

CHAPTER 12

THE NATURE OF INVENTION AND OF INVENTORS

[574] Invention is much the same thing as scientific discovery, novel artistic creation, and innovation in business and social affairs, but in its own technic field. The students commonly call these all "creativity." One may truly say that to understand the nature of creativity and how to promote it is the most important problem in the world. For this could unlock the doors to the solution of all other problems; it could be the key to the key-rack; it could be the "open sesame" to progress in every aspect and direction, the cure for all ills and the means of attaining all goals.

[575] Many have essayed this supreme problem, especially in the last decade, in which governmental assistance has become important through the National Science Foundation, the Office of Naval Research, the Air Force, and the Office of Education.⁵³⁶ Our NOTES for this chapter, Nos. 536 to 600, may be considered a selective Bibliography on the Psychology of Invention and Discovery, including the list in N 600 of works we have not cited in any particular place, but have consulted and thought useful, as well as some works cited in earlier chapters. For inclusion we have favored especially the more recent works, in English, and relating more to invention proper. It is not our intention nor capacity to present a thorough discussion of the psychology of inventing and discovering, but only to develop a few of its principles which the other writers have commonly approved, but in somewhat different terms. We shall speak especially of the ambivalence of knowledge, and the quest for the habit-free mind.

[576] For a beginning, much as we distrust definition in social science or psychology,¹⁰⁴ we must again attempt at least a partial definition of invention (§ 111). If it were simply the solving of a physical problem in a way new to one, then every one of us, along with the smarter sort of chimpanzees,⁵³⁷ can be an inventor. No, invention is much harder than that—it is finding a new way that is *good*, and that has never been found before and developed and put through, anywhere in the world, at any time. Just as almost anyone, by working at it enough, could become an athlete, but to become an Olympic champion would be quite beyond our capacity, so any student of geometry, engineering, or chemistry learns to solve problems therein, but to become a true patentive inventor he must outrun the whole world. Even the Olympic champion need outdo only those lined up to start; but the inventor must beat all former records too, and accomplish what no one before him could who ever tried. Possibly no one before him has ever tackled that particular problem; but even then he would be refused a patent unless his solution was so ingenious that no one else *could* have found it, unless by talent or luck. Invention and