Jon Clark’s study of the effect of the modernization of a telephone exchange on exchange maintenance work and workers is a solid contribution to a debate that encompasses two lively issues in the history and sociology of technology: technological determinism and social constructivism.  
   
Clark makes the point that the characteristics of a technology have a decisive influence on job skills and work organization. Put more strongly, technology can be a primary determinant of social and managerial organization. Clark believes this possibility has been obscured by the recent sociological fashion, exemplified by Braverman’s analysis, that emphasizes the way machinery reflects social choices. For Braverman, the shape of a technological system is subordinate to the manager’s desire to wrest control of the labor process from the workers. Technological change is construed as the outcome of negotiations among interested parties who seek to incorporate their own interests into the design and configuration of the machinery. This position represents the new mainstream called social constructivism.  
   
The constructivists gain acceptance by misrepresenting technological determinism: technological determinists are supposed to believe, for example, that machinery imposes appropriate forms of order on society. The alternative to constructivism, in other words, is to view technology as existing outside society, capable of directly influencing skills and work organization.  
   
Clark refutes the extremes of the constructivists by both theoretical and empirical arguments. Theoretically he defines “technology” in terms of relationships between social and technical variables. Attempts to reduce the meaning of technology to cold, hard metal are bound to fail, for machinery is just scrap unless it is organized functionally and supported by appropriate systems of operation and maintenance. At the empirical level Clark shows how a change at the telephone exchange from maintenance-intensive electromechanical switches to semielectronic switching systems altered work tasks, skills, training opportunities, administration, and organization of workers. Some changes Clark attributes to the particular way management and labor unions negotiated the introduction of the technology, whereas others are seen as arising from the capabilities and nature of the technology itself. Thus Clark helps answer the question: “When is social choice decisive and when are the concrete characteristics of technology more important?”

RC00013-01. The primary purpose of the passage is to

(A) advocate a more positive attitude toward technological change

(B) discuss the implications for employees of the modernization of a telephone exchange

(C) consider a successful challenge to the constructivist view of technological change

(D) challenge the position of advocates of technological determinism

(E) suggest that the social causes of technological change should be studied in real situations

RC00013-02. Which of the following statements about the modernization of the telephone exchange is supported by information in the passage?

(A) The new technology reduced the role of managers in labor negotiations.

(B) The modernization was implemented without the consent of the employees directly affected by it.

(C) The modernization had an impact that went significantly beyond maintenance routines.

(D) Some of the maintenance workers felt victimized by the new technology.

(E) The modernization gave credence to the view of advocates of social constructivism.

RC00013-03. Which of the following most accurately describes Clark’s opinion of Braverman’s position?

(A) He respects its wide-ranging popularity.

(B) He disapproves of its misplaced emphasis on the influence of managers.

(C) He admires the consideration it gives to the attitudes of the workers affected.

(D) He is concerned about its potential to impede the implementation of new technologies.

(E) He is sympathetic to its concern about the impact of modern technology on workers.

RC00013-04. The information in the passage suggests that which of the following statements from hypothetical sociological studies of change in industry most clearly exemplifi es the social constructivists’ version of technological determinism?

(A) It is the available technology that determines workers’ skills, rather than workers’ skills influencing the application of technology.

(B) All progress in industrial technology grows out of a continuing negotiation between technological possibility and human need.

(C) Some organizational change is caused by people; some is caused by computer chips.

(D) Most major technological advances in industry have been generated through research and development.

(E) Some industrial technology eliminates jobs, but educated workers can create whole new skills areas by the adaptation of the technology.

RC00013-07. The information in the passage suggests that Clark believes that which of the following would be true if social constructivism had not gained widespread acceptance?

(A) Businesses would be more likely to modernize without considering the social consequences of their actions.

(B) There would be greater understanding of the role played by technology in producing social change.

(C) Businesses would be less likely to understand the attitudes of employees affected by modernization.

(D) Modernization would have occurred at a slower rate.

(E) Technology would have played a greater part in determining the role of business in society.

RC00013-05. According to the passage, constructivists employed which of the following to promote their argument?

(A) Empirical studies of business situations involving technological change

(B) Citation of managers supportive of their position

(C) Construction of hypothetical situations that support their view

(D) Contrasts of their view with a misstatement of an opposing view

(E) Descriptions of the breadth of impact of technological change

RC00013-08. The author of the passage uses the expression “are supposed to” in line 27 primarily in order to

(A) suggest that a contention made by constructivists regarding determinists is inaccurate

(B) defi ne the generally accepted position of determinists regarding the implementation of technology

(C) engage in speculation about the motivation of determinists

(D) lend support to a comment critical of the position of determinists

(E) contrast the historical position of determinists with their position regarding the exchange modernization

RC00013-09. Which of the following statements about Clark’s study of the telephone exchange can be inferred from information in the passage?

(A) Clark’s reason for undertaking the study was to undermine Braverman’s analysis of the function of technology.

(B) Clark’s study suggests that the implementation of technology should be discussed in the context of confl ict between labor and management.

(C) Clark examined the impact of changes in the technology of switching at the exchange in terms of overall operations and organization.

(D) Clark concluded that the implementation of new switching technology was equally benefi cial to management and labor.

(E) Clark’s analysis of the change in switching systems applies only narrowly to the situation at the particular exchange that he studied.