
PSYCHOPHARMACOLOGY NEWSLETTER

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PRESIDENT'S LETTER

Klaus Miczek
President, Division 28

Psychopharmacology is older than agriculture on this planet, to paraphrase Aldous Huxley's famous statement. As a science, psychopharmacology is young and not fully mature, having burst onto the scene in a major way with the advent of chlorpromazine in the 1950's. But modern scientists and therapists are not the only ones who have been intrigued by substances that act on the brain and alter behavior; drugs have profoundly fascinated men and women of letters and the arts since antiquity, enriching their lives but often ravaging them as well.

One must marvel at Titian's "Bacchanale" in its portrayal of the heavenly bliss achieved through the euphorogenic actions of alcoholic libations. Otto Dix' "Kokaingraf" is a gripping depiction of a once exquisitely beautiful, elegant woman in her insatiable lust and greed for more intense and immediate satisfaction. These masterworks from the 16th and 20th centuries, presumably drawing on both self-experimentation and folk wisdom, capture essential actions of alcohol and cocaine. It is fashionable for scientific psychopharmacologists to sport a voyeuristic interest in artistic representations of drug action and to enliven otherwise dull textbooks or lectures with selected quotes and pictures; rarely, however, do they turn to such representations as serious sources of information about the actions of drugs.

Artistic insights into the effects of psychotropic drugs often highlight the very dimensions of drug action that are most difficult to delineate with the tools of modern science. Verbal, musical, and pictorial representations of drug action are often drawn from a framework that profoundly differs from that of modern natural science. The hallmarks of behavioral pharmacology are its objective, accurate, and precise data acquisition and the analysis of operationally defined behavioral processes. A remarkable body of data

on how drugs modify behavior under a variety of environmental conditions has been accrued; yet, after more than three decades of intense and systematic experimental research, many features of drug action still elude scientific inquiry. And it is here that the several "cultures" of our intellectual heritage clash.

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DIVISION 28 CHANGES ITS NAME

At its business meeting this Fall, Division 28 voted to rename itself the Division of Psychopharmacology and Substance Abuse. The term "substance abuse" has been added in order to describe more fully the range of interests of the Division's members. Of the 21 sessions sponsored or co-sponsored by the Division at the APA convention last August, 20 contained presentations dealing with drugs of abuse or alcohol; 14 were exclusively devoted to substance abuse issues. To many specialists, the term "psychopharmacology" refers primarily to the science of medications used to treat behavioral disorders; consequently, program chairs for the Division often receive calls from members of other Divisions inquiring if Division 28 would be interested in submissions dealing with substance abuse. In addition, the Division has a long history of supporting public interest advocacy involving substance abuse issues, and many members of Division 28 play leadership roles in the ADAMHA agencies dealing with drug and alcohol abuse. Thus, the members of Division 28 decided to increase the visibility of the Division's involvement in substance abuse issues by incorporating it in the Division name. The primary interest of the Division remains in scientific issues related to psychopharmacology and substance abuse, including both animal and human research, and their implications for treatment and prevention. The Division has a number of activities in the area of neurobehavioral toxicology as well. Division 28 is also active in the identification of training needs and the development of curricula for psychopharmacology and substance abuse education for psychologists involved both in basic and applied research and in service delivery.

AIDS, DRUG USE, AND PSYCHOPHARMACOLOGY

Margarita Raygada and Andrew Baum
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Bethesda, Maryland

Acquired Immune Deficiency Syndrome (AIDS) is a disease, thought to be fatal in most or all cases, that is caused by the Human Immunodeficiency Virus (HIV). Infection with the virus causes a progressive decline of the ability of the immune system to defend against infection and tumor development. Early stages are marked by initial infection and replication by the virus followed by a latent period that may last for several years. Once the virus becomes active again, the disease appears to progress inevitably towards profound immunosuppression marked by destruction of T-helper lymphocytes and the AIDS end stage. Victims die from opportunistic infections that occur because of weakened immune defenses.

The HIV and AIDS are spreading at an alarming rate. Virtually unknown little more than a decade ago, the disease now affects millions worldwide. Current estimates indicate that more than 150,000 cases of AIDS have been reported in the United States, and that by 1993 a million people in this country will have been infected by the virus, nearly half of whom will have already been diagnosed as having AIDS (CDC AIDS monthly surveillance report, 1990). Worldwide estimates suggest that eight to ten million people have been infected with the HIV, and that there are 298,914 cases of AIDS (World Health Organization, 1990).

There are currently no vaccines with which the epidemic can be halted and no known cures for the disease. Treatments have slowly become available, but the lack of preventive vaccines or effective cures means continued spread of HIV disease and a mounting death toll. Coupled with the now-clear methods by which the HIV is spread, the lack of a vaccine or cure suggests an important role for behavioral scientists in fighting the epidemic. Transmission of the HIV requires exchange of bodily fluids, accomplished during sexual activity, sharing of equipment used to inject drugs, or in blood transfusion or other procedures involving blood. In this country, the initial spread of the disease occurred among homosexual men, but there is growing evidence of heterosexual transmission of the HIV as a result of sexual intercourse or shared intravenous drug "works." Reduction of behaviors that place people at risk has become an important component of the struggle against the HIV disease and has focused on "safe sex": Reduction of the number of sexual partners, use of condoms, abstaining from sexual relations, monogamous rela-

tionships, and so on. Because a primary route of transmission of the disease is through IV drug use, however, it is also important to focus on reducing or preventing IV drug use and on safe behaviors such as use of clean needles and syringes. To address this need, training models, needle exchanges, distribution of bleach, and other interventions have been developed.

A number of issues are important; preventing IV drug use and encouraging safer behavior are only two of the more obvious. While we certainly did not need more reasons to work towards curtailing and preventing drug abuse, prevention of the spread of the HIV is clearly another. There is still much that we do not know, however, and we need to learn. We need to know more about the consequences of continued IV drug use after one has been infected by the HIV. Do the common drugs of abuse affect the progression of the disease or interact with it in any way? Does drug use increase the likelihood of engaging in behaviors that cause one to become infected or to spread the virus once one is carrying it? Can the use of drugs affect or mask neuropsychological or emotional symptoms that might provide important diagnostic information? These and a number of other questions remain to be answered.

Recent evidence suggests that some drugs of abuse are immunosuppressive, and that some of the effects of these drugs may resemble the effects of the HIV or may interact with its destructive effects on immune function. Heroin and cocaine are the drugs most commonly used intravenously and the possibility that they complicate the immunosuppressive effects of the disease is an important issue for study. The HIV causes deficiency of cell-mediated immune responses and abnormalities of immunoregulation by interfering with macrophage and T cell activity (Masur, Michelis, Green, Onorato, Stouwe, Holzman, Wormser, Brettman, Lange, Murray & Cunningham-Rundles, 1981; Gottlieb, Schroff, Schanker, Weissman, Wolf & Saxon, 1981). Abnormalities in T cell function have also been observed in narcotic users and in animals given these drugs (Brown, Stimmel, Taub, Kochwa, & Rosenfield, 1974; McCain, Lamster, Bozzone & Grbic, 1982; Tubaro, Borelli, Cavallo, & Santiageli, 1983). Research has shown that there is an increased incidence of infectious diseases among opiate addicts, including viral hepatitis, pulmonary infections, bacterial endocarditis, bacteremia, and abscesses at the site of injections (Louria, Hensle, & Rose, 1967; Louria, 1969). In addition, chronic heroin users present abnormalities in humoral and cellular immune function, as suggested by a study of 38 chronic heroin addicts (Brown, et al., 1974). Compared to control subjects, heroin addicts had a higher incidence of immunological abnormalities, including hyper

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RECENT LITERATURE ON ANIMAL ISSUES: AN ANNOTATED BIBLIOGRAPHY

Hugh L. Evans

Chair, Committee on Animal Research

Buttman, H.N. Guidelines for the well-being of rodents in research. Bethesda, MD: Scientists' Center for Animal Welfare, 1990. 105 pages, \$25. I haven't had a chance to read this one yet.

The Cancer Bulletin, vol. 42, no. 4 (July-Aug., 1990). Write to: *Cancer Bulletin*, Medical Arts Publishing Fdn., PO Box 1597, Cleburne, TX 76033. Issue covers many contributions of animal research and some of the controversies.

Coalition for Animals & Animal Research. *Handbook for starting a chapter of Coalition for Animals and Animal Research*. Subsidized by Society for Neuroscience. Write to CFAAR, PO Box 8060, Berkeley, CA, 94707-8060. CFAAR has been in the lead, particularly on the west coast, and their information will be very useful in guiding a grass roots organization in your locality.

Evans, H.L. Nonhuman primates in behavioral toxicology: issues of validity, ethics and public health. *Neurotoxicol. Teratol.* 12:531-536 (1990). Discussion and references on use of restricted food and water; species extrapolation upward and downward from nonhuman primates.

Golub, M.S., et al. Problems associated with long-term feeding of purified diets in rhesus monkeys. *Primates*, 31:579-588. Indicates limitations on our understanding of nutritional and dietary needs of monkeys, and the weak underpinnings for attempts to legislate diet and feeding procedures for lab monkeys. A supposedly "adequate" diet was not superior to a "deficient" diet in terms of reproductive success.

National Association for Biomedical Research (NABR). *Protecting researchers and their work*. Call (202) 857-0540 for information. Informative notebook with background on animal rights movement, lawsuits and recommendations for action.

Nicol, C.S., Russell, S.M. Analysis of animal rights literature reveals the underlying motives of the movement: Ammunition for counter offensive by scientists. *Endocrinology*, 127:985-989, 1990.

Segal, E.F. (Ed.). *Housing, care and psychological wellbeing of captive and laboratory primates*. Park Ridge, NJ, Noyes Publications, 554 pages (1989). \$64. One of the largest collections of papers on the topic; includes data.

Singh, M. & Vinathe, S. Inter-population differences in the time budgets of bonnet monkeys. *Primates*, 31:589-596 (1990). Indicates the difficulty in establishing "norms" for behaviors such as locomotion, social interaction, sitting, due to differences in baseline exhibited by different groups of monkeys. Another example of difficulty in defining and quantifying "abnormal behavior" of laboratory monkeys.

Woolverton, W.L., Ator, N.A., Beardsley, P.M. and Carroll, M.E. Effects of environmental conditions on the psychological well-being of primates: a review of the literature. *Life Sci.* 44:901-917 (1989). Many topics and references are discussed by Division 28 members.

NOTE: I am joining the APA Committee on Animal Research and Ethics (CARE) and will be able to convey your concerns and new information to APA. Other committee members familiar with the concerns of Psychopharmacology are Larry Byrd and Lew Seiden.

BYRD APPOINTED TO AAALAC BOARD

Larry Byrd, a Fellow of Division 28, has been appointed to the Board of Trustees of the American Association for Accreditation of Laboratory Animal Care (AAALAC) for a three-year term. He is the first individual to represent the American Psychological Association on the AAALAC Board, and will join representatives from several other scientific societies in guiding the activities of the accrediting organization. In addition to membership on the AAALAC Board, Larry also serves as a member of APA's Committee on Animal Research and Ethics to advise the Science Directorate and APA on issues regarding the appropriate use of animals in behavioral research.

RON WOOD TESTIFIES BEFORE SENATE SUBCOMMITTEE

Elizabeth Baldwin
APA Science Directorate

Dr. Ronald Wood, Division 28 President-Elect, testified before the Senate Subcommittee on Toxic Substance's hearings on Environmental Oversight, Research and Development on October 3, 1990. He presented testimony on behalf of APA on "Neurotoxicity: Identifying and Controlling Poisons of the Nervous System." The Senate hearing was held to examine the findings of a recent Office of Technology Assessment (OTA) report on neurotoxicity.

Dr. Wood called for changes in federal policy regard-
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APA FILES AMICUS BRIEF

Ronald Wood

President Elect, Division 28

A court in Georgia rejected as inadmissible the testimony of a psychologist appearing for plaintiffs alleging neurotoxic injury following exposure to Aldrin, a pesticide. This decision could set an unfortunate precedent, undermining the role of psychologists in court cases involving medicines, drugs, and chemicals.

On December 20, The American Psychological Association filed a "friend of the court" (amicus curiae) brief (43 pages) before the court of appeals for the State of Georgia.

"...The Superior Court of Douglas County rejected as incompetent for certain purposes the proffered expert testimony of... a psychologist and member of APA. Noting that 'causation is a central element of proof of any negligence action', the court ruled that psychologists are not competent to testify as to the cause of an alleged mental defect: 'Medical causation is not a subject within the scope of psychological expertise.' If affirmed, this decision would put Georgia courts profoundly out of step with the vast majority of American jurisdictions, which have ruled that psychologists are competent to testify about the causes, including organic causes, of brain disfunction... APA will demonstrate that psychologists are leaders in the scientific investigation of industrial and pharmacological agents' effects on the human nervous system and neuropsychological functioning...." (submitted by David Ogden and Cynthia Misicka of Jenner and Block, Counsel for APA)

NEW NIH/ADAMHA COMPUTERIZED CONSULTANT FILE BEING DEVELOPED

The National Institutes of Health (NIH) and Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA) are in the process of establishing a new consultant file of peer reviewers/advisors. These consultants will be selected from a national pool of scientists who are engaged in basic or applied research. Data from qualified respondents will be entered into a new computerized NIH/ADAMHA database. This unique database will be used as one source from which candidates for membership in NIH/ADAMHA committees and for other advisory activities are drawn. All qualified scientists are requested to participate. Qualified women and minority scientists are encouraged to apply.

A Consultant File Information Form was sent to every PHS grantee and study section member in the Fall of 1990.

Other scientists who are interested in participating should respond by letter requesting a copy of the NIH/ADAMHA Consultant File Information Form.

Since the new file will be established based solely on positive responses, your response is needed even if you are already a consultant or are a member of a PHS Reviewer's Reserve. This file is independent of other consultant files. Your request should be sent to: NIH/ADAMHA Consultant File, 4733 Bethesda Ave., Ste. 725, Dept. 03, Bethesda, MD 20814. For additional information, please call Gloria Levin at (301) 443-1367.

REVIEWERS SOUGHT FOR NIMH GRANT APPLICATIONS IN CLINICAL PSYCHOPHARMACOLOGY

Division member Rich Marcus is the Executive Secretary of the Committee at NIMH that reviews research grant applications in the area of clinical psychopharmacology and other somatic treatments. He and his colleagues are always looking to expand the pool of qualified individuals willing to assist in the grant review process. This assistance can sometimes take the form of providing written opinions through the mail, similar to a journal review; serving on a team making a project site visit to an investigator; or attending the review committee meeting (usually in the Washington, DC area) as an ad hoc reviewer. In some cases, ad hoc reviewers attend the full committee meeting, usually lasting two or three days.

If you are interested in participating as a grant reviewer, there are several options available. In the area of mental health, not necessarily limited to psychopharmacology, you should send a copy of your CV to Richard Marcus, Ph.D., National Institute of Mental Health, Room 9C14, 5600 Fishers Lane, Rockville, MD 20857; (FAX: 301-443-8683). Enclose a cover letter indicating your areas of expertise and interest. Rich will see that they get to the appropriate Executive Secretary within NIMH. Potential reviewers with interest and expertise in alcohol abuse and alcoholism should send their CVs to Mark Green, Ph.D., National Institute on Alcohol Abuse and Alcoholism, Room 16C20, 5600 Fishers Lane, Rockville, MD 20857; for drug abuse, material should be sent to Mrs. Eleanor Friedenber, National Institute on Drug Abuse, Room 10-42, 5600 Fishers Lane, Rockville, MD 20857. Previous experience, either as a reviewer or as a successful grant applicant, is not necessary but would be helpful. Female and/or minority scientists are especially encouraged to participate.

As described elsewhere in this issue, the National Institute
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AIDS AND PSYCHOPHARMACOLOGY (cont.)

gammaglobulinemia (Igm and IgG). Animal studies indicate that morphine depresses phagocytic functions and exacerbates infections: In mice, morphine administration has caused general impairment of the immune system's ability to eradicate infection, including reduced reticuloendothelial system activity, phagocyte counts and phagocytic killing properties, and lymphoid organ weight and superoxide anion production in polymorphonuclear leukocytes and macrophages (Tubaro, et al., 1983). Delayed hypersensitivity has also been found to be affected by chronic opiate treatment (Pellis, Harper & Dafny, 1986). These kinds of effects appear to generalize to humans, as studies indicate that addicts show impaired *in vitro* lymphocyte proliferation in response to challenge with common mitogens such as phytohemagglutinin (PHA), Concanavalin A (ConA), and pokeweed mitogen (PWM) (Brown et al., 1974), and decreased percentage of active T rosettes (Wybran, Appleboom, Famacy & Govaerts, 1979). These findings support the hypothesis that exogenous administration of opiates affects immune function and is consistent with the notion that endogenous opioid peptides are influential in immunity. Less is known about whether opiates have synergistic effects with HIV disease or with factors that could affect HIV disease such as stress.

Cocaine is another drug of abuse that is often used by people at risk for HIV infection. Like heroin, this drug appears to have immunosuppressive properties. A study examining the effects of cocaine and other alkaloids from erythroxylon coca on the primary immune responses of ICR mice to sheep red blood cells and dinitrofluorobenzene (DNFB) reported an inhibition of both plaque forming cells and delayed hypersensitivity responses with cocaine administration at doses of 15 to 60 mg/kg (Watson, Murphy, ElSohly, ElSohly & Turner, 1983). However, Havas, Dellaria, Schiffman, Geller & Adler (1987) reported that cocaine, even in doses that produced marked changes in behavior, did not suppress responses to pneumococcal polysaccharide type III or DNP, nor did it affect tumor growth or susceptibility to infection in mice. Because these studies used different strains of mice and different routes of drug administration, they may not represent conflicting findings. In humans, cocaine HCL suppressed proliferation of human blood lymphocyte to PHA and ConA (Klein, Newton & Friedman, 1988), but IV cocaine produced an increase in natural killer cell activity in peripheral blood (Van Dyke, Stesin, Jones, Chuntharapai & Seaman, 1986).

Further research should investigate whether the effects of cocaine include immunosuppression, or if a combination of cocaine and stress or cocaine and other drugs of abuse might have immunosuppressive effects. Stress has a

number of effects on behavior, on the immune and endocrine systems, on emotions, and on neuropsychological variables that are important in detecting drug use, understanding the consequences of drug use, etc. In addition, these effects may interact with changes due to HIV disease. These complex interactions are underscored by the apparent fact that some drugs of abuse have effects that are similar to those caused by stress or may be altered by stress (Grunberg and Baum, 1985). Further, as with opiates, it is possible that the immunosuppressive effects of stress and abused drugs may interact with the HIV and produce more rapid or dramatic changes in immune function.

Another area in which drugs of abuse might contribute to HIV infection is the association of drug use and vigilance or practice of safe, low risk behaviors. Since these protective behaviors include reducing the number of sex partners one has, using condoms, and using clean works for administering IV drugs, and because the use of drugs may decrease compliance or vigilance, drug use could increase promiscuity and decrease precautions taken against HIV infection. Studies of drug use and compliance with health education guidelines are relatively rare, but tend to support this possibility. Stall and his colleagues (1986) reported that in a prospective study of the behavioral changes made by gay men in San Francisco in response to the AIDS epidemic, men who combined drug use with sex were most likely to have a history of high-risk sexual activity (Stall, McKusick, Wiley, Coates & Ostrow, 1986). This association was further examined in a longitudinal study of the relationship between unprotected anal intercourse and the use of drugs during sex (Martin, 1990). Prior to the onset of the HIV epidemic, unprotected anal intercourse and drug use were strongly linked. As the epidemic progressed, this association diminished, although it was still significant as of 1987.

Drug use appears to be an important determinant of whether intentions are carried out or precautions are taken against HIV infection. While several hypotheses have been proposed to explain drug use during sexual behavior, or its effects on risky behavior, it is not yet clear how drugs of abuse may contribute to reducing safe sex practices. The social and psychological aspects of the use of drugs, the motivational systems or histories of those who use them, and the conative properties of the major drugs of abuse represent just some of the important issues needing study.

The study of interactions between drugs of abuse and immune function and the association of drugs with high-risk sexual behavior represent important contributions to the list of treatment and preventive factors in fighting the spread of the HIV. At a time when the best tool in fighting its spread is prevention, this contribution may be decisive.

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AIDS AND PSYCHOPHARMACOLOGY (cont.)

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PRESIDENT'S LETTER (cont.)

In his often-cited essay from 1959, C.P. Snow lamented the existence in our lives of two cultures, one following the rules of the natural sciences and the other the tradition of the arts and humanities. Each "culture" has provided us with noble and enriching insights into the human condition. Psychopharmacology is one of those areas of inquiry that is at the fracture line of these conflicting traditions. Are we able to bridge the infamous gap that separates the "cultures" of psychopharmacology? And if so, how is this task best accomplished? We need to develop lines of communication; instead of hiding behind barriers of unnecessarily complex professional jargon, we should open our "turf." Educating our colleagues about our ways of gaining knowledge of the actions of drugs in a non-condescending fashion is a formidable but highly desirable goal. Similarly, it would be fascinating to see our artist friends more often turn to the process of scientific research as subject matter in their work. As the "Far Side" humor of Gary Larson or the Sid Harris cartoons dramatically illustrate, the ironies, contradictions, and often very intricate and curious habits of scientific research constitute ample material for critical scrutiny as well as enthusiastic inspiration. There is no rea-

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PRESIDENT'S LETTER (cont.)

son that more enduring art forms could not and should not focus on the "madness" of science as well.

Claude Bernard was impressed by the poet who characterized the personality of art and the impersonality of science as follows: "Art is I: Science is We." Bernard's aphorism seems particularly applicable to the differences between the scientific and artistic approaches to psychopharmacology. We would all be the beneficiaries of improved communication between the two cultures.

WOOD TESTIFIES (cont.)

ing neurotoxic substances, including: 1) improvements in the regulatory process, 2) improvements in testing requirements, and 3) increased funding for training and research in neurotoxicology. Specifically, changes are needed in the Toxic Substances Control Act (TSCA), which was designed to regulate new and existing industrial chemicals.

TSCA will be closely looked at by the 102nd Congress which convenes in January 1991. Although it has been examined by Congress in previous years, there is now a building consensus that the legislation needs to be changed as it has failed in its intended purpose to protect the public. TSCA was designed to deal with health and environmental concerns—including the potential dangers from substances with neurotoxic properties.

There is growing evidence linking exposure to neurotoxic substances to long-term changes in the nervous system, and to their action as triggers in such neurological disorders as Parkinson's disease, Alzheimer's disease, and amyotrophic lateral sclerosis (Lou Gehrig's disease). The needed information to assess adequately the thousands of industrial chemicals produced in the U.S. is not available though. Changes in TSCA are necessary to assure that this data is collected and acted upon when necessary. As stated in the recent OTA report, more research is needed to even begin the evaluation of industrial chemicals on mental disorders and diseases.

The APA Science Directorate will work with the Division 28 Neurobehavioral Toxicology Committee to advocate for changes in TSCA, as well as for increased funding for research and training in neurotoxicology and behavior. By working with other scientific and environmental organizations concerned with these issues, it may be possible to speed the needed improvements in the Toxic Substances Control Act.

NIMH REVIEWERS SOUGHT (cont.)

tutes of Health (NIH) are in the process of establishing a consultant file which will also be shared by ADAMHA (NIAAA, NIDA, and NIMH). The CVs that you send in to Dr. Marcus, Dr. Green, or Mrs. Friedenberg, however, will not be shared with NIH, which also reviews applications for research in behaviorally relevant areas. If you wish to be included in the NIH/ADAMHA consultant file, please see the relevant article.

OPEN POSITIONS

Postdoctoral Fellowship Opening: Applications are solicited for individuals to fill one or more postdoctoral fellowships in behavioral pharmacology research to open during 1991 in the laboratories of Drs. Robert Balster and Robert Mansbach. Research methods include operant behavior and drug discrimination in rats, squirrel monkeys, and rhesus monkeys, i.v. drug self-administration in rhesus monkeys, and startle responding in rats and mice. Areas of research include the behavioral relevance of amino acid receptor activation and antagonism, development and use of animal models for assessing new pharmacotherapies for substance abuse, discriminative stimulus and reinforcing properties of cannabinoids, and drug abuse potential evaluation. Send CV, letter of research interests to Drs. Balster or Mansbach, Dept. of Pharmacology and Toxicology, Medical College of VA, Richmond, VA 23298-0613.

Postdoctoral position: Primary area of research interest is the neurochemical and neuropharmacological control over feeding, with particular emphasis on brain serotonergic systems as they interact with other feeding systems (e.g., NE, NPY, galanin, GABA), and CNS controls over whole-body metabolism in animals, the latter being assessed by indirect calorimetry in freely moving subjects. Position available in the fall of 1991. Both hard and soft funding sources are potential avenues for salary support. Interested individuals should apply to Dr. Don Coscina by e-mail (BPSYCH@vm.utoronto.ca), FAX (416-979-2243), phone (416-979-6821), or mail (Section of Biopsychology, Clarke Institute of Psychiatry, 250 College St., Toronto, Canada M5T 1R8).

Postdoctoral Research Training in Developmental Disabilities: The Minnesota Center for Research on Developmental Disabilities and the Center for Youth with Disabilities (Department of Pediatrics, University of Minnesota) announce NICHD Postdoctoral Research Traineeships in: 1) Prevention of disabilities associated with poverty, 2) Behavioral pharmacology and analysis of behavior disorders in developmental disabilities; and 3) Chronic nervous system disabilities of children and youth. Other collaborating departments include Child Development, Neurology, Psychiatry, Psychology, and Educational Psychology. The program includes training in behavioral and biomedical research methods in laboratory and applied settings. All requirements for a Ph.D. (Psychology, Educational or Child Psychology or related discipline) or M.D. (with a residency in Pediatrics of Psychiatry) must be completed at

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OPEN POSITIONS (cont.)

time of assuming position. Positions immediately available for 2 Ph.D. trainees, and for 1 BC/BE Pediatrics Fellow and 1 BC/BE Psychiatric Fellow beginning July 1, 1991. Applicants should submit a letter outlining their training, research activities, and date expected to enter training. Two reprints of recent research should be included with the application letter. Applicants should request three letters of reference from faculty capable of commenting on their accomplishments and potential for profiting from further training. Materials should be submitted to Dr. Travis Thompson, Director, Institute for Disabilities Studies, University of Minnesota, 2221 University Avenue SE, Ste. 145, Minneapolis, MN 55414, (612) 627-4500. The University of Minnesota is an Equal Opportunity Education Institution and Employer and especially encourages applications from women and minorities.

Postdoctoral Research Fellowship in Human Behavioral Pharmacology of Drug Dependence: Responsibilities in the development and conduct of studies examining the discriminative effects of drugs, the effects of abused drugs on human learning and performance and the application of behavioral economics to drug self-administration. Position is for 2-3 years. Salary ranges are competitive and adjusted according to experience. Address letters of inquiry, CV, and 3 letters of recommendation to: Warren Bickel, Ph.D., Human Behavioral Pharmacology Laboratory, Dept. of Psychiatry, U of VT College of Medicine, Ira Allen School, 38 Fletcher Place, Burlington, VT 05401, (802) 656-3060.

Research Affiliate (post-doctoral fellowship) in Nervous System Studies Section (New York State Dept. of Health and State University of New York at Albany): The overall goal is to determine location, nature and etiology of plastic changes in the spinal cord caused by operant conditioning of the stretch reflex pathway. Duties include continued development of conditioning paradigm in primates and rats, and evaluation of the effects of conditioning on the primary afferent-motoneuron pathway with intra- and extracellular electrophysiologic techniques. Requires Ph.D. and experience in behavioral neurophysiology. Position available in early 1991. Annual salary is NIH scale and commensurate with experience. Contact Jonathan R. Wolpaw or Jonathan S. Carp, Nervous System Studies Section, Wadsworth Center for Labs and Research, P.O. Box 509, Albany, NY 12201-0509, (518) 473-3631.

Post-doctoral fellow position in The Smoking Research Group at the University of Pittsburgh (Saul Shiffman, Ph.D., Director): Includes responsibility as director of a NIDA-funded research project on tobacco smoking, nicotine dependence, and relapse. The position also includes opportunities for participation in scientific publications, participation in an interdisciplinary behavioral medicine seminar, and development of the candidate's own research interests. A non-tenure-stream faculty appointment may be extended to qualified candidates. The position is currently open. A minimum commitment of 2 years is needed; a longer term can be negotiated. Salary is competitive. Candidates should have completed (or be close to completing) a Ph.D. in psychology or another behavioral science. Knowledge of one of the following areas is desirable: drug use/dependency, cigarette smoking/nicotine addiction, and/or drug

abuse treatment/relapse. Competence in working with PC-compatible computers (DOS, database management) is also important. Send CV and statement of interests to: Saul Shiffman, Ph.D., Clinical Psychology Center, 604 Old Engineering Hall, Univ. of Pittsburgh, PA 15260.

Assistant Professor (tenure-track): Position advertised in 11/90 *APS Observer* and *APA Monitor*. Specialty area open; will go to the strongest applicant in cognitive psychology or biopsychology. Qualified applicants in biopsychology, neuropsychology, or psychopharmacology are encouraged to meet the deadline and to send any supplemental information to Richard Hughes via bitnet (S1.RAH@ISUMVS) or FAX (515-294-6424). Phone contact (Richard Hughes: 515-294-4376 or Ron Peters: 515-294-2322) for additional information is also appropriate. Send CV, 3 letters of recommendation by 1/15/91 to: Michael O'Boyle, Ph.D., Chair, Experimental Search Committee, Dept. of Psychology, W112 Lagomarcino Hall, Iowa State Univ., Ames, IA 50011-3180.

Postdoctoral Research Trainees: 3 positions available through Fall, 1991. Ph.D. required. \$17,000-31,500/year depending on years of post-doctoral experience. Supported by NIAAA Training Grant in biopsychology. Training in experimental or clinical research desirable. Opportunity for research training in one or more of the following: (1) psychopharmacology of abused substances (F. Holloway); (2) neurophysiological correlates of CNS drug action (L. Gonzalez); (3) neuropsychology of alcoholism (O. Parsons); (4) neuropsychological correlates of schizophrenia and drug abuse (B. Beatty); (5) psychophysiological correlates of alcohol/drug effects (B. Lovallo); (6) behavioral genetics of drug sensitivity (T. Seale). Contact: Frank A. Holloway, Ph.D., Dept. of Psychiatry and Behavioral Sciences, Univ. of Oklahoma Health Sciences Center, Research Bldg., 306-R, P.O. Box 26901, Oklahoma City, OK 73190-3000. The Univ. of OK is an Affirmative Action/Equal Opportunity Employer.

Postdoctoral Research Fellowship in Behavioral Medicine. 1-2 year postdoctoral research fellowship in human psychopharmacology and substance abuse, with a particular focus on nicotine. The trainee will collaborate on laboratory-based projects using pharmacological probes and examining the involvement of corticosteroids in smoking and/or gender differences in smoking. Some of these projects represent growth areas for our laboratory and will allow the trainee to participate in the early stages of development of new lines of research. Instruction in behavioral pharmacology, psychopharmacology, neuroendocrinology, psychophysiology, and/or statistics/research methodology will be provided, depending on the needs and background of the trainee. Persons with M.D. or Ph.D. (in hand or expected shortly) in experimental psychology, pharmacology, or other relevant disciplines are invited to apply. Salary is competitive. Send letter of interest, CV, and 3 letters of recommendation to Cynthia S. Pomerleau, Ph.D., Director, Behavioral Medicine Laboratory, Univ. of Michigan Dept. of Psychiatry, Riverview Bldg., 900 Wall St., Ann Arbor, MI 48105. tel (313) 764-7152. The Univ. of Michigan is an Equal Opportunity/Affirmative Action Employer.

Postdoctoral Clinical/Research Fellowship in Behavioral Medicine. Clinical and research training in a major medical center. Clinical

(cont. on p. 9)

OPEN POSITIONS (cont.)

activities include treatment of self-management problems (e.g., smoking, weight control), precepted behavioral therapy, and training in biofeedback for psychophysiological disorders. Research opportunities include evaluation of behavioral and pharmacological treatment effects on self-management problems and examination of relevant processes influencing outcome at the subjective, behavioral, physiological, and biochemical levels. The position is funded for two years to allow the accumulation of supervised clinical time and for research publications. Qualifications: Doctoral degree from an APA-accredited clinical psychology training program. Send CV, graduate school transcript, and 3 letters of recommendation to: Ovide F. Pomerleau, Ph.D., University of Michigan, Behavioral Medicine Program, 900 Wall St., Ann Arbor, MI 48105. The University of Michigan is an Equal Opportunity/Affirmative Action employer.

ADAMHA Resident Research Associateships: The Psychobiology Laboratory of the NIDA Addiction Research Center conducts research on the behavioral effects of drugs that leads to their abuse, and the behavioral and neuropharmacological consequences of that abuse. Research efforts currently directed at the pharmacological mechanisms of the reinforcing, psychomotor stimulant, and toxic effects of drugs of abuse. Behavioral studies involve drug self-administration and discriminative effects of drugs, as well as standard behavioral procedures for assessment of stimulant effects. These studies concentrate on the contributions of various mechanisms through the use of pharmacological antagonists. Current emphases include the pharmacology of cocaine and other stimulants, including methamphetamine and its congeners. Both behavioral and neurotoxic consequences of repeated use of drugs of abuse are also being assessed. Research is also directed at the development of potential therapeutic agents for use in the treatment of drug abuse. A drug development group within the Laboratory is engaged in synthesis and characterization of new chemical entities. Current emphasis is on the development of new compounds that will be of use in understanding of CNS mechanisms of the behavioral effects of stimulants, sigma receptor ligands, and benzodiazepines. Compounds that help elucidate the mechanisms underlying the effects of cocaine are of particular interest. The ultimate goal of this research effort is new leads in the development of compounds that may be of use in various treatment areas, including overdose and abstinence. These opportunities are open to all citizens of the United States and to foreign nationals who hold an Immigrant (Permanent Resident) Visa. The individual must hold the Ph.D., M.D., Sc.D. or equivalent, or must have completed all formal academic requirements for one of these degrees; psychologists, pharmacologists, and medicinal/synthetic chemists are eligible. Beginning 1/1/91, starting stipend will be \$29,000 per annum with increments of \$1,500 for each year of post-doctoral experience, up to a maximum of \$35,000. Detailed information on procedures and all necessary application materials and supporting documents are available on request from: Associates Programs - GR 430-A, National Research Council, 2101 Constitution Avenue, NW, Washington, DC 20418; or Jonathan L. Katz, Ph.D., Psychobiology Laboratory, NIDA Addiction Research Center, P.O. Box 5180, Baltimore, MD 21224.

APPRECIATION FOR CORPORATE SPONSORSHIP OF DIVISION 28

Jack Henningfield
Treasurer, Division 28

The Psychopharmacology Division of the American Psychological Association would like to express its great appreciation to the many corporate sponsors that help to fund our scientific and academic activities. This support has helped the Psychopharmacology Division to facilitate research and effectively disseminate information. Specific activities that are supported by this funding include the following: to organize interesting and effective programs on drugs and behavior at the Annual Convention of the APA, to invite outstanding leaders in the field both from industry and academia to address those attending the convention, to publish and distribute the quarterly *Psychopharmacology Newsletter* to our 1,200 members, Fellows, Corporate Affiliates, and officers in the 90,000 member American Psychological Association, to influence national policy on the usefulness of animal testing in the evaluation of the activity of drugs and compounds, to promote the already close interdependence between academic and industrial psychopharmacology, and to support, in general, those programs and activities both within and outside the American Psychological Association that relate to the growth and productivity of psychopharmacology.

Corporate sponsors during 1989 have included:

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CORRECTION!

The article entitled "ACTION ALERT - CAST ALL YOUR APPORTIONMENT VOTES FOR DIVISION 28!" on p. 1 of the Fall, 1990 *Newsletter*, was prepared by Stephen C. Fowler, Membership Chair of Division 28. His byline was mistakenly omitted.

CALL FOR FELLOW NOMINATIONS

The Executive Committee of Division 28 seeks nominees for Fellow status in the Division. Any member who has made outstanding contributions to psychopharmacology is eligible for nomination. If you wish to be considered for fellow status, or if you know of anyone who you believe is appropriate for this APA honor, please send a copy of the c.v. to the Division 28 Membership Chair, Stephen Fowler, Ph.D., Dept. of Psychology, Peabody Hall, Rm. 301, Univ. of Mississippi, University, MS 38677 (601) 232-7383.

CENTENNIAL

Herb Barry
Centennial Liaison

Division 28's participation in the APA centennial celebration will have two main foci: 1) history of the founding of Division 28 in 1966, with oral histories to be obtained from participants and observers; and 2) contemporary contributions of Division 28 and of APA to the portions of pharmacology that involve psychology. Readers are encouraged to communicate information and suggestions to Herb Barry, Division 28 Centennial Liaison.

ELECTRONIC BULLETIN BOARD

Ronald Wood
President-Elect, Division 28

Behavioral pharmacologists and psychopharmacologists now can subscribe to an electronic discussion group/bulletin board. This is an effort of the Division and

the Science Directorate to facilitate rapid communication within the Division and among behavioral and psychopharmacologists. You may enroll by sending a bitnet message to listserv@gwuvvm that says: sub div28 firstname lastname. If you are an internetter or need further help, ask Cheri Fullerton of the Science Directorate: apasdcf@gwuvvm.

Ron Wood is maintaining a directory of e-mail addresses, phone numbers, and fax numbers for the Division. He will add new listings to the directory and forward a request to subscribe to the listserver, if you write to him at wood@nyumed or wood@mvax.med.nyu.edu. If you are in the directory, you are on the listserver. Note that the list and directory are open to anyone, not just APA members.

CONVENTION ANNOUNCEMENT

The Board of Convention Affairs would like persons with disabilities who plan to attend the Convention in San Francisco, California, August 16-20, 1991, to identify themselves and provide information on how we can make the Convention more readily accessible. APA will provide a van with a lift as transportation for persons in wheelchairs, interpreters for hearing-impaired individuals, and escorts/readers for persons with visual impairments. We strongly urge individuals who would like assistance in facilitating their attendance at the Convention to register in advance for the Convention on the APA Advance Registration and Housing Form, which will appear in the March through May issues of the *American Psychologist*. A note outlining specific needs should accompany the Advance Registration and Housing Form. This is especially important for persons who require interpreting services. The deadline for advance registration is June 27, 1991.

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DIVISION 28 OFFICERS:

Elected:

		<i>Term</i>
President	Klaus Miczek (617) 381-3414	8/89-8/92
President-Elect	Ronald W. Wood (914) 351-4249	8/90-8/93
Past-President	Robert L. Balster (804) 786-8402	9/88-8/91
Council Representative	Stephen C. Fowler (601) 232-7383	2/91-1/94
Members-at-large	Alice M. Young (313) 577-3290	9/88-8/91
	Robert Sprague (217) 333-4123	8/89-8/92
	Marilyn E. Carroll (612) 626-6289	8/90-8/93

Appointed:

Treasurer	Jack E. Henningfield (301) 550-1494	8/88-8/91
Secretary	Stephen T. Higgins (802) 660-3066	8/88-8/91
Program Chair, 1991	David Penetar (301) 427-5521	8/89-8/92
Past-Program Chair	Warren K. Bickel (802) 660-3067	9/88-8/91
Incoming Program Chair	Nancy Ator (301) 955-3135	8/90-8/93

Newsletter Editor	Cynthia S. Pomerleau (313) 764-7152	5/88-8/91
Membership Chair	Stephen C. Fowler (601) 232-7383	8/88-8/91
CPDD Liaison	Robert L. Balster (804) 786-8402	
Public Information	John G. Grabowski (713) 792-7925	6/87-8/91
ASPET Liaison Officers	Alice M. Young (313) 577-3290	9/89-8/91
APA Public Affairs Liaison	Chris Johanson (202) 295-0972	8/89-9/91
APS Liaison	Donald Overton (215) 787-1534	8/89-9/91
Committee on Nominations	Larry D. Byrd (404) 727-7730	8/89-8/91
Neurobehavioral Tox. Committee	Ronald W. Wood (914) 351-4249	8/89-8/91
Committee on Animal Research	Hugh L. Evans (914) 351-4249	8/89-8/91
Committee on Prescript. Priv.	Marilyne Kilbey (313) 577-2802	8/89-8/91
Centennial Officer	Herbert Barry (412) 648-8563	8/89-8/91

NEWSLETTER DEADLINES (Newsletter appears 4-6 weeks later):

Fall issue: September 15 Spring Issue: March 15
 Winter issue: December 15 Summer Issue: June 15

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