CHAPTER TWO

ENGINEERS IN A NEWLY INDUSTRIALISING ECONOMY

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As advanced capitalist economies race to harness the power of the microprocessor chip to run their services and industries, there are those who believe we may be at the threshold of a new kind of society. We argue here that these utopian predictions only serve to deflect investigations into whether capitalism can be transcended in a technologically advanced society.

Those accounts that take into consideration changes in existing class structures would go so far only as to postulate the possible emergence of new dominant classes, labelled ‘the knowledge class’ (Gouldner, 1979) or the ‘professional, scientific and technical groups’ (Touraine, 1974). This, accords with the position of neo-classical economists, that advances in education and technology underpin much of the growth of industrial nations. (Schultz, 1970) At the individual level, especially in the newly industrialising economies (NIEs), education has been much touted as the route leading to self-improvement and social advancement. The ideology linking education with power has been amply sustained by mainstream thinking within the sociology of professions (Dingwall & Lewis, 1983).

In so far as mental labour does become more central to the production process, it is not surprising that those, who live by it, gain in social power. Having possession of cultural capital may at times wield significant influence over the production process, but mental workers by no means control it. The means of mental production—laboratories, universities, TV stations—are rarely owned by their workers. As observed by historian of technology D. Noble, ‘Technology is a social process. And like any human enterprise, it does not simply proceed automatically, but rather contains a subjective element which drives it, and assumes its particular form by the most powerful and forceful people in society (1979, p. xxii).

Since the production and use of knowledge and information take place within the framework of corporate capitalism. While
knowledge and information play significantly more central roles in high-tech societies, they are still subject to processes of commodification, exchange, profitability and control by capital. They do not constitute causal agents in their own right. In particular, professional knowledge and other forms of new technologies should be seen as resources for an alternative strategy for restructuring capital to regain profit margins and the competitive edge.

When faced with declining opportunities for setting themselves up and surviving as independent operators, American engineers had ingenuously promulgated Taylorism to help reconstitute their autonomy after being shoveled increasingly into the ranks of large-scale corporations (Meiksins, 1984). Today, engineers in newly industrialising economies like Singapore are facing a similar process of proletarianism as these countries shift swiftly into a more advanced stage of capitalism under the tutelage of foreign multinationals and large state-owned corporations. What are some of the conditions prevailing in the NIEs that contribute to the erosion of the position of ‘knowledge workers’ such as engineers? How do such professionals react to these changes, and what subjective work experience do they hold in common based on their shared location within the class structure?

This study will look specifically at the work and life of a specific class of ‘knowledge workers’—engineers—in the context of the Singapore economy. The study will show that educated and skilled groups labouring in high-tech environments do not necessarily enjoy harmonious social relations and satisfaction of their psychological needs. Instead, for a substantial proportion of engineers, the workplace represents a major source of stress. Part of the reason lies in the fact that the existing class configuration, rather than technology per se, greatly determines the nature of social experience. We argue that the imperatives of capital accumulation—profit maximisation and cut-throat competition—remain the chief determinants of work experience and organisational structures.

Up until now, excluding a few notable exceptions (Derber, Schwartz & Magmass, 1990; Zussman, 1984), studies of work problems relating to engineers and other professionals (often alluded to as ‘work stress’), have been dominated by concerns at the level of the work organization (Cooper & Payne, 1989). This study, however, will situate workplace experience within the wider context of political and economic developments. Empirical data for this study is derived from