

EPILOGUE

DRUGS AND THE FUTURE BY DR. CHARLES R. SCHUSTER

The use of psychotropic drugs to modify sensation, perception, mood, and behavior has been ubiquitous in human societies since time immemorial. Alcohol, caffeine, coca, nicotine, opium, peyote, marihuana, mescaline and many other substances have been used in a variety of cultures in the world for religious ceremonies, healing by shamans, or as a brief escape from the rigors of a difficult existence. The scientific development of safe and effective psychotropic drugs for the treatment of psychiatric and neurological disorders is, however, a relatively recent phenomenon. Only in the past fifty years have we developed highly specific and effective drugs for the treatment of neurological and psychiatric disorders. Progress is being made in our understanding of the pathophysiology of neurodegenerative and psychiatric disorders including substance abuse/dependence. Coincident with these significant therapeutic gains, we are learning more about the fundamental neural mechanisms underlying cognition, motor function, perception, motivation, and mood states. Unquestionably, we will see continued progress in our understanding of the etiology of neurological and psychiatric disease states and, hopefully, in the development of ways to prevent and more effectively treat these problems. In so doing we will inexorably discover new means to alter our mood, perceptions and cognition. I am very excited to participate in the review of the United Kingdom's Foresight Program, sponsored by the Office of Science and Technology, which is trying to anticipate the policy issues these new discoveries will engender. The Beckley Foundation has performed an extremely valuable service by organizing this meeting of policy and scientific experts to evaluate and consider the Foresight reports on Drugs and the Future: Brain Science Addiction and Society. Their insights will hopefully provide useful guidance for the development of future policies in this complex and often contentious area.

We have in the past generally discounted the possibility that psychotropic agents might be useful for improving normal performance. Extensive research has demonstrated that certain medications can enhance cognitive and motor task performance that has been degraded by fatigue or boredom. The United States Department of Defense for example, sanctions the use of such drugs for pilots who must remain on duty for extended periods of time. Now, however, we are faced with the likelihood of discovering new psychotropic agents that will augment the optimal performance of non-disordered individuals, allowing them to work not only longer, but also more efficiently and productively. It is also likely that we will develop – through rational design or serendipity – psychotropic agents that can enhance such human qualities as empathy, sympathy, spirituality, and compassion. Psychotropic drugs have been used by many to enhance creativity, with mixed results. Undoubtedly, as we continue mainstream development of psychotherapeutic agents, new “psychedelic” agents will also be discovered. This will also force us to give serious reconsideration to the manner in which we view the use of currently available “psychedelic” agents that in most countries are

banned as illegal drugs. Could these compounds and ones yet to be discovered lead to more creative thinking in the arts and sciences? Could they increase spirituality and feelings of compassion for the less fortunate? If they do, how will or should these agents be sanctioned and regulated?

What will all of this mean to future generations? Great promise, but the potential for unintended adverse consequences as well. I believe that the following ethical and procedural issues must be considered in sanctioning the development and distribution of psychotropic agents that enhance normal performance and/or other desirable human qualities. First, I am concerned about access to such psychotropic agents. Will they be prescribed by physicians? How will physicians decide for whom they will prescribe such psychotropic agents? How will they be paid for? If only individuals who can afford to pay for these agents can access them, are we further separating individuals by socio-economic level? Are we in danger of creating a modern-day equivalent to a behavioral eugenics movement or a caste system? Further, will ambitious young workers escalate their use of such agents in an attempt to better compete with their peers? The current furor over the use of performance enhancing anabolic steroids by athletes in the United States portends some of the problems we will have with "steroids for the mind." Finally, what will happen to one's sense of satisfaction for a job well done if the successful performance is at least partly attributable to a pill? If increased compassion or empathy can be achieved by ingesting a psychotropic agent, will this alter our veneration for these human attributes?

I do not mean to diminish the possible benefits that might accrue from new psychotropic agents for enhancing normal performance and other desirable human qualities. It seems conceivable that, if an entire population received a psychotropic agent that boosts memory function, we would not equalize individual differences but rather increase the population mean for memory function. This characteristic could be true for all of the human mental functions that psychotropic agents might enhance. This is, of course, a utopian view, but conceivable. Unfortunately, the reality is that such agents would be disproportionately available for the wealthier nations' populations potentially further widening the socio-economic gap between nations of the world.

I think the Beckley Foundation meeting for the review of the Foresight Program has done us all a great service by forcing us to consider and debate these issues. As is true with all medications, fashioning rational policies requires that we balance the risks and benefits of these agents for the individual and society in general. In that regard, I believe we must also seriously consider alternatives to psychotropic agents for enhancing normal performance. Much can be achieved using educational and other behavioral approaches to enhance our mental performances.

Clearly, we can also do a better job of nurturing the human qualities of empathy, compassion and spirituality by means other than psychotropic agents, probably at lower cost and with reduced likelihood of adverse side effects. Nevertheless, we should not prejudge the potential benefits of psychotropic agents for purposes other than treatment of disease. Whether we oppose this application of psychotropic drugs based on ethical principles, they will be developed. Once developed, it will be difficult to contain their distribution and use. It is far better that we begin our public discourse now on policies to

productively use these agents rather than wait until they are here. The presentations at this Beckley Foundation meeting to review the Foresight Report are an excellent start.

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