

CHAPTER 10

MERITS, DRAWBACKS AND BEST FIELDS OF THE VARIOUS INSTITUTIONS SUPPORTING INVENTION, WITH RECOMMENDATIONS

[433] Having in our previous chapter attempted to measure the recent and latest contributions of 18 institutions, to the support, and sometimes also the performance of invention, we shall now attempt some appraisal of their respective merits, and to state fields suitable to each, with some recommendations, and occasional notes on their historical developments. The same order and numbering will be used, except that No. 5, trade association inventing, will be left to chapter 11, and the patent system, and the unorganized inventor have been sufficiently covered already (chs. 2-7 and 9, secs. 11 and 16), save for our recommendations.

[434] But before one can do any appraising one must have a scale of values and a social philosophy by which to judge institutions. We take as an axiom that scientific progress and invention are vastly important and should be fostered to flourish far more in the future, for the redemption of mankind and the preservation and enhancement of our American culture. A second axiom is belief in the necessity of saving America from our communist enemies, and that this must be accomplished above all by military and economic strength, both vitally dependent on the progress of invention in America and in our allies. For economic growth, also, invention is most helpful. Another principle we proceed on is that it is best, so far as feasible, to operate within the free enterprise system, using governmental funds and particularly performance, only where commercial enterprise or philanthropic institutions like universities, cannot do the job acceptably. Another preference is for *competitive* free enterprise, rather than monopoly, unless the monopoly be regulated, as in the utilities. A final principle is that it is better to adapt existing institutions, rather than root them out and establish new and strange ones.

[435] Now, comparing the institutions supporting invention, in the order of the previous chapter, we consider first the greatest one:

1. FEDERAL FUNDS, supporting research and invention, worked out two-thirds of the time in commercial, university, or other outside laboratories. We found the Government paying for 54% of all in 1953-54, without counting the important tax and other governmental aids, nor following Solo's opinion that 30% of commercially supported R&D aims at Government work.⁶⁷⁰ If we add only the tax-help it becomes 73%. The 1962 expenditure we estimate at \$7.6 billion.⁸⁷⁰

[436] We see no reason to cut the governmental share, nor to enlarge it, except to aid invention and its appropriate research in other fields now left to commercial support but insufficiently served. Such fields are above all the civil fundamental inventions, discussed in chap-