THE SOCIAL EFFECTS OF TRANQUILIZING DRUGS

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With the introduction of tranquilizing drugs a few years ago, we entered a new era in the chemical modification of human behavior. Of course, the venerable tranquilizer alcohol had been known for a long time, but it possessed many disadvantages and had not been found useful for treating severe mental illness. The most dramatic effects of the new drugs were seen in social behavior: patients who were emotionally disturbed and combative calmed down and it was possible for others to associate with them as human beings again.

Medical scientists were puzzled as to how to evaluate these new drugs objectively. Traditional measuring techniques employed in pharmacology and medicine did not adequately embrace the changes seen as a result of tranquilizers. Some psychological techniques seemed closer to the mark, but even they had been designed for other purposes and when they were tried in drug studies often proved uninformative.

Many scientists felt that new techniques were needed for measuring the effects of drugs on mood and social behavior. We wished to study the effects of the drugs from the viewpoint of the psychiatric patient and his family, as well as from the viewpoint of physicians, nurses, and other professional observers.

In order to pinpoint a drug's specific effects on social behavior, a new and simple rating procedure has been developed at the National Institute of Mental Health. It can be utilized by untrained subjects of no more than average intelligence, as well as by professionally-trained experts. The descriptive terms have been aimed squarely at the changes in mood and social behavior which were apparently being produced by the new tranquilizers and stimulants.

The rating procedure consists of a deck of specially-printed, prepunched IBM cards. Each card has on it an adjective which may be relevant to drug effects. For example, some of the adjectives are "friendly," "impulsive," "suspicious," and "amused." The person making the rating sorts these cards into four piles to show to what extent they are descriptive of the patient. The patient may sort the cards himself, a member of the family may sort them to describe the patient, or a professional observer may sort the cards to describe the patient's behavior.

After a deck of cards is sorted, it is picked up and fed directly into a computer which summarizes the results. No laborious hand tabulations are necessary. The computer punches numerical scores for various aspects of mood and behavior, compares the observations of different raters to see if they agree, and shows differences before and after a drug.

Eight investigators throughout the country are now using the new rating procedure and sending the decks of cards back to us so that their results may be compared. Each investigator is studying not only a group of subjects on a new drug, but also one or more control groups at the same time. This of course makes it possible for us to tell whether a new drug is having an effect over and above those changes which may be produced by the passage of time, by the suggestive effects of taking a pill, and what not.

The new rating procedure is already proving to be sensitive to rather subtle drug effects. Let me cite two examples. Each of these investigators will be publishing his results in full.

Dr. Leon J. Warshaw is the director of a large employee health service in New York. He asked a number of office workers in his company if they would like to participate in an experiment, and almost without exception they agreed. He assured them that only standard drugs would be used in small, safe doses. Each of the subjects sorted a deck of our cards before and two hours after swallowing an unidentified pill. One of the pills was meprobamate, otherwise known as Miltown or Equanil, and another was an inert placebo which should have no discernible effect on behavior.

We picked out two extremes among his subjects, based upon their self-ratings before they took the drug. One group was very jittery and tense at the beginning of the experiment, and the other group was unusually calm and relaxed. When we scrutinized the data from the tense group, we found that their ratings showed a slight, but statistically-significant, difference between the meprobamate and the placebo. After taking meprobamate, they said they felt less sluggish and more amused. The group which was calm at the beginning of the experiment felt no difference between the drug and the placebo.

These findings of Dr. Warshaw's may well mean that in evaluating new psychiatric drugs, we must be careful to try them on people who need them. Giving a tranquilizer to a perfectly healthy, relaxed person may not yield a fair indication of its effectiveness for someone else.

Another investigator who is trying our new rating scale is Alberto DiMascio at the Massachusetts Mental Health Center in Boston.

He gave a number of drugs to medical students who volunteered for an experiment. In addition to our deck of cards, they

described their reactions by means of other rating techniques, and a psychiatrist also observed them and rated them on a check list. DiMascio gave the drugs at two dosage levels, a low and a high. All of the rating techniques differentiated between the drugs and the placebo at the high dose, but only the ratings made by the subjects with our deck of cards differentiated at the low dose. DiMascio concluded that the deck of cards was more sensitive to small changes than the other rating procedures.

We are hoping that it has become possible to describe the effects of tranquilizers objectively, and that we will be better able to assess their uses and limitations.