

therapeutic purposes, 377 were sold only by a single firm, which amounted to about 57 percent of the total.¹⁰ The impact of the patent system, however, has not been to create tight monopoly positions, since patented products are often highly substitutable and compete with one another. But rather, it has been to foreclose, to a great extent, rivalry between identical chemical entities or standardized commodities about which price competition might develop. It has strengthened and encouraged a form of chemical product differentiation. In the majority of cases, therefore, advertising has been able to exploit and emphasize the chemical differences which do in fact exist among products.

When doctors are forced to choose between different chemical compounds which purportedly do the same thing, a large measure of uncertainty is certain to exist. Even though a doctor might believe that different compounds have similar therapeutic effects, he is never quite sure, and the prudent course of action is to prescribe the drug which has become well-known. And becoming well-known is, of course, the function among other things of the level of advertising and promotional expenditures.

Mr. GORDON. Did you say the purpose of the advertising and promotional activities is to prevent price competition?

Dr. COMANOR. After the experience of the drug industry with penicillin, which was introduced in the early postwar period, when the price dropped precipitously in the course of 5 or 8 years—as I recall, the price of penicillin for a standard dosage dropped from \$20 in 1943 to on the order of five cents by 1950—

Senator NELSON. \$20 for—

Dr. COMANOR. I think it was 100,000 units.

Senator NELSON. From \$20 to what?

Dr. COMANOR. The price dropped from \$20 for 100,000 units in 1943 to 4.5 cents in 1950. The price of streptomycin behaved similarly.

At the prices which finally resulted, profits were clearly quite low.

Senator NELSON. What accounted for the drop?

Dr. COMANOR. Penicillin is a standardized commodity. A large number of new firms entered into the market, vigorous competition took place, and prices were pushed down to costs.

Senator NELSON. Was a profit made on it?

You say the prices were pushed down to cost. That would mean no profit.

Dr. COMANOR. It is unclear as to just what the profit margin was for penicillin. It may very well have been that profits were low and even nil. No figures are available on this question.

This experience, I think, had a sharp impact on the industry. It became clear that profits in the future would depend on introducing specialized products, on restricting the growth of standardized commodities, and thereby restricting effective price competition. Price competition seems to demand a number of firms who sell the same chemical compound, for it is only in this setting that the purchaser may focus on price rather than the therapeutic effects of a product. It became clear that some means of differentiating the product was re-

¹⁰ Hugh P. Walker, "Price Levels and Market Power in the Ethical Drug Industry," paper presented at the December 1967 meetings of the Econometric Society, Washington, D.C., table 3.