with David Belin of the Rockefeller Commission. We told him that our interest was not in the Castro operation, as such. However, the report that [] and I did in 1967 (he recalled being interviewed by us) did provide some leads to a new subject of interest. The 1967 report referred to his involvement in August through October of 1960 with the treatment of some cigars. The record showed that those cigars were never used and were destroyed by him after the retirement of Col. Edwards in June of 1963. We told him that the record also showed that in February 1961 he had tested some pills []. [] He remembered both these incidents. We told him that our question was how he happened to know to go to [] for these materials. The significance of this question now is that the Agency is trying to reconstruct a relationship that TSD had with Fort Detrick.

3. [] first showed us his transcript, which is in very general terms, but that is meaningful if one is familiar with his peripheral role in the Castro affair. It reported the receipt of the cigars and delivery to [] as well as their return to him after being treated. It also recorded his experimenting with the pills []. When interviewed by Belin, [] stated that he did not know what materials were used in treating the cigars. His description of the [] test, in talking with Belin, described the unsatisfactory nature of the test. I told [] that in 1967 [] had told us that the material was botulinum to which

(S-23)

which possibly explained the unsatisfactory results of his test.

4. [] described how he first came to be involved with the people in TSD. He was interested in developing a system of type-identity of individuals.

[] Through this interest became familiar with [] of TSD. They developed some 50 packages of type-identification materials. He does not know what happened to this system, and suspects that they may have been destroyed by persons who did not have the same interest in the concept as he. As a matter of interest, there were other forms of identification, []

5. [] assumed that TSD was doing work at Detrick. He was never told this directly, but felt that work was being done there. He was not familiar with the [] although he recognized the "digraph".

6. [] stated that in the late 1950s (perhaps around 1957) someone in the DDI invited a number of inter-Agency (sic) people to go out to Detrick for a three-day program. That was prior to the time, according to his recollection, that Detrick constructed the cinder block building that it used later for a good deal of its special work. He saw the building at a later date. It was built quite close to the road and he felt it could easily be sabotaged. Someone could hit it with a bazooka which would "collapse the vacuum system" which would lead to considerable trouble by the release of bacteria. [] does not recall knowing any one at Fort Detrick, although he had [] [] He did not want to go out there in any event, because the micro-biologists were "parading" and he might become identified with it. He stated that he knew that TSD had direct access to Detrick, and also to NIH, but that he cannot answer today how he knew.

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10. We asked [] if he had any knowledge of the Agency funding for the Detrick program or for construction of the building there. He said he had none. The only knowledge that he had of the TSD budget was when he once saw some papers dealing with a contract with []

[] This was a program concerned with use of drugs in connection with interrogation and programs in defense against drugs.

11. We asked if he knew a [] He said that he had worked with him on one program.

In reviewing the materials [] came to believe that it would not serve the purpose claimed and "a group of us worked against it." They proved that they were right. [] "didn't like this" and [] said he never really worked with him again. There was a man involved in some way with this by the name of [] (spelling uncertain).

12. [] talked about other things that he did. He referred to the case of []

[] He said that he talked to no case officers on operations without approval, so far as operations are concerned. []

13. [] said that he was familiar with delivery systems that had been developed for application of certain materials. He knew about the microbioinoculator (dart system) and related it to the application of tranquilizers to elephants, lions and tigers. He was familiar with an [] He said that he had lobbied to make sure that these systems were not used on humans. []

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14. We summarized for [redacted] what he had told us asking if it was correct that he had no direct knowledge or involvement in the TSD program at Detrick, that his knowledge was indirect, being related to specific instances. He stated that this was correct.

S. D. Breckinridge/
S. D. Breckinridge

75-172

INSPECTOR GENERAL

75-2624

14 July 1975

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SCH

MEMORANDUM FOR: The Inspector General

SUBJECT : Possible misinterpretation of training activity based on recent media developments.

1. Recent media coverage of Agency testing of chemical substances on individuals brings to mind one incident which, as a result of the press exposure, might prompt a misinterpretation of a one-time Agency training program. It is reported here so that you will have it in file should the question be raised.

2. Over a period of five years or so, the writer headed a team of "indoctrinators" used in the "Enduring Enemy Detention" training program for "sheep-dipped" personnel assigned to OSA. The program was under the supervision of the Psychological Services Staff/OMS. During the conduct of the program, it was not unusual for a trainee to experience hallucinations, and in fact they had been pre-briefed on the possibility and given guidance on how to handle the situation--which several did most effectively.

3. One student, name not recalled but available in the writer's reports of the exercises hopefully still maintained somewhere in the Office of Security, during an exercise experienced hallucinations and had difficulty with handling the situation, in fact was near hysteria. In an in-situation discussion with him to assist him in confronting the situation, he broke out of the problem by stating that he believed he was being held in the basement of a mental hospital in Virginia and that a hallucinogenic gas was being pumped into the room through the air conditioner. He could not be dissuaded of the belief, even when it was pointed out that others in the room were not so effected. In fact, he wondered aloud how we were able to filter out the gas. Of course, there was no gas, no drug, no chemical substance. However, on the presumption the student is no longer assigned to the Agency, this incident should be documented for reference should he ever come forward with his misunderstanding of what actually transpired.

4. Also for the record only: The writer served as a volunteer for an OMS "pill-taking" experiment, as one in a group of 20 or 30 I recall. Later I learned that the pills I had been given were placebos, and that I was in the control group, rather than the group given the substance. I did not know this in advance, of course, and participated out of trust for the OMS official conducting the test.

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S-2

I. Specific Cases of Overseas Testing and Application of Behavioral Drugs

- A. June-July 1960 -- [REDACTED]: Interrogation of Agency asset, [REDACTED], utilizing drugs (presumably LSD)
- B. 1954 -- [REDACTED]: Interrogation of three subjects by ARTICHOKE team, utilizing unidentified drugs. Subjects identified by name only: [REDACTED], and [REDACTED]
- C. 4-18 June 1952 -- [REDACTED]. Two unidentified subjects, described as "professional type agents suspected of being [REDACTED] agents," interrogated through the use of unidentified drugs, as well as hypnosis and polygraph
- D. January 1951 -- [REDACTED] Interrogation of an Agency contact who had disappeared for a period of time and was later apprehended by CIC and turned over to the Agency for interrogation. Subject was not identified, although drugs were utilized during the interrogation
- E. Circa October 1950 -- [REDACTED] Interrogation of approximately twenty-five (25) unidentified [REDACTED] individuals by a Project BLUEBIRD team utilizing "advanced" techniques. Only individual among twenty-five who was identified, one Chun Su Pyuk

II. General Indications of Overseas Testing and Application of Behavioral Drugs

- A. March 1951 -- [REDACTED]: Indications that a Project BLUEBIRD team was sent to [REDACTED] during this time period

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- B. July 1951 -- Indications that a
BLUEBIRD team was to visit [redacted] during
the period January-March 1952
- C. 1953-1954 -- Overseas: Indications in
file that Project BLUEBIRD/ARTICHOKE
teams dispatched PCS to unidentified
overseas locations
- D. 1954-1955 -- Overseas: Indications in
file that numerous experiments conducted
by ARTICHOKE/BLUEBIRD teams on sensitive
cases overseas, no specifics available
- E. 1955 -- [redacted]: Indications that under
Project [redacted] one [redacted] was
involved in studying the feasibility of
utilizing drugs during interrogation of
agents in overseas locations, specifically
[redacted] area
- F. 1954-1964? -- [redacted]
[redacted]
[redacted]
[redacted]

III. Summary

File information is sketchy and lacks specifics
regarding the utilization of drugs during inter-
rogation. However, it is clear from the files
that during the period 1949 through 1960 (?),
through the Project ARTICHOKE/BLUEBIRD teams,
numerous cases involving the use of drugs during
interrogation were conducted in overseas loca-
tions.

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TOP SECRET

SECRET

CONFIDENTIAL

UNCLASSIFIED

35-23728

ccr

15 October 1975

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MEMORANDUM FOR: Inspector General
SUBJECT : [REDACTED] Report

1.. The four attached papers are the lead papers to a document identified as the "████████ Report." This report was found in the archives of the Psychiatric Division as a result of a search for any data on the operational use of drugs as requested by the Senate Select Committee.

2.. The report appears to have been prepared by Dr. ██████████ for the Office of Security or perhaps the Office of Technical Service. Therefore, it may be that this document is already presently in your files. If it is not presently in your files, I will be happy to have the entire report reproduced and forwarded to your office.

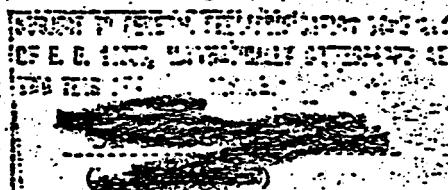
3.. There is no record that ██████████ is or has been a consultant at anytime for the Office of Medical Services. Additional checks are being made in this regard for further verification of his Agency association.

Director of Medical Services

Attachment

cc: A-DD/A (w/o atty)

CL BY: 061378



75-219

Office Memorandum • UNITED STATES GOVERNMENT

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TO : Chief, Psychiatric Division, Medical Staff

DATE:

7 May 1953

FROM : Chief, Technical Branch, SO

55-1

SUBJECT: [REDACTED] Report

1. Attached herewith is a copy of the [REDACTED] Report. We have just received this back after loaning it out sometime ago and since I promised to loan it to you, I am sending it with the understanding that, after you and your associates have finished reading it, you will return it to me since at the present time it is the only copy we have for our files.

2. As I recall, I have given you a photographed copy of the bibliography which belongs with this Report. The bibliography is for permanent retention in your files but unfortunately copies of the Report itself are so limited that I must request return of same when you have finished with it.

3. I will attempt to secure an additional copy of the Report from another source in the near future and if I am successful in this, I will forward it to you immediately for your permanent retention.

[REDACTED]

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"SOME AREAS OF PSYCHIATRIC INTEREST"

[Redacted text block]

Psychological Strategy Board

September 5, 1952

[Redacted text block]

75-221

PREFACE

This report is the result of rapid research into certain selected areas in psychiatry and psychology. It is based largely on open and unclassified sources of information including professional, scientific, and popular.

Emphasis has been on covering ground - on the search itself - rather than on the report. As a result, the sections of this report represent rough drafts of the rapid survey made of each particular area covered.

It has been possible to cover these large areas solely because of the great amount of valuable assistance so cheerfully given. Several librarians have devoted full part to nearly full time in aiding various parts of the research. There has been gratifying cooperation from a handful of professionals and leaders in various fields. The helpfulness and many kindnesses from the P. S. B. staff are gratefully acknowledged.

September 5, 1952

Consultant

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APPENDIX - In Separate Binder

Includes: 3 Bibliographies on I,
3 Bibliographies on II,
2 Bibliographies on V,
1 Bibliography on VI, VII, and VIII,
together with certain rough notes
and annotations

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TOP SECRET

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INSPECTOR GENERAL

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17 SEP 1975

271

MEMORANDUM FOR: Inspector General

VIA : Deputy Director for Administration

SUBJECT : Overseas Testing and Application of Behavioral Drugs

1. Reference is made to the verbal request by Mr. ██████████ IG Staff, to the Acting Director of Security for transmittal of an Office of Security memorandum dated 15 September 1975 pertaining to subject.
 2. A copy of the referent Office of Security memorandum dated 15 September 1975 is attached. As will be noted from a review of the attached memorandum, available file information reflected references to only a few specific instances where drugs were utilized overseas. It is clear, however, that the few cases mentioned specifically do not constitute a full itemization of all cases conducted overseas.
 3. Investigative efforts have reflected that other Agency components such as the Office of Medical Services and the Office of Technical Services may have more detailed information pertaining to subject. Office of Security files reflected little involvement in the utilization of drugs overseas by the Office of Security after the early 1950's.

- Att

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PART I

23 May 54

OBJECTIVES AND AGENCIES.

1. The ultimate objective of BLUEBIRD operation is to obtain or protect information of vital significance to the security of the United States. More ~~immediately~~, the operation is concerned with interrogation where there is need for special methods to induce full disclosure.

2. BLUEBIRD Operation will be implemented by operational and support personnel. This personnel will, however, not be used to obtain or protect information when other means are available.

3. The objective of ~~an~~ extensive support program is to furnish the teams in the field with the best available techniques and material; at the same time to enable them to guard against countermeasures. The support program will consist of both fundamental and applied research studying all means through which control of an individual may be attained.

4. A specific objective of this research is to develop an adequate body of scientific information from which certain questions in the area of interrogation and vital to national defense can be answered. They are:

a. Can accurate information be obtained from willing or unwilling individuals?

b. Can agency personnel (or persons of interest to this agency) be conditioned to prevent any unauthorized source or enemy from obtaining information from them by any known means?

c. Can we obtain control of the future activities (physical and mental) of any individual, willing or unwilling, by application of SI and H techniques.

d. Can we prevent any unauthorized source or enemy from gaining control of the future activities (physical and mental) of agency personnel (or persons of interest to the agency) by any known means?

The effort in these directions will be matched by coincidental study

(48)

directed toward the development of countermeasures. Fundamental research projects will be included in the program but must assist in or yield evidence relative to the ultimate development of simple, effective methods which can be used under field conditions.

5. The activities which will be carried out in order to develop a sound operation will include:

- a. The locating and collating of the information now in existence but scattered throughout many agencies, libraries, universities, and research institutions.
- b. The laying out of lines of research which will ultimately result in a current and comprehensive knowledge of the subject.
- c. The evaluation of this information.

6. The coordinator of the BLUEBIRD Group (at OSI) will be responsible for the coordination of three activities the personnel of which are currently in CIA.

a. The Teams - Current planning is for:

- (1) Three field teams under I&SS; the personnel of which are to be recruited by that office.
- (2) An undetermined number from OSO or OPC as the program develops. Personnel to be recruited concurrently.
Projected
- (3) ~~Perfected~~ composition of teams:
 - a. 1 Medical officer
 - b. 1 Interrogator
 - c. 1 Technician (familiar with use and repair of instruments)
 - d. 1 Linguist

(4) In addition to the teams there will be established a group of sufficient size to:

- a. Effectively train them.
- b. Efficiently execute any special administration.

b. The USI Support Staff - This will consist of (5) to seven (7) people whose professional background is described as follows:

- (1) 1 Literature surveyor
- (2) 1 Pharmacologist
- (3) 1 Testing expert
- (4) 2-4 Physicians experienced in experimental medicine and neurology.

c. The Panel - A group of experts under [REDACTED] whose advice will be used to insure a long range, high level and effective character to the research program.

7. The Coordinator will maintain ~~continuous~~ liaison with other governmental activities at all times so that there is:

- a. No duplication of effort
- b. Effective and immediate use of available information.

8. The purpose of this coordinated program is the most immediate translation possible of research results into simple, practical methods of field operation.

PROGRAM OF OPERATIONS

1. Use of Teams

Trained teams will operate wherever a need for their special capabilities exists. (Their method of administration and immediate direction will vary with the needs of the situation). (Also see paragraph 1, Part I).

N.B. In the course of all missions being conducted by teams they will bear in mind that one vital and continuing requirement is: all possible information bearing on foreign and enemy activity similar to BLUEBIRD.

2. Training of Teams

Training of team members will include:

- a. Polygraph operation
- b. Interrogation
- c. Hypnosis
- d. Headquarters Training (Use of instruments)
- e. Advance Training (USA)
- f. Operational training (Overseas)

PROGRAM OF SUPPORT

This program will consist of fundamental and applied research together with laboratory and field evaluation.

I. Personnel

- A. The Support Staff (Composition see Part I)
- B. The Panel
- C. Laboratories and Libraries, etc.

II. Duties of:

A. The Support Staff

- (1) Collection and collation of information for the use of the teams and panel
- (2) Preparation of preliminary evaluations.
- (3) Recommendation of lines of research
- (4) Observe or assist in laboratory testing as appropriate

B. The Panel

- (1) In conjunction with the Coordinator's designees will lay out a long range research program.
- (2) Make frequent recommendations so that the program will not lose its long range character.
- (3) Give qualified opinion as to the validity of information brought to its attention by the Support Staff or Teams.
- (4) Make specific recommendations as to projects to be initiated.
 - (a) Exact nature of the problem to be studied.
 - (b) In what laboratory ~~should it~~ be studied.
 - (c) Under whose direction ~~should it~~ be conducted
- (5) Observe or assist in laboratory tests as appropriate.

C. Laboratories and Libraries.

None of these facilities are under the direct control of the Panel or Support Staff. Through suitable channels, however, their facilities will be used to conduct the program of research

~~TOP SECRET~~

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support which will be developed from the topics below.

D. Other Agencies

With suitable cover and discretion various agencies can be made to furnish support for this operation.

- (1) Overt activities , e.g., Collection of relevant literature
 - (a) Government agencies, libraries, etc.
 - (b) Open subscription

(2) Covert activities

- (a) Agencies
 - 1. OSO
 - 2. OPC
- (b) Methods
 - 1. Persuasion
 - 2. Inducing defection
 - 3. Penetration

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RESEARCH TOPICS

1. From among the ~~Topics~~ described below those deserving highest priority will be selected and specific relevant research projects will be framed. These projects will then be contracted for with laboratories which may be governmental, industrial or institutional. In general, where portions can best be accomplished by a full-time employee of CIA, the work will be assigned to the Support Staff.

I. Collection, collation, and evaluation of existing knowledge relating to BLUEBIRD.

- A. Purpose: To develop areas of firm knowledge in spite of controversial nature of experiments and materiel used in this field.
- B. Includes: Study of physiological or psychological research of direct or ~~processing~~ by-products of value to BLUEBIRD.
- C. Needed For:
 - (1) Avoidance of duplication of existing projects
 - (2) Proper planning of new research projects

II. Basic study of measurement, alteration, ~~and~~ control of personality.

Certain agencies through which control is achieved are suggested ~~in a subsequent section~~. This section deals with the basic personality and its potential for subsequent control.

- A. Type of personality:
 - (1) Amenable, nature of
 - (2) Unamenable, nature of
 - (3) Detection of different types
- B. Alteration of personality
 - (1) Length of time needed to effect change
 - (2) Duration of change

- C. Restoration of original personality
 - (1) Time needed
 - (2) Permanent after effects
 - (a) Harmless
 - (b) Harmful
- D. Extent of control during period
 - (1) Complexity of actions that can be accomplished
 - (2) Attitudes, changes in basic attitudes while under control.
- E. Measurement of human behavior factors relating to the BLUEBIRD situation.
 - (1) Deception *
 - (2) Fear
 - (3) Fatigue
 - (4) Hunger
 - (5) Other factors
- F. Detection of pre-conditioning or state of being under control includes:
 - (1) Determination of the method used
 - (2) Determination of the purpose for which the conditioning had been effected.
 - (3) Possible re-conditioning for a different purpose.
- G. Possibilities of multiple conditioning.

III. Systems of suggestion unaided by special physiological agents.

- A. Duress. While this is the oldest form of asserting control, there is apparently little scientific information on the subject.

* Planning of projects relating to this topic should wait until firm liaison with or knowledge of ██████████'s project has been achieved.

EYES ONLY

(1) Nature and duration of:

- (a) Physical
- (b) Emotional

B. Hypnosis:

(1) Applicability of (Percentage of people of various types susceptible to)

(2) Duration of control

(3) Conditions under which control may be:

- (a) Effected
- (b) Continued

(4) Extent - Complexity of actions a subject can be made to perform.

(5) Post-hypnotic control

- (a) Duration
 - 1. Unreinforced
 - 2. Reinforced

 a. Methods of reinforcement.

 b. Extent - See ^{II} above.

(6) Guarantee of amnesia. (This is desired as a subject may not realize that he has been put under hypnotic influence; that he has performed certain acts, or that he will perform certain acts not of his own volition.

 b. Duration of

 c. Possibility of removing

IV. Physiological agents.

A. Chemical substances.

(1) Drugs

 (a) Well known

 1. Stimulants; e.g., caffeine

 2. Narcotics; e.g., nembutal

 (b) Controversial; e.g., scopolamine

 (c) Hear-say; e.g., "Mikedron".

(2) Other substances

(a) Toxins

(b) Endocrine and other ductless gland products.

B. Effects of above

(1) Speech inducing

(2) Paralysis inducing

(3) Effect on will by other means

(4) Duration of effects

(5) After effects

(a) Malaise

(b) After-taste, etc.

C. Physiological mechanism of above.

D. Counteracting agents

(1) Antidotes

(2) Immunizing agents

E. Pharmacology;

(1) Use of combinations to eliminate undesirable side-effects

(2) Alteration of characteristics to effect surreptitious delivery

(a) Masking of taste, odor, etc.

(3) Maintenance of effectiveness under field conditions or when mixed with common articles, such as food, cigarettes, candy, beer, etc.

(4) Adaptability to use in special field devices. ~~(such as)~~ ^{Those in V. below.}

F. Physiological agents other than chemical.

(1) Those producing over-all effect on the subject.

(a) Inducing unconsciousness

1. Electro-shock

2. Electro-sleep

(b) Loss of poise

1. Sonic

2. Untra-sonic

LIES D.I.C.Y

(c) Devices having effects other than above.

V. Devices

A. Measurement and evaluation of personality

- (1) Mechanical or electrical instruments for measuring personal reactions. (Includes single symptom devices like the "eye-shift" measurer at New London or a multiple symptom devices like the Keeler Polygraph).
 - (a) Further development of known instruments.
 - (b) Development of new devices for measuring new and valid indicators of personal reaction. (See II E above).
- (2) Psychological tests of an easily administered type to be used under field conditions.

B. Determination of background.

- (1) Educational level as to possibility of being able to furnish desired information.
- (2) Determination of actual native origin. (It is claimed that the oscillograph offers a means of determining native origin as a person can never completely lose certain speech characteristics).

C. Devices of assistance to field teams in the administration of physiological agents (deliberate, surreptitious, or suddenly overwhelming).

- (1) Gases, e.g., modification of tear gas pencil.
- (2) Liquid, e.g., Hypo-spray
- (3) Investigation of devices of unestablished action, e.g., German "Scheintot" (appearance of death) pistol.
- (4) New devices.

D. Devices of assistance to field teams in recording information:

- (1) Sound
- (2) Sight
- (3) Improvement or modification of known devices
 - (a) Resistance to accidental mishandling
 - (b) Sensitivity

(c) Special shapes

(d) Special sizes

It would be impossible and unwise to attempt to outline all lines of research at the present time. As the program develops new and promising fields of research will open up. Nothing in the foregoing, therefore, should be construed as eliminating from consideration any line of inquiry which will aid or assist in Special Interrogation.

KIRKPATRICK DIARY

710
30 November 1953

DCI and DDCI: discussion of the Olsen case. It was agreed that Houston and I would make a thorough investigation and submit our recommendations to the Director.

30 November 1953

HOUSTON, EDWARDS, FIELDS AND SCOTT: discussion of the Olsen case. Scott and Fields will take steps to see that the files are sent up here and the drug impounded.

1 December 1953

GIBBONS: came in to make a strong plea that no disciplinary action be taken on the Olsen case.

2 December 1953

DCI and DDCI: discussed the Olsen case with them.

2 December 1953

WISNER: discussed the Olsen case. He stated that neither he nor Helms knew anything about the intention to make this experiment. He pointed out that Helms had held a staff meeting in May at which Drum and Gibbons were present and had indicated that the drug was dynamite and that he should be advised at all times when it was intended to use it. A memorandum on this was later sent to the Division and TSS which advised that there would be no use without Wisner's permission.

3 December 1953

HAROLD COOPER: talked to him about his reaction to LSD. He stated that he thought application on an unwitting basis was very bad.

3 December 1953

GOTTLIEB: advised that Dr. Abramson would be here tomorrow and would I want to see him. Told him that I would arrange it through Houston.

3 December 1953

DE FLOREZ: came in to say that he thought any reprimands in the Olsen case would be most unfortunate.

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3729

SON: reported that he had obtained a favorable filing on Olsen case from BEC.

10 & 11 December 1953

HOUSTON: discussed the Olsen case,

17 December 1953

DDCI: reviewed the Olsen case and advised I would submit it to him for disciplinary action

17 December 1953

GIBBONS: came with Drum to advise that Gottlieb had cleared with Drum, who was acting Chief TSS.

18 December 1953

EDWARDS and CHADWELL: advised me that Stanley Lovell had considerable information about the Olsen case.

22 December 1953

HOUSTON: asked him for papers on Olsen case.

12 January 1954

Advised HOUSTON of comments in GOTTLIEB's files on LSD.

25 January 1954

Meeting with CABELL, WISNER, and HELMS on OLSEN case.

1 February 1954

Discussion with DCI and DDCI on TSS reprimands and TSS meeting (deFlorez, Drum, Gibbons, Gottlieb, Helms, Houston, Edwards, Cabell and Dulles).

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29 August 1973

MEMORANDUM

SUBJECT: Influencing Human Behavior

Any experiment or use of drugs or other techniques for influencing human behavior will be undertaken only with the Director's specific approval and in no case on unwitting American citizens.

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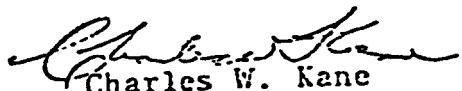
MEMORANDUM FOR: Inspector General
ATTENTION : Mr. Allan E. Brody
VIA : Deputy Director for Administration.
SUBJECT : Alleged Illegal Domestic Activities
(Suicide of Frank R. Olson)

1. Reference is made to a 10 July 1975 request from Mr. Allan Brody of your Staff concerning the location of certain documents related to the 1953 suicide of Mr. Frank R. Olson. Mr. Brody requested that the Office of Security review the pertinent files concerning the suicide in an attempt to locate certain memoranda which had been prepared by the then Inspector General (Mr. Lyman Kirkpatrick) concerning the circumstances surrounding Mr. Olson's death.

2. A review of the documents contained in an Office of Security soft file entitled "LSD Material" disclosed several memoranda related to Mr. Olson which were of interest to the Inspector General. During discussions with Mr. Brody and Mr. Scott Breckinridge on 19 July 1975, Mr. Brody requested that he be furnished with a copy of the entire "LSD Material" soft file to aid in his review of the Frank R. Olson matter.

3. Per the above discussions, copies of the entire "LSD Material" file are being forwarded herewith.

4. This memorandum will further serve to confirm that on 10 July 1975 a copy of the entire Office of Security file concerning Frank R. Olson (SF#98 450) was delivered to Mr. Allan Brody per his request upon the authorization of Deputy Director of Security (PSI).


Charles W. Kane
Director of Security

Att

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SUBJECT: Frank R. Olson.

Mr. Olson, who committed suicide on 23 November 1953, was a civilian employee of the U. S. Army Chemical Corps then located at Camp Dietrich. At 0300 hours on 23 November 1953, Colonel Sheffield Edwards, then the Director of Security, was called by Bernard Doran who asked for a meeting among Mr. ~~Doran~~, Dr. Sidney Gottlieb, Dr. Gibbons, and Colonel Edwards. During this meeting, it was related that Mr. Olson had been in New York City during the preceding week undergoing psychiatric treatment from a Dr. Harold Abramson. Mr. Olson had been accompanied by Robert Lashbrook, a TSS employee at that time. Mr. Lashbrook and Mr. Olson had a room at the Statler Hotel in New York City. At 0230 hours, Mr. Lashbrook was awakened by a crash and discovered that Mr. Olson had dived through the hotel window. After this incident, Mr. Lashbrook called Dr. Gottlieb and then called the hotel desk which, in turn, called the police.

Mrs. Gibbons and Gottlieb related to the Director of Security the fact that on Wednesday and Thursday, 18 and 19 November 1953, a group of individuals from Camp Dietrich and from TSS assembled at a cabin at Deer Creek Lake. Dr. Gottlieb stated that there were seven (7) individuals (not fully identified) from Camp Dietrich and three (3) individuals from TSS. They stated that TSS liaison in connection with the "Special Operations" group at Camp Dietrich, had been kept on an EYES ONLY basis known only to a few persons in the Agency and at Camp Dietrich. It was stated that this liaison was known to Generals Bullene and Creary of the Army Chemical Corps. The purpose of this liaison was to discuss their work on matters of mutual interest in the sensitive and covert fields.

According to the information furnished by Dr. Gottlieb to Colonel Edwards, on the evening of 19 November, it was decided to experiment with the drug LSD and for the members present to administer the drug to themselves to ascertain the effect a clandestine application would have on a morning conversation. Dr. Gottlieb stated that a "very small dose"

75-3

474 (40)

ed LSD was placed in a bottle of cointreau and that all present except two (2) individuals, had a drink thereof. Mr. Olson was included in this group. Dr. Gottlieb reported that the drug had a definite effect on the group to the point where they were boisterous and could not continue the meeting or engage in sensible conversation. Dr. Gottlieb stated that Mr. Olson, among others, complained of wakefulness during the night.

The information contained in Colonel Edwards' memorandum for the record indicates that the LSD was administered with the knowledge of those present. However, a memorandum of conversation contained in I.G. files, dated 1 December 1953, and bearing the signature block of the then Inspector General, indicates that the LSD was given to eight (8) of the individuals present, but that they were not told what they had been given until 20 minutes afterwards. However, the use of some drug of the LSD type had been discussed with Camp Dietrich representatives by Dr. Gottlieb and they all had agreed that an unwitting experiment would be useful.

On Tuesday, 24 November 1953, the Commanding Officer of Special Operations, Colonel Ruette (sic) called Dr. Gottlieb and stated that Mr. Olson appeared mentally depressed. Dr. Gottlieb then suggested that Mr. Lashbrook take Mr. Olson to New York City to be treated by Dr. Abramson. From that point there were a series of psychiatric treatments in New York City until 28 November when it had been planned to place Mr. Olson in a sanitarium called Chestnut Hotel near Rockville, Maryland. Because Messrs. Lashbrook and Olson had not been able to make plane reservations, they stayed overnight at the Statler on 28 November when the suicide occurred.

Subsequent to this incident, the matter was investigated by the I.G. staff, which recommended to Mr. Allen Dulles that Drs. Gibbons, Drumm, and Gottlieb be reprimanded. I.G. investigation determined that Mr. Frank Wisner and Mr. Richard Helms were not aware that this experiment was to be conducted.

Files of this Office reflect no indication that this experiment was part of any formal project.

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On 26 November 1953, around 0230, a civilian employee of the U. S. Army Chemical Corps located at Camp Dietrich, Maryland committed suicide by jumping from a window at the Statler Hotel in New York City. The Army civilian and six (6) other individuals from "Special Operations," a part of the Army Chemical Corps at Camp Dietrich, along with three (3) individuals from CIA had attended meetings at a cabin at Deer Creek Lake during the period 13-19 November 1953. The purpose of these meetings, which took place once or twice a year, was to discuss matters of mutual interest between this Agency and the Army Chemical Corps. On 19 November, according to a statement made by an Agency employee present to the then Director of Security of the Agency, it was decided to experiment with the drug, LSD. A very small dose of LSD was placed in a bottle of cointreau and eight (8) of the ten (10) persons present had a drink. Two (2) of the individuals present did not drink the cointreau since one (1) was a teetotaler and the other had a heart condition.

Files of this Agency reflect a conflict with respect to the administering of the LSD since a memorandum written by the then Inspector General of the Agency indicates that the individuals present were not told that the drug was LSD until some 20 minutes after its ingestion. However, this memorandum does indicate that an Agency representative had discussed the possibility of taking use of the drug and that Army representatives had agreed that this would be a valuable experiment.

After the ingestion of the drug, a definite effect was seen on the group in that they became boisterous and "happy." The Army civilian, who later committed suicide, complained of wakefulness that evening.

On 24 November 1953, it was reported that the Army civilian appeared mentally depressed and he was taken to New York City to be treated by a psychiatrist. He was treated five (5) or six times in New York City during the week prior to 28 November. On 27 November it was decided that he should be placed in a sanitarium for treatment. He was to be admitted to the Chestnut Hill Sanitarium near Rockville, Maryland. On the night of 28 November 1953, he and an Agency employee stayed overnight at Statler Hotel in New York City since they could not get plane reservations to Washington until the next day. It was in the early morning hours of the next day that the Army civilian committed suicide.

75-3

A statement from the psychiatrist who examined the Army civilian indicates that, according to this individual's own statement, he had been delusional for a long period of time, had inordinate guilt feelings regarding his pension and disability pay and had been so depressed and agitated in March of 1953 that his wife felt he should see a doctor.

On 9 December 1953, it was determined by this Agency that the death of this individual had resulted from circumstances arising out of an experiment undertaken in the course of his official duties for the U. S. Government.

An investigation of this incident was conducted in 1953 by the Inspector General of the Agency and the Director of Central Intelligence reprimanded the Agency employees involved.

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AL-SLIP DATA

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REMARKS:

IDEN List not forwarded

FROM:

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IDENT LIST

Army Civilian

CIA Employees

CIA Employee (New York City): Robert Lashwell

Examining Psychiatrist

Frank R. Olson

Dr. Sidney Gottlieb
Mr. Robert Lashbrook
Mr. (FNU) Hughes

Dr. Harold A. Abramson

75-37

30 Jan 1975

4774 4775

MEMORANDUM FOR: Inspector General
VIA: Deputy Director for Administration
SUBJECT: Alleged Illegal Domestic Activities
(Frank R. Olson)

1. Attached in true name format is a summary of information in Office of Security files together with copies of pertinent documents concerning an incident involving ingestion of LSD.
2. Also attached in sterile format is a summary of Office of Security files concerning this incident.
3. Please advise if you desire additional information concerning this matter.

Charles E. Haas
Director of Security

Atts

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A/B SUPPL # 5 457

MEMORANDUM FOR THE RECORD

SUBJECT: Meeting with Department of Treasury Officials

D
1. The Director of Security and the writer met with Mr. Henry Giordano, Commissioner, Bureau of Narcotics, [REDACTED] on 30 January 1967. This meeting had been requested as a matter of urgency by Mr. Giordano who had indicated he had matters of mutual concern to discuss. The meeting took place at a luncheon, and the depth of our discussion was somewhat inhibited.

2. At the outset, Mr. Giordano indicated that the Bureau of Narcotics had received a re-inquiry from the Long Committee relative to the Bureau of Narcotics' activities in the field of wire tapping. Giordano explained that the Treasury Department had originally endeavored to exempt the Bureau of Narcotics from Senator Long's inquiry, but it now appeared that the Bureau was going to be required to respond to the Committee and possibly appear before it in hearings. Giordano indicated that, should he appear before the Committee, it was his opinion that some of the relationships of CIA and the Bureau of Narcotics would be exposed with a resulting embarrassment. In this connection, Giordano said that he had had several meetings with Mr. Karamessines and and that he had endeavored to impart his concern to these Agency representatives.

3. After clarifying the Office of Security's liaison relationship with Treasury and the Bureau of Narcotics, the Director of Security invited Mr. Giordano to set forth specific cases or problems that he foresaw from any operational activities in which the Bureau of Narcotics and the Agency had been involved domestically.

Giordano indicated that he generally understood the compartmentalization of responsibilities within the Agency. Mr. Giordano was somewhat vague in supplying specifics as to joint operational activities in the wire tapping field that might be a source of embarrassment to the Agency. He emphasized that this uncertainty was the central point of his concern. He referred to the establishment of two apartments in the San Francisco, California, area and one apartment in the New York City area which had been jointly used by the Bureau and the Agency. He indicated that technical equipment had been installed in these apartments at Agency expense. Giordano spoke of the activities of Mr. Charles Siragusa and Narcotics Agent White, both now retired from the Bureau. He said that both Siragusa and White had performed numerous operational services for the Agency, both domestically and abroad, but he was vague on specifics and again emphasized that his lack of knowledge and the absence of information in his files was his major concern.

4. The Director of Security asked Giordano directly if Mr. Karamessines, based on his review of the Bureau and Agency relationship, had been able to identify any cases or problems which might be surfaced at a Committee hearing. Giordano said it was his understanding that Mr. Karamessines did not know of any cases involving the Narcotics-Agency relationship which would provide embarrassing material for the Long Committee. Mr. Giordano then said that if Mr. Karamessines was not worried about this situation there was really no reason that he, Giordano, should be concerned. The Director of Security then assured Giordano that Mr. Karamessines is a highly responsible Agency official, and that any statement Karamessines might make would be supported by the Director of Central Intelligence.

D
F

6. It became increasingly apparent to the Director of Security and the writer that Mr. Giordano was extremely harassed at appearing before the Long Committee, and he was seeking any avenue that would afford him exemption from Committee testimony under the aegis that National security matters were involved.

7. The Director of Security told Giordano that the Agency values its liaison relationship with the Bureau of Narcotics, that we are fully aware of the tenuous position of the security and enforcement agencies of Government with relationship to the Committees of Congress, and Giordano was again reassured of the good faith of the individuals from the Agency with whom he is now dealing.

8. Mr. Giordano indicated that he is meeting for further discussions with Mr. Karamessines in the office of Mr. Smith, General Counsel of the Treasury Department, and that this meeting is a prelude to a discussion that Mr. True Davis, Assistant Secretary of Treasury, General Counsel Smith, and Mr. Giordano will have with the Long Committee on 1 February. The meeting ended on a cordial note.

A
cc: ADD/P
C/CI Staff
C/TSD

12 June 1950

42

TO: CHIEF, INSPECTION AND SECURITY
Attn: Colonel Sheffield Edwards

FROM: Chief, [REDACTED] G

SUBJECT: Priority Requirement for the use of Drug-Induced Hypnosis Interrogation Technique in [REDACTED]

1. [REDACTED] has advised us that a large number of [REDACTED] are in the process of being repatriated to [REDACTED] from the USSR, where they have been interned since their capture by the Red Army in 1945. These [REDACTED] will be available within the very near future for intensive interrogation. In view of [REDACTED] and the length of time they have been interned, as well as known Soviet indoctrination of other [REDACTED] it is believed that without question they have been given the maximum amount of Soviet Communist indoctrination and that at least a portion of them have been recruited as Communist and Soviet espionage agents.

A 2. [REDACTED] has pointed out that this may represent an extremely valuable and unique opportunity whereby tremendously valuable results might be obtained by the use of the interrogation techniques involving drug-induced hypnosis. It is felt that this represents a definite priority and that all possible effort should be undertaken to have appropriate [REDACTED] from this group completely and fully interrogated with the use of these techniques. We are in a position to arrange such interrogations in [REDACTED] securely and effectively.

Action: It will be appreciated if you will advise me whether appropriate I&S personnel can be made available to proceed to [REDACTED] on a TDY basis for the purpose of assisting in conducting such interrogations. Your concurrence in this is strongly recommended and, if you concur, [REDACTED] will immediately arrange for the selection of [REDACTED] for such interrogation on the basis of their personal history, background, and the reports of their initial interrogation by CIC in [REDACTED]. It would be appreciated also if you will advise us of your decision in this matter as soon as possible.

G

C - C/jm

21 August 1959

MEMORANDUM FOR: [REDACTED]

FROM : [REDACTED]

SUBJECT : Possible Use of Drugs and Hypnosis in [REDACTED] Operational Case

G

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BACKGROUNDA
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According to [REDACTED] one of the most important double agents being run in the [REDACTED] area now is a [REDACTED] who has been furnishing important and regular information to us. This man has, up to now, been making periodic return visits to his headquarters in [REDACTED] and then returning to his post outside of [REDACTED] where we are in contact with him. It now appears that this [REDACTED] has more or less refused to return to [REDACTED] claiming that he does not believe he can ever recover from the confession techniques and the interrogation which always applied to overseas agents when they return to headquarters. [REDACTED] stated that, for obvious reasons we are most desirous in some way to persuade this [REDACTED] to go back. Because of the situation the possibility of using hypnosis as a means of (a) changing the [REDACTED] agent's attitude about returning, and (b) giving him ability or the necessary will to withstand interrogation and confession, is being considered.

DISCUSSIONS RELATIVE TO USE OF HYPNOSIS

A

Several weeks ago [REDACTED] approached the writer and gave him the details of the case and asked the writer's opinion on the use of hypnosis in the case and how it could be brought about. [REDACTED] also proposed that the entire matter be discussed with SOURCE #1 for his views in the matter. Thereafter the writer arranged for a meeting with [REDACTED] and SOURCE #1 and the matter was discussed, with the result that SOURCE #1 felt that the case had merit; that it was experimental; but that since hypnosis and post-hypnotic suggestion could be tested before the actual return operation was mounted, there was nothing to lose and much to gain.

F

C

Since the [REDACTED] involved speaks [REDACTED] and is not too good in English, the writer proposed that [REDACTED] and who is familiar with hypnosis, be used in the actual work in the case since [REDACTED] is capable of speaking SOURCE #1 and [REDACTED] agreed that this seemed a sound idea.

G
with [REDACTED] and CIA [REDACTED] Employee #1 (Chief, [REDACTED]) and as a result of these discussions it was proposed that [REDACTED] who had had an interview with this [REDACTED] agent in the past, should talk with Source #1 and give him the benefit of his knowledge.

A
CIA
On Friday, 21 August, [REDACTED] Empl. Source #1 and the writer discussed the case. [REDACTED] went over his information concerning the [REDACTED] agent and explained it along with his views to Source #1. After some discussion a general agreement was reached that the case was a good opportunity to make certain tests under controlled conditions; that it should be very clearly noted that it was an experimental situation; and that, if properly controlled, it could be a very important research experiment but that the operations people should realize that it is a complex matter and that success or failure in this case would certainly not mean that the entire consideration of the use of hypnosis in operational cases should be determined by the outcome in this case. It was agreed that Source #1 and [REDACTED] would be the most suitable team and that [REDACTED] should be consulted as soon as possible to determine his willingness to participate, since he is in private practice. It was further agreed that although [REDACTED] and CIA Cover and Security [REDACTED] would be most interested in observing this matter, nevertheless they should not be involved in the work for obvious operational reasons.

A
CIA Empl. and [REDACTED] will talk with [REDACTED] and the writer will also talk with [REDACTED]. The writer will also inform his chain of command since use of hypnosis and drugs on this case calls for a committed meeting with an ultimate decision by Mr. Holmes.

AB SUPP #8 S (137)

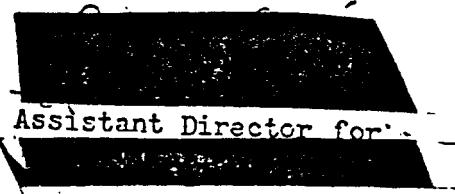
APR 4 1952

MEMORANDUM FOR: ASSISTANT DEPUTY/INSPECTION & SECURITY

SUBJECT: BLUEBIRD

REFERENCE: Top Secret Memorandum No. [REDACTED] dtd. 17 Mar 51, H
same subject

Pursuant to the second sentence of paragraph 1 (e) of reference, there is set forth below the initial control list for this office:



RECORDED

17 July 1952

AB Supp. #9

158

PATIENT NO. ONE

This subject was a rather simple-minded [redacted] of about 35 years of age. From a psychological standpoint he revealed no abnormal symptoms. He appeared to be straightforward and honest.

Experimental Procedure: Phase I

It was decided to proceed experimentally without any interrogation, the problem being to see if a hypnotic state could be induced without the subject's knowledge. For this reason the subject was prepared for the induction of sleeping by telling him that the procedure being followed was a medical diagnostic treatment and would constitute a treatment also for his nerves. He was placed in a bed and given intravenously a solution of $2\frac{1}{2}$ per cent sodium pentothal. After approximately 7 cc were given he was considered sufficiently somnolent for the hypnotic procedure to begin. No further pentothal was given. Hypnosis was attempted through an interpreter, [redacted]. The attempt was considered successful.

Phase 2

The procedure on this case was identical except that after the hypnotic stage was achieved, an interrogation was inducted. At the termination of the interview the subject was allowed to sleep it off after receiving a strong suggestion regarding amnesia.

Phase 3

Interrogation on the subject indicated that there was complete amnesia the whole time. It was the belief of both myself and the case officer that the subject had been telling the truth.

Case No. two will be reported in greater detail because there was disagreement to a certain extent as to how truthful this story had been.

This patient was examined on 13 June 1952 in association with [REDACTED]. He was a medium height friendly individual who spoke no English. [REDACTED] acted as interpreter, the language used being [REDACTED]. At the beginning of the examination he was somewhat apprehensive but cooperative. He had no complaints.

There is no family history of chronic disease or mental disorder.
He had the usual childhood diseases including smallpox and malaria.

There were no complaints referable to any of the systems except that he cannot drink alcohol because if he does he vomits. He states, however, that he can drink a liter of wine without any difficulty, but up to 1948 his nerves were strong. After that he became so tense that on several occasions he became unconscious due to the stress under which he was placed.

Except for occasional headaches he had no complaints referable to the nervous system.

A complete physical examination was performed with no abnormalities noted except that his blood pressure was 160 over 100. His pulse at rest was 120; after exercise 150 and two minutes later had returned to 120.

COMMENTS:

The first day's examination was devoted to the more usual medical procedures with which we thought [redacted] might be familiar, the purpose being to impress upon him the fact that we were physicians who were interested in his welfare. He noticeably relaxed as the examination proceeded and his blood pressure which had been initially 160 systolic dropped to 135. He felt sufficiently relaxed after the two-hour examination to spontaneously comment that he thought the day before, when he was taken from the place of confinement, that he was to be turned back to [redacted]. He remained, however, somewhat antagonistic and complained bitterly of the treatment which he had received at the hands of everyone concerned. This tendency was noted during his interrogation in as much as whenever a sensitive subject was approached he would say, "I have already discussed that" and then refuse to go further. By persistence, however, this was broken down and it was our opinion that eventually he described fully the [redacted] and other related matters. [redacted]

The examination was continued on the next day, 14 June 1952. At that time he stated that he had been unable to sleep and had had a dream in which a big man was trying to swallow him. The examination on this day was con-

[redacted]
AS 397

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P 5 of 9

158

PROCEDURE NO. TWO:

In this case we were dealing with a different type of individual than in Procedure No. One. He was not as naive and remained suspicious. It was decided therefore to proceed as in Case No. One with the medical and psychiatric examinations in an effort to convince [redacted] that we were physicians who were concerned only with him as a person and not in any way with his disposition. This was done in two ways. We selected his fainting spells as one point of attack and told him that they might be epileptic and it would be necessary to do an electro-encephalograph examination. The second point of attack was in pointing out to him the inconsistency of his stories and asking him how we could be expected to help him if he insisted in lying to us. He insisted however that he was telling the truth and then insisted that we should employ any scientific technique we wished in order to prove this.

We proceeded then as follows:

1. An electro-encephalograph machine was contrived. The electrodes were applied to the subject's head. After due consultation it was decided that the subject was too tense and the procedure was unsuccessful. He was advised to this and told that another doctor would have to be brought in in an effort to gain the relaxation necessary for the successful completion of the test. This was planned for the next day.

2. On this occasion the room was rigged as in Procedure One. The third doctor (interpreter) explained to the subject the necessity for relaxation. The intravenous injection of sodium pentothal (2½%) was

was started and approximately 7 cc were given. At this point an attempt was made to gain hypnotic control thru the interpreter. This control was turned after a period of approximately 20 minutes but was not deep and the subject awoke spontaneously after about 30 minutes. We were quite certain that he was not aware of the type of procedure employed.

3. At the termination of step 2 he was again attached to the electroencephalograph and told that the procedure was completed.

4. The next morning it was decided to attempt the pentothal narco-analitic procedure. This was done in the usual way. The patient was somewhat resistant and had to be given 30 cc of a 2½% solution before somnambulence was produced, after which he promptly fell asleep. He was then given $\frac{1}{2}$ a cc of desoxyn intramuscularly and $\frac{1}{2}$ a cc intravenously. He thereupon promptly aroused and was successfully regressed so that he could be engaged in conversation thinking that the interpreter was an old friend of his from [REDACTED]. This regression was quite successful and the interrogation proceeded as a conversation between the subject and his friend. It was sufficiently genuine that he actually reached out to kiss this friend on a number of occasions. The interrogation lasted approximately one hour and a half.

5. The subject was allowed to sleep off the effects of the drug and thereafter was amnesic for the total procedure except that he had had a vivid dream concerning his friend. He was puzzled as to how this friend could have seemed so real and yet not actually be there. This amnesia persisted throughout our period of observation.

If the purposes of this project were to compare the relative value of hypnosis and drugs for the purpose of gathering information it was doomed to fail because one case of each would prove nothing. If it was an attempt to prove that hypnosis could be induced without the individual being aware of it, it was successful in both cases. In Case No. One a sufficiently deep hypnosis for interrogation was obtained. In Case No. Two a fairly deep hypnosis was obtained for a period of about 30 minutes. The truth of the information obtained under the hypnosis we have no way of knowing. The interrogation under hypnosis would have been greatly facilitated if the interrogators had been familiar with hypnotic questioning techniques and if it had not been for the language barrier. Because of the numerous technical difficulties involved in the induction of hypnosis and the resistance of the subject it does not seem to be practical as a routine procedure in the interrogation of reluctant subjects. It required three days to build up by team of experts elaborate staff props and numerous deceptions. The sodium pentothal procedure however is easily administered, easily controlled and is more certain to produce amnesia. Its use would require only a medical man and an interrogator. From this standpoint it is more practical and more readily available.

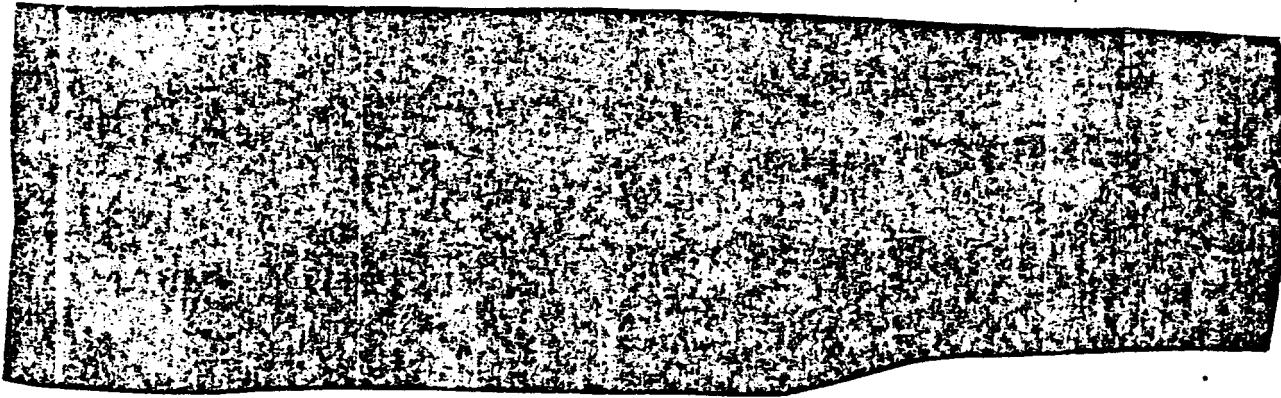
The unanswered question is whether or not an individual can lie under the influence of hypnosis or sodium pentothal. To the best of my knowledge, no one has ever answered this question. In conclusion, hypnosis is expensive, uncertain, difficult to induce and uncertain in its results. Sodium pentothal is cheap, easy to employ and more certain in its results. The use of desoxyn as a stimulant to speech during pentothal narcosis is worthy of much more research.

Psychiatric Consultant

AB SUPPL (10/11)
#10 157

H The Project team arrived in [REDACTED] on 4 June 1952 and was assigned to [REDACTED]. A meeting F was held on 4 June [REDACTED] in [REDACTED] and the history of the first case which was to be studied by the Project was given in complete detail by the case officer. It was planned that the operation would be performed in a safe house [REDACTED] outside the town of [REDACTED] which in turn is [REDACTED]. Since our recording equipment had not as yet arrived from the States we decided to borrow some equipment from the local security office.

The following day we took a trip to the safe house for a general inspection from the standpoint of security and operational efficiency.



D On the 6th of June the subject, [REDACTED] was brought up from solitary confinement from the local army camp, [REDACTED] under heavy guard and blindfolded. The subject was a rather simple peasant type of [REDACTED] who had received approximately six years of schooling in [REDACTED]. At the same time arrangements were made via U.S. Govt. individual with H the [REDACTED] for items of equipment such as intravenous saline

PJ 10/9

(10)

solution, tubing, ophthalmoscope and so forth which the team did not take along with them because of the added weight. The subject was told what this examination would be a medical examination which would be used as a point in his ultimate disposal.

D He seemed rather nervous and apprehensive but after two days of physical examinations and psychiatric evaluations he developed more rapport with us and lost some of his initial feeling of apprehension. In handling [REDACTED] it was decided that we would use a combination of sodium pentothal and hypnosis. The sodium pentothal was to be used intravenously merely to relax the patient and make him more receptive to hypnotic control.

H The language barrier was a difficult one because the hypnotist had no knowledge of [REDACTED]. To circumnavigate this difficulty [REDACTED] interpreter and case officer on another project was brought into the picture as a [REDACTED]. Since the case officer had no knowledge of the hypnosis technique, it was necessary to wire him to the hypnotist in another room by means of a hearing aid. In this way the hypnotist could speak to the case officer in English and the case officer would in turn translate the hypnotic mumbo jumbo into [REDACTED] and in this way hypnotise [REDACTED]

D The first injection consisted of nothing more than an intravenous injection of 6 cc of 2% sodium pentothal solution which was given to him under the guiss of a vitamin solution which would be used to help his nerves. After the 6 cc had been administered the patient became very relaxed and in a matter of 12 to 15 minutes was, according to the experienced individuals, under the influence of hypnosis. A detailed account of this operation will be forthcoming in the joint report to be submitted by Psychiatric Consultant and by me.

PJ 20/9

Following day he was again told that he needed another injection of this vitamin solution for his nervousness and he was given a total of 7 cc of the same solution and put under hypnotic control. He was submitted to an hour and ten minute interrogation at this time. At the end of this period he began to lighten and it was felt that we should stop the interrogation procedures. All interrogations were done by the respective case officer handling the subjects and not by the medical representatives on the team.

The patient had a complete amnesia of the entire proceedings and was studied for another day with detailed questioning which proved that he had no knowledge of the fact that either he had been hypnotised or that he had been interrogated. He was returned to the army camp and it was recommended that he be allowed to mingle with the other prisoners and would eventually be disposed by a resettlement in another country.

The entire operation was recorded and reports of those recordings will be forthcoming from Security.

D The second case was handled in the same safe house and offered more problems than were encountered in [REDACTED]. [REDACTED] was suspicious, hostile, moderately intelligent and doubted the fact that the medical members of the Project were really doctors. His workup consisted of a complete psychiatric and physical examination which after 2 or 3 days demonstrated the fact that we were interested in his physical well being and could develop more confidence in us.

In his past history he gave the story of fainting under emotional strain;

D [REDACTED] 3 of 9

F/H

A.

F/H

A.

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F/H



upj 447

(157)

F He was taken from [REDACTED] to the safe house in [REDACTED] again under heavy guard and he was accompanied by our own [REDACTED] Officer from [REDACTED]. In this rather detailed description of the fainting spells that he had in [REDACTED] we attempted to point out that we seized upon many points in the patient's history that would give us a cover reason for examining a patient beyond the routine physical and psychiatric examinations.

It was explained to him that he might be suffering from early epileptic attacks and that further study would be required. We rigged up an EEG which consisted of six wires and a radio receiving set. It looked convincingly like an EEG machine and the patient was thoroughly convinced that this was a strict medical procedure. It was explained to him that the poor results we obtained on the machine were due to the fact that he was high-strung, nervous and had high blood pressure. He was given 6 cc of sodium pentothal to be used if we couldn't get a better tracing on the machine.

Again he was subjected to hypnosis via the hearing aid and was allowed to come out of the hypnotic state without interrogation. The team wasn't fully convinced that the subject had been thoroughly hypnotised and we were a bit apprehensive as to the amnesia that he may have following the procedure.

The second day he was told quite frankly that many of the stories that he had told [REDACTED] and our own Service and during the medical and psychiatric testing were inconsistent and that we felt he was lying. With this he said that he would submit to any test that we would give him to prove his sincerity. Even this was done with a certain grin which indicated that he knew exactly what we were doing and that he was willing to play the

Dk 5/17

game in this standpoint as we were from ours.

He was taken into the room and the sodium pentothal solution and intravenous setup were hidden behind the bed, so that they could not be seen by the subject. He was given 7 cc of sodium pentothal intravenously and again subjected to hypnosis. After a period of about twenty minutes there was some indication that he may have gone into a very light hypnotic trance but this passed off quickly and we switched over to the full sodium pentothal treatment.

We gave him 25 cc of solution intravenously and pushed him down to approximately the second point of anesthesia. At this point he would not be useful to us for interrogation purposes and we gave him 2/10's of a cc of desozyn intramuscularly and 2/10's intravenously.

We stood by with restraints and the guards so that if the full effect of this desozyn took place we would be able to keep him in the room. This brought him up to an extremely volatile level as far as conversation was concerned and he began talking. We regressed him to the time when he was working [REDACTED] His very

close friend [REDACTED] was brought into the picture through one of the interpreters who played that part. The subject actually thought he was talking to [REDACTED]

[REDACTED] and they discussed many of the current activities that they were performing for [REDACTED] He was subjected to an hour and half of interrogation with this combination of drugs and allowed to come up to a conscious level.

When he awoke he was very confused and recited many times the dream he had where he talked to his friend [REDACTED] and felt that he was actually in the room with him although he realized that this was impossible because [REDACTED] was still behind the [REDACTED] lines.

PJ Gof 7

(157)

He was worried, apprehensive and completely puzzled as to what happened to him and the only thing he remembered was the fact that the EEG electrodes were placed on his head. Due to the desoxyn he was so volatile that he continued to talk for about 3 hours never stopping and when no one would listen to him he began writing things down on paper which is a typical desoxyn response.

The story he told under sodium pentothal conflicted in some respects with the story he told in a conscious state and it was felt that if it was possible to tell whether these people were telling the truth or not under sodium pentothal, that we came as close to the truth as any other interrogation had reached thus far.

H He had complete amnesia of the entire interrogation and complete amnesia of the fact that even a needle had been inserted into his vein. It was felt by the [REDACTED] from [REDACTED] and all personnel in the safe house that [REDACTED] was not a double agent; however his wife was an informant for [REDACTED]

D This last case I think proved that a detailed interrogation can be carried out in a harmless fashion with the compound use of sodium pentothal and desoxyn without any recollection on the part of the patient of the interrogation.

C [REDACTED]

[REDACTED]
PC 747

The Medical Office first entered Project in December 1951 after months of careful consideration of the professional responsibilities assumed in a project of this nature.

F The Project team had studied the effect of hypnosis and barbiturates on volunteers and a few prisoners of war for some time. In December 1951 the team was scheduled to move overseas for an operation in [REDACTED] but complications in that theater delayed their departure. I was assigned to the team in April 1952, reviewed the work that had been done from a medical standpoint and met the other members of the Project. They were very cooperative and were very anxious to have the Medical Office represented. I was thoroughly briefed in our impending operation which was scheduled for an overseas departure 26 May 1952. The capable services of [REDACTED] were enlisted and he too was assigned to the team. His previous professional experience, capable judgment and sincere interest captured the respect of all other members of the team. It was at his suggestion that the combination of desoxyn and sodium pentothal was used in the [REDACTED] case and later demonstrated to be a potentially useful combination, which will require a considerable amount of basic research. He was also able to give me objective opinions on the techniques of hypnosis which were employed in the [REDACTED] cases.

D A My duties were outlined to me by [REDACTED] and the details were essentially those of liaison and representative functions for the Medical Office. However, I did assist [REDACTED] with the physical examinations and medications.

C I collected the necessary operational medical equipment such as sodium pentothal, sodium arytal, syringes, benzedrine, desoxyn, needles, tubing

Pf 347

etc., and omitted intravenous saline, oxygen and other heavy bulky items. I knew we could obtain those from the [redacted]

H
The team left [redacted] Headquarters at 2300 hours and arrived in [redacted] the following morning.

A small restaurant near the air terminal was used as a meeting place for the team and the hypnotist. After a few minutes wait he appeared and joined the team. Our flight took off at 1130 hours and seated next to the hypnotist I was thoroughly briefed in the occult mechanisms of metaphysics.

Our team was composed of individuals with varied training backgrounds. Two of the men had considerable training in the field of Security. Another man had training in security and electrical equipment such as microphones, recording devices and other operational aids. The fourth man was a professional hypnotist, the fifth man a psychiatrist and the sixth a surgeon.

Throughout the duration of our operation there were few times when differences in opinion on the operation could not be settled by the leader calling a meeting, discussing the problem or planning the next day's maneuvers.

PJ 9 of 9

AB Supp. #11

Aug. 7, 1952

G.

MEMORANDUM FOR: Deputy Director [REDACTED]

SUBJECT: ANTICHRON Field Interrogation.

A

1. Between 4 June 1952 and 18 June 1952 an ANTICHRON team composed of K-50 personnel, [REDACTED] and [REDACTED] representatives of the Medical Office, [REDACTED] and [REDACTED] psychiatrist; and an I-50 consultant, [REDACTED] in [REDACTED], a professional hypnotist, carried out experiments.

(b) (6)

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F

2. The team was based at [REDACTED] and ran two subjects who were considered as experienced professional type agents suspected of being [REDACTED] agents. The cover for the ANTICHRON interrogation was a psychiatric medical examination as to suitability for future use of the two individuals by the field station. Interrogation methods consisted of the application of drugs, hypnosis singly and in combination, and polygraph interrogation before and after applications.

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The interrogations were regarded by [REDACTED] as very successful from the substantive standpoint and were considered by the team as very successful, from the standpoint of the technique employed, the information extracted, the control over the subjects through drugs and hypnosis and the amnesia on the part of the subjects as to the actual events that took place in the course of the interrogation. In one case the subject was regressed back 15 years in his life and under the influence of drugs and hypnosis accepted [REDACTED] the [REDACTED] base officer, under simulated conditions, as an old and trusted personal friend whom the subject had known years ago in [REDACTED].

A

4. The use of drugs was very successful, both for straight control of the subject and as a preliminary means of ready induction of hypnosis. In one instance hypnosis was obtained without the use of drugs, wherein the professional hypnotist in English directed [REDACTED] a field case officer, through a technical intercommunication system, who translated instructions into [REDACTED] and hypnotized the subject for full control purposes.

5. The drugs and the techniques used are not new but represented merely a refinement and a professional application of previously known

CLASSIFIED

160.

techniques with a high degree of success. These techniques woven into an elaborate cover were adapted by the team for interrogation purposes. Due to the special security considerations attendant in this process, only two subjects were available at this time who represented "hard core" cases with a high degree of motivation for deception. The team coordinated its activities very successfully and full credit should go to the members of the team representing their different professions, to the case officers in [redacted] and the security unit in [redacted] for assistance and support in the form of facilities to conduct the experiment. F

~~Sheriff Edwards~~
Colonel, CSC
Security Officer, CIA

AB SUPP. # 12

(1.9)

(obj's)



(Man to contact see A F film)

(14)

H

-25 Feb.

AF has file on Brn
Washington Softening as source of

Intend to release - to be
used in service first.
Not strong enough. Going
work up others -
Pathologists on its

of Education

AF program

Study group

of Red Cross visits to prison

if & for information which should
not be released as such -
points might be worked out
common statement etc

~~"Brain Writing"~~
~~27 Feb -~~

(199)

sci. statement of what can be done
to the human brain - Can it be a
record to be played back?

confession on any issue -

Confession

if think over people.

2f. records - to be accounted

3f talk to people who know it

if differentiation of problem

5f small group of people to be continually informed
as necessary prop. OK?

Possible man on panel:

affirmed.

any one

H
[redacted] meeting group to investigate
of issues - by joint force
no conflict.

199

Consultant

[REDACTED] available -

Tuesday

the 20th see file.

11 AM (or the afternoon)

[REDACTED] 10:30 AM

Consultant

[REDACTED] accepted charge - will talk about gauge. The

Several
service
representatives

- Consultant,
Consultant,

H.

Acting Director.

[REDACTED] / City employee

H. Blum [REDACTED]

199

Walking group or



A

various Agency
covert influences.

AB SUPP #13 35

ARTICHOKE

INTERROGATION GUIDE

(For Individuals Who Have Been Held by the Soviets or Their Satellites)

Section I

29 May 1953

SPECIAL QUESTIONS

D The questions and notes that follow are aimed at a possible interrogation of [REDACTED] but they in fact represent a general interrogation pattern and guide with emphasis on matters of ARTICHOKE interest.

It should be noted that these questions are designed only as a guide since interrogations cannot be standardized but depend upon many factors and particularly upon the technique and skill of the interrogator.

It should also be noted that throughout this series of questions there is a considerable amount of repetition -- or re-wording of previously set out questions. This is done with specific intent since memory is refreshed by discussion and that which may be forgotten at the start of an interrogation is often recalled later if the subject is re-introduced.

Questions specifically aimed at obtaining material for psychological or propaganda use are not included in this series except in a broad, general sense.

A [REDACTED]

(235)

D
OUTLINE OF QUESTIONS IN THE [REDACTED] CASE
(or suggestions for any similar case)

I. General Questions

1. Is there any reason you cannot talk freely to us?
2. Do the [REDACTED] authorities have any control over you whatsoever?
3. Were threats or reprisals made against you or your family?
4. Were threats made against any future interest of the ~~lesbian~~ press in [REDACTED] or elsewhere?
~~U.S. press~~
5. How well were you guarded? Describe guard system.
6. What means of control were used, if any? Hand cuffs, leg irons, etc.
7. Did you meet any other U.S. or alleged U.S. citizens during your period of confinement? Details.
8. Did you ever receive any packages from the outside? Describe in detail.
 - A. Were they opened or apparently tampered with prior to your receiving them?
 - B. Did you open them in the presence of guards?
 - C. Could anything have been concealed in the packages? Details.

9. Can you give full details of your experiences in prison?
10. Can you describe your cell? What did it contain? Who else was there?
11. What were your conditions in relation to "discipline"?
12. Were any threats made to you if you did not do what you were told?
13. What was your future prospects like?
14. Who are your contacts (friends)?
15. Who are your hosts?
16. Who are your visitors?
17. Did you receive any injury to yourself, etc.?
18. In your confinement, were you compelled to stand or sit for long periods of time? If so, for how long?
19. Could you give an accurate description of all the prisoners and prison officials you were placed with?
20. Were you placed in a cell with other prisoners? Describe.
21. Can you give full details of your confinement in contact with other individuals?

11. Did you notice any distorted or odd-shaped rooms?
12. What color were the walls painted, etc.?
13. Did the Commies attempt to get you to co-operate by bribery or promises?
14. If so, what was the nature of these promises or offered bribes?
15. Were you ever placed in solitary confinement? Details.
16. Do you normally wear glasses?
17. Were you deprived of the use of your glasses at any time?
Explain.
18. Were you ever given any reading matter, books, etc.?

III. Questions Regarding Physical Harassment

1. Were you ever actually physically maltreated?
2. Were you ever slapped, beaten or tortured in any way?
Details.
3. Were you ever subjected to continuous periods of loud or disturbing sounds or monotonous sounds? (Vibrations, dripping water, hissing, whining, etc.)

4. Over the period of your confinement and particularly when you were being interrogated or when you were in solitary confinement, do you remember what kinds of lights were in the room or turned on you?
- Did you notice any "blinking" lights?
 - Did you notice any glaring lights?
 - Did you notice any colored lights?
 - Were lights left burning in your cell at all times?
5. Did you have any sudden changes in diet and if so when did these occur?
6. Did you ever have any unusual feelings after eating or drinking (drowsiness, nausea, etc.)?
7. Did any of the food have a particularly strange taste?
8. Did you notice an excess of salt and/or spices or salty food being given over periods of time?
9. Do you feel that at any time you were made deliberately thirsty by salty food or other means?
10. Were you ever threatened with starvation or deprivation of food and were these threats carried out?
11. Since fatigue is a very important factor in ability to resist, we are interested in the following:
 - Were you ever deprived of sleep over long periods of time?
 - Were you ever continually questioned over long periods of time? Details.

- C. Were you ever forced to stand during interrogation or at other times for long periods of time?
- D. Were you ever forced to endure long periods of exercise?
- E. Were you ever continuously awakened after going to sleep?
- F. Were you ever forced to stand extreme heat or extreme cold? If so, give details. (Highly heated rooms, etc. — sweat box)

IV. Questions Regarding Use of Chemicals, Drugs and Medicines -- Symptoms

1. Were you given any shots, pills, enemas, etc? Full details, reasons given, results (immediate and later), apparatus used, if any, intravenous or otherwise, number of times, when, full or empty stomach, etc.
2. Were you ever given odd-tasting food, water, coffee?
3. Did you ever notice any unusual feelings after taking same? Describe.
4. Were you ever given beer or Liquor and, if so, with what results and under what circumstances?
5. Did you have any full medical examinations? Full details.
6. What were the natures of any illnesses you suffered during your confinement, if any?
7. Did the [redacted] medical officers tell you you were suffering from any diseases? If so, what?

8. Were you given any alleged psychiatric examinations?
Full details.

9. Did any doctor attempt to make you "relax"?

10. Did any doctor tell you he was prescribing a "sedative" for you?

11. Did any doctor tell you that you were being treated for "nervous trouble" or "nervous disorders"?

12. Did you have any "unusual" sick spells?

13. Were any strange or unusual medicinal instruments or apparatus used on you? (Details -- particularly electrodes attached to the head)

14. Did you at any time have any of the following symptoms:

- A. Dizziness
- B. Staggering
- C. Fainting spells, blanking out
- D. Disorientation or confusion (for time, place or person)
- E. Hallucinations - illusions (of sight, sound, etc.)
- F. Visual Disturbances (double vision or colored vision, blurring, etc.)
- G. Depersonalization (seeing to be a different person or two persons)
- H. Cramps
- I. Diarrhea
- J. Hiccups

1. Muscular rigidity-hypotonic (of face, neck, limbs, etc.)
2. Sensation of ants crawling on your skin.
3. Intractability-loss of muscular control.
4. Feeling of "going up", feverish, intense feelings.
5. Did you ever suffer from long or short periods of depression (mild or acute)?
6. Did you ever suffer from long or short periods of elated, anxiety or fear (mild or acute)?
7. Did you ever have any long or short periods of elation or feelings of power, grandeur, etc. (mild or acute)?
8. Did you ever have any periods of being in a semi-conscious or dream-like state? Describe.
9. Did you ever notice any strange smells that seemed to be unusual for the particular place you were (particularly in a public room)?
10. Did you at any time have a choking sensation or gagging? Under what circumstances did this occur?
11. Did you ever have any attacks of nervousness or "shakes", etc.?
12. Was surgery of any type performed on you?
13. Were you ever given an enema? Details.
14. Did you ever receive dental attention?

25. Did you ever feel that you had had a seizure -
hypnotic-type? (non-hypnotic seizures,
seizures, convulsions)

V.

Questions in Relation to Possibility of Hypnosis

1. Are you familiar with the phenomena of hypnosis?
2. Have you ever been hypnotized before?
3. Was hypnosis specifically tried on you?
4. Do you believe hypnosis was tried on you intentionally?
5. Do you remember any acts of yours that you felt might have been carried out under hypnosis?
6. Have you ever been made to find someone talking to you and telling you to do so?
7. Do you recall any monotonous sounds or continuously repeated subjects of phrases? (repetition, loss, sleep, etc., etc.)

Questions Concerning Possible Use of Tobacco as an Aid to Interpretation

1. Were you allowed to use tobacco?
2. Were you totally deprived of the use of tobacco?
3. If you were given tobacco or cigars to smoke, did any of them taste unusual or smell unusual?

(23)

4. Did you suffer any unusual effects after smoking? (such as the smoking of cigars and cigarettes which were given to you by your captors)
5. Did any of your fellow prisoners give you cigarettes surreptitiously?

VII. Questions in Relation to Memories

1. Are there any "black-out" periods during your confinement?
2. Do any significant details or periods of time seem missing in your memory during the period of your confinement?
3. Do you recall any special times when your memory was vague, hazy, blurred, spotty?
4. Did the blank areas follow any special activity (medical examinations, shots, meals, interrogations, etc.)?

VIII. Questions in Relation to Interrogation Techniques

1. Description in detail the nature of your interrogations.
2. Were the interrogations conducted on a regular schedule (at given times, etc.)?
3. Were interrogations conducted during the day or night or both?
4. Were interrogations always conducted in certain rooms? (describe—mirrors present, lights, a particular room, etc.)

- 235
5. What was the longest continuous period of interrogation?
 6. How many people were present during interrogations? (as a rule, largest number)
 7. Did they use "tears" of interrogators on you? If so, what did they do?
 8. Were the interrogations handled by military or civilian personnel or both?
 9. What uniforms, if any, wore you? Can you identify any of them?
 10. Do you know the names of any individuals who interrogated you? (names, physical descriptions, titles)
 11. Did there appear to be an outstanding man who directed the interrogation? (name, physical description, title)
 12. What kind of notes were kept by the interrogators?
 13. Was there a stenographer present, (male or female)?
 14. Did you see any evidence of recording equipment (audio microphones or recorder of any type)?
 15. Did any of your interrogators work a "hanging side"?
 16. Were you forced to stand during interrogations -- or sit in an uncomfortable position (describe in detail)?
 17. Were you physically maltreated during any interrogation?

18. Can you describe any solicitation tactics used by your interrogators such as friendly approach, threats to your life, racial slurs, flattery, bribery, threats, etc. etc.
19. Describe in detail, if possible, the various forms of torture you were interrogated with.
20. Do you speak [REDACTED] or languages other than English? If so, did your interrogators know this?
21. Were the interrogations carried on in English, [REDACTED] or both?
22. Who gave you permission to sign? Details.
23. Were you shown any document which was alleged to have been written by you and which you signed in ignorance of its true details?
24. Did you get the impression that any of your interrogators were educated in the United States or possibly U.S. citizens? If so, give details - names, political descriptions, titles, etc.

II. Your questions in relation to attempts at "brain-washing"

1. Are you familiar with the term "brain-washing"? When did you first hear of the term?
2. Were any attempts made to "indoctrinate" you to have a pro-Communist attitude? Details.
3. Were you given any indoctrination in general Communist theory? Details.

4. What instructions were given to your class concerning anti-Americanism--anti-communism, etc.
5. Were you shown any movie pictures--still pictures or what? Describe in detail.
6. During your confinement, did you ever see yourself or did you ever hear of anyone being shown to confinement groups?
7. Were you given newspapers, pamphlets, books, etc. to read? If so, either in connection with indoctrination or otherwise? Details.

Questions in regard to defense techniques for Persons Under Interrogation

1. Do you have any comments to make in general regarding your interrogations? (good, poor, clever, persistent, effective, stupid, etc.)
2. Can you suggest any means, strategy, psychological techniques, etc. that could be effectively used in interrogations?
3. In your opinion, would "playing dumb" work in these interrogations?
4. What happens if you say consistently, "I don't know?"
5. Can you suggest what attitude a person being interrogated should adopt?

A. Prior to interrogation

B. During interrogation

6. What facial characteristic would you suspect one has to display to the interrogators -- a "guilty face" or assistance?
7. Do you feel that giving false information is of value?
8. Did you notice any particular techniques that seem outstanding or clever in those interrogations?
9. Did they use the old bully-friendly approach?
10. Is there any possible reason for giving answers of infinite length?
11. Is there anything that you can suggest that would act as a deterrent to misrepresentation or third-degree activity during interrogations?
12. Do you feel there is an advantage to hold out as long as you can before giving a confession or admitting activities which you did not do?

(It might be interesting to develop whether or not in the subject's opinion he should have "confessed" before he did -- and why.)
13. Did it appear to you that certain questions were being asked in order to get specific answers from you on a recording device?
14. Does it really need to begin illusory during interrogations?

235

1. Who were you transported during your period of confinement, if at all?
 2. In your opinion, could the conditions of confinement be described as good or bad?
 3. Who and what types were in the various prisons where you were held? (Details, if known, regarding subject whom this?)
 4. Were you interrogated by men who were obviously "agents" or "apparently Soviet"? If so, could you tell?
 5. Were you forced to sign or swear to any statements or any transcripts of interrogation? Did you sign any prepared statements? What were the names of those statements?
 6. Did the [redacted] authorities ever offer to let you send controlled or propaganda-type letters?
 7. Did the [redacted] authorities ever offer to let you correspond with anyone for certain considerations? (Details)
 8. Did you ever receive any mail from the outside?
 9. Were you given any instructions by the [redacted] authorities upon leaving -- or were you required to do anything after you left [redacted] control?
- B. 1. Did you note anything during your confinement that indicated poor morale, dissatisfaction, unrest, etc. among your guard or interrogators or elsewhere?
2. Did any of the group that interrogated you indicate disapproval or dislike for any other group or individual? Did it appear genuine? (Details)

3.

- G
- f. [REDACTED] and Medical Staff each have established liaison with the Service components in conformity with their respective fields of responsibilities and it is foreseen that research conducted by [REDACTED] and Medical Staff in support of Project ARTICHOKE will include liaison with the Service components in this regard. For the sake of clarification, Security Office will restrict its liaison to operational aspects of ARTICHOKE and [REDACTED] and Medical Staff will restrict their liaison, as regards ARTICHOKE, to the research fields. In order to prevent duplication, and some crossing of channels, coordination and exchange of information in this regard will be necessary between the three elements concerned.
- g. [REDACTED] will provide a representative to attend ARTICHOKE meetings. This representative will furnish necessary operational guidance and support from [REDACTED] standpoint for implementation of ARTICHOKE.
- G
- h. Representatives designated by [REDACTED], AD/OSI; Director of Security; Chief, Medical Staff; and Chief [REDACTED] shall constitute the ARTICHOKE Committee.
- i. The ARTICHOKE Committee will meet monthly or more often as necessary when such meetings are called by the Director of Security or his representative.
- j. In order to provide facilities for the actual use of ARTICHOKE, Security Office has budgeted for and is recruiting personnel for the establishment of at least two teams.

A/B, 1, 815

Office Memorandum • UNITED STATES GOVERNMENT

TO : Chief, Security Research Staff, I&S

DATE: 11 February 1953

FROM : Chief, Technical Branch, SRS, I&S

SUBJECT: [REDACTED] Division Memorandum dated 21 November 1952
(Sodium Pentothal).

(6a)

160P

1. This Office has studied the subject memorandum and comments are set out immediately following. As you are well aware, the ANTI-CHOKE technique consists not only in studying methods of obtaining information from individuals or from gaining control of their wills but studying at the same time every conceivable technique that can be brought to bear to prevent others from extracting information from our people or gaining control of the will of our people. In studying these problems, this Office is quite well acquainted with the effects of Benzedrine, Picrotoxin, Caffeine, etc., etc. In the subject memorandum, the [REDACTED] Division Logistics in Paragraph 2, sub-Paragraphs a,b, and c have in a general sense correctly listed some of the main limitations on counteracting drugs which could be used against the effects of Sodium Amytal or Pentothal. Some comments can be made in this connection.

- A. In reference to Paragraph 2, sub-Paragraph a, the problem has been very accurately stated in that there is no way of knowing how much of the counteracting agent would have to be taken to successfully counter the effect of amytal or pentothal--the subject's physical condition, whether he was hungry or not, suffering from fatigue or nervous exhaustion, etc. would all affect this. In addition, different tolerances to these counteracting drugs are noted in each individual. It may be said that in certain persons a given specific dose of Strychnine might not produce more than a mild stimulating action while in others a given dose might produce a convulsion, coma or possible death.
- B. In connection with Paragraph 2, sub-Paragraph b, it should be stated that the thorough searching of a person is a standard procedure in most interrogation centers and although drugs could be concealed in many places on the person (such as the rectum), nevertheless, competent searching would reveal even this.

R.H.S.

C. In connection with Paragraph 2, sub-Paragraph c, it should also be stated that a physician or quite probably a trained interrogator would immediately suspect the effect of counteracting drugs (or that something was unusual) since in the first place the Sodium Pentothal or Amytal would not be producing the proper reactions and in the second place, Benzedrine and other stimulants usually produce specific effects such as nervousness, trembling, rapid heartbeat, quick breathing, etc., in the person taking them. Any competent interrogator or interrogation team would recognize "unusual" activity on the part of the one being interrogated and would seek the meaning of this and, if nothing else, would delay the interrogation for a day, or week if necessary, to make certain the individual to be handled was reacting properly to Pentothal or Amytal or any other of the hypnotic-type drugs.

2. In addition to comments set out in sub-Paragraphs A, B, and C above, there are other items that would add to the difficulty in this problem. For instance, the subject would have no knowledge of the type of drug he was to be given. The subject might, therefore, take a counter-acting drug which would possibly have no effect on the drug given or perhaps multiply the effect and create severe poisoning or bodily disturbances. In this connection, there are numerous reports that indicate that the Soviet Union and their satellites have used Benzedrine as an agent in producing certain desired effects prior to and during interrogation. If the subject did not know he was to be given Benzedrine and took one of the stimulants or took Benzedrine itself, the effect of the two doses conceivably would cause highly noticeable results and probably nausea. If he was given Picrotoxin and he had previously taken Picrotoxin, the results would be dangerous as Picrotoxin is quite toxic. A double dosage of Strychnine might well prove fatal and at the least convulsive.

3. With reference to Paragraph 3 of the subject memorandum, this branch feels that the paragraph is somewhat erroneous in that there is considerable amount of professional opinion that reflects that in certain cases, if the drugs are administered properly and if the interrogator is persistent and clever enough, information, regardless of how sensitive it is, may be extracted from individuals under the influence of various drugs or combinations.

4. It should be noted that the ARTICHOKE Staff recognizes that some individuals are extremely difficult to obtain information from,

but new chemicals, new and more advanced techniques will possibly in the future produce far more valuable and positive results than are obtained today under the old "truth serum" approach. It should always be remembered that often it is only necessary to obtain one small bit of information that is verifiable to break a case wide open.

5. This office would, of course, be delighted if any chemical or combination of chemicals or techniques could be discovered to prevent the extraction of information from our people, but at the present time we are not aware of any technique, device or chemical (other than a lethal dose) that will totally prevent an individual from giving pertinent information while under the influence of chemicals or if subjected to sustained and clever interrogation accompanied by pressures, physical or otherwise.

6. It is suggested that the [REDACTED] memorandum of 21 November 1952 be turned over to the Medical Division with the informal comments of this Office. It is believed that they would give further advanced technical reasons why neutralizing agents such as those mentioned in the basic memorandum would be ineffective.

A/B, 1, 25/1

SEE BOTTOM OF PAGE FOR ADDITIONAL SPECIAL CONTROLS, IF ANY

INFORMATION REPORT

PREPARED AND DISSEMINATED BY
CENTRAL INTELLIGENCE AGENCY

COUNTRY

CIS/International

SUBJECT

Use of Metrazol in Sovbloc for Interrogation
and Brainwashing/Forcition of LSD-25 and
Adrenochrome by Frequel

PLACE ACQUIRED (By whom)

DATE ACQUIRED (By whom) DATE OF INFORMATION (Date or dates, or or between which
events or conditions described in report ended)

Sep 55

THIS IS UNEVALUATED INFORMATION

SOURCE [REDACTED] citizen, [REDACTED] manufacturer for one of the large [REDACTED]
 manufacturing companies in the U.S. He is directing a rather extensive
 research program for his company, including work on tranquilizing agents.
 He has been a very cooperative source and has furnished much information
 on psychotropic agents.

- H 1. [REDACTED] subject who has been in [REDACTED] for three years),
 B-6 [REDACTED] has said that the drug most frequently used in the Sovbloc for interrogation and brainwashing is Metrazol.
 Its hallucinatory and painful experience with this drug is said to be so
 severe that after one shot the subject is amenable to anything in order
 to forestall receiving another shot. Metrazol is widely used to bring
 on shock in the treatment of schizophrenia.
- H 2. It has come to my attention that Frequel*, when taken intravenously,
 B-6 negotiates the hallucinatory experience induced by LSD-25 and adrenochrome.
 This has been reported in the literature by [REDACTED], although the drug
 is still in the clinical stage and is not yet on the market.

- end -

H *Gamma isomer of Meratran

B-6

320 JES

> DISTRIBUTION

STATE / ARMY / NAVY / AIR / FBI

D372675.

AB 2 34-6

SEE BOTTOM OF PAGE FOR ADDITIONAL SPECIAL CONTROLS, IF ANY

INFORMATION REPORT

PREPARED AND DISSEMINATED BY

CENTRAL INTELLIGENCE AGENCY

COUNTRY

Mexico

SUBJECT

Intoxicating Mushrooms of Unidentified Species

PLACE ACQUIRED (By source)

F

DATE ACQUIRED (By source)

1955

DATE OF INFORMATION (Date or dates, as or between which events or conditions described in report existed)

1955

This material contains information affecting the National Defense of the United States within the meaning of the Espionage Laws, Title 18, U.S.C. Secs. 793 and 794, the transmission or revelation of which in any manner to an unauthorized person is prohibited by law.

REPORT NO.

H-8/3

DATE DISTRIBUTED

18 DEC 1955

NO. OF PAGES

NO. OF ENCLS.

SUPPLEMENT TO REPORT

RESPONSIVE TO

THIS IS UNEVALUATED INFORMATION

SOURCE [REDACTED] Professor of Botany.

1. An employee of a major [REDACTED] firm, a member of the Board of Managers of an important botanical garden, is an amateur mycologist who has become particularly interested in mushrooms.
2. He has made two trips to the interior of Mexico to investigate the use of mushrooms in their religious ceremonies by an isolated tribe of Indians.
3. He found that this practice did exist. During their religious ceremonies these Indians eat mushrooms found in the locality, and as a result their minds are intoxicated so that they see visions. On his last trip to Mexico he ate two mushrooms of the species used by these Indians in their ceremonies. They made him sick. The mushrooms if eaten beyond one's capacity produce nausea and diarrhea. After being sick, however, he experienced visions which in his case took the shape of a multitude of architectural forms. A tolerance to these mushrooms can apparently be built up because he says that he saw one Indian eat 24 of these mushrooms without experiencing any ill effects. The mycologist himself experienced no "hangover" the day after he had eaten the mushrooms.
4. When he returned to the US, he brought with him three of the species of mushrooms used by these Mexican Indians. Since he has not been able to have them identified in the US, he has sent them to [REDACTED] for identification. [REDACTED] is the leading authority on the identification of mushrooms in the world.
5. I understand that the US drug companies Parke Davis and Company and Sharp and Dohme are interested in investigating the properties of these Mexican mushrooms.
6. I believe this man plans to make another trip to Mexico in the summer of 1956 for the purpose of learning more about these Mexican mushrooms.

This unevaluated information is supplied for the possible interest of your analysts. It does not warrant dissemination.

DISTRIBUTION

REV 31/M

Office Memorandum • UNITED STATES GOVERNMENT

A TO : _____

CSI

DATE: 19 February 1952

FROM : Chief, Contact Division, OO

H SUBJECT: Case

REFERENCE: Our memorandum, dated 13 February 1952, same subject

C 1. The last sentence of reference unfortunately was incorrect.
that promised to give us was two additional
copies of the reprint of ~~the~~ original study, which are forwarded here-
with.

A fcc

Encl. - Two reprints, _____

C _____

OFFICIAL DISPATCH

VIA: AIR POUCH
SPECIFY AIR OR SEA POUCH

H
DISPATCH NO. [REDACTED]

[REDACTED]
CLASSIFICATION

A/G
TO : Chief of Station, [REDACTED]

DATE: 24 March 1949

FOR:
FROM :

SUBJECT: GENERAL - Operational
SPECIFIC: Drug Developments

H
B-6 1. [REDACTED] an assistant to [REDACTED] [REDACTED] on matters of technical intelligence, is accompanying [REDACTED] on a trip to Europe and will be in [REDACTED] the latter part of April. We have collaborated with [REDACTED] on intelligence matters here and on an operation in [REDACTED] last year.

H/B-6
B-6 2. In addition to technical intelligence matters, we have recently discussed with [REDACTED] new developments in drugs as aids to interrogation, a subject in which he is very interested. While our interest in this subject must for high policy reasons be kept very closely controlled, nevertheless it might be very profitable for [REDACTED], who already has a background knowledge, to meet [REDACTED] and be briefed on these matters. [REDACTED] would be the most logical keyman in this line when the need arises. Incidentally, we expect to cover at least the outlines of this subject with [REDACTED] before he leaves.

H-B-6
B-3 3. [REDACTED] has been told that we have agents in Germany and that Germany would be the first area in which we would wish to employ the latest interrogation techniques. As an example, we discussed with him (in theoretical form) applicability of drugs on a case like [REDACTED]. It was left with [REDACTED] that if he should have the opportunity, he should contact you to arrange to meet the [REDACTED] operator to discuss this entire subject.

B-6
B-3 4. Needless to say, [REDACTED] should not be taken into the bosom of the family on operational matters. He should be treated with the same courtesy as other visiting dignitaries but his having collaborated with us in the past entitles him to no special treatment when it comes to operational details. He has been told to get in touch with you personally through our liaison office in [REDACTED]. In this manner, you can put him in touch with [REDACTED] and anyone else whom you deem advisable.

B-6
B-3 5. If by any chance you have an opportunity to meet [REDACTED] personally, the same consideration should be shown him as was outlined in the cable sent out at the time [REDACTED] made his trip around Europe. A (See Wash [REDACTED])

COPY: A [REDACTED]
[REDACTED]
CLASSIFICATION

HIB, 1, 38/4

OFFICIAL DISPATCH

VIA: AIR

SPECIFY AIR OR SEA POUCH

B/3
DISPATCH NO. [REDACTED]

[REDACTED]
CLASSIFICATION

TO : Chief, [REDACTED] B/3 DATE: 19 July 1949
FROM : Chief, [REDACTED]
SUBJECT: GENERAL - Operational
SPECIFIC. Interrogation Techniques
REFERENCE: [REDACTED] B/3

A

There is no harm in [REDACTED] discussing interrogation techniques in general with subjects, so long as they do not become familiar with the details of any of our own operations. I myself discussed [REDACTED] with B/3 them briefly, and described a couple of uses of it outside our own interests - e.g. the base of the [REDACTED] B/3

A

Chief [REDACTED]

This refers to [REDACTED]

A

[REDACTED] A. Si Ean
Bent Kin Toich

[REDACTED]
CLASSIFICATION

P/B, I, 77, 5

MAN

B

MEMORANDUM FOR: Chairman,

SUBJECT : Request for Technical Assistance

1. I would appreciate the assistance of your _____, in connection with a problem now under study in the intelligence community because of its possible concern to national security. The attached papers indicate the nature and scope of the problem and contain certain recommendations as to steps necessary before the full implications of the matter can be evaluated.

2. Should the services of the _____ be available for this purpose, my Assistant Director for Scientific Intelligence, will contact whomever you may designate to work out the details of the study.

3. Because of the sensitive nature of this matter, all papers are being handled on an "EYES ONLY" basis. The code word "Artichoke" has been assigned and is "unclassified" when used in such a way that it does not reveal the nature and scope of the problem.

AS
WALTER B. SMITH
Director

Attachment A

Distribution:

Addressee - orig & 1

_____ - 1

1

_____ - 1

- 1

- 1

Signer - 2

AD/SI - 1

Seawell

THE PROBLEM:

1. Whether effective, practical techniques exist whereby an individual can be caused to become subservient to an imposed control; and subsequently that individual be unaware of the event;
2. The degree of effectiveness and the practicability of applying such techniques; and
3. The practicability of devising means for more effectively utilizing existing techniques for this purpose.

{ } .

FACTS BEARING ON THE PROBLEM:

1. Medical science, particularly in the fields of psychiatry and psychotherapy, has developed a variety of techniques whereby some control can be imposed on the will of an individual. The techniques include neurosurgery, electric shock, drugs, hypnosis and others.
2. In certain cases after the administration of these techniques, the individual has amnesia with respect to the event.
3. The techniques have not been developed in the United States to the point where the results can be predicted with respect to the extent of control that can be achieved; whether or not any to what extent amnesia will result; and what undesirable physiological reactions may occur in addition.

CONCLUSIONS:

1. If these techniques were developed by a foreign government to the extent that reliable results could be expected in the majority of cases, it is evident that a serious threat to U. S. National Security would exist.
2. Reports of Soviet interest and research in this direction, plus rumors, reports and evaluations of possible Soviet use of these techniques in interrogating, are sufficient to warrant careful investigation of the subject on a basis for evaluating the extent of the threat to U.S. National Security.

RECOMMENDATIONS:

1. That a board of scientists with competence in the appropriate medical fields, and provided with the necessary security safeguards to insure access to material bearing on the subject, be requested to study the problem and make recommendations.

Eliezer J. Markel
~~SECRET~~

2. That the study include reference to all agents or procedures which might be considered in relation to this problem and eliminate those which U. S. science can establish as unfeasible.
3. That, in the case of agents or procedures or combinations thereof where a potential threat may exist which cannot be evaluated on the basis of the present state of U.S. science; recommendations be made for further research, if practical results can be achieved within a reasonable time.
4. That the recommendations include the scope of the research required, established facilities where such research might be undertaken, and the approximate cost of the research.
5. That the board submit an interim report within three months of the initiation of the study and further interim reports every three months until the study is completed.

for consideration

A/B, 1, 82/3

9 January 1948

MEMORANDUM

To:

From:

Subject: ReelerPolygraph and Truth Serums

G

Reference is made to my memorandum of 5 September 1947 in which it was stated that [REDACTED] of the [REDACTED] was endeavoring to obtain further information concerning the use of truth serum for the writer.

H-B/6
B/1

On 8 January 1948 [REDACTED] called the writer and stated that the following books and documents were the only sources of information on this subject that he had been able to ascertain:

1. Practical Clinical Psychiatry by Strecher and Ebaugh
2. Narco-analysis by Morsley
3. U. S. War Department Training Bulletin Medical No. 84.

In addition he stated that consultation with the [REDACTED] might be of assistance.

B/1

He further stated that [REDACTED] of the [REDACTED] might have some information on this subject, inasmuch as it was believed that he, together with [REDACTED] of the [REDACTED] had conducted some experimentation into this subject.

B/6

B/6

No further action will be taken by the writer in this matter until advice has been received from you.

2.1 - 23 - 11

A | B, 2, 311

Possible Fallibility of Polygraph Testing of Subjects in Posthypnotic States

[redacted]
Source has previously submitted a [redacted]

C

1. Q. On the basis of your knowledge of hypnology, do you think that it would be possible to induce a posthypnotic state on a subject in such a way that his reactions to polygraph testing would be significantly altered?

A. My offhand opinion is that this would be quite possible. Of course it would be very simple to conduct experiments which could definitely decide this question one way or another, but on the assumption that such experiments have not yet been carried out, I should like to comment briefly on the possibilities to be considered.

As I understand it, the polygraph measures unconscious physical reactions to the stimuli of the mental disturbances caused by the telling of deliberate lies. Therefore, it would appear possible that a subject could possibly avoid these reactions if he were interrogated while in a posthypnotic state and thus establish his innocence for some incriminating acts or associations. This might be done by the induction of posthypnotic amnesia for the incriminating episodes and the substitution of an alibi situation by the establishment of false recollections. In other words, the subject would be convinced that he was actually telling the truth and would not have the psychosomatic disturbances necessary for a polygraph reaction. In addition to this, complete amnesia of the hypnotism itself can be effected and an affective defense can be set up against rehypnotization by another hypnotist. Furthermore, the subject's reactions to other questions used in testing the polygraphability of a subject would probably be normal.

2. (Collector's Note: In addition to the comments reported above, source suggested and supplied reference material which he felt might provide some background information on this subject. A brief review of some of this literature was undertaken by the collector and the comments listed below were abstracted. Although they often support source's opinions, they are by no means directly attributable to him, nor can the conclusions reached be construed as bearing his endorsement. A brief review of recent volumes of Psychological Abstracta (Abstracta) (later than 1950) revealed no articles describing experiments involving posthypnotic behavior in relation to the polygraph machine. Therefore the following comments include other references which the collector considers as possibly applicable to the problem.)

a. The Nature of the Posthypnotic State -- In the first place, there still seems to be a great deal of confusion about the actual nature of the posthypnotic state itself and about the scope of influence of the operator in the subject's reactions when awake. These questions were cited by Henry Guse of Long Island University, who points out that they have plagued investigators for many years and have received no clarity in interpretation. He goes on to say that perhaps even more complex is the question as to how a subject responds to the fact that he is behaving in a way which is different from his usual behavior. (1) He explains that the "posthypnotic

act will often have in it an aspect of remembrance as to the suggestion given in the trance" but he adds, "Of course, some phenomena of a posthypnotic nature, such as hallucinatory experience, may be accepted by the subject as being of unquestionable authenticity."

b. Hypnosis and Antisocial Conduct -- Despite an active controversy on the subject, there is much evidence that hypnotism can induce antisocial behavior. (2) In this connection it should be brought out that such acts can be accomplished in the post-hypnotic state with no apparent knowledge or feeling on the part of the subject. Several experiments have shown that such "subjects handled peculiarities in their posthypnotic activities by accepting them as congruous aspects of their behavior. (3) Such "acceptance" of the antisocial act of lying might well preclude any physical reactions which would be measurable by the polygraph.

In experiments with the hypnotic and post-hypnotic production of antisocial behavior, attempts are often made by experimenters to break the induced state of posthypnotic amnesia several days after the experimental antisocial act or acts have been committed by the subject. The accusations brought out in these interrogations usually arouse apparently righteous indignation or disbelief on the part of the "guilty" subject. In one such experiment a young female subject had been induced under hypnosis to steal money from the pocket of a stranger's coat after awakening from her trance. (4) She was given posthypnotic amnesia for the source of the compulsion. She stole the dollar and later spent it. When confronted with the facts several days later she did not believe them. On the basis of her reactions the experimenter reported as follows: "These comments are included to indicate the difficulties a cross-examiner would meet in attempting to wring a confession from a criminal hypnotic subject. Miss A's manner betrayed not the subtlest evidence of consciousness of guilt. I cannot say, of course, what might have been her reaction to a lie-detector or third-degree methods."

Subsequently this subject was again hypnotized and her amnesia for the incident removed. "Miss A was then asked whether she thought she could in hypnosis be induced to commit more serious crimes—such as to steal important government papers were she a secretary in Washington. She said, 'Yes, I think so.' She held to this belief both in the trance and normal states.

c. Training and Testing -- In case posthypnotic compulsion were utilized in an attempt to circumvent lie detection, the necessarily complete control over the posthypnotic behavior of a subject would require a period of intensive training and testing. Subjects vary widely in the hypnotizability. In other words, one person might show little initial resistance to trance induction but the operator might find that he would show a great deal more resistance to illusion creation or to one or more of the standard criteria for measuring the depth of hypnosis. (Such criteria include (1) hypnotic analgesia to painful stimuli, (2) mixed olfactory hallucinations, (3) age repression control, (4) posthypnotic amnesia, (5) ability to carry out posthypnotic suggestions and the rapid induction of trance through an unrelated posthypnotic signal. (5) As Braxman pointed out, "To achieve the best results, one must utilize the individual characteristics of each subject. (6) Through patient experimentation with devious suggestions used to circumvent the points of resistance, very deep

BREWMAN

hypnosis can usually be obtained in a willing subject. It should then be possible to predict the effects which the subject's own peculiar personality and hypnotizability characteristics will play in the posthypnotic state. The ultimate goal of the training would be the creation of a state of hypnotizability whereby the operator could rapidly induce a posthypnotic state in which the subject would have no ~~know~~ conscious knowledge or memory of his incriminating activities or connections.

In addition to the above goal, it would be also possible to induce in the subject a facility for autohypnosis. Leslie M. LeCrom of Los Angeles, stated that it is difficult to hypnotize oneself at all deeply unless a post hypnotic suggestion has been given during hetero-induced hypnosis to the effect that the person can thereafter hypnotize himself." (7)

d. Detection of Posthypnotic State by Polygraph -- As far as polygraph detection of the post hypnotic state itself is concerned, this seems unlikely in the light of the negative and inconclusive results of experiments conducted by True and Stephenson which correlated electroencephalogram, pulse and planter reflexes in hypnosis with age regression and induced emotional states. (8)

- (1) Guse, Henry. "Posthypnotic Behavior and Personality," PERSONALITY, Vol. 1, No. 3, Nov. 1951, page 232.
- (2) Estabrooks, G.R., "The Possible Antisocial Use of Hypnotism," PERSONALITY, Vol. 1, No. 3, Nov 1951, page 294-299.
- (3) Guse, op cit page 236.
- (4) Breman, Margaret, "Experiments in the Hypnotic Production of Antisocial and Self-Injurious Behavior," PSYCHIATRY, Vol 3, No. 1, Feb 42, pp 90-51.
- (5) True, Robert M. and Stephenson, Charles W., "Controlled Experiments Correlating Electroencephalogram, Pulse and Planter Reflexes with Hypnotic Age Regression and Induced Emotional States," PERSONALITY, Vol 1, No 3, Nov 51, page 293.
- (6) Breman?, op cit, page 52
- (7) LeCrom, Leslie M., "A Study of the HYPNOTIZABILITY of Hypnotists," PERSONALITY Vol 1, No 3, Nov 51, page 301.
- (8) True and Stephenson, op cit pp 252-262

ORIG: [REDACTED] A
UNIT: [REDACTED]
EXT: [REDACTED]
DATE: 12 NOV 53

11/12/53

SRS	A	ROUTING
2	5	
3	6	

TO: [REDACTED] G

FROM: DIRECTOR, CIA

CONF: [REDACTED] G

INFO: [REDACTED] G SO 2, FI/R1 2

H-B/3 [REDACTED] 2239Z 12 NOV 53 ROUTINE PRECEDENCE

TO: [REDACTED] G

CITR: DIR

ARTICHOKE TEAM COMPOSED FROM A. AND TECHNICIANS (NOT YET DESIGNATED) TO BE ASSIGNED PCS ABOUT 15 AND 16 54 hrs UNDER CONTROL [REDACTED] IDEN B. A WILL ACCOMPANY TEAM THIS NOT TO EXCEED SIX MONTHS. OVER THIS, REQUIRE CLOSE GUIDANCE BY [REDACTED] PARTICULARLY INITIAL STAGES. [REDACTED] WILL BE AVAILABLE ALL SECTION [REDACTED] IN POSITION TO FORGE OPERATIONAL SUPPORT ARTICHOKE TECHNIQUES. DISAPPROVING CALLING TEAM PURPOSE TO FOLLOW LATER.

A REQUEST [REDACTED] APPROXIMATE COORDINATE ELEMENT WHICH SECURITY CATEGORIZED FOR THIS REQUEST PURPOSE. REPORT TO OFFICES A. AND B.

END OF MESSAGE

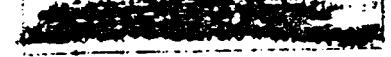
ACTION COPY

CHIEF

RELEASING OFFICER

A
G

COORDINATING OFFICER



AUTHENTICATING OFFICER

A
G
A/C
A
A/C
Copy No. 2

[REDACTED]

CENTRAL INTELLIGENCE AGENCY

21 NOV 53

ROUT: 526937

H
25RC
3
4
5
6
7
8

TO:

FROM: DIRECTOR, CIA

CONF: SO 2

INFORMATION:

SECURITY OFFICE

467

ROUTINE

1550Z 21 NOV 53

TO:

SECUR

FOR:

H.B13

CITE: DIR

A

THE ANSWER TO [REDACTED] QUESTION ON SUBDIVISION A OF ARTICHOKE IS NO. HOWEVER FUTURE ARTICHOKE HOLDS GREAT POSSIBILITIES UNDER PROPOSED ARTICHOKE TEAM AND UNDER CERTAIN CONDITIONS. [REDACTED] WILL BE FULLY BRIEFED PRIOR TO HIS RETURN.

END OF MESSAGE

A

CABLE SECRETARIAT COMMENT: RETYPED BY CABLE SECRETARIAT.

ACTION COPY

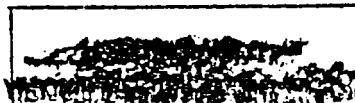
PER DIRECTION:

COPY NO.

RIG :
NIT :
CT :
ATE :

7 DECEMBER 1953

(S112) 6/14
CLASSIFIED ME SAGE



ROUTINE	
1	SRS
2	G
3	G

TO : DIRECTOR
ONF : [REDACTED]
INFO : [REDACTED]

H-B/3

3/3 [REDACTED] 1918Z 7 DEC 53

ROUTINE
PRECEDENCE

TO: [REDACTED] B/3

CITE: DIR.

- A
- A
1. REQUEST TWO PERSONNEL, GS-13, DEPARTING MID-JAN. PCS FOR DUTY WITH [REDACTED] ARTICHOKE. [REDACTED] FULLY BRIEFED AND WILL BRING DETAILS.
 2. REQUEST TWO HOURS FOR BRIEFING BE SET ASIDE FOR [REDACTED] DURING JAN. SECURITY OFFICERS CONFERENCE.
 3. SLOTS FOR [REDACTED], GS-13, AND TECHNICIAN, GS-9, BEING MADE AVAILABLE BY HQS. FOR [REDACTED] SECURITY T/O, IN ADDITION TO PRESENT AUTHORIZED STRENGTH. WILL ADVISE SLOT NUMBERS, ETC.
 4. REQUEST TO [REDACTED] DEPENDENTS, WIFE, 2 CHILDREN, WILL FOLLOW AT LATER DATE.
 5. REQUEST TO [REDACTED] (IDEN B), TDY APPROX 6 MOS. FOR ARTICHOKE TEAM. DEPARTING APPROX SAME TIME AS [REDACTED].
 6. BOTH TRAVELLING AS [REDACTED] WILL ADVISE FIRST ETA'S.
- A
- A

END OF MESSAGE

ACTION COPY

COORDINATING OFFICERS

RELEASING OFFICER

AUTHENTICATING OFFICER
Copy No. [REDACTED]

FILE NO. 35-83

NOV 1951

CLASSIFIED MESSAGE

ROUTING

A/B, 2, 6/5
CENTRAL INTELLIGENCE AGENCY

A

8 DEC 53

IN 40336

1
2
3
4
5
6
7
8

DIRECTOR, CIA

FROM:

G

ROUTINE

OPTION: SO (1-2)

1125Z 8 DEC 53

INFORMATION:

G

TO: DIR

CITE:

H-B/3

1. RECOGNIZING THE LIMITATIONS POINTED OUT BY [REDACTED] IN A

[REDACTED] NOW FINDS [REDACTED] HAS IMMEDIATE NEED FOR A PERSON WITH EVEN LIMITED BUT AUTHORITATIVE KNOWLEDGE OF ARTICHOKE SUB-DIVISION (A). IF [REDACTED] SATISFIES THIS NEED REQUEST A ARRIVAL SOONEST.

2. IF SPECIALIST IN THIS FIELD IS AVAILABLE FOR 60-90 DAYS TDY REQUEST SPECIALIST ARRIVAL WITHIN NEXT 10 DAYS.

END OF MESSAGE

ACTION COPY

COPY NO.

DRIG : A
UNIT : G
EXT :
DATE : 9 DECEMBER 1953

CLASSIFIED MESSAGE

A/B, 2, 6/6
ROUTINE
A

TO : SENIOR REPRESENTATIVE [REDACTED] H-B13
FROM : DIRECTOR, CIA
CONF : [REDACTED] G
INFO : [REDACTED] B13

2251Z 9 DEC 53

ROUTINE
PRECEDENCE

TO: [REDACTED]

CITE: DIR.

RE: [REDACTED]

1. NEED FOLLOWING ANSWERED:

- A. NATIONALITY AND LANGUAGE FLUENCY.
- B. AGE
- C. SEX
- D. PHYSICAL CONDITION
- E. MENTAL CONDITION
- F. EXPECTED COOPERATIVENESS OF SUBJECT.
- G. FRIENDLY OR ANTAGONISTIC
- H. INTERPRETER AVAILABILITY
- I. WHERE ARTICHOKE TO BE ACCOMPLISHED. CAN IT BE ACCOMPLISHED

B13 [REDACTED]

2. IN CONNECTION WITH SUB-DIVISION A CAN FULL ARTICHOKE PROCEDURES

BE USED THIS SITUATION. FYI [REDACTED]

3. IN VIEW OF [REDACTED] ETA 12 JAN CAN THIS MISSION BE ACCOMPLISHED
AT THAT TIME. IF NOT GIVE LATEST ACCEPTABLE ARRIVAL DATE.

COORDINATING OFFICER'S

AUTHENTICATING OFFICER
Copy No.

ACTION

ICER
IT

TO MAKE A COPY OF THIS MESSAGE

A/B, 2, 6/11

Courier

H-B13

1. 1. 3 1951.

Senior Representative [REDACTED] G

Chief [REDACTED] A G INFO: Chicago [REDACTED] G

Request for ARTICHOKE Team for [REDACTED] H-B13

- B/3 1. The partial [REDACTED] and background material for the two [REDACTED] people now at [REDACTED] are transmitted as enclosures under separate cover. This case was discussed fully with the ARTICHOKE team when they were at [REDACTED]. Those two men are disposal problems, one because of his lack of ability to carry out a mission and the other because he cannot get along with [REDACTED] the chief agent of the project. Both have extensive information concerning the [REDACTED] assets and thus are B/3 security risks wherever they are disposed of. B/3
2. Anything that can be done in the ARTICHOKE field to lessen the security risk will be helpful since the men must be disposed of even at maximum security risk. The urgency of consideration of this case is due to the fact that one of the men is already somewhat stir crazy and has tried to escape twice.
3. The immediate objective of the ARTICHOKE team would be to try to get the men to want to stay where they are for the next two or three months while we are determining the effect of the treatment and while we are working out alternate disposal possibilities, depending upon this effectiveness.
4. Your earliest possible consideration of those cases would be appreciated.

A

Enclosures:

- B/3 1. Brief background on [REDACTED] 1 copies
2. Partial [REDACTED] 1 copies
3. Brief background on [REDACTED] 2 copies } UNDER SEPARATE COVER
4. Partial [REDACTED] 1 copies }

5 February 1954

Distribution:

2 - Addressees, w/encls as noted
[REDACTED] w/o encls

G

~~CLASSIFIED MESSAGE~~

A/B, 2, 6/13

ROUTING	
1	4
2	5
3	6

TE : 24 FEB 54

TO : DIRECTOR

OM : [REDACTED]

STION: SO (1-2)

FO : [REDACTED] G

H-B13

13
13

0616Z-24-FEB-54

ROUTINE

PRECEDENCE

CITE

TO: [REDACTED]

INFO: [REDACTED]

①

[REDACTED] AND PARTY DELAYED APPROX TWO WEEKS.

A
END OF MESSAGE
A

ACTION COPY

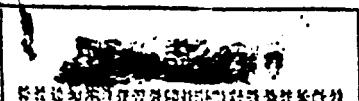
IT IS FORBIDDEN TO MAKE A COPY OF THIS MESSAGE

Copy No. 1

ORIG :
UNIT :
EXT :
DATE :

A
19 APRIL 1954

CLASSIFIED MESSAGE



A/B 2, 6/24

ROUTING	4
2	5
3	6

TO : SR REP G
FROM: DIRECTOR, CIA
CONF:
INFO : [REDACTED]

H/B/3 [REDACTED] 2144Z 23 APR 54

ROUTINE

PRECEDENCE

B/3 TO: [REDACTED] INFO: [REDACTED] CITE: DIR
ADMIN

B/3 1. GARGO [REDACTED] DELIVERED [REDACTED] 3 MAR [REDACTED]

B/3 2. GARGO [REDACTED] SHIPPED [REDACTED] 13 FEB [REDACTED]
INTENDED FOR [REDACTED] NOT RECEIVED. CHECK AND FORWARD.

END OF MESSAGE

ACTION COPY

COORDINATING OFFICERS



RELEASING OFFICER

AUTHENTICATING OFFICER
Copy No.

IT IS FORBIDDEN TO MAKE A COPY OF THIS MESSAGE

A/B, 2, 1011

H-B/3

1954

AGENDA - WORKING COMMITTEE MEETING 6 DECEMBER

Action Completed

1. Meeting of Senior Committee.
- A 2. Briefing on [REDACTED]
- A 3. Conference 3 December with [REDACTED] of research plan.
4. Approval of field T/O.

Action Pending

- A 1. Clearances of [REDACTED]
- #2. Transfer of Secretariat to TSS.
- B/3 3. Security briefing in [REDACTED] personnel.
- A 4. Final briefing of [REDACTED] prior to his departure,
10 December.

Topics for Discussion

- A 1. Meeting of Senior Committee re transfer of Secretariat.
2. Briefing by [REDACTED] on technical aspects [REDACTED] B/3

A/B, 2, 10/3

19 November 1954

H-B/3

AGENDA - WORKING COMMITTEE MEETING, 22 NOV. 1954

Action Completed

1. Meeting of Senior Committee, 19 November.
- A 2. Discussion with [REDACTED] re one voucher submitted
- B/3 by [REDACTED]
- A 3. Meeting with [REDACTED] of External Research [REDACTED] and [REDACTED]
- A 4. Interviews with [REDACTED] JOT candidate, by [REDACTED]

Action Pending

- B/3 1. Meeting [REDACTED] with representatives of [REDACTED] and the Working Committee.
2. Drawing up of plan for field demonstrations
- A 3. Approval by [REDACTED] of modifications in the affiliation of the Working Committee Secretariat.
- A 4. Briefing of [REDACTED] by OSL.
5. Selection of research assistant.

Topics for Discussion

- A 1. Briefing by [REDACTED]
2. Briefing for [REDACTED]

ARMED CHOKE INTERVIEW (SO/SRS ONLY)

Date report written _____

NAME _____

10. COVER USED _____

12. CLINICAL PKT (specific details) _____

11. NARRATIVE REPORT OF INTERVIEW _____

13. H USE (specific details) _____

14. AMNESIA (how obtained) _____

15. RESULTS (what results were obtained from intelligence
and/or experimental point of view?) _____16. MS INTERVIEW MONITORED (Describe apparatus; results;
where are tapes?) _____

17. WERE PHOTOGRAPHS TAKEN _____

18. MS [REDACTED] USED DURING A/E/CR AFTER INTERVIEW (why --
what results?) _____**B13**

(OVER)

A/B, 2, 10/5

1954

H-B/3 [REDACTED]

AGENDA - WORKING COMMITTEE, MONDAY 29 NOVEMBER

Action Completed

B/3

1. Meeting by [REDACTED] with principals of [REDACTED] and representatives of the Working Committee.

B/3

2. Completion by [REDACTED] of basic research plan for activity 1.

A

3. Meeting with Dr. [REDACTED] re status of Secretariat.

Action Pending

A

1. Briefing of [REDACTED] scheduled for Monday, 12 November.
2. Revision by [REDACTED] re status of commitments.
3. Approval of research plan for Activity 1 by UN and the Working Committee.
4. Approval of I/P for field component.

Topics for Discussion

B/3

1. Meeting [REDACTED] to review status of implementation and [REDACTED]

A/B, 2, 6/14

OFFICIAL DISPATCH

VIA AIR
(Specify Air or Sea Pouch)

DISPATCH NO.

H-B/3

CLASSIFICATION

TO Senior Representative
FROM Chief _____ G
SUBJECT { GENERAL Security
 SPECIFIC Interview Forms

DATE 25 February 1954

ATTENTION:

A

1. We are sending you herewith under separate cover approximately two hundred interview forms which are designed to assist you in the recording of your cases in the [redacted] area. These forms are based specifically on the discussions held prior to your departure and it is our belief they cover, in general, all necessary information.

2. To assist you and to explain again the various items, I am going to discuss each item below. I feel that you and [redacted] could easily fill out these forms without advice but to insure that you understand the elements we are particularly interested in, I am taking the liberty of explaining each in detail.

1

1) Name or Code Designation - This is self-explanatory and should be filled in so we can key our reports into any material available locally and also so we can maintain a ready reference -- alphabetical, chronological file.

2) Place Handled - This, of course, is self-explanatory and should indicate the exact place the interview was held.

3) Exact Dates and Hours Involved in Interview/s - Set out as follows: 12 January 1954, 0800 to 1100 and 1500 to 1700, etc.

4) Present - Fill in the names of the officers present and under "Q" if you care to explain why more than the necessary minimum were present you can enter the reasons here.

5) Security Precautions Taken - Merely make a brief statement that the subject was or was not under guard; was at a safe house; and that certain precautions (describe them) were taken.

Digitized by srujanika@gmail.com

(Coordinating officer)

Auxiliary officer)

FORM NO. 51-29
JUN 1949

15-01324-A 10-00-00 INVENTORY COUNTING 0001

A/B 2 10/8
22 October 1954

A:

QUESTIONS POSED BY [REDACTED] RE ARTICHOKE vs. [REDACTED]

H-B13

1. Relation of ARTICHOKE to [REDACTED] B/3

At present, ARTICHOKE assigned to [REDACTED] G

What relationship of ARTICHOKE to [REDACTED] in re [REDACTED]
ARTICHOKE is field component of [REDACTED] under joint
jurisdiction of [REDACTED] G

Where is operational direction for ARTICHOKE to come from?

Are ARTICHOKE personnel to be utilized and directed
by [REDACTED]

B/3 Is ARTICHOKE to carry out [REDACTED] experimentation?
Upon what planning?

What happens to contemplated field experimentation of ARTICHOKE? B/3

What is purpose of ARTICHOKE now that [REDACTED] is in existence?

G 2. No clarification and notification in re command channels, coordination, review, control and approval of field experimentation -- which [REDACTED] wishes to have placed at his command and staff level.

B/3 If [REDACTED] joint 50-50 project, field experience and knowledge of ARTICHOKE never considered.

B/3 Little more detail as to purpose, aims, goals, etc., of [REDACTED], especially with regard to field experimentation.

G Problem re [REDACTED] field team: purpose of team, composition of team, financing of project, ability to accomplish purpose.

No consideration of operational security and its implications in implementations of the field experiments.

G 3. Status of ARTICHOKE - where is it? No program? If just operational support, why approval of research and development as already set up in the [REDACTED]

6) Complete Physical and Mental Description of Subject - State here the usual physical description (5' 10", black hair, stocky build, crippled, wounded, etc.). Also describe subject's blood pressure, heart rate, or any other physical manifestations you have observed or obtained. We suggest also you state the subject was normal (intelligent, dull) or despondent or had attempted suicide or escape recently or whatever else you regard as important data.

B/3
7) Brief Background of Subject and Case History - Give here a brief background of subject and describe in some detail the case history. State whether the subject was a possible double agent or why he had been picked up. Give nationality details -- whether he was a [REDACTED] national and that he had been associated with the organization doing such and such. In connection with the use of [REDACTED], merely state whether or not [REDACTED] had been used previously and with what results.

8) Objectives of the Interview - A. is self-explanatory. B and C are related and it is important that you explain briefly why ANTICNOKE was used and if certain specific details were desired, exactly what these details were.

9) Results - Fill in here exactly what the interview obtained. If certain questions have been answered, comment on these and if the case officers express satisfaction or dissatisfaction, comment on this also.

NOTE: Questions through 9 (Page 1) are for a general purpose and are designed to be able to be shown where necessary in the Agency. Page 2, however, is for SRS consumption or for those with a need to know and are entitled to know complete technical details.

10) Cover Used - Briefly state here how the subject was approached, whether it was a medical cover or whether the subject had "voluntarily" requested the interview or whatever method you have used.

11) Narrative Report of Interview - This should be a brief statement of exactly what occurred in the interview and should consist in detail of exactly what went on, giving the time, the activities, descriptions of the area, and all circumstances that are pertinent.

12) Clinical Data - This should be a brief, exact statement of any chemicals used, dosages, tests made, descriptions of administration of chemicals -- intravenous or otherwise, etc.

13) H Use - Set out here in brief how H was used, what cover was used to introduce it, length of time in effect and, in general, what results were obtained.

14) Amnesia - Amnesia is always important to us as you know and we would like a brief description of whether it occurred and how in your opinion it was obtained. Whether by direct H, drug or chemical agents.

15) Results - This question is similar to 9 but here we would like to have your personal impression of the results obtained either from what information was secured and/or from an experimental point of view. It is possible that this question will have to be continued on the other side of Page 2 under Question 21.

16) Was Interview Monitored - The question is self-explanatory.

17) Were Photographs Taken - This is also self-explanatory.

B/3
18) Was [redacted] Used During and/or After Interview - We would like to know whether you directed the use of [redacted] at any time during the interview or afterwards and the reasons why you used [redacted] and what resulted. This may be very important from a point of view of cross-checking results.

19) (On Page 3) Observations and Comments - Set out here any information you regarded as pertinent as to techniques; support; ideas; etc.

20) Recommendations - Here you should comment as to what recommendations you made in the disposition of the case (if required) and recommend any ideas you may have as to future work or techniques.

21) Any Additional Information - Self-explanatory.

A
3. We have attempted to set out in as brief a space as possible the significant elements that should be covered in this work. All of us are agreed that you should feel free to append to these forms any additional information you feel pertinent or if the forms are not long enough add pages for the extra material you wish conveyed. These forms will be forwarded to [redacted] for transmission to Headquarters.

4. All of us here are watching for developments in the ANTICHEK work with great interest. We do not wish to place any unnecessary burdens on you but your comments concerning the work other than these official reports

would be

B/3

would be greatly appreciated at any time. Furthermore, if you feel that you are in need of additional supplies and cannot obtain them locally, please write to us or send a dispatch and we will attempt to procure the necessary items.

Encl

Approx 200 forms
(S/C)

A

A [REDACTED] Distribution

Field - Orig & 2

SO - 1

:RI Copy - SO File ✓

KINICHE INTERVIEW (General)

Date report written _____

1.

NAME _____

or CODE DESIGNATION _____

2. PLACE HANDLED _____

7.

SUBJECT DATES AND HOURS INVOLVED IN INTERVIEW/S

19. OBSERVATIONS AND COMMENTS:

21. ANY ADDITIONAL INFORMATION:

20. RECOMMENDATIONS:

SIGNATURE OF DIRECTING OFFICER

A/B, 2, 10/7

18 November 1954

MEMORANDUM FOR: ASSISTANT DIRECTOR [REDACTED] G
ATTENTION: Senior Committee, [REDACTED] B/3
SUBJECT: Organization of [REDACTED] B/3

B/3
1. In accordance with the request of the Senior Committee on 5 November, the attached paper is submitted defining the present organization of [REDACTED] and its component parts. It corresponds with a general statement of the present status of [REDACTED] and then proceeds with a definition of the responsibility, authority, and functions of the Working Committee, the research facility in [REDACTED] and the field component.

2. Approval of the attached document and recommendations contained therein will be deemed to constitute appropriate authority for the Working Committee to carry out its duly defined responsibilities.

A [REDACTED]
Secretary of the Working Committee

ORGANIZATION OF [REDACTED]

B/3

Background

The following comment is designed to clarify the basic concepts underlying [REDACTED] as defined in the Project Plan and is also submitted to reflect certain modifications in project organization which have emerged since its inception as a result of experience. As defined in the project, the purpose of [REDACTED]

"... to securely exploit, along operational lines, scientific methods and knowledge that can be utilized in altering the attitudes, beliefs, thought processes, and behavior patterns of agent personnel. This will include the application of tested psychiatric and psychological techniques, including the use of hypnosis in conjunction with drugs."

Analysis of the project objectives indicates that it was considered of primary importance to establish a coordinated program in the Agency on an across-the-board basis to effect maximum utilization of available resources and assets in the subject field. Implementation of this objective has since resulted in the formation and establishment of a Senior Committee and a Working Committee to achieve the necessary direction and coordination of activities envisaged in the basic project plan. In the course of this development the Working Committee has been delegated appropriate authority to carry out the over-all direction of the project. Within [REDACTED] itself, however, it is extremely

B/3

important to distinguish the research facility [REDACTED] from the project as a whole. A certain amount of confusion has arisen which derived from using these two terms interchangeably to designate project activities. However, as stated in succeeding portions of this document, [REDACTED] is considered to be one of the components of the project with a definite delimitation of its functions and responsibility as supervised by ISS. Likewise the field component will consist of a team under [REDACTED] control utilizing the usual command channels and is also considered another aspect of the project. It is important to point out that project activity as presently constituted is not designed to duplicate or establish any new facilities of its own, but rather utilize the existent resources and assets of the Agency to carry out its basic mission principally through the coordination and integration of the over-all effort. In extension of this concept the permanent Headquarters organization has been limited to a Secretariat attached to the Working Committee which has executive responsibility for carrying out appropriate directives.

I. WORKING COMMITTEE

1. Organization

The Working Committee will consist of one representative from the Office of Security, the Technical Services Staff, the Office of Training, [REDACTED] ad hoc representatives (Finance,

Logistics, OSI, Personnel, and such others as required), and the Case Officer of the Secretariat. A voting member will be the designated representative of [REDACTED] SO, TSS, OTR and

Secretariat, and will nominate an alternate to take his place in the conduct of the Working Committee meetings if required. The Secretariat will represent all components of the Agency concerned with [REDACTED] and the Table of Organization described in 3 (b) will be established from slots available to the [REDACTED] and will be responsible for administration to his office.

B/3 2. Functions and Authority

- a. Implement policy from the Senior Committee.
- b. Initiate, plan, direct, supervise and coordinate activities of [REDACTED]
- c. Administer and support [REDACTED] through the Secretariat.

B/3 3. Responsibilities

- a. Establish appropriate procedures for implementing the directives of the Senior Committee.
- b. Establish a Secretariat consisting of a Case Officer, Administrative Assistant, Research Assistant and a Secretary/Stenographer.
- c. Periodically assess and evaluate the progress of all project activities including audit of financial and administrative records, progress of research activities, and fulfillment of operational requirements.

4.

d. Submit periodic reports and such other records as may be necessary to the Senior Committee.

e. Delegate authority to various components and individuals of the Agency as appropriate, to carry out project activities.

4. Delegation of Authority and Responsibility

a. General

The representatives of the respective components of the Agency concerned with [REDACTED] will:

(1) Keep the Working Committee apprised of developments in their fields relevant to [REDACTED]

(2) Cooperate in support of the project and make their assets available as required. *AND RESPONSIBLE*.

(3) Be responsible for clearing through the Secretariat all contacts and liaison relevant to [REDACTED] prior to establishing such contacts and liaison.

(4) Be responsible for keeping their component apprised of [REDACTED] developments on a need-to-know basis.

b. Secretariat

(1) Maintain and control appropriate files and records, including a central index.

(2) Establish a control point for all [REDACTED] liaison.

(3) Process necessary administrative requirements such as personnel recruitment, clearances and actions, travel orders and financial statements. Authority will be delegated to the *SUPERVISOR* [REDACTED] (Case Officer) for [REDACTED] to authorize travel, travel advances,

B/3

requests for advances, personnel actions, and such other requirements necessary to carry out the mission and provide security.

(4) Maintain operational and administrative contacts with [REDACTED] and represent the Working Committee on all other project liaison as required.

(5) Call meetings of the Working Committee as required.

(6) Participate as the Working Committee representative in all pertinent discussions and meetings relating to [REDACTED] activities.

a. [REDACTED]

(1) Establish a field component in the [REDACTED] utilising usual command channels.

(2) Provide within their capabilities agent-candidates for participation in the research program under [REDACTED]

(3) Evaluate all information on prospective recruits obtained from [REDACTED] AND EXERCISE FINAL DETERMINATION OF [REDACTED] with regard to their operational exploitation in the [REDACTED] area.

(4) Maintain close coordination, through the Secretariat, with the [REDACTED] group, in the mounting of field demonstrations and the provision of operational support where required.

(5) Provide advice, guidance, and direction on operational requirements and problems where appropriate.

d. Office of Security

(1) The SO representative will make available as required its assets resulting from its ASSTICHE responsibilities and [REDACTED]

will discharge such functions normally required of SO.

e. Technical Services Staff

- (1) Plan, supervise and monitor research activities

B/3

of [REDACTED]

- (2) Arrange for covert procurement of material in support of research activities and the fulfillment of special technical requirements, including requests for pertinent documents.

f. Office of Training

- (1) Participate in the planning and monitoring of

B/3

[REDACTED] research involving psychological techniques through contacts with TSS. [REDACTED]

g. Ad Hoc Representation

CSI, Logistics, Finance, and such other components of the Agency as required. Representatives to render the necessary assistance and support.

II. [REDACTED]

- B/3
1. Conduct such domestic research activities which are agreed upon, directed and approved by the representative of TSS. For non-research matters [REDACTED] will turn to their Administrative Officer. Operational and administrative guidance will be provided to [REDACTED] through the Secretariat of the Working Committee.

2. Maintain securely appropriate administrative records pertaining to finance, personnel, logistics, maintenance of the

containing the basic requirements for such a field component.

- B/3 3. The field research and operational program for the [REDACTED] will be approved by Headquarters.

- B/3 4. The field component of [REDACTED] will:

a. Act as a field-data gathering team for [REDACTED]

B/3 b. Continually review existing [REDACTED] assets and operations that can be utilized in support of [REDACTED] activities.

c. Test and develop certain methods and techniques

under the direction of Headquarters [REDACTED]

d. Conduct limited basic research in support of [REDACTED]

[REDACTED] in the [REDACTED]

e. Plan, implement and mount any field demonstrations

and/or exercises in addition to the basic operational program

as designated by Headquarters [REDACTED]

f. Provide appropriate support for specific clandestine operations as requested. G
[REDACTED] of the [REDACTED]

B/3 g. Act as an advisory body to the [REDACTED]

re [REDACTED] matters.

Concurrence Sheet

G Deputy Director [REDACTED]

[REDACTED] Date

G Chief, [REDACTED]

[REDACTED] Date

Chief, T&B Staff [REDACTED]

[REDACTED] Date

Director of Security [REDACTED]

[REDACTED] Date

Director of Training [REDACTED]

[REDACTED] Date

G Chief, [REDACTED]

[REDACTED] Date

A/B, 2, 10/13

27 October 1954

H-B/3

MINUTES OF MEETING #11, WORKING COMMITTEE, 25 OCTOBER

A
1. [REDACTED] stated that the financial accountings have been submitted from 1 July to 1 October and will be passed to the Working Committee for signature and approval at the next meeting.

A
2. The briefing of Training personnel, i.e., [REDACTED] and [REDACTED], took place Wednesday, 20 October. [REDACTED] briefed them generally on the objectives and tasks of the project and arranged to have [REDACTED] brief the Working Committee on 1 November at the meeting of the Working Committee, on what Training is doing which is relevant to [REDACTED]. In this connection [REDACTED] said that he would like a list of the members of the Working Committee. In the absence of specific requirements from the committee, he will present what he feels are the activities of Training pertinent to [REDACTED]. [REDACTED] stressed that Training's liaison with [REDACTED] etc., should be discussed in view of our possible use of those channels. He also said that possibly some of OIR's people at [REDACTED] trained in operational type situations, might go to [REDACTED] to lecture to the group there.

B/3 A B/1 B/3

A
C
3. [REDACTED] said that [REDACTED] had picked up indirectly the information that [REDACTED] had been approached by [REDACTED] to do an article on brain washing. [REDACTED] wants to stay clear of this, but informed our OO representative in [REDACTED] that he would be glad to slant anything for us. [REDACTED] is witting of our OO contact but his clearance has been disapproved by SO. This information has been passed on to [REDACTED] and when he makes a final decision he will advise SO.

G C B/3 C A

A
4. [REDACTED] met with [REDACTED] Thursday, 21 October, and arranged to brief [REDACTED], AD/OSI, in [REDACTED]'s office Thursday, 28 October. [REDACTED] was with [REDACTED] at this meeting and will also attend, with [REDACTED], the briefing on 28 October. The purpose of this meeting is to establish liaison with [REDACTED] and [REDACTED], Chief, Medical Division, OSI. [REDACTED] stated that OSI had the ANTICHRIST responsibility originally, but that the files are now all in SO. [REDACTED] asked if there were any questions to be taken up with [REDACTED] and the Committee had none. [REDACTED] with the services may be

Working Committee '11 -- 2

discussed -- channels used by [REDACTED] stated that we have liaison with the [REDACTED] and the other services through ARTICHOKE and they would explore re-activation of this contact.

5. Interviews with the two candidates for Research Assistant at headquarters were discussed by [REDACTED] OS-12, has an excellent background but because he is a Lutheran minister it was felt that he might reject the job on ethical grounds. [REDACTED], CG-9, a young chap, FM type, felt that he would like to do research. He wants to stay at headquarters for two years before returning to the field. Both candidates were approved by SO. It was felt that a decision would be withheld until additional candidates could be interviewed.

6. [REDACTED] stated that in view of the pre meeting held Friday, 22 October, by the Working Committee, the two main points to cover in [REDACTED] were command relationships and the research activities to be taken up. He said that he would have a preliminary discussion with [REDACTED] on personnel and finances and any insoluble problems would be taken up at the full meeting.

7. [REDACTED] felt it important that the Committee know the research proposed, the time schedule, etc. [REDACTED] stated that he will ask for a list of activities to be carried out. This list will be considered by headquarters in the light of our needs and then taken up with [REDACTED] and [REDACTED]

8. [REDACTED] stressed the security hazards of this work and the importance of having the people carrying out the experiments prepared for emergencies.

9. [REDACTED] asked about the role of IAR in this project. [REDACTED] stated that in the review of [REDACTED] by IAR this project was not touched. [REDACTED] stated that administratively this project should be "clean" in the event of any flaps which might require investigation.

A/B, 2, 10/14

22 October 1954

H-B/3

AGENDA FOR MEETING #11, WORKING COMMITTEE, 25 OCTOBER

1. Action Completed

- a. Financial accountings submitted for [REDACTED] B/3
July 1 - October 1.

- A b. Cancellation of [REDACTED] and [REDACTED] Travel orders.
c. Briefing of Training personnel.

- A d. Liaison with [REDACTED]

2. Action Pending

- *a. Briefing of Working Committee by [REDACTED], Nov. 1.
b. Recruitment of Research Assistant [REDACTED]
*c. Meeting with [REDACTED] of OSI Thursday AM, October 28.

3. Topics for Discussion

- B/3 *a. Conference in [REDACTED] on Command Relationships.
*b. Briefing by Training representative November 1.
A *c. Briefing of [REDACTED] October 28.

*Requires discussion.

A/B, 2, 10/16

15 October 1954

AGENDA FOR MEETING NO. 10: WORKING COMMITTEE

H-B/3

Action Completed

A

1. [REDACTED] on board [REDACTED] 18 October.

B/3

A

2. [REDACTED] joined Headquarter's staff.

A

- *3. Conference with [REDACTED] were T/O.

- *4. Conference with TSS, [REDACTED]

B/3

G

- [REDACTED] representatives set up for October 25-28 [REDACTED]

B/3

Action Pending

1. [REDACTED] personnel action (target date 29 October).

A

2. Briefing of [REDACTED] and [REDACTED] of training for Wednesday, October 20th, set up.

- *3. [REDACTED] arrival.

Topics for Discussion

A

1. Briefing conference in [REDACTED] (October 25-28).

B/3

2. Briefing conference with Training (future contact arrangements, etc.).

3. Field demonstrations (cable).

B/3

4. [REDACTED] debriefing by Headquarters and [REDACTED]

5. Conference with [REDACTED] A

A/B, 2, 10/17

27 September 1954

H-B/3
MEMORANDUM FOR THE RECORD

SUBJECT: Meeting of Working Committee [REDACTED] No. 8

Participants: [REDACTED]

A

1. In regard to [REDACTED] assignment to the project, [REDACTED] was concerned about protecting his career when the time comes that he will return to a slot. [REDACTED] will discuss this with [REDACTED]. [REDACTED] brought up the fact that [REDACTED] will aid [REDACTED] with the problem of his back. The job description for [REDACTED] will be re-presented at next Monday's meeting of the Working Committee.

A
2. The question of amending the Administrative Plan in regard to personnel, equipment and other changes was discussed and it was agreed that they should be incorporated into one memo which would be submitted about 1 November.

3. The question of the Field Demonstrations was discussed and the result was that [REDACTED] offered to draft a cable requesting 60 days TDI for [REDACTED]. If, after [REDACTED] is consulted with and advised, the [REDACTED] will not change his attitude regarding these Demonstrations, it was suggested by [REDACTED] that a memo be written, signed off by the Director. [REDACTED] was advised to let [REDACTED] and Mr. X know that the Demonstrations were officially postponed for about 4 months.

A
4. [REDACTED] reported that the [REDACTED] terminating its project concerning [REDACTED] indicated his readiness to photograph all files available. The bulk of material will probably go to Biographics Registry and OSL.

A
B/3
5. [REDACTED] stated that [REDACTED] had selected [REDACTED] to be the [REDACTED] Case Officer, and that [REDACTED] should continue to take responsibility for the project at the present time.

B/3
6. It was agreed that the cryptonym [REDACTED] would be changed.

A/B, 2, 10/11

29 October 1954

H-B/3

AGENDA FOR WORKING COMMITTEE MEETING, 1 NOVEMBER

Action Completed

B/3

1. Conference on command relationships, research activities, and TSS briefing.
2. Personnel action on [REDACTED] A
3. Financial accountings [REDACTED] 1 July - B/3
1 October 1954.
4. Administrative plan approved by appropriate offices.

Action Pending

A

1. Briefing of [REDACTED] D/CSI. G
2. Selection of Research Assistant
- * 3. Discussion on project headquarters organization.
- A 4. Completion date for [REDACTED] debriefing by headquarters.

Topics for Discussion

B/3

1. Briefing on OTR's activities re [REDACTED]
2. Modifications in organization of [REDACTED]
3. Selection of Research Assistant.
4. Briefing policy re Agency activities and [REDACTED] requirements. B/3
5. Tentative SOP for command relationships with [REDACTED]

A/B, 2, 10/18
24 September 1954

Agenda for Meeting No. 8, Working Committee

H-B/3

Action Completed

A

1. [REDACTED] released from O/Tr to [REDACTED] G

A

2. [REDACTED] meeting of September 14th.

A

3. [REDACTED] appointment as [REDACTED] Coordinator for [REDACTED] B/3

4. DIA's appointment of [REDACTED] as his representative. A

5. Additional Security clearances of [REDACTED] personnel. B/3

Action Pending

1. Personnel action on [REDACTED] A

2. Personnel action on [REDACTED] A

3. Field Demonstrations -- [REDACTED] position - [REDACTED] position. G

A

4. [REDACTED]'s report on cover for [REDACTED] contacts. B/3

Topics for Discussion

1. Headquarters Case Officer [REDACTED] B/3

- a. Duties
b. Slotting
c. Office space and personnel

2. Decision required on Field Demonstrations.

3. Opening of [REDACTED] headquarters 1 October. B/3

4. Change of Project name.

5. Additional CIA Staff Agents.

A/B, 2, 10/19

13 September 1954

Agenda, Meeting No. 7

H-B/3

A. Action Completed

1. [REDACTED] and [REDACTED] interviewed by [REDACTED] [REDACTED]
2. Memorandum delivered to [REDACTED] 9 September.
3. Memoranda to DDA, Director of Training and Chief TSS re-written and discussed with [REDACTED]
4. Security Clearance on [REDACTED] approved.

B. Action Pending

- A 1. Personnel action on [REDACTED]
- G 2. Security OK on [REDACTED] and personnel action to be initiated - for his release from [REDACTED]
- F 3. Arrival of dispatch from [REDACTED] re Field Demonstration.

C. Topics for Discussion

1. Headquarters Case Officer for [REDACTED] B/3
 - a. Duties
 - b. Slotting
 - c. Office Space.
2. Report on Headquarters work re Field Demonstrations.
3. Additional clearances from SO.
4. Administrative report, salary, real estate, etc.
5. [REDACTED] role in support of [REDACTED]

A/B, 2, 10/21

7 September 1954

Agenda, Meeting No. 6

H-B/3

A. Action Completed:

A

1. SO clearance for [REDACTED]

A

2. [REDACTED] integrated into [REDACTED] as Research Analyst

B/3

3. Cable re Field Demonstrations sent to [REDACTED] 31 August.

4. Safehouse set for 1 October occupancy

B. Action Pending:

G

1. Memorandum to [REDACTED]

A

2. Memoranda to [REDACTED], O/Tr, QSI and TSS to be re-discussed as to proper addressee and signature

3. Purported dispatch re Field Demonstrations

C. Topics for Discussion:

A
G
A

1. Monthly Report, format, etc.

2. How does [REDACTED] begin to collect research info from divisions, desks and outside agencies other than [REDACTED]

3. [REDACTED]

Copy 2 of 7

A/B, 2, 10/22

7 September 1954

MEMORANDUM FOR THE FILES

Subject: Meeting of Working Committee [REDACTED], No. 6 H-B13

Participants: [REDACTED]

A

[REDACTED], present just for introduction.

A AB13 1. [REDACTED] is agreeable to accepting a position with [REDACTED] and it was agreed by the Committee that it is highly advisable to have someone of his caliber and experience in [REDACTED]. [REDACTED] suggested that [REDACTED] talk informally to [REDACTED] regarding the changeover from [REDACTED] this could be followed up by having [REDACTED] talk with [REDACTED]. [REDACTED] is able to go to [REDACTED] tomorrow to meet with [REDACTED] and [REDACTED] as previously arranged by [REDACTED]. As [REDACTED] will not be able to go overseas with [REDACTED] because of a slipped disk in his back, it is hoped he can be used by [REDACTED]. A G B13

A B13 2. In regard to [REDACTED]'s integration, it was decided that it should be on an administrative rather than a professional level; however, [REDACTED] and [REDACTED] said they would be willing to give him any kind of appointment required by the Agency. [REDACTED] will go to [REDACTED] on 8 September to meet with these gentlemen. B13

A 3. [REDACTED] brought the signed lease for the house on [REDACTED] to the meeting. He stated that the owner must give 72 hours notice before she can enter. Security will take charge of changing the locks. B13

A 4. A few changes were made to the draft memo for the [REDACTED] and this will be hand-carried by [REDACTED]. A G

A 5. [REDACTED] presented reports from [REDACTED] concerning expenditures, a new drug, and proposed use of various professional men in future activities. It was the consensus of opinion that all reports from [REDACTED] should be in as much detail as possible, including attachments of documents, contracts, receipts, etc. The Case Officer will prepare the Monthly Report, breaking it down into sections for Administrative matters, Operational Research, Finance, etc. Again it was stressed that a full-time Case Officer is needed to handle this work. [REDACTED] will endeavor to find a candidate from recent returnees of the [REDACTED] division. B13

A 6. Pursuant to the problem of contacting [REDACTED] it was suggested that [REDACTED] ascertain the person or section in the [REDACTED] which [REDACTED] has listings of [REDACTED] students which we can use as reference in sending out applications and conducting interviews. B13

A/B, 2, 10/23

30 August 1954

MEMORANDUM FOR THE FILES

Subject: Meeting of Working Committee of [REDACTED] No. 5 H-B13

Participants:

A

1. Safehouse Procurement. The owner of the house at [REDACTED] has agreed to lease and the contract has been drawn up for her signature today. The rental figure of \$1200 per month is exorbitant but there is no other alternative. The first and last month's rent are to be paid in advance. The real estate people say the lease has to be honored even in the event that the owner dies. As for an interim place, two suggestions were offered: (1) two adjacent office suites and (2) a penthouse suite, both unsuitable as far as security is concerned.

B13

2. Dummy Project Outline. It was agreed by the Committee that the outline drawn up by [REDACTED] can be released to those persons designated in the branches to be contacted, and that the man who is chosen to handle the introductions be given a complete briefing. [REDACTED] will prepare the memo to [REDACTED] which will be accompanied by memos for OSI, TSS, and O/Tr.

A

3. It was agreed that the memo to [REDACTED] should be hand-carried and that the Administrative Plan should be taken along at the same time.

A

4. Outline of Activities. [REDACTED] will write out a questionnaire to be used in obtaining applicants for the Fellowships. He stated that these people can be interviewed at [REDACTED]'s office and that they could see 4 or 5 a week from the [REDACTED]. The applicants must have the necessary background for academic appointment, and be suitable for [REDACTED] operations. The [REDACTED] will be used unwittingly. It was the opinion of the Committee that students could be approached by means of a form letter sent out by the [REDACTED]. In regard to security clearance for these students [REDACTED] stated that two months would be an approximate time limit, but that he could always try to push a few names through sooner. He suggested that what names we have now be given to him as soon as possible.

B13

A B

5. Dispatch from Field. [REDACTED] was to check the whereabouts of the [REDACTED] in question; it was agreed to send a cable to the field requesting the dispatch number.

A

A/B, 2, 10/24

30 August 1954

Agenda, Meeting No. 5

A. Action Completed:

1. Preparation of dummy project outline.
- A 2. Memorandum to [REDACTED]
- A 3. Name of [REDACTED] replacement for [REDACTED] sent to SO.
- A 4. Clearance granted Lab. Technician, [REDACTED]

B. Action Pending:

- A-B/3 1. Additional clearances on [REDACTED] personnel.
- A 2. Completion of personnel action on [REDACTED]
- B/3 3. List of overt and covert material drawn up for future purchases.

C. Topics for Discussion:

1. Safehouse procurement.
2. Dummy project outline.
- A 3. Memorandum to [REDACTED]
- A 4. Outline of Activities prepared [REDACTED] and [REDACTED]
5. Field Demonstrations and dispatch pertaining thereto.

23 August 1954

A/B, 2, 10/25

Agenda, Meeting No. 4

A. Action Completed:

- H-B/3 A
1. Initiation of security check on house [REDACTED]
 2. List of replacements for [REDACTED] sent to Security Office for approval: [REDACTED] (12), [REDACTED] (13), [REDACTED] (9), [REDACTED] (9), and [REDACTED] (9).
 3. Outstanding memos re (a) Liaison with Office of Training, (b) Liaison with OSI, and (c) Liaison with TSS prepared by [REDACTED] and [REDACTED].
 4. Clearances granted by SO for [REDACTED] personnel. [REDACTED]
[REDACTED] additional names sent to [REDACTED] T.O.
 5. Advances in the amounts of \$200 and \$585 drawn by [REDACTED] on instruction of [REDACTED] and with approval of [REDACTED] for initial operational equipment; bookkeeping started.

A

B. Action Pending:

- A
1. Safehouse Procurement [REDACTED]'s report of 20 August 1954).
 2. Appointment of replacement for [REDACTED]
 3. Appointment of persons to make contacts re memos in A-3.
 4. Additional clearances for [REDACTED] personnel.

B/3 A

C. Topics for Discussion:

1. Methods of contact and designees, in accordance with memos to OSI, TSS, and O/Tr.
2. Outline of Activities prepared by [REDACTED] and [REDACTED]
3. Dispatch from Field re Field Demonstrations.

23 August 1954

A/B, 20/26

MEMORANDUM FOR THE FILES

: Subject: Meeting of Working Committee of [REDACTED], No. 14

H-B/3

Participants: [REDACTED]

A

B3 A
A 1. Safhouse Procurement. Security has completed the check on the [REDACTED] house and has sent a favorable report to [REDACTED] which should be there this morning. [REDACTED] stated as far as he is concerned the house is all right. It was agreed by the members of the committee that negotiations can be started as soon as [REDACTED] called [REDACTED]. It was the real estate man's advice to take the house (which he will try to obtain for as low a figure as possible) and he will continue to look for a better place for the future.

A 2. [REDACTED] Replacement. [REDACTED] was recommended highly for this position. He is available and has Security's approval. The next candidate would be [REDACTED]. [REDACTED] will pass the folder on to [REDACTED] and [REDACTED].

A 3. The memos drafted to O/Tr, OSI and TSS were read to the Committee. [REDACTED] suggested one of the Committee members draft a brief, limited description on a high theoretical level and let that be the basis for a briefing sheet. Further, that someone like [REDACTED], Deputy to [REDACTED], be chosen to contact the above branches by phone and introduce who ever will make the personal contact. The personal contact should be made by a Committee member who knows the designated man in these branches. The question of whether such a memo would be sufficient to cover acquisition of certain drugs, etc. was discussed. [REDACTED] stated he was confident his section could get all the drugs needed through OSI which is unwitting. It was agreed that [REDACTED] draft an incomplete dummy outline, listing objectives, have it approved by Security and pass it around to the Committee members. It would then be sent to [REDACTED] with the three memos already written and addressed to O/Tr, OSI and TSS.

A G 4. [REDACTED] Clearances. There have been no additional clearances; however [REDACTED] stated they should be completed this week. [REDACTED] has two more names to submit through [REDACTED].

A 5. Reference to the acquisition of a conference table set off a discussion on future purchases. [REDACTED] said there will be a complete inventory and that [REDACTED] will represent the [REDACTED] in the matter of property, the SO man will represent the real estate broker and [REDACTED] will represent the Agency. Arrangements will be made that anything bought covertly will revert to Agency at liquidation time. [REDACTED] suggested making it SOP (1) to see what we can "scrounge" before the [REDACTED] group makes a purchase, (2) to make sure the Administration people are aware of our situation, and (3) to be aware of the security aspect. [REDACTED] suggested we buy second-hand and sell second-hand in order to curtail expenditures for equipment. [REDACTED] stated that an expensive machine could be amortized for so many years and charged off each year as part of running costs. It was agreed by all that an Administrative man is needed to sit in on the committee meetings or to be available to the Case Officer. [REDACTED] suggested [REDACTED] to represent Admin, Logistics, etc., or to let [REDACTED], who knows about the project, appoint someone to sit in with the Working Committee when required. [REDACTED] suggested a memo be sent to [REDACTED] outlining the problem and giving him a list of what type of materiel the Admin man will be dealing with.

B A

B/B A

B/3 A 6. The purported dispatch from the Field has not been seen yet. [REDACTED] said about 10 days ago he was informed that a cable had arrived, marked [REDACTED] and addressed to the Director of Security. [REDACTED] in [REDACTED] office has tried every means of tracking it down. [REDACTED] stated a cable, giving the dispatch number, had come in on Saturday. In regard to the problems in the Field [REDACTED] said it would have been better to have assigned [REDACTED] dovetailing of [REDACTED] Project and receipt of the requirement [REDACTED] will place upon that project. He said clearances were in process for 14 bodies. [REDACTED] pointed out that the requirement is covered in the Outline of Activities written by [REDACTED] and [REDACTED]. [REDACTED] was assured that he could seek guidance and advice on [REDACTED] people. [REDACTED] stated that the interviewers especially, needed guidance.

B/3 A

B/3 B/3 A

cc: Security

A
A/B, 2, 10/27

16 August 1954

AGENDA FOR WORKING COMMITTEE, [REDACTED]

H-B/3

1. Discussion of report on proposed activities to be undertaken (prepared by [REDACTED] and [REDACTED]). A
2. Status of safehouse procurement.
3. Replacement of [REDACTED] A
4. Memos that were to have been prepared according to instructions at last Monday's meeting.
5. Contact with Office of Training.
6. Clearances on [REDACTED] personnel. B/3
7. Policy for provisional Operational clearance.
8. Use of [REDACTED] by [REDACTED] A
9. Change of cryptonym.

B/6

Copy 5 of 6.
Others concealed

CC:

A

A/B, 2, 80/28

16 August 1954

MEMORANDUM FOR THE FILES

Subject: Meeting of Working Committee of [REDACTED]

H-B/3

Participants:

A

[REDACTED]

1. It was agreed to discuss the Outline of Activities prepared by [REDACTED] and [REDACTED] at the next meeting; copies were logged out and given to [REDACTED], [REDACTED] and [REDACTED].

A
B/3

2. Safehouse Procurement. The house on [REDACTED] was dropped for security reasons. The real estate man was concerned with Security's expediting the check before he makes any more definite moves. [REDACTED] had advised that we check on the house on [REDACTED], but it was found that the owner had already made other plans. The only other suitable house found was at [REDACTED]. The Security Check will be started as soon as the owner is ascertained. In the meantime [REDACTED] has inserted an ad in the [REDACTED]. Alternatives were discussed. Security will not permit use of space in occupied office buildings; we cannot expect cooperation from [REDACTED] who reportedly has safehouses in that area; [REDACTED] asked about club/boarding houses. [REDACTED] asked if it was possible to work outside of Logistics, and it was stated that if anyone found something they could then turn it over to Logistics.

A
B/3
B/3
A
B/3

A

3. Replacement for [REDACTED] reported that [REDACTED] the only candidate so far, had some editorial experience but was not a research man. There are about 6 more names available and these will be turned over to Security immediately for their approval.

A

4. The memos outstanding are to be prepared by [REDACTED] and [REDACTED] on Tuesday at 9:30 a.m., in room [REDACTED].

A

5. In regard to the contact with the Office of Training, it was decided that besides [REDACTED] and [REDACTED] who has charge of case histories would be cut in. A personal contact will be made.

- A
6. Four names have been cleared of the list [REDACTED] personnel submitted: [REDACTED] and [REDACTED] stated that the bulk of the other names would come through this week. B/3
- A
- B/3
- A
7. Regarding provisional operational clearances, it was decided that in specific cases [REDACTED] would write a request on an individual basis. In the case of the men who work in [REDACTED] department whose names have already been submitted, because they are not working with material directly relating to [REDACTED] it was deemed advisable to let [REDACTED] make use of them until their full clearances come through.
- A
- B/3
- A
8. The Working Committee was unanimous in its decision that [REDACTED] relationship with [REDACTED] was strictly on a professional and personal basis, and under no circumstances was this to be related to the project. The group went on record to state that insofar as the project was concerned no reports on the Subject per se were desired or to be submitted. It was pointed out that this involved an aspect of [REDACTED] private practice which was distinct and separate from any association with [REDACTED]. A B/6
- A
- B/3
- A
9. In regard to changing the name of the Project, [REDACTED] suggested that this be done after the move to [REDACTED]. B/3
- A
10. [REDACTED], SO, was present at the meeting to report on his contact in the Field regarding the Field Demonstrations. He reported that a dispatch had come in on Friday. The gist of his report was that no "go-ahead" has been given pending a decision from Headquarters as to which place has the authority [REDACTED] or the [REDACTED]. G

A/B, 2, 10/29

August 9, 1954

SECOND MEETING WORKING COMMITTEE

H-B/3

Acting Chairman: [REDACTED] A

Agenda:

1. What is status of security clearance of the requested personnel. B/3
2. Current status of space procurement for [REDACTED] B/3
3. Procedure for working liaison with TSS [REDACTED] A
4. Procedure for OSI/Med liaison [REDACTED] B/3
5. Procedure for liaison and contact with other area divisions [REDACTED] G branches, Library, etc.
6. [REDACTED] to advise re appointment with Director of Training concerning OTr's material about agent assessment and training. A
7. Current status of projected Field Demonstrations.
8. Formulations of plans for basic activities.
9. Cover designation for project within Agency.

5 + 9 discussed together

A/B, 2, 10/31

18 August 1954

ATTN: : Chief, ██████████ G A

Chief, Technical Accounting Staff
Office of the Comptroller

Accounting System for Project ██████████

H-B/3

Attached hereto are an original and 3 sterile and unclassified copies of the accounting system for Project ██████████ for distribution as follows:

B/3

Original Copy to the Project

- 1 Copy for ██████████ Files G
- 1 Copy for SO Files
- 1 Copy for Finance Division

██████████ A

A

A

10. OPERATIONAL AND/OR SECURITY CLEARANCE

All project personnel and agents will have the appropriate security clearance.

11. COVER

a. Field personnel concerned with this project will function under U. S. Government cover applicable to the Field Mission or Station to which they are assigned.

B/3 b. There will be established a research foundation, [REDACTED]

A

[REDACTED] under the direction of [REDACTED] [REDACTED] will have an overt function to study Human Ecology, the relation between men and their environment and the relation between the social environment and human illness. The high order of the aims and purposes of this overt research program will be in accord with the professional standards which prevail at this institution and will effectively conceal the actual purpose and degree of Agency participation. The covert purpose of this Foundation will be to carry out the domestic phase of this project in line with the task and objectives set forth herein.

NOTE: The following attachments are pertinent to the cover organization and provide additional background on the formulation and scope of this activity:

B/3 a. Overt Protocol for the [REDACTED]

B/3 b. Diagram of the Organizational Breakdown of the [REDACTED]

c. Narrative Description of the Overt and Covert Activities [REDACTED]

B/3 c. Case officer contact with individual agent personnel will be worked out on a case basis depending on the actual circumstances of the developmental operation. Agent personnel directly involved in activities within the cover Foundation will be unwitting.

12. CONTROL AND MOTIVATION

All Staff, Contract and Consultant personnel will be U. S. citizens, fully cleared prior to participation in this project. As U. S. citizens they are subject to espionage laws and regulations. Particular emphasis is being placed on selection of the above mentioned personnel in view of the sensitive nature of the project. Agent personnel processed under this project will be thoroughly and professionally assessed to determine basic motivation and control factors. These factors will be re-inforced through the application of additional psychiatric and psychological techniques, methods and skills including the use of hypnosis in conjunction with drugs where applicable.

13. EQUIPMENT AND OTHER SUPPORT

There will be a definite need within the project for certain scientific laboratory equipment. An estimate of the cost of this material will be set forth in para (16) below. In addition to scientific equipment, office material, including safes, desks, typewriters and stationery will also be required. Special operational equipment including S/W material and other communication equipment for use in specific operations will be requested under individual sub-projects.

14. COORDINATION

This project was originated at Headquarters. In view of the sensitive nature of the proposed objectives and tasks, coordination will be on a strict need to know basis.

15. TIMETABLE

As previously indicated, the Agency has done considerable research and has undertaken various activities in the past that will directly contribute to this project. Maximum utilization will be made of knowledge already gained and assets available through existing programs at Headquarters and in the Field. Considerable groundwork has already been laid in connection with the establishment of [REDACTED]. Certain key personnel have already been cleared and steps taken to formally establish the cover [REDACTED] upon approval of this project. A progressive plan has been worked out for initiating the activities of the cover [REDACTED]. These activities have been broken down into five separate research projects under the direction of the [REDACTED]. A brief description of these research projects and an estimated date of commencement follows: (see attachment C for additional details)

1. Study of [REDACTED], 1 October 1954.
2. Effect of Chemical Agents on Bodily Functions, Mentation and Attitudes, 1 September 1954.
3. Other Factors Effecting Behavior, Mentation, and Attitudes, 1 October 1954.
4. Methods of Assessing Behavior, Motivation, Attitude and Adaptive Capacities, immediately upon approval of the project.
5. Consultative Service for Relevant Agency Problems; Special Services, immediately upon approval of the project.

The dates given above are tentative and contingent upon the availability of cleared personnel. In most cases preliminary research will commence immediately upon approval of the project.
[REDACTED]

16. ESTIMATED COST

COMPENSATION

B/3

Director	\$ 9,000
Executive Director	10,000
Agency Liaison Officer	10,800
Research Analyst	5,240
Research Psychologist 2 @ \$6,000	12,000
Psychiatrist	3,500
Cultural Anthropologist	2,000
Sociologist	2,000
Laboratory Technicians 2 @ \$2,500	5,000
Hypnotic Technician	1,500
Hypnotic Specialist 3 @ \$1,000	3,000
Neurologist	4,000
Research Associate (Sociology)	3,750
Secretary and Clerk Typist 3 @ \$3,000	9,000
Agents (Student Fellowship) 8 @ \$3,500	28,000
Char Force 2 @ 1,500	3,000
Total Compensation	\$142,490

EQUIPMENT

This figure covers general office equipment, including desks, typewriters, files and safes, and stationery supplies; recording equipment; and special scientific equipment.

Total Equipment	20,000
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TRAVEL AND PER DIEM

This figure covers domestic and foreign travel and per diem for project personnel.

Total Travel and Per Diem	15,000
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CONTINGENCY FUND

B13
This fund will be made available as required to the Director, [REDACTED] for operational expenses, including grants to additional students representing potential agents not covered elsewhere in the project; and operational entertainment.

Total Contingency Fund	15,000
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RENT, RENOVATION AND UTILITIES

This figure includes the rent, renovation and utilities of office space for project personnel and operational safe house facilities. Office space for project personnel will be rented from the [REDACTED]

B

regulation which would prevent the departure from the United States of
[REDACTED] who had received certain professional and/or technical
training in this country.

d. In view of the sensitive nature of some of the scientific techniques
to be employed in specific operational situations under this project, special
coordination will be required. This coordination will include the approval,
for specific activity, Deputy Director/Plans and Director, Office Sec.ity.