

BOOK REVIEW

Productive Forces of Design: The Basis of Post-Industrial Development

Author: Vladimir Stokov (Doctor of Technical Sciences, Center Productive Forces of Intellectual Work, Supervisor of Studies, Moscow, Russia)

The author has convincingly shown that the goal of post-industrial development is the design and production of complex high-tech varieties (modified versions within the type) of product types that meet the country's strategic needs. Varieties differ either in the number of consumer functions (functionally) or the parameters of consumer functions (parametrically), or program control (without human participation) in satisfying needs.

The main scientific achievement of the author of the monograph should be considered the introduction and development of the concept of productive forces of computer design: a set of designers (designers, analysts, technologists) and computer-aided design tools, which the author assigned to fulfill the goals of post-industrial development. The productive forces of computer-aided design are capable of a) designing digital models of intermediate (parts, assemblies, assemblies) and end products, b) counting designs, c) developing production technology, and d) designing composite materials with the required parameters of consumer functions.

The factors contributing to the realization of the goals are a) computerization of the production forces of the design, which made it possible to get rid of tons of paper documentation, and b) design of new composite materials, making it possible to design structures with specified parameters.

The principles of universalization, optimization, innovation, parallelism, continuity developed by the author are the scientific foundation of the organization of design processes.

The productive forces of computer design have caused significant changes in the model of the productive forces of the model of K. Marx.

The analysis conducted by the author revealed that the productive forces of computer-aided design have caused significant changes in the model of the productive forces of K. Marx. The universal machines with the numerical program control replaced the specialized machines of the industrial period and caused the replacement of the working machine. "Deserted" production are formed.

The author shows that the implementation of the principles of universalization, optimization, innovation in design and production leads to the international division of the designer's mental labor in stages and objects and the division in objects production capital of individual countries and regions to design stages and varieties and produce varieties of intermediate products, carriers of intellectual labor property that have the necessary consumer functions and required parameters.

Families of international design and production of parametric and functional-parametric varieties of types of final products, carriers of intellectual labor property meeting strategic needs, are formed on the basis of international cooperation between designers and manufacturers of intermediate and final products of individual countries and regions. Competition between families determines the development of industry in the world.

The author has developed components of production costs and the cost of the product. A mechanism has been developed for the development of the productive forces of design and production through the renewal of intellectual property and the accumulation of capital.

The examples given in the monograph confirm the scientific propositions put forward by the author.

Professor Oleg Pavlovich Chernyaev

Doctor of Technical Sciences