

PSYCHOPHARMACOLOGY NEWSLETTER
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L. D. BYRD, EDITOR

APA AMICUS BRIEF - CONTINUED

The previous issue of the Psychopharmacology Newsletter (Issue No. 4, 1981) included a letter drafted by Division 28 President John Falk and forwarded to John Conger, APA President, in response to an Amicus brief filed by APA in reference to a case pending before the Supreme Court of the United States. The following response was received from Michael Pallak, Executive Officer of APA.

"The issues you raise in your October 16, 1981, letter to President John J. Conger are of genuine concern to us and we are pleased to respond at his request.

"I think it is helpful, to begin with, to describe the process by which the APA makes its decisions to enter cases. A case may be brought to the attention of the Association from outside sources, through one or a group of its members, by a unit of the governance structure (e.g., Board of Scientific Affairs, a Division), by the Central Office Staff, or by legal counsel. A memorandum concerning the case is then drafted by counsel and circulated to relevant boards and committees, particularly the Committee on Legal Issues (COLI). Then all the responses from the various governance components are presented to the Executive Officer and the Board of Directors and a decision is made concerning APA participation. Once a brief is drafted it is circulated as time permits for comments on style, substance and conformance to APA Bylaws and its specific intent with regard to the case. This process was followed in Mills v. Rogers.

"Although regrettably we failed to include Division 28 as a formal entity in this process, we had close communication through our Office of Professional Affairs with two Fellows of Division 28 who had been recommended to us as valuable resources.

"Now some comments about the aims and purposes of our brief. The Board of Directors voted to enter the case in support of the Respondents, the patients who had originally brought the case. While the administration of psychotropic medication was involved as an issue, it was not the primary issue nor the basis of APA's concern. Mills v. Rogers is not a dispute concerning the efficacy of drugs or their alternatives. At the core, the case concerns the constitutionality of compelled medication of legally competent patients committed to state mental institutions. Basic to that argument is the belief, espoused by the APA, that except in certain circumstances, the state has no sufficiently strong interest in overriding any person's constitutionally-protected interest in being free to decide whether to submit to the administration of anti-psychotic drugs.

"To indicate why the Supreme Court should decide as we recommend, the APA argued that these drugs were harmful, either temporarily or permanently, to some patients, that there were potentially effective treatment alternatives that were both less intrusive and less risky, and that, fundamentally, it is for the competent patient to assess the risks and benefits of all available treatments. In order to argue our case, we cited the literature indicating that certain antipsychotic drugs may have detrimental and sometimes irreversible side effects.

"Briefs are essentially legal arguments; they

are not literature reviews. That, of course, does not give one license to obfuscate or mislead. Indeed, in our Brief, we acknowledge that 'antipsychotic drugs are undoubtedly beneficial for many patients...' (P.8). We did not generally condemn psychopharmacological agents nor did we claim that psychosocial intervention was the treatment of choice in all cases of psychosis. But, in making our main argument, i.e., that competent patients in nonemergency situations should be fully informed of risks and benefits of all options, we had to show the Court that there were significant risks in permitting psychiatrists to override their patients' refusal of this form of treatment. At bottom, then, our participation in Mills was as a supporter of civil liberties, self-determination and autonomy, not as a proponent or antagonist to any form of treatment. We do not ask the Court to condemn the administration of medication to mental patients, only their enforced administration without proper consultation with those patients.

"We do believe that appending your letter to our Brief would be both procedurally inappropriate and counter to the essence of our argument. It is also counter to APA policy for a Division to draft and submit its own amicus brief, without prior approval of the Board of Directors.

"We do apologize for not consulting formally with you as the President of Division 28 in this matter. As a membership association, we endeavor to include all relevant constituents in our decision-making. The problems you raise in your letter might have been ameliorated if the Division had been included in a more formal manner than occurred. But please know that we did work closely with two Fellows of your Division and that our omission in not contacting you was innocent and inadvertent.

"I am taking the liberty of sending a copy of this letter to those individuals listed in your letter for whom we have mailing addresses in the APA Biographical Directory."

* * * *

After consultation with members of the Executive Committee of Division 28, President Falk responded to Dr. Pallak's letter with the following.

"Thank you for replying to my October 16, 1981, letter to President Conger. The initial part of your letter makes clear how the APA decides to enter court cases in terms of its governance structures, i.e., how the decision to participate is made. What remains completely unspecified is, given a decision to participate, what mechanisms (if any) APA has to draw on the expertise of its members in the preparation of a brief. From your description it would appear that the central office is free to utilize individual members or not and has no responsibility to check with its relevant divisions who presumably possess specific areas of expertise and could mobilize information and expert opinion in a number of efficient ways (e.g., division newsletters).

"In the issue of APA's failure to consult with its Division 28 in the preparation of the Mills vs. Rogers brief, these procedural deficiencies have allowed APA to represent us in a way that does not agree with the views held by the division's executive board or of any of the division members who have communicated with me about this brief. As emphasized in your letter, rather

than consult with Division 28, APA chose to call two of our Fellows to gather ancillary information. As your counsel Donald M. Bersoff told me in a telephone conversation, these Fellows are Drs. Charles R. Schuster and Robert Sprague. Dr. Schuster is, of course, one of the Division's executive board who was a party to my October 16 letter. Further, he has written you independently concerning his alleged role as an authenticating resource for the position taken in the brief. Dr. Sprague provided APA with some relevant reference material on drug side effects. His position, a view which most of us hold, is that alternative therapies should be investigated and promising procedures pursued in the light of the fact that long-term administration of antipsychotic agents can result in undesirable and persisting side effects.

"This brings me to a final consideration: the efficacy of antipsychotic agents. As indicated in my October 16 letter, none of the signers believe statements in your brief such as: '[o]ther therapies have been shown to bear equal or greater promise of long-term improvement' or '[t]reatment methods less intrusive and dangerous than antipsychotic medication are both available and effective'. We may wish that it were so, but treatment modalities with long-term antipsychotic efficacy do not now exist as alternatives to antipsychotic medication. I need not review the literature on the demonstrable effectiveness of treatment with antipsychotic agents. This does not mean that we are unconcerned with side effects or continued efforts to improve agents and regimens. But to state that equal or better therapeutic alternatives now exist in order to bolster a legal position is to do a disservice both to patient needs and the integrity of those providing for these needs. That is the position taken in your brief. Antipsychotic drugs are denigrated and nonexistent, practical alternatives are espoused. Your letter softens this claim by referring to 'potentially effective treatment alternatives' (*italics mine*), but the damage has already been done in the brief.

"In closing, let me say that your attempt to justify the brief's position on antipsychotic drugs by claiming that it's all in the ultimate good cause of 'civil liberties, self-determination and autonomy' betrays the sanctimonious end-justifies-the-means logic of those who would wipe out hard-won scientific advance to serve political, economic, or religious ends."

* * * *

In addition to President Falk's correspondence with Drs. Pallak and Conger concerning APA's mishandling of the Amicus brief matter, Bob Schuster has filed the following letter to Mike Pallak concerning Bob's role as a consultant.

"I have followed with interest the case of Mills v. Rogers, since several organizations in which I am a fellow have filed amicus briefs in this case. Further, I was contacted by APA central headquarters and asked whether I could provide certain technical information on the toxicity of anti-psychotic medications. I declined to do so because I was too busy preparing a report for the World Health Organization at that time. I referred the caller to Dr. Travis Thompson at the University of Minnesota. This was the sole contact I had with APA re this case until I received a copy of the amicus brief submitted by APA. As you know this brief contained sections which many of us in Division 28 objected to and through our President John Falk we informed you of our concerns. Dr. Falk was subsequently telephoned by a lawyer who amongst other things said that the brief had been prepared in consultation with two fellows from Division 28 - my name was given as one of the two. This letter is to inform you that the only communication I had re this case was to decline participation in

the preparation of the brief and to refer the caller to Dr. Thompson. I assume that Dr. Thompson and Dr. Sprague must be the two fellows you refer to in your letter. I hope that you will make certain that my role in this case is clarified to your staff so that they can correctly give credit to those who assisted your legal office in the preparation of this brief."

* * * *

Additional support for the position taken by President Falk on behalf of Division 28 has come from several quarters as evidenced by the following letter sent to President Conger by Drs. Allen Raskin, Nina Schooler and Robert Prien of NIMH.

"We are writing to lend our support to the position Dr. John Falk, President of Division 28, espoused in his recent letter to you regarding the Amicus brief filed by the American Psychological Association in the case of Mark Mills, et al., versus Rubie Rogers, et al. The human rights issue at the core of this case is a complex one complicated by the fact that a civil commitment to a mental institution in Massachusetts does not require a legal ruling of incompetence. In principle, we support the view that patients capable of understanding the issues relating to drug treatment should have the right to accept or refuse this or any other form of treatment. Unfortunately, Dr. Donald Bersoff, the legal counsel who prepared this brief for the American Psychological Association saw fit to launch a vitriolic and factually inaccurate attack on the value and dangers of antipsychotic drugs that does a disservice to the important human rights issue in this case and is a discredit to the scientific and ethical principles embodied in the constitution of the American Psychological Association.

"The undersigned are all psychologists and members of the American Psychological Association who have devoted the major share of their professional careers to research on the efficacy and toxicity of psychoactive drugs in clinical populations including research on antipsychotic drugs. Given our background and experience with psychoactive drugs we are particularly concerned with the position taken in the brief that essentially damps any use of antipsychotic drugs because they are 'extremely intrusive', 'dangerous', have 'irreversible side effects' and are not as effective as other forms of treatment, namely psychotherapy. For example page 8 of the brief contains the statement, 'While the adverse side-effects of antipsychotic drugs are well documented, evidence supporting the asserted positive effects of the drugs is far from conclusive'. Obviously the individual or individuals responsible for this brief have never had to contend with an acutely psychotic patient or have tried to engage an actively hallucinating patient in psychotherapy. There is little question in the minds of most mental health practitioners that antipsychotic drugs are the treatment of choice for these patients. Further, there is ample research evidence to support this view including the results of multi-center collaborative studies supported by the National Institute of Mental Health¹.

"The brief is also rather emphatic in noting that other therapies, i.e., psychotherapy and social learning, have been shown to bear equal or greater promise of long-term improvement than drug treatment. The relative value of psychosocial treatments versus somatic treatments for psychotic patients who are sufficiently reality oriented to partake of the psychosocial treatments remains an open researchable issue. Small sample size and other deficiencies in design call into question the positive psychotherapy of schizophrenia results reported in Psychotherapy of Schizophrenia: The Treatment of Choice (1981) by B. Karon and G. Vandembos. This reference is

cited a number of times in the brief as evidence of the superiority of psychotherapy over drugs in the treatment of schizophrenia. Other studies, e.g. May² which do not find psychotherapy superior are conveniently ignored.

"The brief also condemns the use of psychoactive drugs because of their dangerous side-effects. This document includes statements such as, 'The total catalogue of the side-effects by antipsychotic medications would be a horrendous document.' 'Once discovered (tardive dyskinesia) it is generally considered irreversible.' 'The symptoms of tardive dyskinesia are grotesque and socially objectionable...at worst suicide may ensue.'

"Serious side-effects can occur with antipsychotic drugs but the incidence of these side-effects is generally quite low and for most patients the cost/benefit ratio favors the use of these drugs. Risk of developing tardive dyskinesia (TD) is a concern to all clinicians using these drugs and to researchers as well. Studies of the prevalence of TD are by no means as conclusive as the APA amicus brief suggests. The 41% prevalence rate cited in the brief on page 6 probably comes from the study by Asnis et al.³ which cited a 43.4% prevalence rate of abnormal involuntary movements but included in this figure were movements defined as 'minimal, may be extreme normal'. This hardly conforms to the dramatic description provided on page 5 of the brief. Agranulocytosis, cited in the brief because it can prove fatal, is an extremely rare side-effect. Estimates of its incidence are hard to come by but a recently cited range is between 0.1 and 1.0 per thousand⁴.

"The American Psychiatric Association Task Force Report cited in the APA amicus brief states (page 27) that in chronic institutionalized patients of advanced age and with prolonged drug exposure, prognosis is uncertain but TD may be expected to be permanent in up to 50% of patients. However, they caution against extrapolation from such a population to younger outpatients and suggest that in such groups who have not been studied extensively, higher remission rates might be seen, although extensive data are not available. Neither of these situations merits the comment in the brief that TD is 'generally irreversible'.

"The point we are trying to make is that knowledgeable, responsible and reasonable researchers in the field of psychopharmacology, be they psychiatrists or psychologists, would be offended by the tone and inaccuracies regarding the use and value of antipsychotic drugs that pervade the brief filed by the American Psychological Association. In conjunction with Dr. Falk we also bemoan the fact that the officers of Division 28 were not consulted or even informed of plans to file this brief. We also strongly urge you in the name of fairness and accuracy to follow Dr. Falk's suggestion and append his letter to the brief filed by the American Psychological Association as an addendum.

¹Cole, J.O., Davis, J.M. Clinical Efficacy of the Phenothiazines as Antipsychotic Drugs. Psychopharmacology: A Review of Progress 1957-67 (1968), PHS Publication #1836.

²May, P.R.A. Treatment of Schizophrenia. Science House, New York, 1968.

³Asnis, G.M., Leopold, M.A., Duvoisen, R.C. et al. A survey of tardive dyskinesia in psychiatric outpatients. 134 American J. Psychiat. 1367 (1977).

⁴Anderman, B., Griffith, R.W. Clozapine induced agranulocytosis: a situation report up to August 1975. 11 Europ. J. Clin. Pharmacol. 199 (1977)."

MEDIA WATCH

As part of its program to monitor reporting in the media, the Public Information Office is requesting the assistance of members in notifying APA of examples of news coverage of Association and other psychology developments. Examples of both good and poor reporting are needed from print and broadcast media. Although APA uses a range of national clipping services, they are unable to spot every relevant story. Members who come across coverage of APA or other psychology issues are asked to notify the Public Information Office and, if possible, to provide copies of clippings. Your assistance will help APA in effectively planning its media relations activities.

ETHICAL GUIDELINES

APA's Committee for the Protection of Human Subjects is presently revising the publication, Ethical Principles in the Conduct of Research with Human Subjects. This document was first written in 1975 and was one of the first sets of ethical standards for research written by any organization. The document, which elaborates on Principle 9 of the Ethical Principles of Psychologists, is being revised to better reflect current research practice and current regulations. The Committee has draft copies available for anyone wishing to read and comment on the revision. Comments must be submitted to the Committee before April 1, 1982. Copies may be obtained from Virginia Blair, Administrative Associate for Scientific Affairs, 1200 Seventeenth Street N.W., Washington, D. C. 20036, or at (202) 833-7596.

APPORTIONMENT RESULTS

The APA Committee on Structure and Function of Council has tabulated the apportionment votes resulting from the balloting last November, and the results are now official. Division 28 received 0.70% of the total votes allocated, an amount large enough to insure retention of our seat on the Council for the year. Consequently, Marlyne Kilbey, our Council Representative, will be able to participate in Council meetings and represent the views and positions of the Division.

The number of persons allocating support for Division 28 was encouraging, but not overwhelming. According to APA, 297 persons returned ballots allocating one or more votes for the Division, and 64 persons assigned all ten votes to the Division. The majority (85) gave the Division the minimum of one vote. Given that the Division comprises over 1000 members, the number responding with support for the Division was approximately 30% of the membership, and therein lies the challenge, because 70% of our members are available to be convinced that a vote for psychopharmacology is a vote for their interests and their reason for being a member of APA.

KEYWORTH ADVOCATES CUTS IN R&D SPENDING

In an address before the American Association for the Advancement of Science in January, George Keyworth, President-Reagan's science advisor, reiterated his view that the government can no longer afford the luxury of funding R&D in areas he described as less productive. Keyworth did not develop details on which programs are marginal and did not offer guidelines as to which projects should be cut. He did point out that further budget cuts in R&D will not be across the board and that some programs will be severely cut in order to increase spending in other areas. Defense-related projects are of the latter type.

BEHAVIORAL PHARMACOLOGY AT VANDERBILT UNIVERSITY

Behavioral pharmacology at Vanderbilt University consists primarily of the work being carried out in the laboratories of William Caul, Robert Barrett and Nancy Leith. Each of these investigators is also engaged in collaborative efforts with biochemical pharmacologists Elaine Sanders-Bush, Ronald Kuczenski and Dennis Schmidt, yielding a substantial nucleus of people interested in studying biochemical correlates of behavioral changes produced by drugs.

Work in William Caul's laboratory involves an integrated research program focused on teratological, behavioral and biochemical effects of prenatal exposure to drugs. Currently, his efforts are concentrated on studies of ethanol. Work to date has yielded a maternal treatment regimen that reliably produces marked behavioral effects in offspring. Specifically, the animals demonstrate enhanced active avoidance acquisition, increased exploratory activity, increased resistance to extinction and delayed habituation.

This pattern of behavioral changes is suggestive of alterations in serotonergic and/or cholinergic function in the brain. Thus, pharmacological manipulations of these systems are being compared in ethanol-exposed and normal rats. Additionally, biochemical measures of serotonergic (in collaboration with Elaine Sanders-Bush) and cholinergic (with Dennis Schmidt) function are being examined.

In Robert Barrett's laboratory, several research projects are currently underway. Extensive work in this lab has demonstrated that an animal's learning ability in an aversively motivated task is largely determined by the animal's unconditioned response to the aversive event. The degree to which the unconditioned response is compatible with the task requirements determines the speed of learning. Biochemical studies, in collaboration with Dennis Schmidt, have indicated a correlation between the functional state of the septo-hippocampal cholinergic system and unconditioned behavioral responses to shock. Current experiments are further exploring this correlation and the interaction of this cholinergic system with monoaminergic systems since pharmacological manipulations of norepinephrine, dopamine or serotonin systems can influence the behavioral response.

A second area of research in Robert Barrett's laboratory involves the assessment of drug-induced depression of self-stimulation responding as an animal model of human depression. Chronic amphetamine or reserpine produces depression in people and an elevation in the "reward" threshold in rats. Studies to date indicate that electroconvulsive shock treatment lowers the threshold for self-stimulation in "normal" rats. Current work is evaluating whether electroconvulsive shock can reverse the elevated threshold produced by chronic amphetamine or reserpine and whether chronic treatment with antidepressants will be similarly effective.

The most recent addition to Robert Barrett's research efforts has been studies of the discriminative-stimulus properties of drugs. These studies are being done in collaboration with Elaine Sanders-Bush in an effort to demonstrate and characterize multiple serotonin receptors *in vivo*. Animals are trained to discriminate a putative 5HT agonist from saline and then tested for generalization to other proposed agonists and for blockade by proposed antagonists. Using this procedure, subclassifications of agonists have been determined, i.e., groups of drugs that generalize to each other but not to drugs in other groups, suggesting that they are affecting different subpopulations of 5HT receptors. These data are now being correlated with radioligand binding data and other biochemical measures to

quantitate and characterize the presumed 5HT receptor subtypes.

Current research interests in Nancy Leith's laboratory involve studying the behavioral changes that occur following chronic administration of amphetamine and, in collaboration with Ronald Kuczenski, attempting to delineate the biochemical correlates of those changes. Two general types of alterations in the responsiveness of the animal to amphetamine occur, depending on the particular behavioral action of the drug that is monitored. In behavioral tasks thought to reflect the mood-altering properties of the drug (e.g., self-stimulation, discriminative stimulus, self-administration), tolerance develops to the drug's effects on those behaviors. On the other hand, following chronic treatment, there is an enhanced sensitivity or reverse tolerance to the locomotor stimulant and stereotypy-producing effects of the drug, perhaps similar to the increased sensitivity occurring in people with respect to the production of psychotic symptoms. Thus, the data suggest that studying the biochemical bases for the behavioral changes that are designated as tolerance and reverse tolerance in the rat may be relevant to amphetamine actions in humans. Specifically, the possible roles of dopamine, norepinephrine and serotonin in the behavioral changes following chronic amphetamine are being assessed. These studies involve altering the functioning of these systems by pharmacological means or by lesions, and monitoring behavioral and biochemical changes in the effects of acute and/or chronic amphetamine

(Nancy Leith)

DRUG DISCRIMINATION SYMPOSIUM

The Second International Symposium on Drugs as Discriminative Stimuli will be held in Beerse, Belgium, on June 30 through July 3, 1982. The main focus of the symposium is on the internal stimulus control of behavior. Among the topics being considered are: discriminative stimulus properties of drugs and of electrical brain stimulation, state dependency and theoretical aspects of internal stimulus control. The symposium will be a four-day meeting with invited lectures and voluntary research reports. For information, write: Dr. F. C. Colpaert, Department of Pharmacology, Janssen Pharmaceutica, B-2340 Beerse, Belgium.

POSITION AVAILABLE

The Experimental Psychology Program at the University of North Carolina, Chapel Hill, has a temporary position (1-2 years, non-tenure track) for a Behavioral Pharmacologist. The person filling this position would be responsible for one lower-level undergraduate course each semester in Conditioning and Learning, and would also be expected to become involved in a research program emphasizing the behavioral effects of opioid analgesics. Microprocessor programming and interfacing skills would be helpful. Send Curriculum Vitae and three letters of recommendation to: Dr. Linda Dykstra, Dept. of Psychology 013A, University of North Carolina, Chapel Hill, NC 27514. An Equal Opportunity Employer. Deadline for receipt of materials is March 31, 1982.

EDITORIAL CORRESPONDENCE

Material of interest to the membership of Division 28 should be forwarded for inclusion in the Newsletter to:

Dr. Larry D. Byrd, Editor
Yerkes Regional Primate Research Center
Emory University
Atlanta, Georgia 30322

CORPORATE AFFILIATES

The Psychopharmacology Division of the American Psychological Association is pleased to acknowledge and express appreciation for support from the following corporations. Contributions from the Corporate Affiliates make it possible for the Division to include distinguished scientists as guest speakers during the annual APA meeting, to publish a quarterly Newsletter for distribution to members and affiliates, and to disseminate information and inform others of the science of psychopharmacology and activities that characterize the field. Without this support, the Division would lack the resources to promote psychopharmacology and attract new scientists and students.

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RESEARCH FUNDS SET ASIDE FOR SMALL BUSINESSES

Congressman George Brown, a key member of the House Science and Technology Committee, has disclosed that he will attempt to replace a \$1 billion research setaside for small businesses approved by the House Small Business Committee with a provision to establish a new Federal agency to promote business research and development. Brown (D-Calif.) said his amendment to the Small Business Innovation Research bill, H.R. 4326, would discard the setaside principle and use the \$20 million it would cost to administer it to fund a new office for business R&D at the Commerce Department. While Brown is an influential member of the Science and Technology Committee, observers note that it is the Small Business Committee, and not Brown's science panel, that has thus far controlled the bill.

Despite vehement protests from university groups who contend that the measure would drain funds from academic research, the House Small Business Committee approved the mandatory setaside bill in November. The bill would require 12 Federal agencies with research budgets of more than \$100 million to allocate three percent of those funds for research grants and contracts to small businesses. An estimated \$1 billion in R&D funds would be set aside for small businesses under the bill. The Senate unanimously approved its version of the bill, S.881, in December. The Senate bill calls for a one percent setaside, totalling about \$400 million. The Reagan administration supports the Senate version of the measure.

Five House committees are considering the setaside bill. Under a procedural rule governing the bill, the legislation must be returned to the Small Business Committee by March 1. While the Science Committee may not be able to control the outcome of the bill, the panel did at least provide a friendly forum for university-based opponents of the measure, who have watched it coast through committee after committee while their protests fell on deaf ears. The Science Committee heard from a number of university representatives, including Stanford University President Donald Kennedy and University of

Florida President Robert Marston, who repeated their now-familiar warnings that the legislation would force agencies to transfer research funds from colleges to commercial firms. Funds already appropriated for research, including research of the most fundamental, long-range sort, would be set aside to promote product development, warned Kennedy. Marston stated that his central concern with the Small Business Innovation Research legislation is its potential impact on the conduct of basic research. Kennedy and Marston spoke on behalf of the National Association of State Universities and Land-Grant Colleges and the Association of American Universities. Other university witnesses proposed exempting two major research agencies, the National Science Foundation and the National Institutes of Health, from the bill.

A major flaw in the proposed law, warned Myron Tribus of the Massachusetts Institute of Technology, is the assumption that the terms 'research' and 'development' describe similar activities. The problem with lumping research and development together, Tribus argued, is that most research and development budgets are about 10 percent 'R' and 90 percent 'D'. If an agency takes the entire three percent setaside from the smaller research side of its budget, Tribus added, it will mean a decrease of 30 percent in the funding for university research.

In defense of the legislation, House sponsor Rep. John LaFalce (D-N.Y.) argued that "an old-boy network" of agency officials, university researchers and large corporations prevented small businesses from receiving their rightful share of government grants and contracts. "It's tough breaking through that old-boy network", he charged. At stake is the \$40 billion annually that the Federal government spends on research and development, LaFalce said.

(Health Grants & Contracts Weekly, Feb., 1982)

RECENT PUBLICATIONS

Hrdina, P. D. and Singhal, R. L. (eds.): Neuroendocrine Regulation and Altered Behavior. Plenum Publ. Co.: New York, 1981, 416 pp.

Thompson, T., Dews, P. B. and McKin, W. A. (eds.): Advances in Behavioral Pharmacology, Vol. 3. Academic Press: New York, 1981, 240 pp.

Lal, H. and Fielding, S. (eds.): Psychopharmacology of Clonidine. Alan R. Liss: New York, 1981, 334 pp.

Brown, R. D. and Daigault, E. A. (eds.): Pharmacology of Hearing: Experimental and Clinical Bases. John Wiley & Sons: Somerset, N.J., 1981, 376 pp.

Wheatley, D. (ed.): Psychopharmacology of Sleep. Raven Press: New York, 1981, 265 pp.

Enna, S. J., Mallick, J. B. and Richelson, E. (eds.): Antidepressants: Neurochemical, Behavioral, and Clinical Perspectives. Raven Press: New York, 1981, 272 pp.

Raskin, A., Robinson, D. S. and Levine, J. (eds.): Pharmacology of Psychoactive Drugs. Elsevier/North-Holland, New York, 1981, 224 pp.

Haber, B., Gabay, S., Issidorides, M. R. and Alivisatos, S. G. A. (eds.): Serotonin: Current Aspects of Neurochemistry and Function. Plenum Publ. Co.: New York, 1981, 840 pp.

Barnard, C. P.: Families, Alcoholism and Therapy. Charles C. Thomas: Springfield, 1981, 176 pp.

Miller, S. A. (ed.): Nutrition & Behavior. The Franklin Inst. Press: Philadelphia, 1981, 320 pp.

