

BIOGRAPHICAL AND PERSONAL INFORMATION

Date and place of birth: March 21, 1946, Long Beach, California

Present professional status and address: Eleanor A. Bliss Professor of Biology
Department of Biology
Bryn Mawr College
Bryn Mawr, Pennsylvania 19010
(610) 526-5098
fax - (610) 526-5086
e-mail - pgrobste@brynmawr.edu

Home address: 125 Timothy Circle
Radnor, Pennsylvania

EDUCATION

1964-1968 B.A., cum laude, 1969
Biology, Harvard University

1968-1972 M.S., 1970, Biology, Stanford University
Ph.D., 1973, Biology, Stanford University (Donald Kennedy)

1972-1973 Postdoctoral Fellow, Johns Hopkins University
(Marcus Jacobson)

1973-1974 Postdoctoral Fellow, Stanford University
(K.L. Chow)

PROFESSIONAL APPOINTMENTS

1986-present Professor
(1988-present, Eleanor A. Bliss Professor)
[1986-1993, Chair]
Department of Biology
Bryn Mawr College

2000-2007 Director, Center for Science in Society, Bryn Mawr College

1985-1986 Research Associate (Associate Professor)
Department of Anatomy, University of Chicago

1974-1985 Assistant and Associate Professor
Department of Pharmacological and Physiological
Sciences, Committees on Developmental Biology and
Neurobiology, The College, University of Chicago

OTHER PROFESSIONAL ACTIVITIES

Academic Fellow, Psychoanalytic Center of Philadelphia, 2001-2003

National Advisory Council, Project Kaleidoscope project on regional networks (supported by FIPSE), 2001-2005

Project director, Howard Hughes Medical Institute sponsored program for undergraduate science education, 1993-1997, 1997-2000

Program and institute organizer, Summer Institutes for K-12 Teachers, Bryn Mawr College, 1990 -present

Bryn Mawr College Rosalyn R. Schwartz Teaching Award, "for teaching excellence and campus leadership", 1998

FELLOWSHIPS AND RESEARCH SUPPORT

6/68 - 6/69	National Science Foundation Graduate Fellow
6/70 - 6/72	National Science Foundation Graduate Fellow
11/72 - 9/74	National Institutes of Health Postdoctoral Fellow
4/76 - 4/79	National Eye Institute Research Grant "Development of connectivity in anuran visual systems"
9/76 - 9/80	Alfred P. Sloan Foundation Research Fellow
9/77 - 9/82	National Eye Institute Research Career Development Award
5/79 - 4/83	National Eye Institute Research Grant "Development of connectivity in anuran visual systems"
8/79 - 3/84	National Science Foundation Research Grant "Development of neuronal connectivity during anuran metamorphosis"
3/84 - 12/86	National Science Foundation Research Grant "Development of neuronal connectivity during anuran metamorphosis"
7/87-11/90	National Institutes of Health Research Grant (AREA) "Brain organization underlying orienting to tactile input"
6/89-present	Whitehall Foundation Research Grant "Neuronal organization underlying directed movement in the frog: developing an approach from the motor side"
6/91-present	Neural and Behavioral Systems Group, A TIDE-POOL project (private donor, support for research and post-doctoral research/teaching fellows)

TEACHING EXPERIENCE

Courses Taught

Introductory Biology
Neurobiology and Behavior
Story of Evolution and Evolution of Stories
Emergence
Philosophy of Science
College Seminar
Senior Seminar in Neurobiology and Behavior

Graduate and postgraduate students

David Sperry, postdoctoral fellow, currently Associate Professor, School of Life and Health Sciences, University of Delaware

Christopher Comer, Ph.D. 1980, currently Associate Professor, Department of Biology, University of Illinois at Chicago

James Adamson, Ph.D. 1981, M.D. 1983, University of Chicago, currently Resident in Neurosurgery, Mt. Sinai Medical Center, New York

Sally Hoskins, Ph.D. 1982, University of Chicago, currently Assistant Professor, Department of Biology, City College of New York

Sandra Kostyk, Ph.D. 1985, Ph.D. 1985, M.D. 1985, University of Chicago, currently Resident in Neurology, Massachusetts General Hospital

Thomas Masino, Ph.D. 1987, University of Chicago, currently postdoctoral fellow, Department of Neurobiology, Stanford University Medical Center

Paul Patton, Ph.D. 1988, University of Chicago, currently postdoctoral fellow, Department of Zoology, University of Texas, Austin

Despo Louca, M.A. 1992, Bryn Mawr College, currently doctoral student in engineering, University of Pennsylvania

Cynthia Smeraski, Ph.D. 1995, Bryn Mawr College, currently postdoctoral fellow, Medical College of Pennsylvania

Peter Smallwood, postdoctoral research/teaching fellow, 1992-94, Bryn Mawr College,

Karen Lee, postdoctoral research/teaching fellow, 1992-94, currently Visiting Assistant Professor, Connecticut College

Jeff Oristaglio, Ph.D. 2002, currently postdoctoral fellow, Columbia University

SELECTED RECENT INVITED PRESENTATIONS

Eighth Olympiad of the Mind, Brain Research: Improviing Global Harmony, Washington, D.C., 2007

IMSA Great Minds Program, Learning and the Brain, Aurora, Illinois, 2007

Advanced International Colloquim on Building the Scientific Mind, Learning in the Perspective of Complex and Long Term Change, Vancouver, 2007

In-service day, Delaware Valley Friends School, Paoli, Pennsylvania, Science as Exploration/Story Telling and The Brain as a Scientist/Explorer/Story Teller, 2006

Snake River Association for Neuroscience Annual Meeting, Jackson, Wyoming, "Applied Neurobiology: A Brain Wider than the Sky ... and Why it Matters", 2006

SENCER Summer Institute, San Jose, California, "Science as Story Telling in Action: The Web, the Brain, and Society", 2005

Advanced International Colloquim on Building the Scientific Mind, The Hague, "The Emerging Scientific Mind/Brain", 2005

25th Anniversary Friends Association for Higher Education Conference, Haverford College, "Intellectual Exchange as a Medium for Community Building on the Web and Beyond", 2005

Psychoanalytic Center of Philadelphia, "Looking to the Brain for Psychotherapeutic Insights and to Psychotherapy for Insights into the Brain", 2005

Workshop on Implications of the NIH Roadmap for Undergraduate Life Sciences Education, Juniata College, "Science in Society in the 21st Century: Interdisciplinarity and Beyond, 2004

Dialogue on The Changing Roles of Mathematics and Science in Society, Technology, and Society: Ethical Awareness for Tomorrow's Leaders, Illinois Mathematics and Science Academy, Chicago, Illinois, "A Vision of Science (and Science Education) in the 21st Century: Everybody "Getting It Less Wrong" Together", 2003

Counselling Association of Greater Philadelpha "Understanding the Brain: Implications for Education", 2002

11th Annual Usability Professional's Association Conference, Orlando, Florida, "The Brain's Images: Co-Constructing Reality and the Self", 2002

PUBLICATIONS (traditional)

- Grobstein, P. (1973) Extension-sensitivity in the crayfish abdomen. I. Neurons monitoring nerve cord length. *J. Comp. Physiol.* 84: 331-349.
- Grobstein, P. (1973) Extension-sensitivity in the crayfish abdomen. II. The tonic cord stretch reflex. *J. Comp. Physiol.* 84: 350-359.
- Grobstein, P. (1973) Nervous system length change with change in posture: protective role of the connective tissue sheath. *Brain Research* 58: 223-228.
- Grobstein, P., Chow, K.L., Spear, P.D., and Mathers, L.H. (1973) Development of rabbit visual cortex: late appearance of a class of receptive field types. *Science* 180: 1185-1187.
- Mathers, L.H., Chow, K.L., Spear, P.D., and Grobstein, P. (1974) Ontogenesis of receptive fields in the rabbit visual cortex. *Exp. Brain Research* 19: 20-35.
- Grobstein, P., Chow, K.L., and Fox, P.C. (1974) Deprivation effects on the time course of development of rabbit visual cortex. *Society for Neuroscience abstracts IV*: 239.
- Grobstein, P., Chow, K.L. and Fox, P.C. (1975) Development of receptive fields in rabbit visual cortex: changes in time course due to delayed eye-opening. *Proc. Natl. Acad. Sci.* 72: 1543-1545.
- Grobstein, P. and Chow, K.L. (1975) Receptive field development and individual experience. *Science* 190: 352-358.
- Grobstein, P. and Chow, K.L. (1976) Receptive field organization in the mammalian visual cortex: the role of individual experience in development. In: Studies on the Development of Behavior and the Nervous System, Volume III. (Gottlieb, G., ed.) Academic Press, pp 155-193.
- Grobstein, P. and Comer, C (1976) Differences in development of relative eye position in Xenopus and Rana. *Soc. Neurosci. Abstr.* 2: 195.
- Chow, K.L., Douville, A., Masceti, G., and Grobstein, P. (1977) Receptive field characteristics of neurons in a visual area of the rabbit temporal cortex. *J. Comp. Neurol.* 171: 135-146.
- Grobstein, P. and Comer, C. (1977) Post-metamorphic eye migration in Rana and Xenopus. *Nature* 269: 54-56.
- Grobstein, P. (1977) A view of the innate from experience in visual system development. Abstracts, XVth International Ethological Congress, p 8.
- Comer, C. and Grobstein, P. (1978) Prey acquisition in atectal frogs. *Brain Research* 153: 217-221.
- Grobstein, P., Comer, C., Hollyday, M., and Archer, S. (1978) A crossed isthmotectal projection in Rana pipiens and its involvement in the ipsilateral visuotectal projection. *Brain Research* 156: 117-123.
- Comer, C. and Grobstein, P. (1979) Organization of somatosensory input to the midbrain of the frog. *Soc. Neurosci. Abstr.* 5: 140.
- Grobstein, P., Comer, C., and Kostyk, S. (1980) The potential binocular field and its tectal representation in Rana pipiens. *J. Comp. Neurol.* 190: 175-185.
- Kostyk, S.K. and Grobstein, P. (1980) Visual prey acquisition behavior in the frog: effects of various unilateral lesions. *Soc. Neurosci. Abstr.* 6: 75.

Hoskins, S. and Grobstein, P. (1980) Distribution of ipsilaterally and contralaterally projecting retinal ganglion cells in Xenopus laevis and its re-establishment following optic nerve section. Soc. Neurosci. Abstr. 6: 647.

Comer, C. and Grobstein, P. (1981) Tactually elicited prey acquisition behavior in the frog, Rana pipiens, and a comparison with visually elicited behavior. J. Comp. Physiol. 142: 141-150.

Comer, C. and Grobstein, P. (1981) Involvement of midbrain structures in tactually and visually elicited prey acquisition behavior in the frog, Rana pipiens. J. Comp. Physiol. 142: 151-160.

Comer, C. and Grobstein, P. (1981) Organization of sensory inputs to the midbrain of the frog, Rana pipiens. J. Comp. Physiol. 142: 161-168.

Crabtree J.W., Chow, K.L., Conlee, J., Ostrach, L.H., and Grobstein, P. (1981) Effects of progressively longer durations of monocular deprivation on development of visuocortical receptive fields in the rabbit. Neurosci. Lett. 26: 61-65.

Hollyday, M. and Grobstein, P. (1981) Of limbs and eyes and neuronal connectivity. In: Studies in Developmental Neurobiology: Essays in Honor of Viktor Hamburger. (Cowan, W.M., ed.), Oxford University Press, pp 188-217.

Hoskins S. and Grobstein, P. (1981) Development and thyroxine dependence of the ipsilateral retinothalamic projection in Xenopus. Soc. Neurosci. Abstr. 7: 289.

Hoskins, S., Kostyk, S.K., and Grobstein, P. (1982) Orienting behavior of juvenile frogs with both a premetamorphically rotated and a normal eye. Behavioral Brain Research 4: 55-62.

Kostyk, S.K. and Grobstein, P. (1982) Visual orienting deficits in frogs with various unilateral lesions. Behavioral Brain Research 6: 379-388.

Adamson, J.R. and Grobstein, P. (1982) Re-establishment of the ipsilateral oculo-tectal projection after optic nerve crush in the frog: evidence for synaptic remodelling during regeneration. Soc. Neurosci. Abstr. 8: 514.

Hoskins, S.G. and Grobstein, P. (1982) Retinal histogenesis and the development of the ipsilateral retinothalamic projection in Xenopus. Soc. Neurosci. Abstr. 8: 513.

Kostyk, S.K. and Grobstein, P. (1982) Frog prey orienting: evidence for the involvement of an uncrossed tectofugal pathway. Soc. Neurosci. Abstr. 8: 292

Grobstein, P. and Comer, C. (1983) The nucleus isthmi as an intertectal relay for the ipsilateral oculo-tectal projection in the frog, Rana pipiens. J. Comp. Neurol. 217: 54-74.

Sperry, D.G. and Grobstein, P. (1983) Postmetamorphic changes in the lumbar lateral motor column in relation to muscle growth in the toad, Bufo americanus. J. Comp. Neurol. 216: 104-114.

Grobstein, P., Comer, C., and Kostyk, S.K. (1983) Frog prey capture behavior: between sensory maps and directed motor output. In: Advances in Vertebrate Neuroethology. (Ewert, J.-P., Capranica, R.R., and Ingle, D.J., eds.), Plenum, pp 331-347.

Grobstein, P. (1983) Review of Analysis of Visual Behavior. Animal Behavior 31: 621-622.

Grobstein, P. (1983) Further thoughts on the linkage between tectum and prey capture motor output, Second Workshop of Visuo-motor Coordination in Frog and Toad, Mexico City, 1982 (COINS Technical Report, University of Massachusetts).

Grobstein, P. and Masino, T. (1983) Nucleus isthmi in the frog: connections with monocular tectum. Soc. Neurosci. Abstr. 9: 1166.

Kostyk, S.K., Reyes, A., Zwanziger, L., and Grobstein, P. (1983) Frog prey orienting: variations with stimulus distance. Soc. Neurosci. Abstr. 9: 1089.

McCrea, R.A. and Grobstein, P. (1983) Anatomical and physiological characteristics of the neurons in the frog tectum receiving optic inputs. Soc. Neurosci. Abstr. 9: 818.

Sperry, D.G. and Grobstein, P. (1983) Regulation of neuron numbers in Xenopus: effects of hormonal manipulation altering size at metamorphosis. Soc. Neurosci. Abstr. 9: 855.

Adamson, J., Burke, J., and Grobstein, P. (1984) Recovery of the ipsilateral oculotectal projection following nerve crush in the frog: evidence that retinal afferents make synapses at abnormal tectal locations. J. Neurosci. 4: 2635-2649.

Hoskins, S.G. and Grobstein, P. (1984) Thyroxine induces the ipsilateral retinothalamic projection in Xenopus laevis. Nature 307: 730-733.

Grobstein, P., Hollyday, M., and Berkowitz, A. (1984) Metamorphic changes in the nucleus isthmi in Rana pipiens. Soc. Neurosci. Abstr. 10: 466.

Masino, T., Kostyk, S.K., and Grobstein, P. (1984) Laterality of tectal efferent projections in Rana pipiens. Soc. Neurosci. Abstr. 10: 60.

Patton, P. and Grobstein, P. (1984) Forebrain involvement in prey orienting in the frog. Soc. Neurosci. Abstr. 10: 61.

Reyes, A. and Grobstein, P. (1984) Frog prey orienting: effects of cerebellectomy. Soc. Neurosci. Abstr. 10: 61.

Sperry, D.G. and Grobstein, P. (1985) Regulation of neuron numbers in Xenopus laevis: effects of hormonal manipulations altering size at metamorphosis. J. Comp. Neurol. 232: 287-298.

Hoskins, S.G. and Grobstein, P. (1985) Development of the ipsilateral retinothalamic projection in the frog Xenopus laevis. I. Retinal distribution of ipsilaterally projecting cells in normal and experimentally manipulated frogs. J. Neurosci. 5: 911-919

Hoskins, S.G. and Grobstein, P. (1985) Development of the ipsilateral retinothalamic projection in the frog Xenopus laevis. II. Ingrowth of optic nerve fibers and production of ipsilaterally projecting ganglion cells. J. Neurosci. 5: 920-929.

Hoskins, S.G. and Grobstein, P. (1985) Development of the ipsilateral retinothalamic projection in the frog Xenopus laevis. III. The role of thyroxine. J. Neurosci. 5: 930-940.

Grobstein, P., Reyes, A., Zwanziger, L., and Kostyk, S.K. (1985) Prey orienting in the frog: accounting for variations in output with stimulus distance. J. Comp. Physiol. 156: 775-785.

Comer, C., Schotland, J., and Grobstein, P. (1985) Short and long term effects of unilateral vestibular lesions on posture and orienting movements in the frog. Soc. Neurosci. Abstr. 11: 289.

Masino, T. and Grobstein, P. (1985) The organization of tectal projections to the ventral midbrain in Rana pipiens. Soc. Neurosci. Abstr. 11: 289.

- Grobstein, P. (1986) Review of The Brain Machine. J. Amer. Med. Assoc. 255: 2677-2678.
- Grobstein, P. and Masino, T. (1986) Sensorimotor circuitry underlying directed movement in the frog: evidence for an intermediate representation of space in the tectofugal pathways. Soc. Neurosci. Abstr. 12: 684.
- Masino, T. and Grobstein, P. (1986) Sensorimotor circuitry underlying directed movement in the frog: organization of tectofugal pathways and likely involvement of the nMLF. Soc. Neurosci. Abstr. 12: 684.
- Patton, P. and Grobstein, P. (1986) Forebrain modulation of orienting circuitry in the frog: involvement of the striatum. Soc. Neurosci. Abstr. 12: 106.
- Kostyk, S.K. and Grobstein, P. (1987) Neuronal organization underlying visually elicited prey orienting in the frog. I. Effects of various unilateral lesions. Neuroscience 21: 41-55.
- Kostyk, S.K. and Grobstein, P. (1987) Neuronal organization underlying visually elicited prey orienting in the frog. II. Anatomical studies on the laterality of central projections. Neuroscience 21: 57-82.
- Kostyk, S.K. and Grobstein, P. (1987) Neuronal organization underlying visually elicited prey orienting in the frog. III. Evidence for the existence of an uncrossed descending tectofugal projection. Neuroscience 21: 83-96.
- Grobstein, P. and Chow, K.L. (1987) Visual system development, plasticity. In: Encyclopedia of Neuroscience. (G. Adelman, ed.), Birkhäuser Boston, pp 1294-1297.
- Grobstein, P. (1987) The nervous system/behavior interface: levels of organization and levels of approach. Commentary on target article by J.-P. Ewert. Behav. Brain Sci. 10: 380-381.
- Berkowitz, A. and Grobstein, P. (1987) Frog prey orienting and brain development: neuronal proliferation in ventral tegmentum. Soc. Neurosci. Abstr. 13: 252.
- Grobstein, P. (1988) On beyond neuronal specificity: problems in going from cells to networks and from networks to behavior. In: Advances in Neural and Behavioral Development, Volume III. (Shinkman, P.G., ed.), Ablex, pp. 1-58.
- Grobstein, P. (1988) Between the retinotectal projection and directed movement: topography of a sensorimotor interface. Brain, Behav. Evol. 31: 34-48.
- Grobstein, P. (1988) From the head to the heart: some thoughts on similarities between brain function and morphogenesis, and on their significance for research methodology and biological theory. Experientia 44: 961-971.
- Grobstein, P. (1988) Letter to the editor (on the complementarity of research and teaching, and associated problems resulting from current funding mechanisms for academic science). Science 241: 639-640.
- Grobstein, P. (1988) Brain sciences: some new choices. Careers and the College Grad (1989 edition): 118-119.
- Grobstein, P., Crowley, K., and Spiro, J. (1988) Neuronal organization for directed movement in the frog: similarities in visual and tactile prey orienting. Soc. Neurosci. Abstr. 14: 1236.
- Masino, T. and Grobstein, P. (1989) The organization of descending tectofugal pathways underlying orienting in the frog, Rana pipiens. I. Lateralization, parcellation, and an intermediate spatial representation. Exp. Brain Res. 75: 227-244.
- Masino, T. and Grobstein, P. (1989) The organization of descending tectofugal pathways underlying orienting in the frog, Rana pipiens. II. Evidence for the involvement of a tecto-tegmento-spinal pathway. Exp. Brain Res. 75: 245-264.

- Grobstein, P. (1989) Organization in the sensorimotor interface: a case study with increased resolution. In: Visuomotor Coordination: Amphibians, Comparisons, Models, and Robots (Ewert, J.-P. and Arbib, M.A., eds), Plenum, pp 537-568.
- Grobstein, P. (1989) Diversity and deviance: a biological perspective. *Bryn Mawr Alumnae Bulletin*, Spring, 1989, pp 4-5.
- Grobstein, P. (1989) The Scientist/Teacher: A Call to Arms. *J. College Sci. Teaching*, December, p 140ff.
- Grobstein, P. and Staradub, V. (1989) Frog orienting behavior: the descending distance signal. *Soc. Neurosci. Abstr.* 15: 54.
- Masino, T. and Grobstein, P. (1990) Tectal connectivity in the frog, *Rana pipiens*: tecto-tegmental projections and a general analysis of topographic organization. *J. Comp. Neurol.* 291: 103-127.
- Grobstein, P. (1990) Strategies for analyzing complex organization in the nervous system. I. Lesion experiments, the old rediscovered. In: Computational Neuroscience. (Schwartz, E., ed.), MIT Press, pp 19-37.
- Grobstein, P. (1990) Strategies for analyzing complex organization in the nervous system. II. A case study: directed movement and spatial representation in the frog. In: Computational Neuroscience. (Schwartz, E., ed.), MIT Press, pp 242-255.
- Grobstein, P., Meyer, J. and Egnor, R. (1990) Directed movement in the frog: motor equivalence, multi-dimensionality, internal feedback? *Soc. Neurosci. Abstr.* 16: 117.
- Smeraski, C. and Grobstein, P. (1990) Directed movement in the frog: electrophysiological findings in the ventral midbrain. *Soc. Neurosci. Abstr.* 16: 117.
- Grobstein, P. (1991) Review of Depth Perception in Frogs and Toads: A Study in Neural Computing. *Q. Rev. Biol.* 66: 102.
- Grobstein, P. (1991) Genomes to dreams. *Bryn Mawr Alumnae Bulletin*, Spring, 1991, pp 14-17.
- Grobstein, P. (1991) Directed movement in the frog: a closer look at a central representation of spatial location. In: Visual Structures and Integrated Functions (Research Notes in Neural Computing, Vol., 3) (Arbib, M.A. and Ewert, J.-P., eds), Springer-Verlag, pp 125-138.
- Carr, J.N., Louca, D., and Grobstein, P. (1991) Directed movement in the frog: explorations using back propagation networks. *Soc. Neurosci. Abstr.* 17:1578.
- Smeraski, C. and Grobstein, P. (1991) Directed movement in the frog: electrophysiological studies of a tecto-tegmental pathway. *Soc. Neurosci. Abstr.* 17:578.
- Grobstein, P. (1992) Directed movement in the frog: motor choice, spatial representation, free will? In: Neurobiology of Motor Programme Selection: New Approaches to Mechanisms of Behavioral Choice. (Kien, J., McCrohan, C., Winlow, B., eds.), Pergamon Press, pp 250-279.
- Grobstein, P. (1992) Central spatial representations and mapping the sensorimotor interface: how early is early, how late is late, and what difference does it all make anyhow? Commentary on target article by Flanders et al., *Behav. Brain Sci.* 15: 339-341.
- Grobstein, P. (1993) Information processing styles and strategies: directed movement, neural networks, space, and individuality. Commentary on target articles by Robinson, Stein, and others. *Behav., Brain Sci.* 15: 750-752.

Grobstein, P., Brodfuehrer, P, and Oristaglio, J. (1993) The free-will problem: motor choice and intrinsic variability in frog and leech. Soc. Neurosci. Abstr. 19: 1617.

Grobstein, P. (1994) Variability in behavior and the nervous system. In: Encyclopedia of Human Behavior, Volume 4 (V.S. Ramachandran, ed.), Academic Press, 447-458.

Grobstein, P. (1994) Review of From Animals to Animats 2. J. Cog. Neurosci., in press.

Patton, P. and Grobstein, P (1998) The effects of telencephalic lesions on visually mediated prey orienting behavior in the frog (*Rana pipiens*). I. The effects of complete removal of one telencephalic lobe, with a comparison to the effects of unilateral tectal lobe lesions. Brain, Behavior, and Evolution 51: 123-143.

Patton, P. and Grobstein, P (1998) The effects of telencephalic lesions on visually mediated prey orienting behavior in the frog (*Rana pipiens*). II. The effect of limited lesions to the telencephalon. Brain, Behavior, and Evolution 51: 144-161.

Grobstein, P., Oristaglio, J, Baum, A., and McCallum, J. (1998) Frog prey orienting behavior: further analysis of a sensorimotor deficit. Soc. Neurosci. Abstr. 24: 187.

Oristaglio, J., Grobstein, P., Biernat, Ni., and Vero, E. (1998) Frog prey orienting behavior: the problem of multiple distance cues. Soc. Neurosci. Abstr. 24: 187.

Grobstein, P. (2002) Who's afraid of Emily Dickinson, or how I learned to stop worrying and love the brain, Newsletter of the Psychoanalytic Center of Philadelphia (available at <http://serendip.brynmawr.edu/bb/brainpsychoanal.html>)

Grobstein, P. (2002) The brain's images: co-constructing reality and the self. Abstract in the program of the 11th Annual Usability Professionals' Association (UPA) Conference (Orlando, Florida, July 2002). <http://serendip.brynmawr.edu/bb/reflections/upa/UPApaper.html>

Grobstein, P. (2003) Getting it less wrong, the brain's way: science, pragmatism, and multiplism. IN Interpretation and Its Objects: Studies in the Philosophy of Michael Krausz (A. Ritvoi, ed.), Rodopi, pp 153-166.

Grobstein, P. (2003) A Vision of Science (and Science Education) in the 21st Century: Everybody "Getting It Less Wrong" Together. Prepared for a talk at the Illinois Mathematics and Science Academy. (http://serendip.brynmawr.edu/sci_cult/imsa/imsatalk.html)

Grobstein, P. (2005) Making the Unconscious Conscious, and Vice Versa: A Bi-directional Bridge Between Neuroscience/Cognitive Science and Psychotherapy?, Cortex 44: 663-668

Grobstein, P. (2005) Revisiting Science in Culture: Science as Story Telling and Story Revising, Journal of Research Practice, Volume 1.1, Article M1.

Dalke, A., Grobstein, P. and McCormack, E. (2006) Why and How to be Interdisciplinary, Academe, May/June.

Dalke, A., Grobstein, P. and McCormack, E. (2006) Exploring Interdisciplinarity: The Significance of Metaphoric and Metonymic Exchange Journal of Research Practice, Volume 2.2, Article M3

Dalke, A., Cassidy, K., Grobstein, P. and Blank, D. (2007) Emergent Pedagogy: Learning to Enjoy the Uncontrollable and Make it Productive, Journal of Educational Change 8(2): 111-130.

Dalke, A. and Grobstein, P. (2007) Story Telling in (At Least) Three Dimensions: An Exploration of Teaching Reading, Writing, and Beyond, Journal of Teaching Writing 23(1): 91-114.

Grobstein, P. (2007) Interdisciplinarity, Transdisciplinarity, and Beyond: The Brain, Story Sharing, and Social Organization. *Journal of Research Practice* 3(2), M21.

Grobstein, P. (2007) From Complexity to Emergence and Beyond: Towards Empirical Non-Foundationalism as a Guide to Inquiry. *Soundings* 90 (1/2), in press.

Grobstein, P. (2008) The Brain as a Learner/Inquirer/Creator: Some Implications of Its Organization for Individual and Social Well-Being, submitted.

Oristaglio, J. and Grobstein, P. (2008) A new look at frog prey orienting behavior I. Evidence for the existence and significance of "intrinsic variability". In preparation.

Oristaglio, J. and Grobstein, P. (2008) A new look at frog prey orienting behavior II. Effects of unilateral optic nerve section and tectal lobe lesion. In preparation.

Oristaglio, J. and Grobstein, P. (2008) A new look at frog prey orienting behavior I II. Effects of unilateral lesions in the tectospinal pathways. In preparation.

SELECTED WEB PUBLICATIONS

Serendip (<http://serendip.brynmawr.edu>) is a website which I was involved in establishing in 1994, and which continues to evolve as a "a gathering place for people who suspect that life's instructions are always ambiguous and incomplete ... and hence need to be continually examined and rewritten." It has a world-wide audience averaging more than 40,000 different visitors a week and is extensively linked to for both academic and non-academic purposes, particularly in the areas of neurobiology, cognitive science, science education, and science and culture. As such, it is both a meaningful publication forum and a venue for exploring new forms of publication which bridge between teaching and research and between the academic and the non-academic. It serves as well as a 'playground' to help others develop awareness of the potentials of the web and skills in its use. Selected projects, both individual and collaborative, during the last year are listed below (see <http://serendip.brynmawr.edu/local/grobstein.html> for a more complete listing).

Brain and Education: Thinking About New Directions
(http://serendip.brynmawr.edu/sci_edu/education/brained.html), March 2007

The Nature of Science: The "Problem of Unconceived Alternatives" and its Significance
(http://serendip.brynmawr.edu/sci_cult/stanford/), September 2006

Models of Mental Health: A Critique and Prospects (http://serendip.brynmawr.edu/sci_cult/mentalhealth/models/), August 2006

Ant Colonies: Social Organization Without a Director
(<http://serendip.brynmawr.edu/complexity/models/antcolonies/>), August 2006

Getting It Less Wrong, (http://serendip.brynmawr.edu/sci_cult/lesswrong/lesswrong/) May 2006

The Perils and Potentials of "I Believe ..." (<http://serendip.brynmawr.edu/reflections/pubintell/ibelieve.html>), April 2006

Science as Storytelling or Story Telling? A Conversation about Science Education ... and Science
(http://serendip.brynmawr.edu/sci_cult/scienceis/bickmoregrandygrob.html), January 2006

Intelligent Design and the Story of Evolution: No Need for Drawing Lines in the Sand
(<http://serendip.brynmawr.edu/biology/evolution/grobstein.html>), September 2005

The Art Historian and the Neurobiologist: A Conversation about Proprioception, the "I-Function", Body Art, and ... Story Telling? (<http://serendip.brynmawr.edu/bb/artneuro/>), Fall 2005

The Novelist and the Neurobiologist: A Conversation about Story Telling
(<http://serendip.brynmawr.edu/bb/novelneuro/>), Fall 2005

Writing Descartes: I Am, and I Can Think, Therefore ...
(http://serendip.brynmawr.edu/sci_cult/lesswrong/descartes/), June 2004

BRYN MAWR COLLEGE SERVICE

Director, Center for Science in Society

Co-director, Serendip website

CURRENT RESEARCH

Human society, both intellectually and socially, is in a period of rapid change. An explosion in both basic and applied science is creating both new understandings and new questions about humanity and its place in the universe. Simultaneously, the web has emerged as a revolutionary and still evolving basis for the elaboration and sharing of information and perspectives. Finally, there is an increasingly pressing need to find ways to mediate among diverse human cultures rapidly being brought into close proximity with one another. I'm interested, both intellectually and practically, in these forces and how they play off against one another. The interplay provides new ways to think about older intellectual problems, and generates new ones. It creates as well a need for more fluid exchange between the academic and the non-academic, so that developments within the academy can be both informed by and contribute meaningfully to the larger human community.

My recent work has begun addressing several issues in this interface area. I've been exploring the extent to which my background as an experimental biologist and neuroscientist yields useful new insights of practical significance in relation to mental health care and to educational theory and practice. I expect in the future to extend this exploration into matters of legal theory and practice and social organization. From the same platform, I have been working on older problems related to philosophy of science and philosophy of mind. This work has led me to a renewed interest in pragmatism, a somewhat neglected branch of philosophy to which I hope to contribute in the future. Finally, I have been actively exploring the potentials of the web, both as a pedagogical tool and, more generally, as a mechanism to facilitate the kind of exchange of perspectives needed not only to mitigate conflicts among cultures but to help different communities appreciate the benefits of diverse perspectives.

In a period of rapid change, there is not only a need for new kinds of academic/intellectual activity but also the opportunity to redefine the academic/intellectual enterprise itself. In the most broad sense, my research is aimed at helping to evolve exactly such a redefinition, one which sustains traditional work while, at the same time, encouraging comfortable movement across the traditional borders between scholarly activity and teaching, between disciplines, and between the academic and non-academic worlds.