Is Technology Neutral?

Anarchist Federation

1995

they are needed in the first place or whose interests they serve. Similarly, the trend is to present politics as a purely technical activity, assessing political programmes for their achievement in terms of economic performance. This approach goes hand in hand with the idea of "the death of ideology/end of history".

Alternative Technology

In the 1960's and '70's criticism of the dominant technological forms led to the idea and (neccessarily) limited development of "alternative technology". Its characteristics are minimal use of non-renewable resources;minimal environmental interference, support for regional/local self reliance, and elimination of the alienation and exploitation of labour. Examples included energy production from "soft", renewable resources such as solar, wave and wind power. A genuine alternative technology can only be developed on a significant scale after a revolution however, as vested interests (and the lack of of power-money of A.T proponents) would not allow it. This is illustrated by the British State's deliberate sabotage of pioneering soft energy technologies over the last 2 decades, particularly wave power. A tiny amount of money has been allocated (a few million pounds in contrast to the billions allocated to Nuclear Power). This funding has then been arbitrarily cut or swapped between projects so they "fail".

ual labour to increase "efficiency" i.e control, productivity, exploitation and profit. Taylor's research has since been shown to be wholly unscientific. His timed study tasks were made on an atypical Stakhanovite worker chosen for his large size, great strength and general stupidity. The approach was based on treating workers as unthinking and unfeeling machines. Lenin and the Bolsheviks enthusiastically took up Taylorism in post-revolutionary Russia, Lenin describing it as,

"a combination of the refined brutality of bourgeois exploitation and a number of the greatest scientific achievements in the field of analysing the mechanical motions of work....we must systematically try it out and adapt it to our own ends."

The Bolsheviks, evident belief in the neutrality of technology was one of the factors leading to the abortion of the Russian Revolution which is often overlooked. The job enrichment ideas which superceded Taylorism are equally unscientific . They resulted from the recognition that capitalism could not afford to ignore the physical and mental needs of the worker.

Outside politics?

The objectivity of the scientific method is used to mask the problems created by advanced technology and to legitimise the policies of the ruling class. The Roskill Commission was set up in 1969 to look at the siting of a third London airport. The masses of 'expert evidence' showed that it was less socially damaging to fly loud aircraft over working class rather than middle class areas because of the different effects on property values . Technological programmes are presented as outside the area of political debate, so only technical objections are allowed. Official inquiries into the siting of Motorways and Nuclear Power Stations can discuss where they will cause the least environmental and social disturbance, but not whether

Contents

which have been isolated from their social environment. The ideology of industrialisation maintains that modernisation, and technological and social development are the same. It is used to justify the pursuit of economic growth with the emphasis on wealth generation, rather than its distribution. Similarly society is described in purely operational terms in order to mask the inequalities of wealth and power. This ideology is used to suppress the potentialities for individual-social emancipation offered by particular machines such as wind power technology (i.e small scale, for local use and community controlled), and to legimate their use in ways which are socially and environmentally exploitative (large scale wind farms under state/private control supplying the National Grid). Technological innovation is used politically, but presented in neutral technical/scientific terms such as "increased efficiency" e.g the introduction of assembly line production techniques into the construction industry; as a "technical solution" to social needs such as the development of a new transport system or as economic "rationalisation" of out of date technologies e.g the introduction of new print technology by Rupert'Digger'Murdoch at Wapping which led to the printers' strike of 1986/7. "Stability" is achieved by displacing militant workers e.g containerisation which was brought in to break the power of dockworkers. "Work improvement" schemes such as job enrichment allow workers a say in minor decisions to divert them from key areas such as pay and productivity. Innovation is also used as a threat to blackmail sections of the workforce into particular tasks e.g employers often threaten machine workers that if their demands for equal pay with men are met, they will be replaced by machines.

Science is equally culpable in maintaining and reinforcing the status quo. In the 1880's Frederick Winslow Taylor invented "scientific management" or Taylorism: the principles that machine designers applied to tools were applied to man-

new machines and the new social relations of production they created. Machines threatened employment and the relative freedom, dignity and kinship of the craft worker. There was also widespread support from other classes such as farmers who were threatened by the new agricultural machinery. Between 1811 and 1813 the government was forced to deploy over 12,000 troops to tackle the Luddites, a larger force than Wellington's army in Spain. The Lancashire machine wreckers of 1778 and 1780 spared spinning jennies of 24 spindles or less (which were suitable for domestic production) and destroyed larger ones which were only applicable in factories. Machine breakers won many local conflicts e.g in Norfolk they succeeded in keeping up wages for a number of years. Wrecking destroyed John Kay's house in 1753, Hargreave's spinning jennies in 1768, Arkwright's mills in 1776. During the widespread spinners strikes of 1818 shuttles were locked in chapels and workshops in Manchester, Barnsley, Bolton and other towns. The Luddites were eventually defeated by the gathering political momentum of industrial capitalism, supported by strong military forces and technological advance which changed the composition of the labour force. "A new generation had [now] grown up which was inured to the discipline and precision of the mill".

Today

The neutrality of science and technology is a myth. Science is used to legitimate power, technology to justify social control. The myth is wheeled out when technology comes under fire e.g for causing industrial pollution / traffic congestion. Inadequate policies or under-developed technology are blamed rather than the technology itself, such as cars. The solution is the "technical fix" — more of the same; the irony is that the problems which technology is best able to solve are those

THIS IS A vital question for revolutionaries: if technology is neutral, then a successful revolution will solve the problems caused by the operation of existing technologies, such as the oppressiveness of workplaces, the danger, pollution and social dislocation of traffic and the environmental destruction of industry and agriculture. Damage to the environment as a result of social and economic development is not new. In pre-Christian times vast forests were reduced to plains by human agriculture, for example. What is new is the global scale of the routine, daily damage to air (pollution), land (poisoning & loss of soil), and water (pollution & drought).

Following the revolution, the working class worldwide, having seized control of workplaces, land and streets, would direct current technology to benefit the the vast majority (the working class) rather than the tiny ruling class minority, as at present. If, however, technology is a social institution with inherent qualities which enhance or limit/damage human abilities and health (and that of the natural environment), then workers will have to weigh up the pros and cons of different technologies. People will have to decide — through the new post revolutionary organisations such as worker-neighbourhood assemblies etc — which technologies to use (e.g bikes, trams), which to adapt/limit (small scale-local solar and wind power) and which to discard (cars and nuclear fission-fusion). Technology consists of the tools and machines used by society and the relations between them implied by their use. It is not neutral:the social relations of production (boss/worker) are reflected in machines and tools , which interact with, and reinforce social patterns e.g the 'transport poor' resulting from cars and class society. Similarly, the heirachical regimentation of workers, although it appearing to be a necessity resulting from production technology, is built into technology as a reflection of the social division of labour.

Control

Technological innovation has been used to increase efficiency and maximise profits, and to maintain and optimise the control of bosses over workers (both in and outside the workplace). Where profit and control come into conflict, control is usually prioritised, as a loss of control puts profit, and ultimately the boss class itself, at risk.

Present day technological society dates from the industrial revolution and the new science of the 17th century. The old idea of the world as animistic (alive) and organic had broken down. It was replaced by a new abstract science and a new model for ruling class order : the machine. Order was the predictable behaviour of each part within a rationally determined system of laws. Power came from active human intervention. Order and power came together to make up control — rational control over nature, society and self i.e the domination, exploitation and destruction of people and the natural environment.

The factory system and capitalist production was the result of the class relations of society as well as technical and economic factors. The new division of society into capitalist and working classes had begun with the rise of a new merchant class long before major advances in productive technology. At the same time, new ideas about the "importance of work" emerged. Previously, poverty was seen as an unavoidable evil, and the poor as objects of pity. Now poverty was a sin, and poor people were victims of their own actions.

Management Necessity

Machines were rarely the reason for setting up the new factories, which were a managerial, not a technical necessity. Those required in the early years of the industrial revolution both replaced hand labour and also compelled the introduction of production into factories: Arkwright's Water Frame (1768), Crompton's Mule (1774), Cartwright's Power Loom (1784) and Watt's Steam Engine (1785). Samuel Smiles (author of 'Self Help', precursor of Thatcherism) stated that manufacturers did not adopt many of the 'most potent' self-acting tools and machines until they were forced to do so by strikes. In the early 18th century strikes in factories in Midlands towns led the owners to commission a firm of machinists to construct a self-acting mule at a cost of £13,000 to avoid conceding higher wages. The dreaded new machine, patented in 1830, was christened "The Iron Man" by the machinists. The factory based organisation of the weaving industry for example, did not develop directly from a more efficient base. Many of the new machines were expensive, and were only developed and introduced after the weavers had been concentrated into the factories, following great resistance. New technology was used to suppress militant workers. For example the length of spinning mules was increased to reduce the number of workers required, displacing adult spinners and increasing the number of their assistants. This weakened the factory apprentice system, and the strength and organisation of the spinners. These changes were made despite being very costly — the factory layout often had to be replanned. There was huge resistance to the new technology, and consequently a very high failure rate amongst the early industrialists. The successful ones were usually the best managers such as Arkwright, and often performed several of the capitalist roles: inventor, innovator, manager. Much of the worker resistance took the form of machine -breaking. For some workers it became part of the general class struggle — an established way of pressurising the bosses, direct action which stimulated worker solidarity. The wrecking of coal mines during widespread rioting in Northumberland in 1740 and frame breaking in the East Midlands hosiery trade are examples. Other workers, particularly the Luddites, opposed both the