- "Mechanism of Action of MDMA ('Ecstasy') and Related Compounds," Dept. of Psychiatry, University of New Mexico School of Medicine, Albuquerque, NM, July 21, 1989.
- "The Design of Novel Molecules With Selective Dopamine D_1 Agonist Action," Northeast Wisconsin ACS Section, February 14, 1990.
- "Design and Synthesis of Novel Dopamine D1 Agonists," College of Pharmacy, University of Toledo, March 6, 1990.
- "Design of Novel Molecules With Selective Dopamine D_1 Agonist Activity," Upjohn Pharmaceuticals, Kalamazoo, MI, January 15, 1991.
- "Hallucinogens: What Are They and How Do They Work?" Olivet Nazarene College, Kankakee, IL, January 30, 1991.
- "I. The Chemistry and Occurrence of Psychedelic Molecules," "II. The 'Chemical Evolution' of Synthetic Psychedelic Molecules," Two lectures given at The Bridge Conference, Stanford University, Palo Alto, CA, February 2-3, 1991.
- "Design of Novel Molecules With Selective Dopamine D_1 Agonist Activity," College of Pharmacy, University of Cincinnati, February 28, 1991.
- "Design of Novel Molecules With Selective Dopamine D_1 Agonist Activity," Wyeth-Ayerst Pharmaceuticals, Princeton, NJ, May 17, 1991.
- "Medicinal Chemistry of Hallucinogenic Agents," School of Pharmacy, University of North Carolina, Chapel Hill, NC, September 9, 1991.
- "The Development of Dihydrexidine, a Novel Full-Efficacy Dopamine D_1 Agonist," College of Pharmacy, University of Tennessee, Memphis, TN, December 12, 1991.
- "The Development of Novel Dopamine Agonists," School of Pharmacy, University of Illinois at Chicago, February 26, 1993.
- "Medicinal Chemistry and Pharmacology of Serotonin Releasing Agents," Department of Pharmacology, University of Pennsylvania Medical School, April 29, 1993.
- "Design of Novel Serotonin Releasing Agents," School of Pharmacy, University Of North Carolina, Chapel Hill, NC, June 11, 1993.
- "Non Neurotoxic Selective Serotonin-Releasing Agents," Dept of Pharmaceutical Sciences, College of Pharmacy, Wayne State University, Detroit MI, September 15, 1993.
- "The Development of Novel Serotonin Releasing Agents," Faculty of Pharmaceutical Science, Khon Kaen University, Thailand, March 14, 1994.
- "Graduate Studies in Medicinal Chemistry in the U.S.A.," Faculty of Pharmaceutical Science, Khon Kaen University, Thailand, March 14, 1994.
- "Dihydrexidine and other Benzo[a]phenanthridines: important new dopamine receptor agonists," Faculty of Pharmaceutical Science, Chulalongkorn University, Bangkok, Thailand, March 15, 1994.
- "Design of Novel Serotonin Releasing Drugs," Faculty of Pharmaceutical Science, Mahidol University, Bangkok, Thailand, March 16, 1994.
- "The Development of Novel Dopamine D_1 Agonists, Dept of Pharmacology and Toxicology," Purdue University, March 29, 1995.
- "Psychedelic Drugs" Magic, Medicine, and the Law, Wabash Area Lifelong Learning Assocn., October 31, 1995.

- "Designing Novel Dopamine D_1 Agonist molecules: potential therapy for late stage Parkinson's Disease," Keynote Address, Annual MIKI Graduate Student Meeting, University of Iowa, March 30, 1996.
- "The Development of Novel Dopamine D_1 *Full* Agonists," GlaxoWellcome Pharmaceuticals, Research Triangle Park, North Carolina, May 30, 1996.
- "The Design and Development of Novel Dopamine D_1 Agonists," Northwestern Drug Discovery Program, Chicago, IL, September 11, 1996.
- "Continuing Studies of the Structure-Activity Relationships of Hallucinogenic Agents," Uruguan Psychopharmacology Society, Montevideo, Uruguay, March 19, 1997.
- Serotonin Releasing Agents," Southern Summer School in Neuroscience, Punta del Este, Uruguay, March 22, 1997.
- "Continuing Studies of the Structure-Activity Relationships of Hallucinogenic Agents," Dept. of Chemistry, University of Chile, Santiago, Chile, March 25, 1997.
- "Continuing Studies of the Structure-Activity Relationships of Hallucinogenic Agents," Dept. of Behavioral Neuroscience, Oregon Health Sciences University, April 17, 1998.
- "From Eleusis to PET scans: the mysteries of psychedelics," Serotonin Club Dinner, Society for Neuroscience meeting, Los Angeles, November 10, 1998.
- "Designing Novel Dopamine D_1 Agonist molecules: potential therapy for late stage Parkinson's Disease," St. Norbert College, De Pere, WI, March 24, 1999.
- "Psychedelics : Historical perspectives and structure-activity studies," Brookhaven National Laboratory, Long Island, NY, May 4, 2000
- "MDMA (Ecstasy): Mechanism of Action and Studies of its Neurotoxic Effects," Chairman's Grand Rounds, Wayne State School of Medicine, Detroit, MI, May 31, 2000
- "Psychedelics : Historical perspectives and structure-activity studies," University of Kentucky, College of Medicine, October 9, 2000.

Invited Speaker at National or International Symposia

"The Use of Rigid Analogs to Probe Hallucinogen Receptors", Invited participant at the Technical Review Meeting on the Quantitative Structure Activity Relationships of Narcotic Analgesics, Narcotic Antagonists, and Hallucinogens, Sponsored by the National Institute on Drug Abuse, Silver Spring, Md., April 1978.

"Attempts to Develop Novel Dopamine Agonists using Structure-Activity Relationships of Known Series of Compounds", Symposium on Dopamine Receptor Agonists", Stockholm, Sweden April 20-23, 1982.

"The Development of Novel Dopamine Agonists", Symposium on dopamine receptors, 184th National meeting of the American Chemical Society, September 14, 1982.

"Behavioral Techniques in the Study of Neuroreceptors", Minisymposium on Neuroreceptors, Indiana Univ. School of Medicine, Terre Haute Center for Medical Education, Terre Haute, Ind. September 25, 1982.

"Studies of the Relationship Between Molecular Structure and Hallucinogenic Activity", Symposium on New Perspectives on the Pharmacology of Hallucinogenic Drugs, sponsored by American Society of Pharmacology and Experimental Therapeutics, Indianapolis, Ind. August 20, 1984.

"Use of Chemical Approaches to Probe the Serotonin Receptor Topography", VIIIth International Symposium on Medicinal Chemistry, Uppsala, Sweden, August 30, 1984.
"Differences Between the Mechanism of Action of MDMA, MBDB, and the Classical Hallucinogens: Identification of a New Therapeutic Class: Entactogens," Multidisciplinary Conference on MDMA, Oakland, CA, May 17 and 18, 1986.

"Structure-Activity Relationships of MDMA-Like Substances," NIDA Technical Review Meeting on Pharmacology and Toxicology of Amphetamine and Related Designer Drugs, Bethesda, MD, August 2-4, 1988.

"Medicinal Chemistry of MDMA," Panel Member on "MDMA, Dangerous Drug or Useful Adjunct to Psychotherapy," 1988 ACNP Annual Meeting, San Juan, December 1988.

"Structure-Activity Relationships of MDMA and Related Compounds: A New Class of Psychoactive Drugs?" The Neuropharmacology of Serotonin, Sponsored by the New York Academy of Sciences, New York, July 10-13, 1989.

"The discriminative stimulus and neurochemical effects of MDA analogues," Invited panel presentation at 1990 ACNP Annual Meeting, San Juan, December 1990

"Structure-Activity Relationships of Psychoactive Phenethylamine Derivatives," Symposium on Drugs of Abuse, American Association of Pharmaceutical Scientists Meeting, Washington, DC, November 19, 1991.

"Novel Serotonergic Agents," Invited Speaker at Symposium on Neuromedicinal Chemistry G-Protein Coupled Receptors, Sponsored by Swedish Academy of Pharmaceutical Sciences, Lund, Sweden, May 20-22, 1992.

"Lysergamides Revisited," Invited Participant at Technical Review of Hallucinogens, Sponsored by the National Institute on Drug Abuse, Bethesda, MD, July 13-14, 1992.

"Current Status and Perspectives of Hallucinogen Research in the Decade of the Brain," Invited speaker, 2nd International Congress of the European Collegium for the Study of Consciousness, Heidelberg, Germany February 22-25, 1996.

"Contemporary Approaches to Drug Development: Bridging the Gap," Invited Participant in joint Indo-U.S. Workshop on Traditional Medicine, Bangalore, India, October 13-17, 1996, sponsored by NIMH.

"The Transition from Cartoons and Rigid Analogues to Computer-Based Models of the Dopamine D1 Receptor," Mid-Atlantic Pharmacology Society, Raritan, NJ, Nov. 4, 1996.

"Basic Research on the Mechanisms of Action of Ecstasy," Ecstasy workshop of the German Society for Addiction Research and Addiction Therapy, Blaubeuren, Germany, Dec. 12-13, 1996.

"Development of Selective Dopamine Agonists: New Therapeutic Strategies for the Treatment of Parkinson's Disease and Schizophrenia," New Clinical Drug Evaluation Unit Program, Boca Raton, FL, June 12, 1998

"Ecstasy: A serotonin and dopamine releasing agent," Drugs of Abuse Symposium, Forum of European Neuroscience, June 27, 1998, Berlin, Germany.

Research Interests:

- Structure-activity relationships of centrally active drugs; drug design
- The use of rigid analogs to probe neurotransmitter receptors
- Development of pharmacological tools to study CNS function
- Structure-activity relationships of dopaminergic agents
- The structures of G protein-coupled receptors
- Development of novel psychoactive agents
- Hallucinogens/Psychedelics

Research Grants/Contracts Funded: D.E. Nichols, Principal Investigator

- Synthesis of Allyl Benzene Derivatives as Potential Tumor Growth Inhibitors, 1/1/75-12/31/77, $5,920, Indiana Elks.
- Synthesis of Dopaminergic Agents, 6/1/76-7/31/77, $2959, University of Chicago.
- Biomedical Research Support Grants, 4/1/76-3/31/83, $20,000.
- Haptens to Produce Active Immunity Against Potential Endogenous Psychotogens, 2 years, 9/1/78-8/31/80, $8940, Purdue University, David Ross Grant.
- Rotameric Modes of Binding at Serotonin Receptors, 2 years, 4/1/82-3/31/84, $13,200, Purdue University, David Ross Grant.
- 2-Amino-3,4-Dihydroquinazolines as Dopamine Agonists, 4/1/79-5/31/81, total direct costs $50,061 for two years, Total costs $74,524, USPHS.
- 2-Amino-3,4-Dihydroquinazolines as Dopamine Agonists, supplemental request, 4/1/81-5/31/81, $3552 total direct costs, USPHS.
- Hallucinogen Analogues: 1,2-Dihydro-2-Naphthylamines, 6/1/78-5/31/81, Total direct costs $95,100 for three years, Total costs $141,808, USPHS.
- Synthesis of Isotryptamines and Related Compounds as Potential Dopamine Agonists, 6/1/80-5/31/88, co-p.i. with J.M. Cassady, Total direct costs $174,156 for eight years, Total costs $231,886, Eli Lilly and Co.
- Conformational Analysis of Biological Molecules, 1/1/79-12/31/81, H.J.R. Weintraub, p.i., 5% effort, Total costs $101,978 for three years.
- Predoctoral Training in Chemical Pharmacology, 7/1/80-6/30/85, R.P. Maickel, p.i., 2% effort, $307,008 direct costs for the three year period 7/1/81- 6/30/84, USPHS.
- Mylan Pharmaceuticals, "Synthesis of Analytical Standards", 6/1/84-expended, $21,800.
- N-(2-chloroethyl)-norLSD, a Potential New Neurotoxin for Mapping Neurotransmitter Receptor Distribution and Function, 4/1/85-3/31/87, $13,200, Purdue University, David Ross Grant.
- Development of Selective Dopamine D-1 Agonists and Antagonists, 1/1/88- 12/31/88, one year direct costs $45,086, Total costs $59,291, Eli Lilly and Co.

- Development of Selective Dopamine D-1 Agonists and Antagonists, 2/15/89- 5/31/89, Total costs $15,000, Eli Lillyand Co.
- Development of a Functional Correlation between Phosphoinositide Turnover and Affinity for the Serotonin 5-HT_2 Receptor, 4/1/88-3/31/90, $15,960, Purdue University, David Ross Grant.
- Structure-Activity Studies of MDMA-Like Substances, 8/1/88-8/31/95, $673,473 Total direct costs for six years, Total costs $997,071, USPHS.
- ADAMHA Small Instrumentation Grant, $5,000, 1989.
- ADAMHA Small Instrumentation Grant, $7,300, 1990.
- ADAMHA Small Instrumentation Grant, $6,013, 1991.
- Research on Psychoactive Compounds, 1/1/93-12/31/93, Total cost $57,841, Neurobiological Technologies, Inc.
- Tryptamine Hallucinogens-Human Neuropsychopharmacology, Subcontract to the University of New Mexico (P.I. Dr. Rick Strassman) 3/1/93-2/28/94 Total costs $24,205, USPHS.
- Stereochemical Aspects of Hallucinogenesis, 8/1/79-5/31/99, Total direct costs $1,092,704 for eighteen years, Total costs $1,560,217 USPHS.
- Basic Research in Dopamine Drug Discovery, (R.B. Mailman, PI), 1/1/95-12/31/95, Total direct costs $47,455, Hoechst Roussel Pharmaceuticals, Inc.
- Development of Potentially Selective Dopamine Agonists, 4/1/84-3/31/96, $947,372 total direct costs for twelve years, Total costs $1,359,221, USPHS.
- BMS/UNC/Purdue Research Collaboration, 12/15/97-9/4/99, $252,320 2 year total costs, Bristol-Myers Squibb Company.
- ***Active.*** Novel Serotonin Releasing Agents, 9/30/95-8/31/00; $138,057 **9th year** direct costs, USPHS.
- ***Active.*** Stereochemical Aspects of Hallucinogenesis, 6/1/99-5/31/03, $186,959 **19th year** direct costs, USPHS.
- ***Active.*** Development of Potentially Selective Dopamine Agonists, 4/1/96-3/31/01, $130,215 **15th year** direct costs, USPHS.
- ***Active.*** Receptor Profiles of Lysergamides. 7/1/99-6/30/01, $27,000 direct costs, Heffter Research Institute.
- ***Active.*** Mapping the functional topography of the serotonin 2A receptor. 6/1/00-5/31/02, $25,292, Purdue Research Foundation Grant.

Service Related Functions:

Regional Science Fair Judge, 1975-present
Executive Committee Member, Student Science Training (SST) program, 1980
MARC Supervisor, 1982-1986, 1988-present
AAPS MNPC 1991 Program Committee
AAPS MNPC Fellows Selection Committee, 1992-1994
Medicinal Chemistry Division, ACS, Awards committee 1996, 1997, Chmn 1998.
CIC.GE Predoctoral Fellowships Selection Committee 1996

Contract or Grant Review:

NIMH Extramural Contract Review Panel, July 8, 1980
Small Business Innovation Research Grant Program, ADAMHA Special Review Committee, November 14, 1984
Small Business Innovation Research Grant Program, PHS Special Review Committee, October 11, 1985
Small Business Innovation Research Grant Program, ADAMHA Special Review Committee, March 4, 5, 1986.
Grant Awards for Pharmacy Schools (GAPS) Peer Review Panel (Chmn.) March 7, 1986.
Small Business Innovation Research Grant Program, ADAMHA Special Review Committee, November 18, 1986.
Cellular Neurobiology and Psychopharmacology Subcommittee, NIMH Neuroscience Research Review Committee, October 13-14, 1988 (Ad Hoc).
Cellular Neurobiology and Psychopharmacology Subcommittee, NIMH Neuroscience Research Review Committee, June 8-9, 1989 (Ad Hoc).
Project Concept Reviewer, Neurosciences Research Branch, NIMH, June 13, 1989.
Contract Review Panel, Neurosciences Research Branch, NIMH, August 28, 1989.
Cellular Neurobiology and Psychopharmacology Subcommittee, NIMH Neuroscience Research Review Committee, February 8-9, 1990 (Ad Hoc).
Pharmacology Study Section, February 21, 1990 (Ad Hoc).
NIMH Extramural Contract Review Panel, April 18, 1990.
Reviewer, The Medical Research Council of New Zealand, 1990-
Contract Review Panel, National Institute on Drug Abuse, January 10, 1991.
Cellular Neurobiology and Psychopharmacology Subcommittee, NIMH Neuroscience Research Review Committee, February 6-7, 1991 (Ad Hoc).
Neurological Sciences Study Section, Subcommittee 2, NIH, February 9, 1991 (Ad Hoc).
Small Business Research Review Committee, NIMH, February 25-26, 1991.
Cellular Neurobiology and Psychopharmacology Subcommittee, NIMH Neuroscience Research Review Committee, October 17-18, 1991 (Ad Hoc).
Neuropharmacology and Neurochemistry Review Committee, NIMH, Permanent Member February 1992-1995
NIMH Extramural Contract Review Panel, November 23, 1992.
NIDA Concept Review Panel, January 4, 1994
NIMH SBIR (MHSB) Review Panel, October 29-30, 1995
NIMH Psychotherapeutic Drug Discovery and Development Program Panel, Nov 11, 1995
Board of Scientific Counselors, ad hoc member, review of NIDDK Laboratory, May 1-2, 1996.
Neuropharmacology and Neurochemistry Review Committee, ad hoc reviewer, June 12, 1996.
Neuropharmacology and Neurochemistry Review Committee, ad hoc reviewer, June 27, 1997.
NIMH Contract Review Panel, Sept 25, 26, 1997.
NIMH Contract Review Panel, August 21, 1998.

MDCN 5 Study Section Ad Hoc Reviewer, February 23, 24,1999
NIDA Special Emphasis Panel, June 29, 1999
CSR Special Emphasis Panel, December 6, 1999
MDCN 5 Ad Hoc Reviewer, June 20, 2000
NIDA Special Emphasis Panel, Site Visit Team, January 10-11, 2001

Consultancies and Advisory Functions:

Consultant, Marion Merrell Dow Pharmaceuticals, Cincinnati, OH, 1993.
Member of Scientific Advisory Board, Neurobiological Technologies, Inc., San Francisco, CA, 1987-1992
Editorial Advisory Board, Drugs and the Pharmaceutical Sciences, Marcel Dekker, 1993-present.
Consultant, Warner-Lambert Pharmaceuticals, 1996-97.
Consultant, Eli Lilly and Company, 1997-2000.
Consultant, Bristol-Myers Squibb company, 1997, 1998.

Departmental Functions:

Department Space Resources Committee, 1976-1985
Graduate Student Advisory Committee, 1975-78, 1983-1985, 1997-
Graduate Student Admissions Committee, 1978-1994 (chmn 1980-1985), 1997-
David Ross Grant Review Committee, 1976, 1978, 1980, 1982, 1985, 1986, 1989
Faculty Search Committee, Chairman, 1977 (Prof. Loudon)
Faculty Search Committee, 1979 (Prof. Weinkam)
Faculty Search Committee, 1981 (Prof. Geahlen)
Curriculum Committee, 1984-1989
Honors Program (MDCH 490) Coordinator, 1984
Editor, Alumni Newsletter, 1986-1994; 1996
Faculty Sponsor, Annual Graduate Student Meeting, 1977-83, 1988, 1989, 1997
Faculty Search Committee, Chairman, 1988 (Professor Davisson)
Executive Committee, 1993-
Faculty Search Committee, Mass Spectrometry, 1994-95
Faculty Search Committee, Neuropharmacology, 1995
Liaison Committee, Purdue Cancer Center, 1996
Liaison Committee, Purdue University Neuroscience Program, 1996-
PRF Grant Review Committee, 1996
Faculty Search Committee, Cancer Pharmacology and Neuropharmacology, 1997 (Dr. Barker)
Faculty Search Committee, Neuropharmacology, 1997 (Dr. Watts, Dr. Hockerman)
Committee to evaluate the Department Head, 1998
Faculty evaluator, Glenn L. Jenkins nominations 1998
Ad hoc committee to revise the Departmental Undergraduate Curriculum 1998-1999
MCMP Teaching Evaluation Committee, 1999
Faculty Search Committee, Chmn., 1999
Faculty Search Committee, 2000

School Functions:

Library Committee, 1976-77; 1977-78
Judge, Glenn L. Jenkins Award, 1978
Undergraduate Counselor, 1975-present
David Ross Grant Review Committee, 1975, 1980 (chmn), 1985
Grievance Committee, 1979 (chmn), 1987-88, 1998 (steering committee)

Recruitment and Retention of students, 1979-80
Grade Appeals Committee, 1979-81
Committee to Review David Ross evaluation procedures, 1981 (chmn)
Faculty Representative, Undergraduate Symposium on Pharmacy Graduate Programs, Merrillville, Indiana, October, 1983, 1984, 1986, 1987.
ACPE Accreditation (1985) Physical Facilities Committee (chmn)
Curriculum Committee, 1984-1989; 1998-present
ACPE Accreditation (1992) Student Services Committee
School Executive Committee, 1994-1996
Committee to develop school standards for University Faculty Scholars 1998

University Functions:

Purdue Animal Care and Use Committee, 1988-1997
Purdue University Neuroscience Program, Liaison committee, 1995-present
Purdue University Neuroscience Program, Executive committee, 1996-present
Purdue University Reinvestment Program Reviewer, 1996

Teaching Responsibilities:

MDCH 204-205	Organic Chemistry, 3 Cr. Lecture, 1 Cr. Lab, 33-55% of lecture and labs; spring 1975-1978.
PCTX 642	Neuropharmacology, 3 Cr., taught 2 lectures in spring 1975, fall 1979, 1981, 1983, 1985.
MDCH 490	Introduction to Research, variable credit, training undergraduates in research techniques: 100 students supervised 1975-present.
PSYCH 535	One lecture taught, spring 1995, 1996, 1997.
MDCH 553	Intermediate Medicinal Chemistry, 3 Cr., 33% taught each fall; 1976-1984; 1 Cr. taught 1985-1996.
MDCH 600	Advanced Medicinal Chemistry, 1 Cr., Spring 1977, 1979, 1981, 1982, 1984, 1986, 1988, retitled "Chemical Pharmacology" and expanded to 2 cr.; 1990, 1992, 1994.
MCMP 407	Medicinal Chemistry and Pharmacognosy I, 3 Cr., taught 47% of course in fall 1978, 1979, 1980, 31% in 1981, 35% in 1982-1998. 30% in fall 1999 and course coordinator.
MCMP 408	Medicinal Chemistry and Pharmacognosy II, 2 Cr., taught 30% of course spring 1979 - 1997, taught 37% in 1998 & course coordinator.
MCMP 442	Introductory Pharmacology, taught 7 lectures in spring 1995, 1996, 1997.
MCMP 570	Basic Principles of Chemical Action on Biological Systems, 6 lectures, fall 1997, 1998, 1999.
PHRM 401	Integrated Laboratory III. Coordinated and organized this new course, fall 1997; developed module on Parkinson's Disease; presented module on Parkinson's disease, fall 1997, 1998, 1999.

Teaching Related Talks and Publications:

Talks:

M. Cushman, J.L. McLaughlin, D.E. Nichols and J.E. Robbers, "Undergraduate Medicinal Chemistry at Purdue", 79th Annual AACP Meeting, July 19, 1978, Orlando, Florida.

D.E. Nichols, "The Combined BS-MS Program: How well has it worked?", Teacher's seminar program, Annual AACP Meeting, Washington, D.C., July 17, 1983.

Laboratory Manual:

Laboratory Experiments, Medicinal Chemistry 204-205
John M. Cassady and David E. Nichols, 8th edition, 1975
John M. Cassady, Michael Crider and David E. Nichols, 9th, 10th editions, 1976, 1977
John M. Cassady, David E. Nichols and Marc Loudon, 11th-21st editions, 1978-1988

Course Development:

Reorganization of the laboratory portion of MDCH 204-205 in 1975 with the introduction of four new experiments:

a. Identification of Drugs by Elemental Analysis and Thin-Layer Chromatography; 3-week sequence
b. Synthesis of mephenesin
c. Preparation of estradiol
d. Preparation and properties of benzalkonium chloride

MDCH 600, Advanced Medicinal Chemistry. Titled: Principles of Drug Design, Designed and structured from "scratch" to cover a variety of contemporary methods used in drug design and to analyze structure-activity relationships. Restructured Spring 1990 and team-taught as a two credit-hour course titled "Chemical Pharmacology," to include pharmacokinetics, prodrugs, metabolism, and several contemporary topics in drug design, as a required course for graduate students receiving support from the Chemical Pharmacology Training Grant. In 1997 elements of this course were integrated into a new course, MCMP 570.

MCMP 570, Principles of Pharmacology. Participated in the development of this new course for the merged department, to provide a basic understanding of principles of drug action to new graduate students with diverse backgrounds. Taught six lectures on QSAR.

MCMP 407, Medicinal Chemistry and Pharmacology I: The nervous system. Participated in the design and development of this course, integrating both medicinal chemistry and pharmacology into a coherent one semester course that covers drugs affecting the central nervous system. First taught in the Fall 1999 semester.

Graduate Students Supervised:

Roy A. Buzdor, M.S. 1977
John E. Toth, M.S. 1977
Bruce A. Hathaway, Ph.D. 1980
John A. Grosso, Ph.D. 1980
Ming C. Yeung, M.S. 1984
David H. Lloyd, Ph.D. 1985
Robert M. Riggs, Ph.D. 1986
Andrew J. Hoffman, Ph.D. 1987
Sumon Sakolchai, Ph.D. 1987
David A. Boyles, Ph.D. 1988
Robert Oberlender, Ph.D. 1989
W.K. Brewster, Ph.D. 1991
Michael P. Johnson, Ph.D. 1991 (PCTX)
Satish Kallam, M.S. 1991
Scott E. Snyder, Ph.D. 1993
Felix Aviles-Garay, M.S. 1993
Nicholas V. Cozzi, Ph.D. 1994 (co-major with faculty at U.Wisconsin)
Xue-Mei Huang, Ph.D. 1994 (PCTX)
Timm A. Knoerzer, Ph.D. 1994
Suwanna Vangveravong, Ph.D. 1994
Kitaw Negash, Ph.D. 1994
Jon E. Sprague, Ph.D. 1994 (PCTX)
Aaron P. Monte, Ph.D. 1995
Joseph B. Blair, Ph.D. 1997
Matthew A. Parker, Ph.D. 1998
Sunkyung Lee, Ph.D. 1998
Madina Gerasimov, M.S. 1998
Amjad Qandil, Ph.D. 1998
Russell Grubbs, Ph.D. 2000
Arthi Kanthasamy, Ph.D. 2000
Deborah Kurrasch-Orbaugh, Ph.D. candidate
James Chambers, Ph.D. candidate
Uros Laban, Ph.D. candidate
Karla Cuevas-Licea, Ph.D. candidate
Jennifer Selken, Ph.D. candidate (PUN)
Tom McLean, Ph.D. candidate
Michael Whitesides, Ph.D. candidate

Postdoctorals, Sabbatical Fellows, and Visiting Professors:

Ralph Lagally, 1978-1979
Paresh J. Kothari, 1979-1981
James N. Jacob, 1979-1981
Kiran P. Jadhav, 1981-1982
Ratna Chakraborti, 1988-89
Zbigniew Bonza-Tomaszewski, 1989-1990
Robert Pfaff, 1990-1991
Danuta Marona-Lewicka, 1990-1994
Mary Troconis, 1991
Debasis Ghosh, 1992-1997
David Klopotek, 1995
Eun-Sook Ma, 1996-1997
Martin Doll, 1996-1997
Gianfabio Giorgini, 1996-1997
Tim Sattelkau, 1998-1999
Douglas Armstrong 2000

Summer Minority Faculty Fellow:

John Emmett Simmons, 1990

Visiting Scholars:

Miguel Reyes, Montevideo, Uruguay, 1994
David Vonlanthen, Bern, Switzerland, 1995
Tommy Huijbers, Groningen, The Netherlands, 1997
Alejandra Gallardo, Fulbright Scholar, University of Chile, Santiago, 1999-2000.

Member of Thesis Advisory Committee:

Master's Degree:

F. W. Dekow
S. Evans
K-c. Lin
E. A. Kelly
H. S. Burhlis
J. M. Fox
D. Shimp
G. P. Migliaccio
J. Koren (PCTX)
S. P. Foltis
A. Vazquez
T. Steele (PCTX)
J. Helfrich
L.V. Morales
D. Wainscott (PCTX)
A. Thomson (CHEM)
Q. Bi (PCTX)
C. Bissantz
D. Jones

Ph.D. Degree:

G. Jones
R. Mata
D. L. Darling
R. J. Clay
B. N. Meyer
W. Pfister (PCTX)
D. R. Tocco (PCTX)
D. P. McFadden (PCTX)
P. Persons
D. Foltis
B. Meyer
S. Pummangura
F. M. Cretella
P. Toren
M. P. Koleck
M. Holsapple (PCTX)
D. S. S. Ng (PCTX)
P. Mohan
W.-C. Wong
J. Stimmel
J. P. Mayer
D. W. Kessler
S. E. Klohr
J.-K. Chen
W. Conroy (PCTX)
D.A. Patrick
H. Patel
M. Rieser
R. Peoples (PCTX)
M. Whitelaw (F&N)
C. Chan
I. Jacobsen
T. Steele (PCTX)
M. Patel (Chem)
R. Peoples (PCTX)
M. Whitelaw (F&N)
C. Chan
M. N. Patel (PCTX)
H.-S. Choi
W. Ma
G. Cauchon (PUB)
W. Corbett (Chem)
R. Menezes (Chem)
C.-W. Yang (PCTX)
P. Sun (PCTX)
G. Pavlakovic (PCTX)
E. Lee
I. Lim
S. Firestine
Q. Bi (PCTX)
Y.F. Yong (Chem)
E. Kogut (Chem)
W.T. Johnson
K. Hauer
F. Tian
A. Casimiro-Garcia
L. Rogers
K. Hauer
J. Mihalic
M. Micklatcher
Brian Fox
Hui Liu
D. Roman
G. Rodriguez
T. Vortherms
J. Chen
A. Edsall

George Greer, M.D.
453 Cerrillos Road, Suite E
Santa Fe, NM 87501
(505) 982-0312

February 4, 2001

Michael Courlander
Public Affairs Officer
U.S. Sentencing Commission

Re: Sentencing guidelines for methylenedioxymethamphetamine (MDMA)

Dear Mr. Courlander:

I received word today that the Commission proposes to equate 1 gm of MDMA, MDA, and MDEA to 1 kg of marijuana, rather than 35 gm, 50 gm and 30 gm of marijuana, respectively. I also understand that 1 gram of mescaline is presently equated to 10 grams of marijuana, 1 gram of powder cocaine equated to 200 gm of marijuana, and 1 gram of methamphetamine to 2 kg of marijuana.

I am enclosing a scientific report of my work administering MDMA to patients from 1980 to 1983. I will be reporting on this data in a talk on February 2, 2001 in San Francisco as part of a national conference on Ecstasy, sponsored by the Lindesmith Center and Drug Policy Foundation. From my experience in administering MDMA and the literature on mescaline, I estimate that MDMA (and probably MDA and MDEA) have roughly twice the psychoactive potency by weight of mescaline, or, in relation to the sentencing guidelines for mescaline, equal to 20 gm of marijuana.

In addition, as a clinical psychiatrist, I have conducted comprehensive psychiatric evaluations of 600 patients at a residential treatment center in the past four years, about 90% of whom had a substance use disorder. Though I have no actual numbers available to analyze before the February 5, 2001 deadline, I would estimate that about 40% or so of those at some point in their lives abused or were addicted to the stimulants cocaine or methamphetamine. About 10% of those, or 4% of those with histories of substance abuse/addiction, also took Ecstasy at some point in their lives. (As you probably know, Ecstasy is not always MDMA in street samples.) None of those people were physically addicted to Ecstasy, and their frequency of use was from less than 1% to about 10% of their use of cocaine or methamphetamine. The damage to their lives from cocaine and methamphetamine was so great that the damage to their lives from Ecstasy cannot be meaningfully compared, but was certainly less than $1/100^{th}$ as damaging. The longest any of my patients used Ecstasy regularly for more than twice a week was a few weeks, and they were fairly well functioning during that time. Most who took it only did so sporadically.

If MDMA is 1/100th as damaging as methamphetamine, and even less so by weight as methamphetamine is several times more potent in psychoactivity than MDMA, then 1/100th of the methamphetamine guideline of 2 kg of marijuana would also equal 20 gm of marijuana. When compared to powder cocaine, also several times more potent that MDMA by weight, the 1/100th brings MDMA down to an equivalent of 2 gm of marijuana.

I strongly recommend that the Sentencing Commission bring the guidelines for MDMA, MDA and MDEA in line with the actual relative damage to the lives of Americans, which is already exceeded by the current guidelines, and exceeded dozens of times by the proposed 1 kg of marijuana equivalency.

Sincerely,

George Greer, M.D.

George Greer, M.D.
Board Certified Psychiatrist

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CURRICULUM VITAE

November, 2000

EDUCATION, LICENSURE AND BOARD CERTIFICATION

Undergraduate: Rice University, Houston, TX, 1968-69.
Vassar College, Poughkeepsie, NY, 1969-72, B.A.

Medical school: University of Texas Medical Branch, Galveston, TX, 1972-76, M.D.

Internship and Psychiatry Residency: San Mateo County Community Mental Health Services, San Mateo, CA, 1976-79.

Licensure: New Mexico Board of Medical Examiners, license number 81-213.

Board Certification: American Board of Psychiatry and Neurology, Board Certification in Psychiatry, 1981.

PRESENT AND PAST EXPERIENCE

1998-present: Medical Director, Heffter Research Institute.
1996-present: Psychiatric consultant for the Life Healing Center, residential care facility for clients with Posttraumatic Stress and related disorders.
1989-present: Psychiatric consultant for Santa Maria El Mirador, Intermediate Care Facility for developmentally disabled adults serving Santa Fe, Rio Arriba and Taos Counties.
1982-present: Private practice of psychiatry, Santa Fe, NM.
1992-98: Clinical Director of Mental Health, New Mexico Corrections Department.
1984-1992: Psychiatrist, Penitentiary of New Mexico; Chief Psychiatrist, 1990-1992.
1982-1984: Staff psychiatrist, half-time, Sangre de Cristo Community Mental Health Services, Raton, Las Vegas and Santa Fe, NM.
1982-1984: Active Staff, St. Vincent Hospital, Santa Fe, NM.
1979-1982: Private practice of psychiatry, San Francisco, CA.
1979-1982: Active Staff, Pacific Medical Center, San Francisco, CA; Executive Committee, Department of Psychiatry, 1980-81.

PROFESSIONAL ASSOCIATION POSITIONS

Fellow, American Psychiatric Association, 2000-present.

President, Psychiatric Medical Association of New Mexico (APA District Branch), 1996-1997; Legislative Representative, 1994-1995 and 1997-present.

PUBLICATIONS

Greer, G. & Tolbert, R., 1998. A Method of Conducting Therapeutic Sessions with MDMA. *Journal of Psychoactive Drugs* 30:371-379.

Co-Editor, *Journal of Psychoactive Drugs*, Volume 30, Number 4, October – December, 1998.

Greer, G. & Tolbert, R., 1990. The Therapeutic Use of MDMA. In *Ecstasy: The Clinical, Pharmacological and Neurotoxicological Effects of the Drug MDMA* (Peroutka, S.J., ed.). Boston, MA: Kluwer Academic Publishers.

Greer, G. & Tolbert, R., 1986. Subjective Reports of the Effects of MDMA in a Clinical Setting. *Journal of Psychoactive Drugs* 18:319-327.

Greer G., 1985. Using MDMA in psychotherapy. *Advances* 2: 57-59.

Sunday, February 04, 2001

Michael Courlander
Public Affairs Officer
US Sentencing Commission

Dear Mr. Courlander,

As invited by your commission, I am writing in response to proposed legislation (Under the Ecstasy Anti-Proliferation Act of 2000 (section 3664 of Pub. L. 106-310)) that would make the punishment (federal sentencing) for MDMA (Ecstasy) offenses to be the same as that of heroin.

I am an Assistant Professor at the University of South Florida and I conduct both basic and clinical research in the area of neuropsychopharmacology. Please note that my scientific opinion with regard to the sentencing of MDMA in no way reflects the views or opinions of the University of South Florida or any of it affiliates. Moreover, I do not advocate the recreational use of MDMA or any other controlled substance for that matter and my primary reason for writing this letter is to support "harm reduction."

In my view, any legislation that will ultimately affect the lives of millions of adolescents and young adults must come about after thoughtful and objective consideration of the scientific evidence supporting the need for such legislation as well as the probable consequences of such legislation.

With regard to the scientific evidence, I am not aware of any evidence (other than chemical homology) suggesting that Ecstasy has psychological effects on the user similar to the hallucinogenic effects of mescaline. Over the past 15 years, it has become a well-established scientific fact that MDMA fits into a completely different therapeutic class, known as entactogens (Nichols 1986). Most human reports suggest that MDMA produces feelings of empathy towards others, but without the changes in perception in time and space that accompany most other hallucinogenic drugs. In fact, a recent scientific study by a well-respected laboratory reported that MDMA improved measures of sensory gating in humans, an effect essentially the opposite one sees with other classic hallucinogens (Vollenweider et al. 1999).

It is true that MDMA has some stimulant properties that resemble amphetamine, though it is unclear what this means in terms of comparable health risks. Moreover, the risk of addiction, either physical or psychological, appears less than that seen with other psychostimulants such as nicotine, cocaine, or amphetamine and considerably less than that seen with heroin. In fact, MDMA's lower abuse potential relative to other psychostimulants may be one of the few characteristics that it shares with classical hallucinogens.

In summary, it seems premature to conclude based on the available evidence that MDMA represents a societal or individual health risk equivalent to that of heroin. Thus, there is little or no scientific basis for the need of the proposed legislation.

What is more alarming to me is the apparent lack of consideration of probable consequences that the proposed legislation would have on the future manufacture, importation, and trafficking of Ecstasy. Based on the history of similar legislation aimed at reducing the proliferation of cocaine, heroin, and amphetamine, it is clear that such legislation will only make matters far worse (Ray and Ksir, 1999). That is, the consolidation of Ecstasy manufacturing, importation, and trafficking by larger more powerful organizations using methods already established for smuggling heroin, cocaine, and amphetamine will

surely follow if the proposed legislation is passed. Need I remind the sentencing committee of its own report regarding the adverse impact of strict legislation on crack cocaine?

Based on my assessment of the literature, I would suggest that the penalty should be less than or comparable to that for mescaline (which would result in a marihuana equivalency for Ecstasy of 10 gm). It seems reasonable, that the Drug Quantity Table in §2D1.1 could be revised to provide additional incremental penalties (even exponential quantity increases) so as to punish more severely those offenders who traffic in large quantities (e.g. > than kg quantities) and market to children and adolescents.

The most important recommendation that I can make at this time is not to make a hasty decision based on emotion rather than logic and scientific fact.

Sincerely,

Doug Shytle, Ph.D.

References:

Nichols DE (1986) Differences between the mechanism of action of MDMA, MBDB, and the classic hallucinogens. Identification of a new therapeutic class: entactogens. J Psychoactive Drugs 18: 305-13.

Ray and Ksir (1999) Drugs, Society, and Human Behavior. 8th edition, McGraw-Hill, Inc.

Vollenweider FX, Remensberger S, Hell D, Geyer MA (1999) Opposite effects of 3,4-methylenedioxymethamphetamine (MDMA) on sensorimotor gating in rats versus healthy humans. Psychopharmacology (Berl) 143: 365-72.

CURRICULUM VITAE

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University of South Florida
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University of South Florida
College of Medicine
3515 East Fletcher Avenue, MDT-14
Tampa, Florida 33613

Home: 18416 Sterling Silver Circle
Lutz, Florida 33549
(813) 949-3996

Career Objective: Research and Teaching in Basic and Clinical Neuropsychopharmacology

Education: **Ph.D.** 1994, Experimental Psychology (Interdisciplinary Specialization in Neuroscience)
University of Wyoming, Laramie WY

B.A. 1990, Psychology
University of North Carolina, Wilmington, NC

Professional Experience:

June 1996 - Present
Assistant Professor
Departments of Neurosurgery, Psychiatry and Behavioral Medicine,
Psychology and Neuroscience Program
University of South Florida, College of Medicine, Tampa, FL

July 1994 - May 1996
Post-doctoral Research Fellow
Division of Neurosurgery, Department of Surgery,
Department of Psychiatry and Behavioral Medicine &
University of South Florida, College of Medicine, Tampa, FL

August 1990 - June 1994
Graduate Research and Teaching Assistant
Departments of Psychology and Neuroscience Program

University of Wyoming, Laramie, Wyoming

January 1989 - May 1990
Research Assistant
Department of Psychology
University of North Carolina at Wilmington

Grant History:

October 2000 - October 2001 (Active) Total Direct Cost: $150,000
Principal Investigator & Grant Writer
Archie A. Silver (Co-PI)
Layton BioScience, Inc.
Behavioral and Neuropharmacological Profiles of Novel Nicotine Antagonists for Neuropsychiatric Disorders

December 1999 - January 2001 (Active) Total Direct Cost: $40,000
Principal Investigator
Roger Papke (Co-PI) at the University of Florida
Layton BioScience, Inc.
Analysis of Mecamylamine Congeners on Human Nicotinic Receptor Subtypes

May 2000 - May 2001 Total Direct Costs: $7,500
Principal Investigator
Stan Nazian (Co-PI)
USF Creative Young Faculty Award
Role of Nicotinic Receptors in the Hypothalamic CRH Response to Acetylcholine

August 2001 - November 2003 (under review) Total Direct Cost: $150,000
Principal Investigator
David Sheehan (Co-PI) & Archie A. Silver (Co-PI)
The Stanley Foundation
Phase II Trial of Mecamylamine for Bipolar Disorder

December 2001 - November 2004 (under review) Total Direct Cost: $375,000
Principal Investigator
David Sheehan (Co-PI) & Archie A. Silver (Co-PI)
NIH: National Institutes of Mental Health
Phase II Trial of Mecamylamine for Bipolar Disorder

February 1998 - 1999 Total Direct Costs: $7,000
Principal Investigator
USF College of Medicine Equipment Grant

May 1994 - May 1998 (completed) Total Direct Cost: $337,592
Co-Investigator
Paul R. Sanberg (PI) & Archie A. Silver (Co-PI)
NIH: National Institutes of Neurological Disorders and Stroke NS32067-02
Nicotine/Haloperidol Therapy in Tourette Syndrome

May 1996 - May 1998 (completed) Total Direct Cost: $24,300
Grant Writer
Paul R. Sanberg (PI) & Brian McConville (Co-PI)
Tourette Syndrome Association
Transdermal Nicotine and Haldol for Treatment of Tourette Syndrome

July 1996 - May 1998 (completed) Total Direct Cost: $18,000
Co-Investigator & Grant Writer
Paul R. Sanberg (Co-recipient of the 1996 Ove Ferno Grant Prize)
Collegium Internationale Neuro-Psychopharmacologicum
Transdermal Nicotine for the treatment of Attention-Deficit Hyperactivity Disorder

May 1996 - May 1997 (completed) Total Direct Cost: $12,420
Co-Investigator & Grant Writer
Paul R. Sanberg (PI) & Archie A. Silver (Co-PI)
NIH: National Institutes of Neurological Disorders and Stroke NS32067
Minority Supplement Grant for NS32067

July 1997 - June 1998 (Approved but not funded) Total Direct Cost: $40,000
Grant Writer
Paul R. Sanberg (PI) & Archie Silver (Co-PI)
Tourette Syndrome Association
Transdermal Nicotine Alone for Treatment of Tourette Syndrome

May 1995 - May 1997 (Approved but not funded) Total Direct Cost: $39,801
Principal Investigator (Post-doctoral Fellowship)
Paul R. Sanberg (Supervisor)
Tourette Syndrome Association
Nicotine Potentiation of Haloperidol: Preclinical Relevance to Tourette's Syndrome

May 1989 - May 1990 (Completed) Total Direct Cost: $250
Principal Investigator
North Carolina Academy of Science
Effects of Dopamine Antagonists on Avoidance Behavior

Current Focus:

Basic Research

Supervising pre-clinical investigations of a new medication for the possible treatment of several neuropsychiatric disorders. Investigations involve evaluation of the racemic as well as the stereoisomers of medication in behavioral and neurochemical experiments conducted in rats.

Clinical Research

Clinical studies evaluating the therapeutic potential of a new medications for Tourette's syndrome, ADHD, and Bipolar Disorder.

Both projects involve collaboration with seven USF employed investigators.

Teaching Experience:

Psychobiology
Drugs and Human Behavior
General Psychology
Physiological Psychology

Peer Reviewer:

Pharmacology, Biochemistry and Behavior
Psychopharmacology
General Pharmacology
Psychological Medicine
Neuropsychopharmacology

Academic Committees:

2000 -2001	USF College of Medicine Research Committee
2000 -2001	USF College of Medicine Space Committee
2000 -2001	USF College of Medicine Academic Computer Committee
1999	NIH Brain Disorders & Clinical Neuroscience Review Committee
1997-Present	Basic and Clinical Research Review Committee USF Department of Psychiatry and Behavioral Medicine
1995	USF Institute on Aging

Non Academic Committees:

2001-2002	Medical Advisory Board for the Florida Chapter of the Tourette Syndrome Association

Professional Affiliations:

Society for Neuroscience
International Behavioral Neuroscience Society
Tourette's Syndrome Association

Awards:

2000
USF Creative Young Faculty Research Award

1997 & 1996
Young Psychopharmacologist Award (Nominee)
American Psychological Association, Section 28

1995
New Investigator Award (Nominee)
NIH: New Clinical Drug Evaluation Unit Program (NCDEU)

1990 - 1994
University of Wyoming's Graduate Research and Teaching Fellowship

1993
University of Wyoming's Graduate Travel Assistance Award

1993
Lillian Porteneir Scholarship

1990
First Place Poster Award at the North Carolina Psychological Association

1989
Communication Workers Association Academic Scholarship

1985

Beta Sigma Phi Academic Scholarship

Patents Issued:

Sanberg PR; **Shytle RD**; & Silver, AA: Nicotine antagonists for nicotine-responsive neuropsychiatric disorders. United States Patent Office, Patent #6,034,079. Issued 3/7/00.

Patents Applied:

Shytle RD; Sanberg, PR; Newman M, & Silver AA: WO035279A1: Exo-S-Mecamylamine Formulation And Use In Treatment Of Neuropsychiatric Disorders. Issued/Filed Dates: June 22, 2000 / Dec. 16, 1999

Shytle RD; Sanberg, PR; Newman M, & Silver AA: WO035280A1: Exo-R-Mecamylamine Formulation And Use In Treatment Of Neuropsychiatric Disorders. Issued/Filed Dates: June 22, 2000 / Dec. 16, 1999

Shytle RD; Sanberg, PR; & Silver AA: Method of treating cocaine addiction. United States Patent Office (Filed in 2000).

Shytle RD; Sanberg PR, & Silver AA: Method of treating cognitive deficits in learning and memory. United States Patent Office (Filed in 2000).

Speaking Engagements:

(1994) SCH23390 and Mecamylamine Prevent the Development of the Sensitized Locomotor Response to Nicotine. Graduate Seminar, Department of Pharmacology, Bowman Gray School of Medicine, Wake Forest, NC.

(1995) Nicotine Therapeutics for Neuropsychiatric Disorders. Presented at the USF Department of Biology Seminars in Neuroscience.

(1995) Nicotine and Tourette's Syndrome. Presented at the First Annual Duke Nicotine Research Conference, Duke University

(1996) Evidence of the Neuroprotective Actions of Nicotine. Presented at the International Behavioral Neuroscience Society Conference, Cancun, Mexico

(1996) Nicotine and Tourette's Syndrome. GRAND ROUNDS, USF Department of Psychiatry and Behavioral Medicine.

(1999) Mecamylamine for Neuropsychiatric Disorders. Board of Directors, Layton BioScience, Inc.

(1999) Mecamylamine for Neuropsychiatric Disorders. Preclinical and Clinical Divisions, Cephalon Pharmaceutical Company, Inc.

(1999) Nicotinic Antagonists for Neuropsychiatric Disorders. Preclinical and Clinical Divisions, Forest Labs, Inc.

(1999) Nicotinic Antagonists for Neuropsychiatric Disorders. Graduate Seminar, USF Department of Pharmacology.

(2000) Nicotinic Medications and Tourette Syndrome. Tourette Syndrome Association (Florida State Chapter).

(2000) Mecamylamine and Tourette Disorder. Departments of Pharmacology and Psychia Univeristy of Florida, Gainsville, FL

(2000) Update: Nicotinic Medications and Tourette Syndrome. Tourette Syndrome Association (Pinellas County Chapter, Florida).

Peer Reviewed Publications:

Borlongan CV, Martinez R, **Shytle RD**, Cahill DW, Sanberg PR (1995). Striatal Dopamine-Mediated Motor Behavior Is Altered Following Occlusion Of The Middle Cerebral Artery. Pharmacology, Biochemistry and Behavior. 52(1):225-229.

Shytle RD, Borlongan CV, Sanberg PR (1995). Nicotine blocks kainic acid induced wet dog shakes in rats. Neuropsychopharmacology. 13(3):261-264.

Borlongan CV, **Shytle RD**, Shajmil DR, Shimizu S, Freeman TB, Cahill DW, Sanberg PR (1995). (-)-Nicotine Protects against Systemic Kainic Acid-Induced Excitotoxic Effects. Experimental Neurology. 136: 261-265.

Shytle RD, Borlongan CV, Cahill DW, Sanberg PR. (1996). Evidence for the neuroprotective actions of nicotine in an in vivo model of excitotoxicity. Medical Chemistry Research. 6/7-8:555-561.

Silver AA, **Shytle RD**, Philipp MK, Sanberg PR (1996). Long-term potentiation of neuroleptics with transdermal nicotine in Tourette's syndrome. Journal of the American Academy of Child & Adolescent Psychiatry 35(12):1631-1636.

Polgar S, McGartland M, Borlongan CV, **Shytle RD**, Sanberg PR (1996). Smoking Cessation Programs are Neglecting the Needs of Persons with Neuropsychiatric Disorders [letter]. Australian and New Zealand Journal of Medicine. 26: 572-573.

Shytle RD, Silver AA, and Sanberg PR (1996). Nicotine, Tobacco, and Addiction [letter]. Nature. 384(6604):18-19.

Sanberg PR, Silver AA, & **Shytle RD** (1998) Treatment of Tourette's Syndrome with Mecamylamine. Lancet. 352:705-706.

Newman, MN, **Shytle RD**, & Sanberg PR (1999) Locomotor behavioral effects of prenatal and postnatal nicotine exposure in rat offspring. Behavioral Pharmacology 10:699-706.

Silver AA, **Shytle RD**, & Sanberg PR (1999) Clinical experience with transdermal nicotine patch in Tourette's syndrome. CNS Spectrums 4:68-76.

Goldman J, **Shytle RD**, & Sanberg PR (1999) Adding behaviorial therapy to medication for smoking cessation. JAMA 281:1984.

Silver AA, Penny E, **Shytle RD**, Sanberg PR & George TP (2000) Clinical relevance of the nicotine receptor antagonist mecamylamine in treating neuropsychiatric disorders. Today's Therapeutic Trends 18-3 255-273.

Shytle RD, Silver A, & Sanberg PR (2000) Comorbid bipolar disorder in Tourette syndrome responds to nocotinic receptor antagonist, mecamylamine (Inversine®). Biological Psychiatry 48:1028-1031.

Silver AA, **Shytle RD**, & Sanberg PR (2000) Mecamylamine in Tourette's Syndrome: A two year retrospective case study. Journal of Child and Adolescent Psychopharmacology 10:59-68.

Newman MB, Nazian S, & Sanberg PR, Diamond D, & **Shytle RD** (2000) Corticosterone-attenuting and anxiolytic properties of mecamlyamine in the rat. Progress in Neuro-Psychopharmacology & Biological Psychiatry (in press)

Papke R, Sanberg PR, & **Shytle RD** (2000) Analysis on Mecamylamine stereoisomers on human nicotinic receptor subtypes. Journal of Experimental Pharmacology and Therapeutics (in press)

Silver AA, **Shytle RD**, Sheehan D, Sheehan K, Ramos A, & Sanberg PR (2000) Multi-Center Double Blind Placebo Controlled Study of Mecamylamine (Inversine®) Monotherapy for Tourette Disorder. Journal of the American Academy of Child and Adolescent Psychiatry (submitted)

Silver A, **Shytle RD**, Wilkinson B, Katherine-Philipp M, McConville B, Fogelson H, & Sanberg PR (2000) Transdermal Nicotine and Haloperidol in Tourette's Syndrome: A double-blind placebo-controlled study. Journal of Clinical Psychiatry (submitted)

Shytle RD, Penny E, Goldman J & Sanberg PR: Mecamylamine (Inversine®): An old hypertensive medication with new research direction? (2000) Journal of human hypertension (submitted)

Shytle R, Newman M, Alvarez F, Potts S, Manresa J, Sanberg P: Mecamylamine Prolongs the Duration of Haloperidol-Induced Catalepsy In Rats. International Journal of Neuroscience (submitted)

Shytle RD, Silver AA, Newman MB, & Sanberg PR (2000) Nicotinic receptor function and depression among adolescent smokers. Pediatrics (submitted)

Shytle RD, Newman M & Sanberg PR (2000) Mecamylamine and its stereoisomers prevent the development of the sensitized locomotor response to nicotine. Drug Development Research (submitted)

Shytle RD, Silver AA, Sheehan K, Sheehan D, & Sanberg PR (2001) Potential mood stabilizing properties of Mecamylamine (Inversine) in children and adolescents with Tourette disorder. Journal of the American Academy of Child and Adolescent Psychiatry (submitted)

Newman, MB, Manresa JJ, Sanberg PR & **Shytle RD** (2001) Effects of low doses of mecamylamine in two animal models of anxiety. Experimental and Clinical Psychopharmacology (submitted)

Newman, MB, Manresa JJ, S E. Potts, F Alvarez, P R. Sanberg PR & **Shytle RD** (2001): Nicotine Induced Seizures Blocked By (±)-Mecamylamine And Its Stereoisomers. Life Science: Pharmacology Letters (submitted)

Shytle RD, Newman MB, Alvarez F, Potts SE, Manresa JJ, Sanberg PR (2000) Mecamylamine (Inversine®) prolongs the duration of haloperidol-induced catalepsy. International Journal of Neuroscience (submitted)

Shytle RD, Silver AA, Sheehan KH, Wilkinson BJ, Newman M, Sanberg PR, & Sheehan, D (2000) The Tourette disorder scale (TODS): Development, reliability, and validity. American Journal of Psychiatry. (submitted)

Wilkinson BJ, Newman MB, **Shytle RD**, Silver AA, Sheehan D, & Sanberg PR (2000) Family impact of Tourette's syndrome. Journal of Adolescent & Child Psychiatry (submitted)

Newman MB, Arendash GW, **Shytle RD,** Sanberg PR Nicotine: Pro-Oxidant or Antioxidant? Free Radical Biology and Medicine (submitted)

Shytle RD, Newman M, others, & Sanberg PR (2000) CNS Receptor Screen on the Nicotinic Antagonist, Mecamylamine (Inversine®). Psychopharmacology (In preparation)

Shytle RD, Hart C, Newman M, & Sanberg PR (2000) Nicotinic Receptor Antagonists Novel Therapeutic Agents for Treating Drug Abuse Drug and Alcohol Review (In preparation)

Shytle RD, Silver A, Sanberg PR (2001). Controlled Pilot Study of Transdermal Nicotine in Attention Deficit Hyperactivity Disorder. American Journal of Psychiatry (In preparation)

Papke R, Sanberg PR, & **Shytle RD** (2001) The Nicotinic Receptor Antagonist, Mecamylamine (Inversine®) is a Co-agonist for Glycine at the NMDA receptor. European Journal of Pharmacology (In preparation)

Reviews & Book Chpts:

Silver AA, **Shytle RD**, Philipp MK and Sanberg PR (1995). Transdermal Nicotine in Tourette's Syndrome. In: PBS Clarke, M Quik, K Thurau (eds.) The Effects of Nicotine on Biological Systems; Advances in Pharmacological Sciences, Birkhauser Publishers, pp. 293-299.

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Sanberg PR, Silver AA, **Shytle RD**, Philipp MK, Cahill DW, Fogelson HM, McConville BJ (1997). Nicotine for the Treatment of Tourette's Syndrome. Pharmacology and Therapeutics 74(1): 21-25.

Shytle RD, Silver AA, Newman MB, & Sanberg, PR: Nicotinic Therapeutics for Tourette Syndrome and other Neuropsychiatric Disorders: From Lab To Clinic (2000) In: Central Nervous System Diseases: Innovative Animal Models from Lab to Clinic Humana Press (eds. DF Emerich RL Dean PR Sanberg) Chapter 22 431-440.

Shytle RD, Baker M, Silver AA, Soloman M, & Sanberg, PR (2000) Smoking, Nicotine and Movement Disorders. In: Nicotine in Psychiatry: Psychopathology and Emerging Therapeutics. Clinical Practice Series (Eds. M. Piasecki and P. Newhouse) APA Press: Halifax: Canada 183-202

Shytle RD, Silver AA, Newman M, Wilkinson BJ, & Sanberg, PR (2001) Nicotinic Medications and Tourette's Disorder. Animal Models in Nicotine Research CRC Press: Boca Raton (in press)

Abstracts:

Shytle RD (1990). The Effects of Specific And Nonspecific Dopamine Antagonists on Avoidance Responding in Rats. The Journal of the Elisha Scientific Society. 106(4): 142-143.

Galizio M, Gregg E, Kelly L, Shriner RL, **Shytle RD** (1990). Timeout From Avoidance: A Novel Test Of Drug Effects On Negatively Reinforced Behavior. Society of Neuroscience Abstracts. 16(2): 1102.

Shytle RD and Ksir C (1993). The effects of μ-opioid antagonists on nicotine-induced locomotor activity. Society of Neuroscience Abstracts. 19(1): 829.

Shytle RD, Borlongan CV, Freeman TB, Cahill DW, Sanberg PR. (1995) Nicotine blocks kainic acid induced wet dog shakes in rats. Society of Neuroscience Abstracts. 21(1):73.

Sanberg PR, **Shytle RD**, Borlongan CV, Silver AA, Philipp MK, Cahill DW, Freeman TB. (1995) Nicotine, Tourette's Syndrome, and Neuroprotection. International Behavioral Neuroscience Society (Nicotine Satellite Meeting) 1:A2.

Shytle RD. Evidence of the Neuroprotective Actions of Nicotine (1995) International Behavioral Neuroscience Society (Nicotine Satellite Meeting) 2:A5.

Shytle RD, Silver AA , Philipp MK, Sanberg PR (1996) Long Term Therapeutic Response to Transdermal Nicotine in Tourette's Syndrome Patients. International Behavioral Neuroscience Society. 5:A201.

Shytle RD, Borlongan CV, Sanberg PR (1996) Kainic Acid Induced Behavioral Syndrome: Challenge With Nicotinic Receptor Ligands. Society of Neuroscience Abstracts.

Sanberg PR, Silver AA, **Shytle RD** (1997) Treatment of Tourette's Syndrome with Nicotinic antagonist mecamylamine American College of Neuropsychopharmacology, 36th Annual Meeting, Waikoloa, Hawaii, pp 249

Shytle RD, Silver AA, Sanberg PR (1998) Nicotinic Antagonist Improves Tourette's Syndrome International Behavioral Neuroscience Society, Richmond, VA, pp 46

Shytle RD, Silver AA, Wilkinson BJ, Newman MB, Katherine-Phillipp M, Sanberg PR, McConville B, Fogelson H. (1999) Treatment of Tourette Disorder with Transdermal Nicotine and Haloperidol. IBC's 2nd International Symposium on Nicotinic Acetylcholine Receptors, Advances in Molecular Pharmacology and Drug Development. Annapolis, MD.

Shytle RD, Silver AA, Wilkinson BJ, Newman MB, Katherine-Phillipp M, Sanberg PR, McConville B, Fogelson H. (1999) Treatment of Tourette Disorder with Transdermal Nicotine and Haloperidol. 3rd International Scientific Symposium on Tourette Syndrome.
New York City, NY.

Shytle RD, Newman MB, Amiri L, Wilkinson BJ, Diamond DM, Nazian SJ, Silver AA, Sanberg PR. (1999) Low Doses of Mecamylamine Produce Anxiolytic and Antidepressant Effects in Rats. 3rd International Scientific Symposium on Tourette Syndrome. New York City, NY.

Sheehan D, **Shytle RD**, Newman MB, Sanberg PR, Silver AA. (1999) Development of Tourette Disorder Scale (TODS). New Clinical Drug Evaluation Unit Program, 3rd annual Meeting. (Poster 182) Boca Raton, FL.

Newman MB, **Shytle RD**, Kirstein CL, and Sanberg P.R. (1999) Prenatal and postnatal exposure of nicotine: locomotor effects in rat offspring. Society of Neuroscience Abstracts.

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Papke RL, Sanberg PR, & **Shytle RD** (2000) Analysis of Mecamylamine Stereoisomers on Human Nicotinic Receptor Subtypes. 10th Neuropharmacology Conference: Neuronal Nicotinic Receptors (Abstract 94)

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specmind

From: "Donny Gann" <dgann@jhsph.edu>
To: <rgb@cognitiveliberty.org>
Sent: Monday, February 05, 2001 8:08 AM
Subject: mdma sentencing guidelines

To the Sentencing Commission: I have worked for the last 7 years as an interviewer and HIV counselor in studies of injection drug users' risks for contracting HIV. In my position, I have had ample opportunity to witness the destructive effects of heroin, cocaine and methamphetamine on the personalities and social relationships of users and addicts. During this time, I have also been aware of the increasing use of MDMA by young people through media reports and through contact with young users. Based on my experience and observation, I am writing in strong opposition to the proposed new sentencing guidelines for MDMA and related substances.

Unlike heroin, cocaine and methamphetamine, MDMA is not physically or even psychologically addictive, as the Commission has heard. Given this, I can see no reason MDMA should be treated as severely as heroin, a drug which is highly addicitve, and which compels addicts to behave in severely antisocial ways in order to procure their drug. We simply do not find MDMA users stealing from others, including friends and family, resorting to prostitution or to violence to make money to buy MDMA. All of these behaviors are common among many users of heroin, cocaine and methamphetamine.

I understand that the Commission must increase the penalties due to Congressional mandate. Given that MDMA use is not addictive nor socially destructive, I feel that the increase should be far smaller than that proposed. I feel that MDMA has yet to cause anything like the sort of personal and social destruction we have seen from powder cocaine, and so I believe the penalty should be less than that for cocaine. Under no circumstances should it be greater.

Donald Gann
Johns Hopkins School of Public Health

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DEPARTMENT OF MOLECULAR & CELL BIOLOGY
DIVISION OF NEUROBIOLOGY

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February 5, 2001

Dear Members of the Sentencing Commission:

I wish to comment on the Sentencing Commission's pending consideration of the drug-equivalency status of "Ecstasy" (3,4-methylenedioxymethamphetamine or MDMA). My understanding is that the Sentencing Commission does its best to use scientific standards in rating the seriousness of a drug for the purposes of determining drug equivalency.

Despite the illicit use of MDMA in nonmedical settings, which the Commission has been asked to address, MDMA has the potential for substantial medical benefit when used in therapeutic settings and it is anticipated that scientific and clinical research will go forth in this area. The DEA's own administrative law judge recommended the classification of MDMA as a Schedule III rather than a Schedule I substance following a series of hearings in the late 1980s.

My area of scientific expertise is the effects of drugs on the human brain. My area of clinical expertise is the treatment of drug addiction. I believe that to classify "Ecstasy" equivalent gram-for-gram in seriousness to heroin is very much in conflict with all scientific, clinical, and legal evidence. User populations, context of use, risk of addiction, and other potential problematic effects are far different from those of heroin. The effects of MDMA are more similar to those of mescaline, except that, gram-for-gram, MDMA is approximately 3 times more potent than mescaline. Thus the current drug-equivalency status for MDMA is an appropriate one, given the current system.

If I can provide further answers to your questions in this matter, please feel free to contact me.

Sincerely,

David Presti, PhD
Professor of Neurobiology
Licensed Clinical Psychologist, specializing in the treatment of addiction

specmind

From: <Sheigla@aol.com>
To: <rgb@cognitiveliberty.org>
Cc: <Sheigla@aol.com>
Sent: Sunday, February 04, 2001 7:01 AM
Subject: Proposed Ecstasy Sentencing guidelines

> It has been represented to the Commission that Ecstasy (i.e., MDMA, MDEA, MDA and PMA) is similar in its hallucinogenic effect on the user to mescaline, and also has been described as having an added stimulant component that can elevate heart rate, blood pressure, and body temperature. It has also been suggested that the drug is neither physically nor psychologically addictive. The Commission invites comment on these representations and on the appropriate penalty structure for Ecstasy. The proposed amendment treats Ecstasy as being of comparable seriousness to heroin, providing a marihuana equivalency for Ecstasy that is the same as heroin. Accordingly, for sentencing purposes, 1 gm of Ecstasy will be the equivalent of 1 kg of marihuana.
> Should the Commission alternatively treat Ecstasy comparably to some other major drug of abuse? For example, should the Commission treat Ecstasy as being of comparable seriousness to powder cocaine (which would result in a marihuana equivalency for Ecstasy of 200 gm) or methamphetamine mixture (which would result in a marihuana equivalency for Ecstasy of 2 kg)? Or should the penalty be comparable to that for mescaline (which would result in a marihuana equivalency for Ecstasy of 10 gm) or some multiple of the penalty for mescaline? Comment also is requested regarding whether the Drug Quantity Table in §2D1.1 should be revised with respect to Ecstasy to provide additional incremental penalties (perhaps with exponential quantity increases) so as to punish more severely those offenders who traffic in larger quantities.

Dear Federal Sentencing Commissioners,

I am a Medical Sociologist who has been conducting studies of various drugs in the San Francisco Bay Area since 1974. I received my doctoral training at the University of California at San Francisco. In a separate email I will attach my curriculum vita which will provide you with information as to the breadth of my experience of conducting National of Health particularly National Institute of Drug Abuse funded studies of cocaine, heroin, methadone, marijuana and ecstasy. Most of my research has been epidemiological and has consisted of surveys as well as indepth interviews with both users and discontinuers of these various (as well as other) illicit drugs.

In fact I am in the process of preparing an application to the National Institute on Drug abuse in response to their RFA regarding Ecstascy Use and Other Drug Trends (April 25, 2001). It is our plan to study ecstasy sellers conducting an exploratory and ethnographic study of MDMA and other club drug sales at raves, clubs and private parties. It is my considered opinion that our knowledge of the effects of MDMA have not been sufficiently researched in order to be able to effectively evaluate either the immediate effects on MDMA

users or the potential long term effects.

I do know my from our interviews with MDMA users (usually as a part of studies of focussed on the use of other drugs) that while many particularly younger drug users experiment with MDMA most do so in a relatively moderate fashion and the smaller percentage who use MDMA more regularly (more than once a week) go through a period of heavy MDMA use and then after a few months sometimes as long as a year they discontinue or greatly reduce use. For most people MDMA seems to have very low abuse liability because if you use too much or too often the desired effects are no longer acheived.

So for this reason, in order to keep experimenting teenagers and young adults from ending up with long prison sentences much like those given to convicted heroin addicts, I would recommend that MDMA sentencing be more in line with marijana sentencing guidelines regarding small sales (under 10 doses) or possession.

As far as trafficking wholesale doses of the drug, once again the jury is still out. Until NIDA, NIJ and other appropriate research funding agencies have had the opportunity to fund projects (like the one I am proposing which if funded could begin by September 30, 2001) the commission choose a conservative sentencing structure again that mirrors marijuana trafficking guidelines. At least until the scientific community has had the opportunity to provide the commission with some evidence upon which to make informed and just decisions. Please don not hesitate to contact me for further information.

Sincerely,

Sheigla Murphy, Ph.D
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VITA

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EDUCATION

1973: B.A., San Francisco State University, Interdisciplinary Social Sciences

1992: Ph.D., Medical Sociology, University of California, San Francisco

RESEARCH GRANTS

1998-2001 Institute for Scientific Analysis, San Francisco. NIDA Grant R01 DA12073 "A Study of Young Heroin Users," Principal Investigator.

1995-2000 Institute for Scientific Analysis, San Francisco. NIDA Grant R01 DA09827, "An Ethnography of Victimization, Pregnancy and Drug Use." Principal Investigator.

1997-2000 Institute for Scientific Analysis, San Francisco.
NIDA Grant R01 DA08322, "AIDS Prevention: Needle Exchange and Ancillary Services," Principal Investigator.

1995-1998 Institute for Scientific Analysis, San Francisco.
NIDA Grant R01 DA9665, "An Ethnographic Study of Drug Use and Health Care," Principal Investigator.

1995-1998 Institute for Scientific Analysis, San Francisco. NIDA Grant R01 DA09827, "An Ethnography of Victimization, Pregnancy and Drug Use." Principal Investigator.

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1993-1996: Institute for Scientific Analysis, San Francisco.
NIDA Grant R01 DA08322, "AIDS Prevention: An Ethnography of Needle Exchange," Principal Investigator.

1991-1994: Institute for Scientific Analysis, San Francisco.
NIDA Grant R01 DA06832, "An Ethnographic Study of Pregnancy and Drugs," Co-Principal Investigator.

1989-1992: Institute for Scientific Analysis, San Francisco. NIDA Research Grant R01 DA05332, "Women and Cocaine," Co-Principal Investigator.

1987-1989: Institute for Scientific Analysis, San Francisco. NIDA Research Grant R01 DA04535, "Gay Prostitution, IV Drug Use and AIDS," Associate Project Director.

1987-1989: Institute for Scientific Analysis, San Francisco. National Institutes of Justice Research Grant #7-063-9-CA-IJ, "An Exploratory Study of Indirect Criminal Justice Pressures on Cocaine Sellers, "Project Director.

1986-1987: URSA Institute, San Francisco/Los Angeles. California State Office of AIDS Contract, "AIDS Community Effectiveness Evaluation Program," Senior Research Associate.

1985-1989: Institute for Scientific Analysis, San Francisco. NIDA Research Grant R01 DA03804, "Methadone Treatment: A Study of a County Policy Change." Project Director.

1985-1987: URSA Institute, San Francisco, NIDA Research Grant R01 DA03791, "Cocaine Cessation: Treated, Untreated and Early Discontinuance," Senior Research Associate.

1983-1985: Institute for Scientific Analysis, San Francisco. NIDA Research Grant R01 DA02442, "Getting Off Methadone," Research Coordinator.

1983: URSA Institute, San Francisco. NIDA Research Grant R01 DA03391, "Youth Environment Study," Interviewer.

1980-1982: Institute for Scientific Analysis, San Francisco. NIDA Research Grant R01 DA02442, "Women on Methadone," Research Coordinator.

1977-1979: Institute for Scientific Analysis, San Francisco. NIDA Research Grant R01 DA01793, "The Career of the Woman Addict," Research Analyst.

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PRESENTATIONS

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Murphy, S. "What Exactly is a Heroin Overdose?" Community Epidemiology Work Group Meetings, San Francisco, California, December 12-15, 2000.

Murphy, S. and Rosenbaum, M. **Author Meets Critics**: Pregnant Women on Drugs: Combating Stereotypes and Stigma. American Society of Criminology, San Francisco, California, November 17 - 20, 2000.

Sales, P., Murphy S. and Choe, J. "A Secondary Analysis of Two Data Sets on Pregnancy, Drug Use and Violence," American Society of Criminology, San Francisco, California, November 17 - 20, 2000.

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Duterte, M., Hemphill, K. Murphy, T, McKearin, G. and Murphy, S. "An Ethnographic View of Young Heroin Users"American Society of Criminology, San Francisco, California, November 17 -

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Murphy, S., Murphy, T. and Sales, P. "What Exactly is an Overdose?" 3rd National Harm Reduction Conference, Miami, Florida, October 21 - 25, 2000.

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Guiliano, R. and Murphy, S. "'Street Docs' in Action': Overdose Trainees from the San Francisco Needle Exchange," 3rd National Harm Reduction Conference, Miami, Florida, October 21 - 25, 2000.

Murphy, S. and Murphy, T. "The Social Construction of AIDS and Hep C among Young Heroin Users," American Sociological Association, Washington, DC, August 12 - 16, 2000.

Murphy, S. and T. Murphy "How Does the Provision of Ancillary Services Impact Needle Exchange?" Society for the Study of Social Problems, Washington, D.C. August 11 - 13, 2000.

M. Duterte, K. Hemphill, S. Murphy and T. Murphy. "The First Time: The Initiation of Young Heroin Users," Society for the Study of Social Problems, Washington, D.C. August 11 - 13, 2000.

Sales P., Murphy, S. and Choe, J. "Secondary Analysis of Two Data Sets on Pregnancy, Drug Abuse and Violence," Society for the Study of Social Problems, Washington, D.C. August 11 -13, 2000.

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Murphy, S. and Murphy T. "Needle Exchange and Ancillary Services: Preliminary Ethnographic Findings," National Syringe Exchange Conference X, Portland Oregon, April 27-29, 2000.

"The Health Practices of San Francisco Drug Users" at the Society for Social Problems. San Francisco, California, August, 1998.

Murphy, S., Ferreboeuf, M. and Shade, S. "Reduce the Violence, Reduce the Drug Use During Pregnancy," American Society of Criminology, San Diego, California, November 19-22, 1997.

Murphy, S. "What's Drugs Got to Do With It? Pregnancy and Violence," Society for the Study of Social Problems, Toronto, August 8-10, 1997.

Murphy, S. "Pregnancy, Drug Use and Violence: Preliminary Findings," International Conference on the Reduction of Drug Related Harm, Paris, 23-27 March 1997.

Wenger, L. and Murphy, S. "The Effects of Drug of Choice on Utilization of Needle Exchange Program Services: The Push Me Pull You Effect," American Public Health Association, New York, New York, November 1996.

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Murphy, S. "An Ethnography of Needle Exchange: Secondary Exchangers," American Society of Criminology, Chicago, Illinois, November 1996.

Murphy, S. "Pregnancy, Drug Use and Violence: Which Comes First, Drugs or Violence?" American Society of Criminology, Chicago Illinois, November 1996.

Murphy, S. "An Ethnography of Victimization, Pregnancy, and Drug Use" San Francisco Research Treatment Center Colloqium on Violence and Drug Use: Treatment and Research Developments, University of California San Francisco, August 23, 1996.

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Kelley, M.S. and Murphy, S. "A Comparison of HIV/AIDS Risk Behaviors Between Old and New Injection Drug Users," Society for the Study of Social Problems, New York, New York, August 1996.

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Murphy, S. "Let's Get Personal: Becoming Emotionally Involved in Research," American Society of Criminology Meetings, Miami, Florida, November 1994.

Murphy, S. "Women and the Drug Crime-Nexus at NIDA," American Society of Criminology Meetings, Miami, Florida, November 1994.

Wenger, L. and Murphy, S. "They are Not Just Giving Away Needles: The Impact of Needle Exchange on the San Francisco Injection Drug Using Community," American Public Health Association Meetings, Washington, D.C., October 1994.

Murphy, S. "Needle Exchange Panel," Community Epidemiology Work Group. National Institute on Drug Abuse, San Francisco, December 14-17, 1993.

Murphy, S. "Entree Issues in Needle Exchange Evaluation Research," National Institute on Drug Abuse Second National Conference on Drug Abuse and Research and Practice: An Alliance for the 21st Century, Washington, D.C., July 14-17, 1993.

Kearney, M., Murphy, S., Irwin, K. and Rosenbaum, M. "Struggling Toward the Positive: The Trajectory of Pregnancy on Crack Cocaine," Western Society for Research in Nursing. Seattle, WA, May 1, 1993.

Kearney, M., Irwin, K., and Murphy, S. "Crack Cocaine Users and Prenatal Care," Annual Meeting of Association of Women's Health, Obstetric and Neonatal Nurses, Reno, Nevada, June, 1993.

Kearney, M. and Murphy, S. "At Least I Feel Guilty: Emotions and Reflexivity in Pregnant Drug Users' Accounts," American Sociological Association, Miami, FL, August 1993.

Kearney, M., Murphy, S., Irwin, K. and Rosenbaum, M. "Salvaging Hope: Pregnant Crack Users' Conflicts and Strategies," ANA Council of Nurse Researchers 1993 Scientific Session. Washington. DC, November 1993.

Murphy, S. "The Crack Experience for Women," Society for the Study of Social Problems, Miami, Florida, August 1993.

Murphy, S. "The Crack Experience for Women," American Society of Criminology Meetings. Phoenix, Arizona, October 1993.

(With Katherine Irwin) "Fuck the Bitches:" Gender Roles and Crack Use." Society for the Study of Social Problems, Pittsburgh, Pennsylvania, August 1992.

(With Margaret Kearney) "Running From Room to Room: Mothering on Crack," American Society of Criminology Annual Meeting, San Francisco, CA, November 1991.

(With Brandy Britton) "Stressed and Depressed: Reconceptualizing the Costs and Benefits of Informal Caregiving," American Sociological Association Annual Meeting. Washington, D.C., August 1990.

(With Dan Waldorf and David Lauderbach) "Cocaine Sellers: Self-Reported Reasons to Stop Selling Cocaine," American Society of Criminology Annual Meeting, Reno, Nevada, November 1989.

Panel Participant, "Prohibition's Secret: Controlled Drug Use," Drug Policy Foundation Annual Conference, Washington, D.C., November 1989.

"Needle Sharing Among Street Youths," Public Health Service Bi-Regional Consensus Conference: HIV Prevention Strategies for Runaway and Homeless Youth, San Francisco, California, October 11-13 1989.

"Living with the Dirty Secret: Problems of Disclosure for the Methadone Maintained," Society for the Study of Social Problems Annual Meeting, Berkeley, California, August 1989.

(With Dan Waldorf, David Lauderbach, Craig Reinarman and Toby Marotta) "Needle Sharing Among Male Prostitutes: Preliminary Findings of the Prospero Project," American Sociological Association Annual Meeting, Berkeley, California, August 1989.

(With Dan Waldorf) "IV Drug Use and Syringe Sharing Practices of Call Men and Hustlers," Symposium on Prostitution and Psychoactive Drugs, Scottish Health Group, Edinburgh, Scotland, February 20-23, 1989.

(With Marsha Rosenbaum and Jeanette Irwin) "Across the Board: Uniform Methadone Maintenance Policy Affecting Three Types of Clients," American Society of Criminology Annual Meeting, Chicago, Illinois, November 1988.

(With Dan Waldorf, Craig Reinarman and Toby Marotta) "IV Drug Use and Needle Sharing: Bar, Erotic Bookstore and Street Hustlers," American Society of Criminology Annual Meeting, Chicago, Illinois, November 1988.

(With Dan Waldorf) "Perceived Effects and Criminal Justice Pressures on Ex Cocaine Sellers," American Society of Criminology Annual Meeting, Chicago, Illinois, November 1988.

(With Craig Reinarman and Dan Waldorf) "Cocaine Cessation: Motivations and Actions to Quit," Society for the Study of Social Problems Annual Meeting, Atlanta, Georgia, August 1988.

"Women and Addiction: Process, Treatment, Outcome," National Institute on Drug Abuse Technical Review Meeting on Collection and Interpretation of Data from Hidden Populations: Qualitative Research Designs, Washington, D.C., July 13-14, 1988.

"Limited Funding for Methadone Maintenance: Preliminary Findings of an Alameda, California Follow-Up Study," Society for the Study of Social Problems Annual Meeting, New York City, New York, August 1987.

"Community Resources for Social Services," AIDS and ARC Update Conference, San Francisco, California, July 17, 1987.

"Needle Sharing Among Women in San Francisco and Los Angeles," Bay Area Researchers Conference on Women, Children and AIDS, San Francisco AIDS Foundation, San Francisco, California, March 6, 1987.

(With Dan Waldorf and Craig Reinarman) "Cocaine in the Workplace," Society for the Study of Social Problems Annual Meeting, New York City, New York, August 1986.

"Preliminary Findings of a Study of Methadone Maintenance Policy," UCLA Department of Psychology Colloquium, Los Angeles, California, February 3, 1987.

(With Dan Waldorf and Craig Reinarman) "Ten Years After: A Follow-Up of Cocaine Snorters," Society for the Study of Social Problems Annual Meeting, New York City, New York, August 1986.

(With Marsha Rosenbaum) "Limited Duration Methadone Maintenance: Preliminary Findings from a Study of Alameda County's New Policy," Western Criminological Association Annual Meeting, Newport Beach, California, February 27-March 2, 1986.

"Cutting the Coke: Motivations and Strategies for Cessation of Cocaine Use," American Society of Criminology Annual Meeting, San Diego, California, November 13-16, 1985.

CONSULTATIONS

Member NIH OBSSR NIH Office of the Director Qualitative Advisory Working Group September 30 - October 1, 1999.

Standing Member Peer Review Committee National Institutes of Health Center for Scientific Review ZRG1 Research and Prevention of Health Behaviors June 1999 - 2003.

Standing Member Peer Review Committee, National Institute on Drug Abuse, Epidemiology and Prevention Branch, June 1993 - 1997.

Chair, Special Review Committee, National Institute on Drug Abuse, Epidemiology and Prevention Branch, March 1994.

Special Review Consultant, National Institute on Drug Abuse, AIDS and Drug Abuse, February 1994.

Special Review Consultant, National Institute on Drug Abuse, AIDS and Drug Abuse, April 2-3, 1991.

Special Review Consultant, National Institute on Drug Abuse, AIDS and Drug Abuse. January 14-15, 1991.

Consultant, URSA Institute, San Francisco, 1985-Present.

PROFESSIONAL ACTIVITIES

American Sociological Association Council Member, August 2000-2001.

Chair, Drugs and Crime, Division of Deviance and Crime American Society of Criminology, San Francisco, California, November 1999-2000.

Reviewer, Contemporary Drug Problems 1989 - present

Reviewer, Journal of Contemporary Ethnography 1990- present

Reviewer, Qualitative Health Research 1995 - present

Secretary and Board Member of the Santa Cruz Needle Exchange 1997 - present

Program Coordinator, Drugs and Crime Division, American Society of Criminology Annual Meeting, Boston, November, 1994-1995.

Local Arrangements Chair, American Society of Criminology Annual Meeting, San Francisco, November, 1990-1991.

Member, Research Task Force, City and County of San Francisco Substance Abuse Services, 1983-1985.

Member, Council on Pregnancy and Chemical Dependence, City and County of San Francisco Substance Abuse Services, 1983-1985.

PROFESSIONAL ASSOCIATIONS

American Sociological Association
Society for the Study of Social Problems
American Society of Criminology
National Institutes of Health Alumni Association

specmind

From: "Nora Callahan" <nora@november.org>
To: "John Gilmore" <gnu@toad.com>
Cc: <rickmaps@eff.org>; <sylvia@dancesafe.org>; <ah@well.com>; <enadelmann@sorosny.com>; <owlswan@eff.org>; <rgb@cognitiveliberty.org>; "John Chase" <chaseng@mindspring.com>
Sent: Friday, February 02, 2001 2:22 PM
Subject: Re: Comments on MDMA sentencing - for the Commission

2 February 2001

U.S. Sentencing Commission
Michael Courlander, Public Affairs Officer
One Columbus Circle, N.E.
Washington, DC. 20002-8002

RE: Comments for the Sentencing Commission on Ecstacy emergency re-sentencing

Dear Mr. Courlander:

Congress has mandated an emergency review of Ecstacy sentencing provisions. The November Coalition is very concerned that the request of Congress, is yet another reactionary response to what congress perceives as an increase in dangerous drug use. Any increase of rates and length of incarceration on the federal level, will probably cause more harm to the enforcement targeted persons, Bureau of prisons staff morale and safety, and to society as a whole, than the use of these substances would ever effect.

We question the so-called emergency nature of this congressional request, there being little time for public comment, wherein physicians, chemists and other experts and professionals could have a true public discussion. Too many times since the war on drugs was declared over 30 years ago, we have seen the prison sentences increase with little input from the public and leaders alike.

In April 2000, Katherine Hawk, the director of the Federal Bureau of prisons testified before the Senate Subcommittee on Criminal Justice. We will include portions of her statement as our part of our comments on Ecstacy emergency re-sentencing:

"Overcrowding in BOP facilities is 34 percent over capacity system wide. At medium and high security facilities overcrowding levels are at even more dangerous proportions, 55 percent at medium security facilities and 51 percent at high security facilities. We must reduce overcrowding at those facilities for the security of staff, inmates, and the surrounding communities. With the resources Congress has already provided, we are making substantial progress with 22 new prisons funded. However, we need to do more . . . over the past 5 years we have had substantial decreases in both inmate suicides and inmate misconduct, including assaults. However, such successes cannot be expected to continue in the face of the dramatic population increases and record setting overcrowding we project will occur in the next several years. Without the resources we have requested to bring

additional bed space capacity on line, our record of service may be in jeopardy."

There are over 95 federal penal institutions and contract confinement facilities at present. Increased penalties will require an overburdened prison system to grow more and more unstable.

We urge the Sentencing Commission to return to Congress and share Katherine Hawk's recent comments once again. Bureau of Prison staff and prisoner safety "cannot be expected to continue in the face of the dramatic population increases and record setting overcrowding that is expect to occur in the next several years."

The November Coalition is an organization of thousands upon thousands of prisoners, their loved ones and other concerned citizens nationwide. We know firsthand of mounting tension in our prisons-due to overcrowding, only one of the problems prisoners and staff must endure. Add to that tension, sentences that last decades with no hope of earned release, little hope of good outcome as family units unravel under the strain of incarceration and separation from those we love. These are not laws that serve society well. This is not the opinion of our organization-this statement embodies the many conclusions of numerous studies, some which have been sponsored by the federal government.

To recommend harsher penalties when we know that public education is less expensive and holds more promise of resolution than a rush to incarceration, is questionable from the start. We are the world's leading jailer, certainly America can find better solutions to our social needs.

Prison cells built for one became two man cells last decade. Those one man cells are now being converted to house three men or women. Rooms previously used for education, recreation and rehabilitation are converted into "dorms", temporary "units" and still the rush to imprison does not abate. Our leaders must find a better path in our society for our citizens-a better path than the dead end of prison. We know that these laws will target young people primarily. The emergency we see, is an overburdened federal prison system, not the use of a particular substance by a particular group of our society's citizens.

The war on drugs is a failure, and to continue to wage it unchecked as this "emergency review" suggests, is immoral. This is not a time to rush to more imprisonment, but a time to re-examine every aspect of the war on drugs, and that includes the penalties for club drugs. De-incarceration should be our goal, and would serve justice-not the reverse.

Thank you for considering our hurried comments. Had there been more time, an appropriate time given citizens to respond, I am sure that you would have far more comments to consider.

Sincerely,

[113]

Nora Callahan
Executive Director

The November Coalition
795 South Cedar
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509 684-1550

[114]

February 1, 2000

The Sentencing Commission

RE: "ecstasy"

Dear Fellow Citizens,

As a professor of philosophy I wish to raise the issue of ethics in regards punishment for the personal use of the contraband drug popularly known as ecstasy. Punishment must be fair and proportionate to the crime. Can hard treatment (deprivation of wealth, liberty or life) be morally justified as punishment for drug use? No ethicist argues that it is. A search of the philosophical literature turns up a dearth of justifications for the current hard treatment for drug possession. On the contrary, philosophers (i.e., educated people who take moral issues seriously and rationally) find hard treatment for drug use to be *unjustified*, which is to say that the current punitive measures being taken by our government is immoral. To head in the direction of greater "hardness" of treatment is to go deeper into an immoral practice. Rather than producing good, such a policy not only fails to prevent bad (not only is the deterrent factor of hard treatment empirically unsupported, but the theory of deterrence is a contradictory basis for morality insofar as it condones cruelty) but actually increases bad consequences for citizens (we have more citizens in prison now than the combined populations of Alaska, Montana and Vermont). Specific arguments in support of my contention can be found in my enclosed essay. Although the essay addresses the morality of marijuana use, the arguments apply *mutatis mutandis* to the use of ecstasy.

Ethical analysis of the morality of hard treatment can be found in the following two essays, both of which are included in *A Reader On Punishment*, R.A. Duff and D. Garland, eds. (OUP, 1994):
Joel Feinberg, "The Excessive Function of Punishment", and
A. von Hirsch, "Censure and Proportionality"

Sincerely,
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Marijuana and Morals

Daniel Kealey, Ph.D.
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It stands to reason that if a behavior is to be prohibited by law and punished severely it must be widely and clearly judged to be immoral. Given the draconian measures taken by the U.S. government to suppress marijuana smoking one would expect that the immorality of this behavior has been soundly established. Amazingly, however, a rational analysis defending the thesis that marijuana smoking is a moral vice is very difficult to find. In fact, I have found none; but negative moral judgements are frequently found in prohibitionist literature. Rhetorical opinions made on the morality of marijuana smoking without the backing of rational analysis are specious, however, even if they

suffice to pursuade congressmen to vote for prohibition. There may be nonmoral reasons that justify prohibition, but the war on marijuana is patently not based on rational moral reasoning. My purpose here, however, is not to pick apart the smattering of moralistic statements made by defenders of prohibition, but rather to delineate ways in which one could rationally justify the choice to smoke marijuana. If one can rationally demonstrate the possibility of using marijuana in a way that is consonant with or enhances human virtue rather than vice, then it will become much more evident that the present U.S. policy of prohibition is not only unjust and dysfunctional as others have argued, but also immoral.

Judgements about the morality or immorality of a behavior must be based on rationally defendable standards applied to the practice while considering relevant cultural and socio-historical contexts that give meaning to the behavioral practice. Moral philosophy supplies several standards upon which to base moral reasoning. Drawing upon such standards central to Kantian, utilitarian and virtue ethics, I will deliberate on the moral implications of marijuana use. Insofar as I succeed in demonstrating that marijuana use can be compatible with the choice to live a morally virtuous life, to that extent will my argument go beyond that approach which concedes to the prohibitionists that marijuana smoking is a moral vice (albeit relatively harmless) like tobacco and alcohol use but which should be left as a personal choice and not proscribed by law. That approach has resulted in a stalemate between prohibitionists, including a highly inflated government apparatus deeply invested in policing on the one hand, and the legalization movement on the other, which claims the War on Drugs is a failure. The main contention seems to concern the consequences of perpetuating or ending the War on Drugs, with each side painting a dire picture of American society's future should the other side prevail.

If, however, it can be determined that marijuana smoking is not inherently a vice and that it can be used in a responsible way, then, perhaps, we can shift the debate away from this stalemate to considerations of harm reduction. To that aim I will make a policy proposal that seriously addresses the moral implications of marijuana use. I confine my analysis to marijuana use although it would also be applicable to policy considerations of psychedelics. Ironically, marijuana has been dubbed the gateway drug by prohibitionists as a last resort justification for proscribing it. Their use of the image only considers its function as an open gate, neglecting that the predominant use of a gate is to keep out. I believe that rationalizing our marijuana policy and the corresponding raising of the quality of drug and marijuana education to the highest standards of liberal arts and sciences education will make a significant contribution to closing the gate on the drug problem.

Moral Justifications

This being an exercise in applied rather than theoretical ethics, my aim in this section is not to showcase a particular theory of normative ethics or to make an exhaustive ethical analysis, but to demonstrate how any rational person can draw on normative theories to deliberate on the morality of marijuana use. The main normative theories to be considered are utilitarian, deontological and virtue ethics.

Utilitarian Ethics

Most of the current debate on marijuana use is utilitarian insofar as it focuses on the consequences of the behavior rather than the intent of the user. The utilitarian principle holds that an action is morally good to the extent that its beneficial consequences outweigh the negative ones, taking the general welfare of all into account. Conversely, if an action produces more negative than good consequences for all concerned, then it is morally vicious. In applying the utilitarian principle we are asked to make a thorough, objective analysis of the effects of marijuana use. A frequent criticism of prohibitionist arguments is that the evidence its advocates muster to demonstrate the overwhelming negative consequences of marijuana smoking are neither thorough nor objective. Negative effects are blown out of proportion. Toxicity reports based on exceedingly high dosages fed to animals are inappropriately applied to humans who would never consume such quantities of marijuana. Prohibitionists claim that marijuana smoking causes an amotivational syndrome, but three decades of scientific research has failed to substantiate this. This pattern of distortion has been thoroughly exposed by Lynn Zimmer's and John Morgan's review of the scientific evidence in their book, *Marijuana Myths, Marijuana Facts.*[1]

Although the negative effects of marijuana smoking have been greatly exaggerated, this is not to say that there are no negative effects. Aside from the relatively rare cases in which someone with a borderline psychotic syndrome is triggered into active psychosis under the effects of marijuana, most negative effects of marijuana smoking are due to inappropriate use. Prohibition obscures the distinction between appropriate and inappropriate use because all use is *de jure* inappropriate. Moral deliberation, however, requires that we do make that distinction in order to avoid producing negative consequences of marijuana smoking. I will develop this line of thought later. Many of the negative effects attributed to marijuana are actually due to preexisting dysfunctional behaviors and immature traits that in some cases are accentuated by marijuana but are not caused by it. Prohibiting marijuana for these reasons would be like aggressively suppressing a symptom while letting the underlying disease rage untreated. This apparent "negative" effect of marijuana can better be regarded as one of its positive effects insofar as it serves the maiutic function of bringing dysfunctional thinking and behavior more to the surface where awareness, especially with proper mentoring or counseling, can initiate steps to psychological maturity. Although marijuana is not addictive, it is possible to use it excessively and compulsively, in which case the reasons are to be found in the addictive complex of one's personality that one is self-medicating with marijuana. Fortunately it is much easier to separate the psychological issues from the substance abuse in the case of marijuana than in addictions of such other substances as alcohol and cocaine. In sum, by far the majority of negative effects attributed to marijuana smoking can be eliminated or effectively mitigated by rational discrimination and responsible use.

Researchers have observed that many of the effects of marijuana, being so varied and idiosyncratic, are due to intentional, circumstantial and learned behavioral factors rather than to the chemistry of the herb. This is a key to understanding the positive effects of the marijuana high. Even the most universally noted characteristic of the marijuana high, namely euphoria, is not a necessary effect of its chemical properties but is largely dependent on subjective, intersubjective and environmental factors at the time

of smoking. Marijuana smokers soon discover that the high enhances not only recreational experiences but their involvement in artistic, intellectual, athletic, spiritual, literary, psychological, relational/dialogical and other disciplined pursuits. Many of the benefits of marijuana are therefore dependent on the smoker's intention, psychological state, personal qualities, aptitudes, knowledge, skills and experience with the drug. So long as these smokers refrain from using marijuana in self-defeating ways they find that the benefits far outweigh the negative consequences, even the artificially exacerbated negative risks introduced by prohibition. In answer to the prohibitionists' charge that their risking years of imprisonment and loss of their property is indicative of irrational behavior caused by an addictive drug habit, marijuana users can reply that the private nature of the behavior makes apprehension by the police unlikely and so is rather a testimony to the uncontestedly greater balance of good over possible bad effects in their utilitarian calculus. A majority of Americans born between 1950 and 1970 have been labeled as criminal for following this utilitarian logic in regards marijuana smoking.

Deontological Ethics

Deontological ethics determines the moral worth of an action by evaluating the actor's intention rather then the consequences of one's act. Given the difficulty of always having our true motivations completely transparent to consciousness, Kant provides us with criteria to measure the purity of our intent. Naming these criteria as categorical imperatives, Kant formulated three versions, each of which rely on the principle of contradiction:

1. Universalizability: Act only on that maxim through which you can at the same time will that it should become a universal law.
2. Means/ends: Act in such a way that you always treat humanity, whether in your own person or in the person of any other, never simply as a means, but always at the same time as an end.
3. Autonomy: Act so that you treat the will of every rational being as a will which makes universal law.

In Kant's deontological ethics one's intent is moral if it is rational, and to be rational one's intent must be found without any contradiction in it. Thus I cannot rationally will to lie without contradiction because if I command that lying be a universal law then there would no longer be any utility for me to lie because no lie would be believed. This application of the first version of the categorical imperative is the least relevant to an evaluation of marijuana smoking. This is because people use marijuana for its effects, and so according to this line of reasoning the choice to smoke marijuana *or not to* smoke it does not fall in the realm of morality but is merely a practical decision. The other two versions of the categorical imperative are more helpful for our inquiry, however.

The principle of autonomy is a central contention of the drug problem today. Prohibition is paternalistic and paternalism is a violation of the principle of autonomy. Paternalism can be justified in cases where the moral agents are demonstrated to be incapable of autonomous decisions, people in comas, psychotics and young children, for example. In these cases those with authority act in the best interest of those whose