The effects of microelectronics on employment and education


Abstract

This dissertation is an argument for simultaneous, radical and innovative technological and attitudinal change. Attitudinal change is dependent upon the qualitative and quantitative persuasive effectiveness of those regretfully few academics, trade unionists, journalists and hopefully some politicians who actually believe that the development of an activity/leisure/play ethos is not only feasible but extremely desirable. This treatise is intended to enhance the two-fold argument for change by persuasive advocacy, evidential illustration and by promoting further, extensive and lively discussion. The thesis is divided into 3 principal sections: historical-contemporary, contemporary and contemporary-futuristic analyses; these sections are in turn sub-divided into a series of individual chapters. Section 1: A Historical-Contemporary Perspective considers the history of automata, microelectronics and work in order to (a) set in context and (b) trace the development of microelectronic technology and the concomitant opportunity for change. Section 2: A Contemporary Perspective - Chapter 4: The Microelectronic Technology Employment Debate examines the fundamental, argument as to whether or not microelectronics can create as many jobs as it destroys. Chapter 5: discusses my own case study research which focuses upon north eastern office complexes (from various administrative/executive/clerical sectors) particularly susceptible to computerised automation. Section 3: A Contemporary-Futuristic Perspective - Chapter 6: reviews the current state of school computerisation. Chapter 7: looks at the author's research into primary and secondary schools. Chapter 8: argues for the development of a massive computerised/microelectronic orientated education industry incorporating a comprehensive range of subjects and activities. A re-definition of what we mean by traditional education. An education industry for anyone to learn about anything. Chapter 9: continues this theme and argues for a radical re-definition of our traditional concept of work and leisure; and proposes a revolutionary solution to the unemployment problem.

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In this paper we discuss the barriers that inhibit scientists from measuring the effects of AI and automation on the future of work. Similar studies have looked at the impact of automation on employment in other countries and reached sobering conclusions: Automation will affect 35% of employment in Finland (25), 59% of employment in Germany (26), and 45 to 60% of employment across Europe (27). Critics have complained that prospective studies lack validation, but retrospective studies also find that robotics are diminishing employment opportunities in US manufacturing (17, 28) [although not in Germany (29)]. Microelectronics is a subfield of electronics. Microelectronics, as the name suggests, is related to the study and manufacture, or microfabrication, of electronic components which are very small (usually micrometer-scale or smaller). These devices are made from semiconductors. These are called parasitic effects, and the goal of the microelectronics design engineer is to find ways to compensate for or to minimize these effects, while always delivering smaller, faster, and cheaper devices. Microfabrication or micromanufacturing are the terms to describe processes of fabrication of miniature structures, of micrometer sizes and smaller. Education Brian Sutton The College at Brockport, sutton.bps@gmail.com. Follow this and additional works at: http://digitalcommons.brockport.edu/ehd_theses Part of the Education Commons. To learn more about our programs visit: http://www.brockport.edu/ehd/. Repository Citation Sutton, Brian, "The Effects of Technology in Society and Education" (2013). Education and Human Development Master's Theses. 192. http://digitalcommons.brockport.edu/ehd_theses/192 Technology in Society and Education 1. Effects. Education has transformed due to current day usage of the computer in the classroom. Computers help students in any way they need, including researching, typing