Brain Science Confronts Ethical Challenges at New Group's First Meeting

By RICHARD MONASTERSKY

Washington

With society growing increasingly nervous about some of the applications of brain science, 200 academic researchers, students, lawyers, and others gathered here on Thursday to chew on some of the knottier questions that neuroscience is raising, like whether to use drugs to enhance IQ or whether advances in brain studies have shattered the notion of free will.

The eclectic convocation, which continues today, is the first meeting of the Neuroethics Society, a group that recently formed to bring together practitioners of a nascent academic discipline. The University of Pennsylvania and Stanford University have started programs devoted to the subject, and the University of Oxford is planning to open a neuroethics center.

"Lots of people are hiring in this area," said Martha J. Farah, a professor of natural sciences at Penn who is a member of the executive committee of the society. "This is the biggest gathering of neuroethicists ever in one place," she said.

The group had projected that 50 people would attend its first meeting, so the crowd on Thursday thrilled organizers. "We're off to a smashing start," said Steven E. Hyman, president of the society and provost at Harvard University.

The enthusiasm was colored by the realization that some of the issues explored by neuroscientists can cause conflict. "When the world discovers what neuroscience has been discovering, it's going to make a number of people incredibly uncomfortable," said Alan I. Leshner, a neuroscientist and chief executive of the American Association for the Advancement of Science, in whose headquarters the meeting was held.

A Controversial Diagnosis

The meeting dove into controversy by starting off with a panel on the hot-button issue of bipolar disorder in children. Benedetto Vitiello, a scientist with the National Institute of Mental Health, reported that the prevalence of bipolar in children has increased substantially in the United States since 1995, when it was virtually unknown.

Studies have suggested that the surge in diagnosis resulted from a broadening of the disease's classification, which now includes children who are extremely aggressive and irritable, as well as the rarer individuals exhibiting the more classic symptoms of excessive elation and grandiose feelings. The treatment options, which include antipsychotic drugs, can help alleviate such symptoms, but they can cause long-term health problems, like increasing the risk of diabetes and cardiovascular disease.

Researchers at the Hastings Center, which focuses on bioethics, have started a project looking into the ethical dimensions of treating psychiatric disorders in children. Josephine Johnston, a lawyer and research scholar at the center, said one of the concerns the project is investigating is that "the increased rates of diagnoses of psychiatric disorders, including bipolar, and the increased treatment with psychotropic medications, represents at least in part an increased tolerance of being a child in American society." When confronted by children with serious behavioral and mood disorders, clinicians often focus simply on the patient without looking at their families and schools, argued Ms. Johnston.

Barbara J. Sahakian, a professor of clinical neuropsychology at the University of Cambridge, said that the prevalence of bipolar disorder in children in Britain is far lower than in the United States and that treating this condition could impair the formation of neural circuits that would eventually allow children to inhibit their problem behavior.
She advocates taking a broader approach than relying simply on medications to treat mental disorders in children. "We really need to be thinking in a more 21st-century way about how to deal with these problems," she said.

**Drugs and Brain Power**

Another session at the meeting looked at the potential to enhance brain power with medications. That topic has garnered attention recently in the wake of a report by *Nature* that 20 percent of respondents to an online poll have taken drugs to improve their concentration and memory. The most common were methylphenidate, marketed as Ritalin, and modafinil, sold as Provigil (*The Chronicle*, April 25).

Julian Savulescu, a professor of practical ethics at Oxford, said that such drugs are only the beginning of more powerful ways to enhance human mental abilities. "We are on the brink of fundamentally changing our nature," he said. "One of the most fundamental aspects of our life is our cognitive ability. I believe not only that we should enhance this, but in some cases it will be mandatory."

O. Carter Snead, an associate professor of law at the University of Notre Dame, said he was less concerned about drugs that would enhance abilities than about those that alter memories. Some research, for example, has suggested that beta blockers can reduce the emotional intensity of memories, and clinicians are studying whether they alleviate symptoms of post-traumatic stress disorder.

At the conference on Thursday, researchers also discussed whether advances in neuroscience are dismantling the precept that humans control their thoughts and actions. Some scientists have argued that free will is an illusion because all thought results from electrochemical actions in the brain that obey fundamental laws and are hence predictable. But a panel at the conference mostly dispensed with the idea that neurobiology can prove that point, and they thereby saved humanity from an empty fate.

Today, speakers at the meeting will tackle questions of whether brain-imaging technology can be used to determine if people are guilty, and whether the technology might help advertisers market their products.

The Neuroethical Society gathering drew a diverse crowd, including 11 undergraduates from Furman University who are taking a seminar on neuroethics. Judith E. Grisel, an associate professor of psychology at Furman, said the university and a donor had provided $12,000 for the students to attend the meeting.

Heather Knapp, a postdoctoral scholar at the University of California at Davis, said that a large number of young scientists were drawn to the meeting and to the study of neuroethics because "with a brand new field, students get the sense that they can get a toehold."

Erica Rangel, a graduate student in health-care ethics at Saint Louis University, said that questions of ethics are sometimes difficult to raise in other research settings. The meeting, she said, "is a nice safe place to bring up questions that may be taboo at other places."