promotion, the costs of excess capacity, and the like. In an efficiently competitive drug industry, sales outlays could probably be cut by something like 90 per cent, and excess capacity costs would be substantially eliminated. It is premature to speculate in regard to the possible magnitude of price reductions, but bringing prices more in line with production costs would reduce them by more than half.

The major firms would have a certain amount of time in which to adjust to changed circumstances, owing chiefly to the backlog of "goodwill" built up in their behalf by intensive selling efforts. Although it has been argued many times that the physician must be free to write brand name prescriptions because he only trusts one particular company's product, the use of the brand name rather obscures the identification of both the company and the drug. The use of generic name plus the company name will still allow the doctor to specify the maker of the drug. It is likely that much of the appeal of brand name prescribing lies in its convenience; if it is made less convenient to the doctor by requiring that he specify the company as well as the drug, it is probable that more purely generic prescribing will result. If these factors are operative, plus an increased reliance on purely generic drugs due to confidence in the adequacy of FDA inspection, then in time the great initial advantage of the major firms in terms of their "ethical" image will be dissipated and they will tend to lose their favored position. It is not certain that the major firms' physical sales volume will decline, although the unit profit on such sales will certainly fall. But the impact should be sufficiently gradual to allow major firms to diversify out of drugs and into other areas, such as luxury goods, where the marketing methods which the managements have perfected at such cost can be applied in ways less mischievous to society. As to the impact on research, there will always be a place in the industry for the firm which engaged in basic, and in the long run, truly productive research. Unfortunately, there seem to be fewer of these firms in the industry than one has been led to believe. It is hard to attribute credit properly because to do so requires the judicious deflation of the barrage of outrageous assertion surrounding each firm's own public estimation of its research accomplishments, rather like trying to find out which Hollywood spectacular really *is* the most Super-Colossal. One firm, Merck, does rather stand out, if only because of the credentials of the Nobel Prize winning "character witnesses" (the phrase is Dr. Louis Lasagna's) it has been able to summon in its defense.

While a firm which is interested in truly fundamental research may not earn extremely high returns on the funds it invests in such research, in the long run it is probably more likely to survive. Without doubt, the greatest single obstacle to the securing of drug patent reforms has been the argument that drug research would suffer. The issue should be faced head on. Would a reduction in the expenditures which the firms classify under the heading of research necessarily be detrimental to public health? This depends upon the types of research outlays which are reduced, and whether or not any possible decline in productive private firm drug research might be offset by increases in productive drug research undertaken under other auspices. After drug law reforms, the level of drug firm research expenditures may be reduced except in those firms where research is permitted to be pursued in large part for its own sake. But it is in the environment created within such firms that research is likely to be most beneficial in the long run. On the other hand, research of the "copyshop" type is likely to dwindle, but this is a gain to the extent that such research typically produced less of genuine social value than it consumes in terms of the alternative uses of the human resources employed, even—or perhaps a particularly—in such an operation as Pfizer, where molecular manipulation reportedly attained the status of a true art.[34]

Even if total drug industry research spending does decline, professional personnel resources will probably be shifted into non-profit channels. It can be argued that a major diversion of pharmaceutical research endeavor from private firms to public, university and foundation channels will in due time result in equally major gains. Private firms appear to carry on relatively little fundamental research, and more of this is needed at present to make applied research eventually more productive. Non-profit research will also mean less waste of very scarce human resources in imitative and duplicative programs, and in marketing-oriented activities masguerading as research.

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[34] C. E. Silberman, "Drugs: The Pace Is Getting Gurious," *Fortune*, May 1960, pp. 275–277.