July 1973

psychopharmacology division 28 newsletter

FASEB DIVISION 28 LIAISON ESTABLISHED

The Executive Committee of the Federation of American Societies for Experimental Biology has voted unanimously to extend the APA Division 28 members the privileges enjoyed by FASEB members. A $25.00 member registration fee for the annual convention will pertain, and the Division will participate with FASEB Societies in the distribution of $4.00 from each full registration fee by a formula based on the percentage of member and non-member attendance. Division 28 members may also submit abstracts of papers for presentation by sending them to ASPET in accordance with FASEB regulations. A Liaison Committee composed of FASEB and Division 28 members have agreed on the content of a 1974 FASEB symposium on "Current State of Behavioral Pharmacology." The symposium (outlined on pages 1-2) will be sponsored jointly by ASPET and Division 28.

1974 FASEB Symposium

"Current State of Behavioral Pharmacology"

Jointly sponsored by the American Society for Pharmacology and Experimental Therapeutics and the Division of Psychopharmacology of the APA.

Session 1

Environmental Influences Affecting the Voluntary Intake of Drugs.

Chairman: James Weeks, Upjohn Co.

Travis Thompson & Roy Pickens, Univ. of Minn: An analysis of human and infrahuman drug dependence.

Stephen Goldberg, Harvard. Univ. & New England Regional Primate Res. Center: Control of behavior by stimuli associated with drug injections.

James Woods, Univ. of Michigan: Modification by narcotic antagonists of behavior maintained by self-administration of narcotics.

George Bigelow, Ira Leibson, Roland Griffiths, Johns Hopkins Univ: Experimental models for modification of human drug self-administration as exemplified by alcoholism.

Session 2

Interactions of Behavioral and Neurochemical Processes.

Chairman: Carol Kellogg, Univ. of Rochester

John Harvey, Univ. of Iowa: Use of brain lesions to study drug-behavior interactions.

Sheldon Sparber, Univ. of Minn: Neurochemical changes associated with schedule-controlled behavior.

Morris Aprison, Univ. of Indiana Med. Center: Cholinergic and serotonergic mechanisms during disruption of approach and avoidance behavior.

Lewis Seiden, Univ. of Chicago: Reciprocal interactions between brain catecholamines and behavior.

Session 3

Behavioral Toxicology

Chairman: Russell Leaf, Rutgers Univ.

Joan Spyker, Univ. of Virginia: Long-term effects on behavior of prenatal exposure to chemicals.

Bernard Weiss, Univ. of Rochester: The microanalysis of behavior in assessment of toxicity.

Harley Hanson, Merck, Sharpe & Dohme: Psychophysical evaluation of toxic effects on sensory systems.

Hugh Evans, Univ. of Rochester: Parametric determinations of behavioral toxicity.

Session 4

Contingencies of Reinforcement as Determiants of Drug Response

Chairman: William H. Morse, Harvard Univ.

Donald McMillan, Univ. of North Carolina: Modification of rate-dependent drug effects by aversive contingencies.

Victor Laties, Univ. Rochester: Role of explicit stimuli in modulating drug action.

Leonard Cook, Hoffman-LaRoche: Reinforcement schedules and extrapolation to humans from animal models.

George Heise, Indiana Univ: Discrete trial analysis of drug action.

WHAT'S HAPPENING AT .....

University of Pittsburgh

The discriminative stimulus properties of drugs are being tested in a series of experiments by Edward C. Krimmer as his Ph. D. dissertation project. In one study, rats have been trained in an operant conditioning test box to press different levers to obtain food pellets on a 10 sec FI reinforcement schedule. The discriminative stimulus for the correct lever choice at the beginning of the session is the animal's drug or saline condition, injected intraperitoneally 20 minutes earlier. Different groups of 8 rats each have been trained to discriminate pentobarbital (10 mg/kg) from saline alcohol (1000 mg/kg) from saline, and the two drugs from each other. The existence of distinctive, differential stimulus characteristics of the two drugs is demonstrated by successful training of the latter group. The difference is qualitative and not merely quantitative, indicated by tests with higher doses of the training drugs, in which the animals consistently chose the response correct for the lower dose of the same drug. Further data obtained from all three groups indicate that both drugs but particularly pentobarbital have stimulus characteristics in common with chlordiazepoxide (5-10 mg/kg) whereas the stimulus characteristics of chlorpromazine (1-2 mg/kg) are more similar to alcohol than to pentobarbital.

Discriminative stimulus properties of the same drug conditions have also been trained in the same type of apparatus, in which painful electric shock is terminated as soon as the correct lever is pressed. In an attempt to determine the lowest discriminable dose of pentobarbital, rats trained with pentobarbital (10 mg/kg) and saline have maintained the discriminative response when the pentobarbital dose was decreased to 5 mg/kg.

A project on effects of drugs on intraspecies fighting by pairs of rats is being done with Dr. Klaus A. Miczek of the Psychology Department at Carnegie-Mellon University. A stereotypic pattern of dominance behavior including biting attacks in one animal and submissive-defensive behavior in the other animal is elicited by a procedure which includes omission of food reinforcement but does not involve pain. Δ^9-THC and alcohol, injected in the submissive rat, both increase biting attacks received and wounds suffered. However, the drugs have differential effects on components of defensive behavior. The mutual upright and submissive-supine postures are decreased by THC but increased by alcohol, whereas immobile crouching is increased by THC but decreased by alcohol. THC injected in the dominant rat greatly diminishes or abolishes aggressive behavior.

A series of experiments in vitro in rat liver, conducted by Mr. Magdi Asaad (a graduate student) with the collaboration of Dr. David E. Clarke and Dr. B. N. Dixit, have shown that

alcohol shifts the metabolism of tryptamine to result in an increased production of tryptophol and a correspondingly decreased production of indole acetic acid. This effect is maximal at an alcohol concentration as low as 0.2%. Pharmacological actions of tryptophol might account for some of the behavioral effects of alcohol. Contrary to some reports, alcohol does not inhibit monoamine oxidase. (Prepared by Herbert Barry III)

University of Chicago

The research in our laboratory is aimed toward elucidating the behavioral and neurochemical mechanisms of drug action and is also concerned with developing an animal model of drug abuse.

In the area of drug abuse, procedures are being developed to predict the abuse liability of drugs. The methods which we have investigated are the substitution, 24 hour access, and choice procedure. The substitution procedure is the first stage in the evaluation of the abuse liability of a new drug. Rhesus monkeys trained to self-administer drugs known to be positive reinforcers are used. The rates at which these monkeys self-administer a wide dose range of the test drug are compared to the rate of self-administration of .2 mg/kg cocaine or 0.5 mg/kg pentobarbital. These rates of test drug self-administration are also compared to saline rates (extinction). Using this procedure, diethylpropion, phencyclidine, d-, l- and methamphetamine, heroin, codeine, and sodium salicylate were studied last year. All of these drugs maintained rates of self-administration above saline control levels except for sodium salicylate.

Drugs which maintain responding above saline levels in the substitution test are further investigated using the 24-hour access and choice procedures. In the 24-hour access procedure, the test drug is available 24 hours/day for 30 days on a continuous schedule of reinforcement (FR 1). The patterning of self-administration, effect on food intake, and the possible withdrawal symptoms are observed. At the present time, diethylpropion is being studied with this procedure. Diethylpropion is self-administered in quantities up to 400 mg/kg/day. Drug is self-administered in cycles similar to that of psychomotor stimulants in that several days of high drug intake alternate with periods of relatively complete drug abstinence.

The drug choice procedure permits the systematic comparison of an animal's choice to self-administer one of two solutions during daily discrete trial sessions. Last year we compared methylphenidate and cocaine and found that both drugs were reliably preferred to saline; in addition, high dosages were preferred to low dosages of the same drug and cocaine and methylphenidate at equivalent dosages were equally preferred. Methamphetamine and diethylpropion are presently being compared to cocaine using this same procedure.

This summer, a multiple FI, FR baseline for a food reinforcer and FR shock avoidance baseline will be begun in order to rank the potencies of acute dosages of several drugs with respect to the disruption of the learned behavior. In this way, the behavioral toxicity of a drug can be related to its abuse liability.

We are also interested in the neurochemical basis of drug self-administration. The effects of AMPT, a tyrosine hydroxylase inhibitor, on methamphetamine self-administration are being observed. The correlative brain catecholamine changes will be determined in these animals.

In addition, a procedure for studying the neurochemical correlates of an intraventricular infusion of a drug through a push pull cannuliae system in chaired monkeys has been developed. By using this system, changes in neurochemistry in

response to morphine dependence and morphine withdrawal can be observed. This procedure will also be used to observe neurochemical changes during an FI schedule of food reinforcement.

In the past, we have been concerned with demonstrating the similarity in drug self-administration between man and animals. We are now interested in manipulating variables which will decrease drug intake.

In one experiment, the effects of punishment and extinction on cocaine self-administration are being studied. In this experiment a 30 min cocaine period paired with a red light S^D alternates with a 30 min cocaine period with a green light S^D. Responding during this baseline is compared to an extinction session in which the red light cocaine reinforcement period alternates with a green light - no drug available period. It is also compared to a punishment session in which a red light cocaine reinforcement period alternates with a green light-cocaine-electric shock period. In this way, the effects of electric shock and decreased drug intake on the rate of drug self-administration can be studied.

The development of antibodies specific to morphine may be a possible means of suppressing morphine self-administration. Monkeys will be passively and actively immunized and their drug intake rates compared to pre-immunized baseline levels of responding on a multiple FR 10 (cocaine) FR 10 (morphine) schedule. It will be possible to determine whether the immunization produces a non-specific decrease in responding for drug or a specific decrease in responding for the morphine solution alone.

Another area of interest has been drug tolerance. Methamphetamine tolerance studies in which animals receive non-contingent infusions of methamphetamine eight times daily are now being completed. The dosage of methamphetamine is raised as tolerance develops to the disrupting effects of the drug on the performance of an FR 10 or DRL 40" schedule. Following the termination of the experiment, necropsies are performed to determine whether or not methamphetamine has produced any morphological, biochemical and physiological changes.

Finally, another kind of study in progress is one in which we are observing the food and water intake of monkeys injesting methadone (p.o.). The polydipsia technique will be used to increase the concentration of methadone injested and naloxone will be given to determine whether a withdrawal syndrome can be precipitated. (Prepared by C. R. Schuster)

Status and Future of Behavioral Toxicology

by

Bernie Weiss

Faced now with problems stemming from public concern over environmental contamination, food additives, occupational exposure, drug abuse and similar situations, toxicology is radically shifting its emphasis. Earlier, toxicologists mainly were called on to establish lethal doses for chemical agents and to provide evidence for the presence or absence of clearly defined pathology. Today, they are being asked another kind of question: what are safe exposure levels in terms of subtle, long-term effects, including effects on function?

This shift in emphasis assigned a major role to behavioral assessments. One reason is that many contaminants exert their primary effects, or at least prominent effects, on the central nervous

system. Heavy metals such as mercury, manganese and lead have been known as CNS poisons for a long time. Organic solvents such as those used in model glue, as dry cleaning agents, and as paint thinners also act on the CNS. Many pesticides produce CNS effects. Carbon monoxide and other gases exert actions that are detectable at low levels mainly by behavioral techniques.

Another reason for the role accorded behavioral measures is the frequent occurrence of psychological complaints associated with incipient poisoning -- complaints that herald the appearance of overt manifestations of poisoning. If these could be detected reliably, they might be used to monitor exposed individuals or populations, not only to set standards but to halt exposure before fully developed, perhaps irreversible symptoms set in.

Virtually all of the public agencies whose responsibilities encompass the setting of standards for chemical exposure, or the acquisition of information relevant to such standards, are expressing a tangible interest in behavioral toxicology. These include the Environmental Protection Agency (EPA), the National Institute of Environmental Health Sciences (NIEHS) and other components of the National Institutes of Health. The Food and Drug Administration (FDA), and the National Institute of Occupational Safety and Health (NIOSH). EPA, FDA, and NIOSH have legislative authority to set standards as well as to carry out research. NIEHS, NIMH and other components of the National Institutes of Health are concerned primarily with research.

It may be that the most important impetus to behavioral toxicology will come from the Toxic Substances Control Act introduced in the current session of Congress by Senator Magnuson. An equivalent bill has been introduced in the House. This bill will give EPA the responsibility and authority to specify a set of protocols a manufacturer must fulfill in order to place a chemical on the market. The EPA administrator, under a provision of the bill, will have the authority to require similar information from older chemicals.

In order to prepare for the ultimate passage of this or similar legislation, EPA asked the National Academy of Sciences - National Research Council for a document to outline the principles of protocols for assessing the impact of chemicals on health and on the environment. I served on that committee as chairman of a panel on behavioral effects (with the collaboration of Josef Brozek, Harley Hanson, Russell Leaf, Nancy Mello and Joan Spyker). In our report we ranged from preliminary screens for CNS effects, to detailed behavioral analyses in animals, included effects of prenatal exposure, to assessments in humans exposed in the community.

A number of other recent activities have occurred in behavioral toxicology. The Fifth Rochester Conference on Environmental Toxicity (1972) dealt with behavioral toxicology. The preceedings of that conference will be published (Weiss, B. and Laties, V.G., Behavioral Toxicology, Appleton-Century-Crofts, in press). A Workshop on behavioral toxicology, emphasizing methods that might be applied to humans, is being sponsored at the end of June by NIOSH. Under the Environmental Health Agreement signed with the USSR, we are collaborating with Soviet scientists on joint programs and visits.

Although current support for behavioral toxicology is limited by the same budget restrictions that afflict other fields of science, I envisage a continual growth of support. The questions that it poses, and that are posed to it, have too much of an impact on public policy to be left languishing.

EXECUTIVE COMMITTEE MEETING SUMMARY

Minutes of the May 18, 1973, meeting of the Executive Committee, Division 28.

Present: L. Cook, V. Laties, B. Migler for B. Beer, D. Overton, R. Pickens, J. Sepinwall, T. Thompson, B. Weiss

1. The annual business meeting has been scheduled for August 29 in the St. Pierre room of the Bonaventure Hotel in Montreal from 12:00-12:50. APA council meeting will be on Monday and Thursday mornings, August 27 and 30. Program chairman for 1974 will be I. Geller and for 1975 will be D. Overton. Past, present, and future chairmen will comprise the Program Committee to determine each year's program.

2. The Publications Committee has received favorable comment on the first issue of the Newsletter. Each issue cost about $160 and there are four issues planned per year.

3. Members of the Division 28-ASPET Liaison Committee have agreed on the content of a 1974 FASEB symposium on "Current Status of Behavioral Pharmacology." The symposium will be sponsored jointly by ASPET and Division 28. Division 28 members should be encouraged to apply for membership in the Pharmacology Society.

4. No prizes or research awards will be given this year.

5. Next year two travel awards of $200 each will be available to graduate students for submitting full length research paper (not abstract) to Chairman, Program Committee. Papers must be of single authorship, unless co-authored by another graduate student. Only one award will be given per paper, however.

6. There will be an annual Carl Scheckel (invited) address at APA each year. In addition, there will be an optional presidential address for the incoming president. The presidential address would then be followed by the Division's business meeting, presided over by the outgoing president.

NOTICE

Division 28 Social Hour, Mon., Oct. 27
5-6 p.m. Chateau Champlain Hotel
J. Sepinwall

7. Funds were approved for a divisional hospitality suite to remain open all day on August 27, 28, and 29 during the APA convention, at approximately $100 per day. Students may be paid for working in the suite.

Address Change for
Arnold Davidson
Previous address: Pharmacology Department, Smith Kline & French Labs., Philadelphia, Pa.

New address: Pharmacology Dept.
Hoffmann-La Roche Inc.
Nutley, N.J. 07110

If you know of anyone interested in becoming a member of Division 28, please pass enclosed post card along to that individual.

DIVISION 28
HOSPITALITY SUITE

Hotel Bonaventure

5:00 p.m. - midnight

August 27, 28, 29 (Mon., Tues., Wed.)

Check at Registration Desk for Room

1973 APA Division 28 Program
Montreal, Quebec, Canada

CC = Chateau Champlain Hotel
HB = Hotel Bonaventure
PB = Place Bonaventure

Monday, August 27, 1973

1. 9 - 9:50 a.m. -- Conversation Hour with J. Anthony Deutsch, CC
2. 9 - 9:50 a.m. -- Symposium (Cosponsored with Division 18): Evaluation of Drug Abuse Treatment Programs, PB.
   - Joel M. Cantor, chairperson.
   - Gloria N. Francke, "Problems in Evaluating Drug Dependent Treatment Programs in the Veterans Administration."
   - Richard N. Bale, "Treatment Followup as a Problem in Evaluation".
   - Herbert S. Caron, "Intervention as a Problem in Evaluation."
   - John H. McCormack, discussant.
3. 10 - 11:50 a.m. -- Paper Session: Animal Studies with THC, Stimulants, or Hallucinogens (CC)

   Chronic Δ^1-Tetrahydrocannabinol administration and aggressive behavior. D. R. Cherek, Kalamazoo State Hospital, Kalamazoo, Michigan, and T. Thompson, University of Minnesota.

   Effect of Intravenous Trans-1-Δ^9-Tetrahydrocannabinol on the Acquisition of a Two-Way Active Avoidance Response. William R. Saxby and Richard E. Musty, University of Vermont.

   Effects of Δ^9-Tetrahydrocannabinol on Retention of a Passive Avoidance Response in Rats. Robert J. Pandina and Richard E. Musty, University of Vermont.

   Lack of Behavioral Tolerance to Δ^9-Tetrahydrocannabinol in Stump-Tailed Macaques. Edward W. Snyder, Evan G. Lewis, Edward C. Beck and Robert E. Dustman. V. A. Hospital Salt Lake City, and University of Utah.

   Disruption of Maze Performance by Δ^9-Tetrahydrocannabinol. Edward T. Uyeno, Stanford Research Institute, Menlo Park, California.

Paper Session: Animal Studies with THC, Stimulant, or Hallucinogens(cont'd)

Methampehtamine-induced Changes in Fixed Ratio Responding in the Rhesus Monkey, Marian W. Fischman and Charles R. Schuster, University of Chicago.

The Effects of d-Amphetamine, 2,5-Dimethoxy-4-Methyl-Amphetamine (DOM), and Psilocybin on Fixed-Interval Responding in the Rat. Hugh A. Tilson, William J. Marquis and R. H. Rech, Michigan State University.

Development of Temporal Patterns of Cocaine Self-Administration. John Dougherty, Lexington V.A. Hospital and University of Kentucky, and Roy Pickens, University of Minnesota.

4. 10 - 10:50 a.m. -- Symposium (Cosponsored with Division 18): New Trends in the Drug Scene, PB.
   - George C. Hall, chairperson.
   - Stewart G. Armitage, "Rehabilitation and Treatment Programs".
   - Robert E. Jones,"Program Evaluation".
   - Joseph C. Sharp and Harry C. Holloway, "Research".
   - Helen C. Nowlis, discussant.
5. 12 - 1:50 p.m. -- Fellows Invited Addresses, CC.
   - Bernard Beer, Squibb Institute for Medical Research, chairperson.

Fellows Invited Addresses.

Participants:

Solomon S. Steiner, City College, CUNY. Behavioral Specificity of Drug Action.

Roy W. Pickens, University of Minnesota. Acute and Chronic Effects of Amphetamine Self-Administration in Rats.

Ronald T. Hill, Ciba-Geigy Corp., Summit, N.J. Drug-Behavior Interactions with Small Modifications of Basic Operant Procedures.

6. 2 - 2:50 p.m. -- Paper Session: Pharmacological Studies of Acquisition, Extinction, and State Dependency, CC.

Elkan R. Gamzu, Hoffmann-La Roche Inc. (chair).

Differential Stimulus Characteristics of Alcohol and Pentobarbital in Rats. Edward C. Krimmer and Herbert Barry, III, University of Pittsburgh.

Rapid Drug Discrimination Produced by Ketamine, A Dissociative Anesthetic. Donald A. Overton and Ronald I. Lebman, Temple University and Eastern Pennsylvania Psychiatric Institute.

Alcohol State-Dependent Associative Processes. Herbert Weingartner and James E. Eich, University of Maryland and Baltimore City Hospital.

Effects of Pentobarbital on Extinction: Abrupt vs. Gradual Drug Withdrawal. Roland R. Griffiths, Johns Hopkins University, and Travis Thompson, University of Minnesota.

Complex Learning with Aversive Stimulation under Drug Conditons. Sheldon J. Lachman, Wayne State University, and Daniel R. Snyder, Yale University.

7. 3 - 3:50 p.m. -- Symposium: Psychopharmacology and Aging: Keys and Problems for Therapy and Research, CC.

Robert O. Pihl, McGill University, Chair.

Participants:

Joseph T. Freeman, Philadelphia, Pa. Principles of Medication in Geriatrics.

A. Douglas Bender, Smith Kline & French Philadelphia, Pa. Pharmacodynamic Principles of Drug Therapy in the Aged. /Dwight W. Jeffrey, Louisiana State University, New Orleans. Perspectives for Psychopharmacologic Research in Gerontology.

8. 5 - 6:00 p.m. -- Social Hour, CC.

Jerry Sepinwall, Hoffmann-La Roche Inc., Nutley, N.J., Chair.

Tuesday, August 28, 1973

9. 9 - 10:50 a.m. -- Paper Session: Pharmacological Effects and Neurochemical Mechanisms, HB.

   - Aryeh Routtenberg, Northwestern University, chair.

   Changes in Amphetamine Anorexia following Amygdala Lesions in Rats. Sherwood O. Cole, Rutgers University, Camden.

   Long-Term Taste Aversion Induced by Both Oral Amphetamine Self-Administration and Repeated Amphetamine Injections. Robert J. Carey, V.A. Hospital, Syracuse, N.Y.

   Facilitation of Recovery from Lateral Hypothalamic Syndrome by Blockade of Central Dopaminergic Receptor Sites. Martin D. Hynes and Harbans Lal, University of Rhode Island, and Clint D. Anderson, Providence College.

   Central Histaminergic Control of Ingestive Behavior in the Rat. Sarah Fryer Leibowitz, Rockfeller University.

   Effect of Morphine on Self-Stimulation in Rats with Lesions in the Locus Coeruleus. Stanley A. Lorens, University of Bergen, Norway.

   Nalorphine as an Aversive Agent. William M. Smith, Jr., U.S. Army, Edgewood Arsenal, Md.

   Effects of 6-Hydroxydopamine on Conditioned and Unconditioned Cardiovascular Responses in Rabbits. Frederick U. Metcalf, Jr. and Neil Schneiderman, University of Miami.

10. 11 - 11:50 a.m. -- Invited Address, HB.

    - Jerry Sepinwall, Hoffmann-La Roche Inc., chair.

    Participants:

    - Oakley S. Ray and Robert J. Barrett, Vanderbilt University and V.A. Hospital, Nashville, Tenn. Behavioral, Pharmacological and Biochemical Analysis of Genetic Differences in Rats.

11. 1 - 2:50 p.m. -- Paper Session: Human Psychopharmacology, HB.

Tuesday, August 28, 1973

- C. R. Schuster, University of Chicago. chair.

Marihuana Effects on Short-Term Memory and Time Estimation. A. Michael Rossi, Harvard University.

A Marihuana Dose Study of Vigilance Performance. Satanand Sharma and Herbert Moskowitz, University of California, Los Angeles.

Visual Imagery Constants: Drug-Induced Changes in Trained and Untrained Observers. Ronald K. Siegel, University of California, Los Angeles.

Alcohol Self-Administration and Social Interactions in Alcoholics. Roland R. Griffiths, George E. Bigelow and Ira Liebson, Baltimore City Hospitals, Baltimore, Md.

Alcohol-Induced Persistence of Skin Conductance Responses in Normal Humans after change of signal value of a stimulus. Edward J. Malmstrom, The Wright Institute, Berkeley, Calif.

A Preliminary Study: Forty-eight Hours of Abstinence from Smoking. Ellen R. Gritz and Murray Jarvik, V.A. Hospital Brentwood, University of California, Los Angeles.

Averaged Visual Evoked Potential Differences Between Normal and Schizophrenic Subjects: Maximum Amplitude, Frequency of Peaks and Phenothiazine Effects. Maurice Rappaport, H. Kenneth Hopkins, Karyl Hall and Teodoro Belleza, Agnews State Hospital, San Jose, Calif.

12. 3 - 4:50 p.m. -- Division 28 Executive Committee Meeting.

Wednesday, August 29, 1973

13. 9 - 10:50 a.m. -- Paper Session: Psychopharmacology, HB.

- Ronald T. Hill, Ciba-Geigy Corp., Summit, N.J., chair.

Reduction in Toxicity of Intra-Cerebral Infusions of Acetaldehyde by Electrical Stimulation of the Lateral Hypothalamus in Rats. P. Shizgal, A. Amit and Muriel H. Stern, McGill University.

Ethanol and Water Polydipsia during Discrimination Training. Paul K. Brandon, Mankato State College.

Time Factors in Behavioral Control of Brain Norepinephrine and Plasma Corticosterone Levels. William R. Underhill, William B. Rucker and Colin G. McDiarmid, Mankato State College, and Sheldon B. Sparber, University of Minnesota.

The Role of Central Catecholamines in the Maintenance of Free Operant Avoidance Behavior in the Rhesus Monkey. Eugene Smith, Ricker College.

Limited Interval Avoidance: A Baseline for Assessing the Effects of Drugs on Primate Behavior. James L. Eubanks, Southwest Regional Laboratory, Los Alamitos, Calif., and Peter Killeen, Arizona State University.

Long Term Effects of Several Anesthetic Treatments on Acquisition of a Conditioned Avoidance Response. Harold Wakeley and Morris Aderman, Illinois Institute of Technology.

Suppression of Shock-Elicited Aggression in Rats by Facial Anesthesia. Donald H. Thor and William B. Ghiselli, Edward R. Johnstone Training and Research Center, Bordentown, N.J.

The Effects of Chlordiazepoxide (Librium) on the Attack Behavior of Male Siamese Fighting Fish, Betta splendens. Michael H. Figler, Richard M. Klein and Richard B. Radford, Towson State College.

14. 11 - 11:50 a.m. -- Invited Address: Carl Scheckel Memorial Lecture, HB.

- Leonard Cook, Hoffmann-La Roche Inc., chair.

Wednesday, August 29, 1973

Participants:

- George A. Heise, Indiana University. Discrete Trial Analysis of Drug Action: Behavioral Effects of Scopolamine.

15. 12 - 12:50 a.m. -- Business Meeting, HB.

- Leonard Cook, Hoffmann-La Roche Inc., Nutley, N.J., chair.

16. 1 - 3:50 p.m. -- Symposium: Psychopharmacology of Children with Learning Disabilities, HB.

- Robert L. Sprague, University of Illinois, chair.
- C. Keith Conners, Harvard University, "Recent Controlled Trials of Stimulant Drugs in Hyperactive Children."
- Virginia I. Douglas, McGill University, "Are Drugs Enough?"
- Rachel Gittelman-Klein, Hillside Hospital, "The Effects of Ritalin on Children with Learning Disability and No Behavioral Disturbance."
- Robert M. Knights, Carleton University, "Magnesium Pemoline and Hyperactive Boys."

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DIVISION OF PSYCHOPHARMACOLOGY

OF THE

AMERICAN PSYCHOLOGICAL ASSOCIATION

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September 6, 1973

TO: Members of Division 28

FROM: Bernard Weiss

Last year, during the 1972 meetings of the Federation of American Societies for Experimental Biology (FASEB), I met with the Council of the American Society for Pharmacology and Experimental Therapeutics (ASPET). My aim was to explore ways in which the two organizations, ASPET and Division 28, could collaborate on projects of mutual interest and profit. I pointed out that the 1,600 members of Division 28 spoke on drug matters for an organization of 35,000 psychologists, the American Psychological Association, and that ASPET spoke on drug matters for the Federation, also a large organization. It seemed to me, especially given the political atmosphere in which policy decisions about drugs and drug research are being made, that it might prove useful for us to coordinate our activities along a number of lines. I mentioned, for example, the possibility of encouraging more overlapping membership since both organizations can offer affiliate status to certain individuals. I also suggested that we might explore some joint ventures in programs at scientific meetings. Dr. Robert Furchgott, then President of ASPET, appointed me chairman of a committee to examine ways in which we might promote such collaborative efforts.

The direction finally pursued was the creation of a two-day symposium on Behavioral Pharmacology to take place in Atlantic City during the 1974 FASEB meetings. A provisional program was submitted to the ASPET Council in April and then forwarded to the Council of the Federation. It was approved at all stages and a final program, slightly different from the one published in the Division 28 Newsletter, was submitted to the ASPET Council on August 20.

The two-day symposium will cover four major areas:

1. Environmental influences affecting the voluntary intake of drugs.
2. Interactions of behavioral and neurochemical processes.
3. Behavioral toxicology.
4. Contingencies of reinforcement as determinants of drug response.

The participation of the Division of Psychopharmacology in the 1974 meeting has taken on further dimensions. As a guest society for that meeting, all members of Division 28 will have the privileges accorded regular members of the constituent societies of FASEB. The most outstanding privilege guest membership confers is that members of the division can present papers in the regular 1974 Federation program. As with regular ASPET papers, they will be accepted if they meet the formal guidelines and the abstracts published in Federation Proceedings.

I strongly urge you to take advantage of the opportunity. Although Behavioral Pharmacology is formally recognized by ASPET as a specialty, the number of psychologists taking part in ASPET meetings over the years has remained small and recently has even dwindled. It is vital for us to maintain our contacts with pharmacologists and vital too, for them to maintain their contacts with us. You will find, if you do take advantage of this opportunity, that your paper will be well-attended by an interested audience eager to learn what you have to say.

Bernard Weiss

BW:ms