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48. Prepared by the author for the late Jos. Schumpeter; unpub. as yet.

49. Gilfillan: *Sociology of Invention*, an essay in the soc. causes of technic. inv. and some of its soc. results; esp. as demonstrated in the hist. of the ship. Chicago, 1935, 190 pp.; p. 96. A preliminary version was pub. serially in *JPOS*, 1934–5; and a revised and augmented ed. is now in preparation for the M.I.T. Press.

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51. Gilfillan: Inventiveness by Nation, a note on stat. treatment; *Geog. Rev.* 20:301–4. 1930. Reprinted with addl. comparison of Amer. States in *JPOS* 12:259–67.

52. Federico, P. J.: Comparative Internat. Pat. Stat.; *PTCJRE* 6: Conf. No.: 37–42 and 154–6. 1962. Pat. applications per capita.

53. Sanders, B. S.: Trends in Inv. Here and Abroad: *PTCJRE* 6: Conf. No.: 32–5 and 147–53, 1962.

56. Federally financed R&D, in stabilized dollars of 1938 value (see N 58). For 1940ff., funds provided and spent, inc. increase of R&D plant, and military pay and allowances and procurement, from NSF: *Fed. Funds for Sci. X*, table 32. Since the inclusion of mil. pay and procurement from 1953 on brought a 51% increase in the mil. cost for 1955 (acc. to ed. VII, p. 76), a corresponding increase has been made in the previous years 1952 to 1940. And since that inclusion raised the total Govt. R&D by 37% in 1955, a like increase has been added to the previous data, for 1939–1900. Before 1940 our data, of questionable comparability, are computed from *Sci. Personnel Resources*, N 84, table A–1. Intervening dates have been interpolated on the same basis with aid of V. Bush: *Science the Endless Frontier*, pub. by Office of Sci. R&D, 1945, p. 80. The 1962 calculation of the share belonging to inv. applied percentages from table 4 to the amounts from table 32. Our graph covers not only the 92% inventive but all Fed. funds for R&D, viz. 5,490,000,000 stable dollars (10,172,200,000 contemporary dollars).

57. Commercial Research. The financial contribution of private industry to organized R&D, in stabilized dollars of 1938. From *Stat. Abstract* back to 1941, and before that from Bush (see above) and from Brozen (N 60), first and last pp., with the earlier figures increased as stated in our N 60. Industrial R&D, as defined by *Fed. Funds for Sci.*, ftN*55*, covers the phys. sciences incl. Engg. and Medicine, but not market research, soc. nor psych. sci., quality control, routine testing, etc., nor capital nor pat. expenditures. Recent and future trends are discussed by Brozen: The Future of Indus. R&D, in *Rate and Dir.*, N 46, pp. 273–6. and in *Jol. of Bus.*, N 60.

58. All cost data are given in stable dollars of 1938 purchasing power, converted by the General Price Index of Snyder & Tucker for 1920–38, from *Hist. Stat. of the U.S.;* and from 1939 on, according to the Consumers Price Index for