ization — the relation between all elements involved in the operation — and the place of the man in it.

Dr. Heneman says in effect that it does not matter what one calls the head man for medical education in a university — dean or provost or vice-president for medical affairs or medical-center director. I submit that it matters very much because the title implies his organizational position and backing.

Dr. Heneman assigns the affiliated hospital a minor role in medical education (he even implies that it may not be necessary), but hospital trustees are going to be very much interested in the organization pattern into which they are asked to fit.

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PULMONARY REACTIONS TO NITROFURANTOIN

To the Editor: Drs. M. J. Murray and R. Kronenberg, in their article, "Pulmonary Reactions Simulating Cardiac Pulmonary Edema Caused by Nitrofurantoin," in the November 25, 1965, issue of the *Journal*, add 3 cases to the previously recorded cases of pulmonary allergic sensitivity to this drug.

They noted 5 previous cases; actually there were 7, including mine, published almost simultaneously in an article with W. L. Bayer and E. Kotin as coauthors ("Allergic Tracheobronchitis Due to Nitrofurantoin Sensitivity," *Dis. of Chest* **48**:429-430, 1965), and in their reference 5 to Luebbers ("Allergic Reaction to Furadantin," *Deutsch. med. Wchnschr.* **87**: 2209, 1962) 2 cases, not 1, were recorded.

In the first 7 of the now 10 cases each patient had fever, chills, dry cough and eosinophilia, in addition to dyspnea; although rales were reported, no patient was thought to have cardiac pulmonary edema. However, 4 were considered to have a respiratory infection so that treatment with either penicillin or tetracycline was begun before the association with nitrofurantoin was recognized.

It appears, therefore, in summary, that we now have 10 recorded cases of allergic pulmonary sensitivity to nitrofurantoin, 1 having been mistaken for infections and 2 for cardiac pulmonary edema. In 4 (3 of the first 7 and 1 in this recent series, Case 2 of Murray and Kronenberg), parenchymal pulmonary infiltration was observed on roentgenograms as part of the reaction.

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BITTER MEDICINE, BUT SAFE

To the Editor: The editorial comment of January 20, entitled "Doses and Dosing," suggests an additional solution (regarding avoidance of poisoning by 5-gr. iron pills). Was not the heritage of the nineteenth century and before not only the 5-gr. tablet but 1 tablespoonful of a usually bitter-tasting elixir? Elixirs of iron are still available, and many contain 150 mg. of ferrous sulfate per teaspoon. Perhaps we should regress to prescribing to our iron-deficient patients, a teaspoonful a day, which, as pointed out by Middleton et al. in the same issue, is an adequate and yet nontoxic dose of iron. Although this is not as elegant as the capsules with the pellets, not only would it save our patients' pocketbooks but also the 10 per cent alcohol might help to restore the depressed psyche.

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SURGICAL EYEWITNESS

To the Editor: Spectators watching operations often miss the interesting part because the intent surgeon and assistants instinctively lean forward at the crucial moment and bar the spectator's view. Thus, the minutes drag by, and the spectators are usually more tired at the end of the day than the operating team.

I have found a simple device very helpful to me as a spectator. An elastic band is sewn to the wire stand of a 4-5-inch plain, round mirror. The mirror is held in the hand with the elastic band passed over the dorsum of the hand. By raising the hand and looking into the wound through the mirror, even a short spectator can look over the shoulder of a tall surgeon. A little practice is needed, for the view seen is a mirror image and therefore reversed, but one can quickly accommodate to that.

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PROS AND CON REGARDING LSD

To the Editor: To one who has watched *The New England Journal of Medicine* develop into one of the great medical journals of our time it is disturbing to read an editorial as emotionally biased as "LSD— a Dangerous Drug" (in the December 2, 1965 issue).

It is no news that a powerful pharmaceutical agent, if used unwisely, is dangerous, especially if its site of action is the brain. The administration of such a drug is, of course, justified only in the presence of serious illness for which no other satisfactory treatment is available.

The extraordinary and unique feature of LSD is that in minute dosage it will have marked psychologic effects in some cases but not in all. The use of LSD as an adjunct to psychotherapy in severe neuroses and chronic alcoholism has proved promising in the hands of physicians in this country and abroad.

As former medical director of the Josiah Macy, Jr., Foundation, I had the opportunity to observe animal investigations and human studies in the use of LSD as an adjunct to psychotherapy conducted by Dr. Harold A. Abramson, under support of the Foundation. Dr. Abramson has written extensively in this field. He also edited the *Transactions of the First Conference on the Use of LSD in Psychotherapy*, held in 1959 and published in 1960 by the Josiah Macy, Jr., Foundation (the volume contains 86 references).

Recently, I had the privilege of being chairman of the second Conference on the use of LSD in psychotherapy, a three-day international meeting held at the South Oaks Psychiatric Hospital, Amityville, New York, organized by Dr. Abramson, — in which 50 participants from 10 countries presented data on the therapeutic use of LSD. The *Transactions* of this conference will be published by Dobbs-Merrill Company, Incorporated.

The editorial referred to above is based on an article, "Untoward Reactions to Lysergic Acid Diethylamide (LSD) Resulting in Hospitalization," by W. A. Frosch and his associates, which appears in the same issue of the *Journal* (page 1235) and which reports on psychiatric complications that followed unsupervised use of LSD. Of the 12 patients described in some detail, "all had some degree of personality difficulty before taking the drug: 5 were definitely psychotic before their LSD experience." This article is an excellent warning against the self-administration of this powerful agent, but has no bearing whatever on the potential value of further research.

To state, as the editorial does, " . . . to date there is no published evidence that further experimentation is likely to

yield *invaluable* data" (italics mine) ignores what has already been published and is hardly in keeping with the attitude that encourages sound scientific inquiry.

The study and better understanding of how such a powerful agent as LSD acts on the psyche of man is a valid and necessary approach to the physiologic mechanisms underlying the higher functions of the central nervous system.

Therefore, I would like to urge that studies of the effects of LSD in animals and man be intensively pursued under careful control by competent investigators and that current federal and state regulations restricting the use of LSD under such circumstances be reviewed in the light of the published benefits and the exceedingly few reports of adverse effects when LSD is administered under experienced medical supervision.

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To the Editor: The paper on LSD and the editorial comment that it evoked were both timely and lucid. However, their presumably limited objectives caused them to underestimate some aspects of the problem and to omit any reference to some others.

Most persons who voluntarily take LSD more than once probably have emotional or mental disorders. The same thing is true of patients given LSD during psychotherapy, who must already have some emotional or mental disorder or they obviously would not be getting that treatment. The idea of giving such patients a drug that is known to produce mental and emotional disorders sounds like homeopathy, except that, unfortunately, the doses used are not homeopathic. In any event, allowing such persons to take LSD or actually giving it to them as a treatment can hardly be considered good medical practice (LSD seems to do no harm in deteriorated schizophrenic patients—at least they do not appear worse).

The history of attempts to enhance the verbal productivity of the human mind is far too extensive to be discussed here. However, a few items are worth recording. The poet and physician Schiller introduced free association to enhance his mediocre productivity, without any evident success. Free association, of course, was later adopted by some modern schools of psychiatry. (Its inadequacies were fully discussed by Broussais in 1828 and by Maudsley in 1867.) The interview conducted with sodium amobarbital achieved marked, if brief, popularity a generation ago. Both are used by few psychiatrists today, despite the fact that these technics did no harm, which cannot be said for LSD. At any rate the history of the subject suggests that the current interest in the therapeutic possibilities of LSD will wane.

The main point that needs emphasis is that the available evidence does not show that psychotherapy is efficacious. The *Annual Reviews of Psychology* each year has a chapter covering the published discussions of psychotherapy of the previous period. There are now 16 volumes in this series, and the issue is still not settled. This is not to say that psychotherapy is demonstrably without benefit. The available data do not establish that either. Gathering evidence that might answer the question about its effectiveness is extremely difficult because neither the process nor the aims anticipated have ever been defined in any but vague and controversial terms. (When government-supported crash programs in support of medical research are being considered, a program to set up standards for the evaluation of psychotherapy should stand high on the list.) Giving an admittedly dangerous poison in an attempt to further a process that cannot be evaluated is not good medical practice.

The field of psychotherapy is different from that of any other branch of medicine. For example, if a physician maintains that digitalis is without demonstrable benefit in the treatment of pulmonary edema owing to hypothalamic damage caused by encephalitis, he is not diagnosed as having the condition; he is not advised to take digitalis at once. On the other hand, if a physician maintains that psychotherapy is without demonstrable effect in emotional disorders, he is likely to be diagnosed as having an emotional disorder, and he may be advised to start psychotherapy at once. Accordingly, it is safe to predict that the author of the paper probably, and the author of the editorial certainly, will be declared emotionally upset and advised to take psychotherapy, perhaps with LSD.

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To the Editor: In the December 2, 1965, issue of the *Journal*, Frosch, Robbins and Stern wrote of untoward reactions to LSD. Much counterfeit LSD is used; often solutions of amphetamines are substituted. It is necessary in the evaluation of drug effects to ascertain as surely as possible the exact compound ingested.

We must avoid reading into the article the idea the LSD has a proved definite causal relation in aggravating schizophrenic illness. As the cases presented demonstrate, heavy drug users generally have serious personality impairment. Most frequently these people have a borderline or undifferentiated schizophrenic illness. The role of drug in the immediate or later worsening of schizophrenic illnesses deserves much exploration to understand the complex interaction of emotional and pharmaceutical factors, aggravating what is generally a chronic pathologic process.

The paper has accurate clinical observations. My main concern is lest we prematurely define the clinical situations described as "untoward reactions to LSD." These clinical situations, for the time being, must be considered complex in etiology. The drug is one factor that must be given its appropriate weight in an overall evaluation.

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Dr. Clark's Letter was referred to the authors, who submit the following reply:

To the Editor: Dr. Clark's interesting letter raises two important questions for research in the area of drug abuse: whether all our patients actually ingested LSD; and the relation between ingestion of the drug and the psychic decompensation that we observed.

We did not attempt to determine biochemically whether our subjects actually ingested LSD. Our first contact with the patients was some time after ingestion of their sugar cubes, reputedly saturated with the drug. In addition, their descriptions of their experiences closely matched those of experimental subjects who received LSD.

We agree with Dr. Clark that the specific behavioral reaction to drug ingestion depends upon an interaction of drug effect and personality structure. Most of the patients showed serious personality problems before ingestion; for some, their turning to the drug was a conscious attempt at self-treatment. However, we wish to emphasize the point that their experience with LSD deleteriously altered their previous adjustment and, at the very least, played some part in their seeking admission. More specific elucidation of the drug-personality interaction requires controlled experimental studies.

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