

Employees' suggestion systems include a great flood of invention of the lowest grade, (§ 94, 138) scarce ever patented, rewarded when accepted with an average of only \$27.23 in 1954. Many of the good suggestions were not inventions in any sense, but copyings which presumably would be less rewarded than original creations, or were social or other nontechnic inventions. \$8.5 million were paid for adopted suggestions reported to the association, and such were estimated in 1954 to be worth \$20 million in their first year of use,¹¹¹ while several years use is to be expected. We take the trifling figure paid per accepted suggestion, and double it on account of the higher indicated value, and because much must have been spent on evaluating the suggestions (four times more numerous than the accepted), and developing the accepted inventions. Then, because the employees working under suggestion systems were only a fifth of those in such occupations, we guess that those without a suggestion system are producing a fourth as many good ideas per head; adding the two cohorts we get the above total value. To be sure, our estimate is shaky, but probably better than if left out, which would mean in effect setting down 0 as the value and percentage of this somewhat important field of invention.

[396] 11. Unorganized inventors:

Guessed value of 1953 output----- \$110 million, 1.95%

This category must include, beside the strictly unorganized inventors, those in firms having less than eight employees, or in laboratories too small or obscure to get counted in our Government statistics, and the freelance, the amateur, and the crackpot inventor. It is a category peculiarly difficult to measure, because of its unorganization and often obscurity. And it raises the question of whether we should try to measure their invention by their *inputs* of money and effort, or by their *output* of successful, weighted invention. Hitherto in this chapter (unless anent suggestion systems) we have ignored this question, assuming the same amount of success per dollar from the various supports for invention; but with the unorganized group there are strong reasons to think its efficiency much less than the laboratories'. Jewkes, *et al.*, have sought to play up the isolated inventor compared with the laboratory, but without success, since their book³⁹⁸ neglects statistics, and bases its argument on selected cases, mostly too old to reflect present conditions; and it uses a common but misleading definition of invention. It counts as the invention the first serious attempt to work out a basic idea thought of as the kernel of an important invention. Such ideas do indeed often occur to professors, amateurs and other people outside laboratories. But they occur easily, are duplicated by other men, and so are of little economic value or significance. To label such an idea *the invention* is like calling an acorn an oak tree, or saying a new-laid egg is an 8-lb. rooster—all you need do is hatch and raise it. Particularly from our economic point of view, the definition of invention must consist with *that which costs*, or usually and expectably costs, and is scarce, and precious, because not only scarce but well satisfying some of man's desires, already or demonstrably and not merely in a possible future. Invention thus economically defined is created today almost entirely in laboratories, even if the seed from which the crop is grown with vast difficulty and uncertainty is often contributed by an outsider, even possibly an amateur.