

"The ordinary procedure of subordinating youth to age in all things does not seem indicated." R. E. Wilson pointed out that some older men can become consultants, others executives, while others can still furnish the inventive drive. Schmookler⁶⁴² says a young man can hardly get a chance to invent unless he has proved his creative ability; but without a chance to invent how can he prove it? We need "to discover a method of discovering discoverers, before age dulls their edge."

[641] With all these evidences of the value of youth for invention, to make the best of the best years, as well as to exercise the instinct early instead of leaving it to atrophy, it is clear that the old practice of giving young engineering graduates every job *except* invention, so long as the job were trivial, tiresome, or disagreeable, has been a custom baneful to inventiveness. Fortunately, it has been much mitigated of late, by taking young graduates directly into invention laboratories, and by graduate training. But much more needs to be done, through separating out and saving the creative few among engineering students and graduates.

SUGGESTIONS ON HANDLING INVENTORS IN LABORATORIES⁶⁴⁹

[642] "The research scientist is very much like the next man and happy to be so treated" says Admiral Spangler.⁶⁵⁰ *except* that we must recognize that he cannot work on schedule, and that science to him is not a job but a way of life. He makes his own rules, works himself harder than the company can work him, and usually does not make a good administrator.

[643] He acquired his profession and its ideals in a University, which is an institution far older than a laboratory, and wise and insistent on its own *mores*, especially its reverence for TRUTH, CREDIT to the Discoverer, individual FREEDOM of Inquiry, and SERVICE to all mankind, not just to the profits of a corporation, nor to the fortunes or wishes of a chief. Secrist says⁶⁵¹ the scientist has already strong motivation, including loyalty to the company, and chiefly needs to be demotivated. He has two careers, one in the company, the other in science, and needs much contact with his colleagues in the company and out, and chance for publication. He should be paid according to his probable future value, not according to the number of his patents nor his past big successes, which may have come largely by luck, and in any case were the products of a developing situation, and of a team of coworkers, among whom it is vital that there be fullest communication, helpfulness and trust, not rivalry as to which can be the first to grab off the prize from their joint effort. Vannevar Bush⁶⁵² says, "It should not be forgotten that scientists, and professional men generally, do not put in intense efforts just to earn a good income. Beyond a point many of them care very little, really, for money and what it will do. They strive because they enjoy intellectual effort, and still more because they find their reward in the respect of those about them who are justly entitled to an opinion of their performance." A study of engineers⁶⁵³ reveals rather similar traits, although one-half of them mentioned money as among the best stimulants, the same number as mentioned recognition. Marcson says,⁶⁵⁴ "In science there is a right to recognition . . . it is also a dynamic incentive of paramount importance to him." Cf. ¶ 646.