command it has usurped the place of the medical educator and has effectively substituted propaganda for education. It is generally accepted that after the average practitioner leaves medical school the drug industry represents the most potent influence determining many aspects of how he practices.

In its desire to create a favorable image the industry confirms this when it justifies the enormous expense of advertising and promotion by claiming that it serves the purpose of postgraduate medical education. Now some of the effects of propaganda and education are identical, but to conclude that drug advertising and promotion in education is one of the many fallacies introduced into these discussions.

Perhaps the committee will get a better understanding of this euphemism if we examine some aspects of it. Since I wish to describe practices which apply to many products and most if not all companies, I shall make my examples general and slightly hypothetical. Since I cannot name them all it would be unfair to brand the one named in the example. I can assure you, however, that the disguise is so thin and the practices so widespread that there will be no difficulty in finding adequate promotional material to document them.

First an extremely simple example. While in medical school the physician is taught; when the patient has a fever, determine its cause, and then treat it accordingly. The drug brochure teaches: when the patient has a fever think of—and here the name of a company's antibiotic follows. (See Exhibit 1 re a thermometer and erythromicin.) There are many variations on this theme and often the symptom and name of the drug appear in bold colored type to eliminate the effect of any intervening words. One need only change the symptom [or sign] and the drug to multiply the examples. To help drive this valuable lesson home in one promotional program a free clinical thermometer was sent to physicians. The invitation is delightfully tempting. Too many physicians, pressed for time, would like to believe that medicine can be practiced with a thermometer and a bottle of pills. The authority of the written word driven home by repetition is often enough to tip the balance. The exercise of judgment takes far more time and uses less drug. If this is education then we should also include lessons on how to smoke an opium pipe.

This approach is used only by the more naive since it does antagonize some physicians. It hardly does justice to the ingenuity of the more experienced drug house.

A better approach is one which is used frequently in the promotion of so-called tranquilizers, but with minor variations spreads to many other drugs. Either in the course of legitimate investigation or in the search for a new promotion device it is found that a drug which is claimed to be effective in relieving anxiety, produces, in rats, specific objectively mensurable changes in a particular area of the brain. Now this is an interesting truly scientific finding but in the present state of our knowledge its significance is unknown. To the promotion people this lack of significance is unimportant since it is both intriguing and impressive. It is presented in an advertisement or a brochure complete with accurate anatomical illustrations of the brain beautifully executed in vivid colors. This is coupled with the claim that the drug relieves anxiety. The usual response of the average practitioner who is not, and is not expected to be, an expert in neuro-physiology is to associate the two and to assume that they support each other. To the expert, however, any attempt to relate the claim and the finding is absurd since there is no known relationship between human anxiety and this finding. It is no more absurd to relate the claim to this finding than to the finding that the drug, when given to cats, makes their tails curl up and form a square knot. The latter is obvious, the former is not. Because it is not, the impressive but irrelevant fact is carefully presented in vivid form. The clarifying facts are equally carefully omitted. The desired effect is achieved by encouraging false associations and the frequency with which this approach is used is adequate evidence of its success. This, too, is called education.

Another example makes good use of the confusion technique. When the novelty of more potent vitamin pills began to wear thin, someone conceived of adding minerals and trace elements. Among these is zinc and since I am not an expert on zinc it may not be significant that I know of no evidence of zinc deficiency in man. If, however, one searches the literature long enough he will find that when chickens are deprived of zinc they cannot form a hard shell on the eggs they lay. When this curious fact is added to others similarly curious and mixed with some which are significant one ends up with an impressive array of "evidence" for the rationale of the product being advertised and apparent reasons