

activity has ranged from proposed authorization of a new commission specifically focused on human applications of molecular genetics (which might largely exclude concerns related to neuroscience) to extension of the President's commis-

sion (which disbanded in early 1983). There also has been discussion about creating a new Federal body charged with investigation of ethical concerns.

Conclusion

Progress in neuroscience research during the last few decades has led to new understanding of behavior, the functioning of the nervous system, how chemicals affect the mind, and mechanisms involved in neurological and psychiatric disorders. Many of the most important promises of neuroscience research have yet to be fulfilled; there is not yet sufficient knowledge to prevent or treat effectively many highly prevalent and disabling neurological and psychiatric diseases. Most of the risks and benefits related to social applications of neuroscience remain possibilities rather than facts. The diverse social ramifications of neuroscience applications can only be anticipated, not confidently projected. Neuroscience is an area that bears watching by scientists, health care professionals, industrialists, and policy makers. Now may be a propitious time to search for ways to translate neuroscience into application, and to anticipate the need for public discussion.

A number of neuroscience-related issues are likely to emerge. In some areas, there already appears to be sufficient scientific basis for congressional investigation. Some of these, such as the application of knowledge about biological clocks to work situations involving public safety, already have received some congressional attention. Other issues, such as sex-differences research, have been identified but lack consensus regarding their importance. Still other areas of application, such as drug abuse, enhancement of productivi-

ty, development of new industries, crime prevention, and improvement of education show great promise in the long term, but the base of knowledge deriving from neuroscience research is now too scant to support Federal policy initiatives.

Some areas related to neuroscience appear to deserve congressional attention. These are characterized by their magnitude, extensive Federal involvement, and an adequate science base to support meaningful investigation. Such topics include:

- problems arising from environmental, therapeutic, and occupational exposure to neurotoxic agents, identifying numbers of people affected, scientific progress in detection, methods of prevention, and regulatory issues;
- support for basic research and personnel training in neuroscience, highlighting rapidity of progress, numbers of people who might benefit, and social and industrial applications; and
- public and governmental mechanisms for dealing with difficult ethical and legal questions related to neuroscience, including how to determine mental competence, how to make decisions for the mentally incompetent, how to control legitimate uses of drugs affecting the mind, and how to establish legal criteria for determining criminal responsibility.