# "Making It Like in Detroit": British Managers and American Productivity Methods, 1945–c.1965

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Between the late 1940s and the early 1960s, various American government agencies were involved in attempts to persuade British manufacturers that they could and should improve their productivity. This paper examines the history of such technical assistance programs and in particular tries to assess what they actually achieved. We argue that British managers largely remained unenthusiastic about U.S. methods and illustrate this point by discussing two detailed case studies – the campaign to encourage standardization in the British locomotive industry, and the wider promotion of production engineering and control techniques throughout the country's manufacturing sector. In a final section, we speculate about what lay behind British reticence.

## Technical Assistance Programs: Scale and Scope

American technical assistance to Britain developed through two broad phases.[2] At first, the emphasis was on providing information and know-how, preferably in as direct a way as might be possible. Subsequently, from the beginning of the 1950s, the United States opted for a more multi-faceted approach. The transmission of technical information continued but there was a new stress on the importance of changing wider aspects of the business environment.

The Washington government started to take an interest in British industrial efficiency during late 1947 and 1948. Congress had granted Marshall aid to Britain without any productivity strings, but some U.S. politicians believed that the British were too complacent about their economic problems. This perception increased with the publication of Rostas's finding that U.K. manufacturing was frequently two or three times less efficient than its transatlantic counterpart. The upshot was an agreement with the administration at

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Westminster to launch a new body, the Anglo-American Council on Productivity (AACP), charged with doing whatever it could to improve British performance. More specifically, the idea was to take mixed groups from both sides of industry across the Atlantic to show them U.S. methods first hand.

The AACP program began in 1948 and lasted five years. In all, 66 study teams, consisting of 950 individuals, visited some 2,000 plants in America, investigating both specific sectors and particular business practices. This cost $3 million, 70 percent of which was provided by the U.S. government. What made the whole initiative particularly notable was the fact that the teams were instructed to do as much as they could to publicize their findings once they returned to Britain. Each produced a full report and a popular abridged version – some 650,000 of these were eventually circulated – while most addressed several dozen meetings about their recommendations, visiting firms, and trade associations.

The second phase of U.S. technical assistance began during 1952-1953. American officials had concluded that the mere provision of know-how was insufficient. Productivity gains would only occur if broad sections of employers, trade unions, and government really desired them. There was growing recognition, therefore, of the need to change attitudes and thereby create the most positive business environment possible. Several new institutions were created to carry this policy forward. The U.K. was a founding member of the European Productivity Agency (EPA) which began work in 1953, using $2.5 million of American government money to develop productivity schemes across the continent. Within a short time, it was employing over 100 consultants and offering numerous specially tailored educational schemes; indeed, between 1954 and 1958, there were 340 training courses and seven international conferences on management subjects alone. Meanwhile, Britain also received a share of the so-called "Benton-Moody" funds – Congressional drafts which were designed to encourage competition and free trade unions throughout Europe. In all, about $9 million was provided to support 153 projects involving 81 different organizations. Money was spent on, amongst other things, the creation of advisory services ($1.5 million), education and training ($1.5 million), social and economic research ($1.1 million) and publicity ($0.6 million). In effect, Benton-Moody projects only terminated with the reorientation of U.S. foreign policy away from Europe and towards the Third World at the beginning of the 1960s.

Taken together, these various initiatives represented a formidable attempt to change British attitudes and methods. Between 1948 and 1958, the American administration had provided about $15 million in direct technical assistance to the U.K., less than it gave to France ($45 million), Germany ($33 million) or Italy ($21 million), but nevertheless a significant sum when compared to British government spending on productivity-enhancing measures. To what extent was American money able to improve British practices?

**The Balance Sheet of Change**

Assessing what technical assistance achieved is far from easy. Little or no systematic follow-up work was ever completed on most of the individual

projects. Moreover, there is the problem of separating out effects produced by official U.S. government programs from those generated by private American capital (which was flooding into Britain at this time) and the U.K. government's own industrial policies. Finally, it is important to emphasize that contemporary opinion itself was far from unanimous on this question. An authoritative American survey of 1956, reviewing the entire history of U.S. post-war productivity initiatives in Britain, concluded that the various interventions had brought considerable gain: "The cumulative effect...has been the stimulation of wider interest in improved managerial methods and better techniques and the development of a fresh outlook on the industrial problems facing the country" [18, 23]. On the other hand, a variety of more neutral observers were for less sanguine. Reviewing the AACP's overall impact, the British *Statist* commented: "There is now a wealth of examples of what can be done... But for every enterprise which has taken some trouble to improve the quality of its management – and through that, its productivity – there are probably a score which have been content to carry on in a traditional way." Later assessments of the EPA were equally unflattering, with the *Economist,* for example, characterizing it as "little known" in the U.K. [10, 25]. If there had been any change, many tended to conclude, it was most likely to have involved a small "head" of already progressive firms, with a far longer "tail" substantially undisturbed.

Given these difficulties, the historian clearly needs to tread very carefully. One way forward is to take individual components of the technical assistance package and trace in some detail how they fared once transferred to Britain. The following sections present two such studies.

## The "3 S's" and the Diesel Locomotive Industry

The "3 S's" – standardization, simplification, and specialization – were an integral part of the American approach to manufacturing. It was argued that Britain produced too many varieties of goods with very short runs, and thus was unable to develop economies of scale. In this sense, production needed to be rationalized, using techniques that had already been proven across the Atlantic. To assess how the British reacted to this diagnosis, we examine what happened in one fairly representative engineering sector, that producing railway locomotives.

The British locomotive industry was old-established but far from homogeneous. In 1950 it consisted of about 25 firms, each with its own particular product ranges. Most built a variety of types (steam, diesel, or electric), but few of them made complete diesel locomotives, and some were primarily component manufacturers (providing engines, wheels etc.). What pulled the trade together was the fact that all of its constituents were largely (if not exclusively) export orientated. In Britain, the railway companies of the inter-war years had each manufactured and maintained their own locomotives, and this tradition was carried on after nationalization in 1948. As a consequence, the private manufacturers had to look abroad. Between 1950 and 1953, the industry produced an average of 533 diesel units per annum and 68 percent were exported

[21]. Given this foreign currency earning potential, there was inevitably some pressure to make the trade as efficient as possible, and this made it an early candidate for the attention of the AACP team.

The productivity team that left for the United States in January 1950 represented British diesel manufacturers. It was led by Col. I.A. Marriott, managing director of W.G. Bagnall and dominated by major concerns such as the North British Locomotive Co. and Vulcan Foundry, which were continuing to build all three engine types. In its report, the team stressed that while the British industry displayed a "high level of efficiency," there were features of American practice which appeared "well worthy of study." Though the greater segmentation of the markets facing the British was held to inhibit the full implementation of standardization, the team nevertheless concluded that "many basic engineering principles common in America" could be applied by the British, "even if in modified form." They recommended greater emphasis on design for unit (sub-assembly) construction (which would simplify production and save workshop space); wider application of flame-cutting and welding; improvements in cost and budgetary control; the substitution of time rates for piece rates; the hiring of better, technically-trained sales staff to encourage the acceptance of standardization among customers; and the adoption of certain management techniques, including long-term forecasting of customer requirements and improved marketing [1].

When these findings were published, the Internal Combustion Group of the Locomotive Manufacturers' Association (the leading trade body) responded by convening a conference to discuss what needed to be done. This was generally positive about the AACP team's recommendations, though it did not endorse every point. Opinion on issues related to standardization was mixed. The conference discussed the case for standard (as opposed to job) costing but felt that the technique was not applicable "to the varied and specialized locomotives made in Britain." Nor did it agree with the recommendation on payment systems, arguing that "only after standardization and simplification of the industry's products had been achieved, works organization improved and inefficiencies in both machines and men remedied, would it be possible to replace piece-work arrangements by enhanced hourly rates." On the other hand, there was support for measures such as improved production control and the use of unit drawings, as well as a new emphasis on the importance of "distinctive styling" to help sell standardized products [5].

However, applying these various insights proved to be harder than some expected. The companies were certainly held back by a range of conditions outside their control. Most manufacturers bought a variety of components – injectors, brake gear and lighting equipment, for example – but the structure of the supply network was so complex that few were able to impose standards. Secondly, there was a continuing shortage of some raw materials – a symptom of austerity and then Korean war rearmament – and this certainly discouraged experimentation. Finally, the attitudes and strategies of the nationalized home operator hardly proved helpful. British Railways had decided to concentrate on

six basic steam engine designs but it did not appear able to overcome a legacy of differences about locomotive specifications which lingered from the pre-nationalization era. Thus, while 38 components of the chosen types were standardized, another 70 had to be modified according to regional preference [21, 22].

Accepting this, it is also clear that many companies continued to be rather complacent about exploring those opportunities that were available. About three-quarters of British locomotive exports went to six countries or regions (India and Pakistan, South Africa, British West Africa, British East Africa, Egypt, and Argentina) but efforts to exploit the potential for inter-railway standardization were not pursued with much energy. There was a similar degree of conservatism on the shopfloor. Assembly work was usually directed by foreman and works managers who had risen from the ranks and continued to insist on traditional methods. Few companies employed specialists in production control or modern systems for functions like scheduling. In effect, the industry remained over-impressed by the perception that it was striving to satisfy demanding customers whose every requirement on matters of detail had to be accepted without question [5, 21].

In 1954, the British Productivity Council (BPC), the successor to the AACP, produced a survey of the locomotive industry which sought to assess whether the earlier recommendations of the productivity team were being pursued. It noted familiar points about the nature of the export market for locomotives but argued that firms were nevertheless making some progress with implementing standardization. The overall conclusion was positive:

> All but a few firms are conscious of their own shortcomings and where improvisation can solve a problem the needful ingenuity is seldom lacking. The desire for higher productivity is there and, though the aim cannot always be achieved under present-day circumstances, this spirit holds promise for the future [5].

However, later events suggested that the BPC had probably been somewhat over-optimistic. In 1955, British Railways embarked upon its Modernisation Plan, which involved substantial upgrading of engines and rolling stock. The private locomotive builders now found themselves with the kind of orders that had been long desired – big runs of limited designs for a single customer. However, few acquitted themselves with much glory. Several types were produced with design faults, while others were over-engineered and thus required exacting maintenance. The North British Railway Company, which had 12 contracts worth £15 million to 1961, was a particular source of problems for the operator, and there were regular complaints about its price hikes, late deliveries and technical incompetence. British Railways ended-up with a number of "expensive mistakes" and this in part reflected the way that the private locomotive industry was run. It was quite clear that most of the manufacturers had done something about the "3 S's." Nevertheless, few, if any had really absorbed the spirit of the AACP team's recommendations [14].

**Production Engineering and Control**

Our second example concerns the techniques of production engineering and control. These were, again, at the heart of the American technical assistance gospel, and promised a more rational and efficient way of manufacturing. Was take-up by the British in these cases any greater than with locomotives and the "3 S's?"

During the immediate post-war years, production in many U.K. industries was regulated on lines which had not altered much since the late 19th century. The immediate shopfloor area tended to be controlled by works managers. These figures rarely had any formal qualifications, and many were ex-apprentices and qualified craftsmen. Their decision-making was usually governed by experience and tradition. They also had considerable autonomy, for further up firms' management hierarchies, few took much interest in production. Directors had always seen themselves as responsible for policy rather than arbiters over the minutiae of practice. Moreover, the general conditions suggested that a range of other questions required priority treatment. Firms faced considerable difficulties in the first years of peace – there were raw material shortages and new demands from labor – but they also had the promise of healthy profits because of the pent-up demand in many markets. The natural outcome was an emphasis on getting goods to the customer, however this might be achieved. In such circumstances, those in charge of production could often feel themselves overlooked, "forgotten men" in their enterprise's operations [16, 30].

Of course, some firms were rather less cavalier about manufacturing than others. Knowledge of production engineering had spread slowly in the inter-war years, but the Second World War gave the subject a considerable boost. Significantly, the Institution of Production Engineers (IPE), which had been founded in 1921, saw its membership grow from 1,200 in 1935 to 7,300 in 1948. However, the influence of new techniques should not be overestimated. Production engineering and control methods were commonly used by some big firms in certain sectors (for instance, the motor industry) yet were almost completely unknown among the medium and small. Moreover, the scope of production engineering, as it was understood in the U.K., tended to be rather restricted, certainly by comparison with the situation in the United States. British production engineers usually concerned themselves only with machines, and did not deal with wider questions of layout and flow in the manner of their transatlantic counterparts [12, 24].

Britain's relative backwardness in these matters was highlighted during the AACP program. Some 41 teams visited American industries and most returned very impressed with their hosts' use of production engineering and control systems. For example, 34 commented on the importance of mechanical aids in the United States, while 30 were impressed by the modern methods of costing they saw. As a result, the AACP decided to send two specialist teams to investigate U.S. trends in more detail, and their reports were published in 1953 and 1954. In general, both teams confirmed that American practice was superior:

there were no major novelties among the techniques used, but all were applied with a rigor which was almost unknown in Britain. Unsurprisingly, therefore, the general conclusion was that British companies should try harder. Both the teams went out of their way to stress that small as well as big manufacturers could gain by re-examining production procedures and each underlined that useful changes might be implemented at relatively little cost. Finally, it was also emphasized that nothing should be done without due reference to the firm's overall position. Production needed to be harmonized with design, accounting, and marketing functions [2, 4].

These were themes that subsequently reappeared in many of the other technical assistance initiatives that followed in the 1950s. A $30,000 grant from Benton-Moody funds allowed the IPE to put on Britain's first national production and productivity exhibition during 1954, an event which attracted 40,000 visitors. Meanwhile, the EPA was also active in this area: its project number 173 involved a series of seminars conducted by two American consultants on "company planning and production controls" [13, 18, 23]. To what extent did all of this activity actually produce tangible results?

Some degree of change was certainly evident. The IPE continued to grow and had about 18,000 members by 1970. Knowledge about theoretical aspects of production engineering and control techniques also increased and was collected in a series of popular and widely-sold textbooks. Finally, some specific techniques did, no doubt, become more popular among industrialists. For example, work study was used in a wide range of situations during the late 1950s and 1960s, and became a normal part of many firms' control systems [28].

Given this, however, it is equally clear that much of industry remained largely unenthusiastic about what was being proposed. It was commonly noted in the 1960s, to begin with, that many firms were still treating production as a subordinate part of their overall operations. Control on the shopfloor, in many cases, continued to be in the hands of relatively unqualified managers, and there was a general reluctance to employ trained specialists [6]. Conversely, those responsible for the machine shops remained convinced that they were undervalued and ignored when it came to shaping company policy. Ray Wild, an ex-engineer who worked at Bradford University's business school, ended his 1972 book *Management and Production* with the following observation:

> Production occupies a fairy-tale position in...industry...but unfortunately the role played is that of Cinderella rather than Prince Charming. Few people would seriously dispute the importance of the production function in business but this importance is frequently unrelated to the importance attached to it in the board-room [28].

Some years later, a comprehensive survey of the literature on production management came to similar conclusions. It noted: "A leitmotiv of these studies is the idea that production management is a 'cinderella function;'...is disadvantaged with regard to pay and prospects, status and fringe benefits, image and mobility, and...is an area of work the young and ambitious manager will keep out of" [15].

Given this situation, it is unsurprising to find that enquiries which focused more directly on the diffusion of production engineering and control techniques frequently came to decidedly gloomy conclusions. The National Economic Development Office's Mechanical Engineering Development Committee examined common practices in its sector on several occasions in the late 1960s and was shocked at the laxity of regulation systems. Slack control, it found, meant that firms were holding excessive stocks and frequently failing to meet delivery dates, thereby rendering themselves vulnerable to foreign competition [19]. In 1970, N.A. Dudley published the first of several studies looking at how production was organized in the West Midlands. He examined various metal and electrical industries, and found that "on average, productive machine utilisation was only 41 per cent." The problem, he concluded, was a lack of thought about procedures and an unwillingness to apply known techniques:

> If industry effectively used all the resources at its disposal it might result in productivity increases of 100 per cent. This could be achieved with increased plant utilisation, low cost automation, improved labour control, improved analytical techniques aimed at more effective production control, and new systems of productivity measurement [9].

Finally, similar points were made in a contemporaneous survey of small manufacturing companies in West Yorkshire. The authors, Wild and Swan, looked at the percentage of firms which used specified techniques and systems, and found that over half had not introduced work study, while standard costing, budgetary control, and production planning were unused in more than two-thirds of cases. These figures, as Wild and Swan rather dryly put it, suggested "a low utilisation of accepted and well-proven techniques" [29].

## Conclusions and Speculations

As these two case studies make clear, the U.K.'s response to the American gospel was distinctly underwhelming. In this final section, we look at various reasons for British intransigence and then speculate about what it meant for the country's longer-term economic development.

One obvious possible explanation for the American failure in Britain is that the know-how and advice being proferred was inappropriate. However, there is little evidence to suggest that this was the case. There were problems, certainly, with the way information was transmitted. Technical assistance was, after all, a social process involving difficult cross-cultural interactions, and so could easily fall prey to all kinds of human fallibility. Nevertheless, it would be difficult to conclude that there was anything wrong with the content of what was being proposed. Other enquiries (for example, the Labour Government's Working Party investigations of 1945-1946) and a range of independent experts drew very similar conclusions to those appearing in AACP reports [8, 11, 20]. Indeed, many of the suggested improvements had already been adopted by leading British firms [See, e.g., 17]. Nor is it convincing to argue that the prescriptions

which were suggested only really had limited appeal – being suitable, perhaps, just for large-scale enterprises. The American emphasis was on efficient, market-focused production, a stance that aimed to stimulate both the big and the small. Fairly typically, the AACP team reporting on materials handling underlined that many of its recommendations would incur little capital cost. Furthermore, as those involved stressed, there was no one set of fixed solutions that were set in stone: materials handling had to be considered an inexact science, and so the aim should be to make creative applications according to particular circumstances [3]. In this sense, the Americans were emphatically not trying to sell one production system, but rather improve a multiplicity of existing processes.

In fact, as we have already indicated, the U.S.'s lack of success with technical assistance had little to do with the quality of what was being proposed. Part of the problem, without doubt, occurred because of the dispositions common in many British firms. Some companies and sectors were clearly hampered from making any changes in the short run because of their market circumstances (a fact that emerges quite clearly from the locomotive industry study) [31]. On the other hand, much British conservatism had little to do with rational calculation and was more a symptom of long-standing cultural prejudice. The American conception of management was that it should be well-qualified, concerned with all facets of the business, and focused, in conjunction with labor, on the pursuit of productivity improvement. Across the Atlantic, the view was very different. British managers saw themselves as leaders, akin to military generals. They did not value technical qualifications and looked down on specialists as necessary but inferior. Moreover, few viewed labor as a partner and most believed it was there to be controlled or cajoled. Expressed bluntly, there was a glaring dissonance between management values and assumptions in the two countries [26]. As has been demonstrated in the case of production engineering and control, this fact alone goes a long way in explaining why American techniques were not adopted more widely by the British.

Secondly, some reference needs to be made to the wider institutional setting within which technical assistance was occurring, since this too, imposed constraints on the scope for the exercise of influence. Some organizations in Britain backed U.S. efforts. Washington's emissaries were constantly surprised at the positive responses of British trade unions and concluded that they were genuinely supportive. On the other hand, American officials frequently complained about associations like the Federation of British Industries and the British Employers Confederation, expressing astonishment at the insular and negative opinions they advanced whenever consulted. Furthermore, the Conservative governments of the 1950s were not judged positively. It was recognized that Attlee's administrations had been serious about productivity. By contrast, their successors seemed unhappy about any official entanglement with private industry and therefore supine when facing argumentative industrialists. As Washington viewed it, each of these factors was significant in hampering progress [27].

Finally, it may be asked if any of this really mattered. Did Britain pay a price for largely rejecting technical assistance? This is an enormously difficult question to answer for obvious reasons. Nevertheless, we would argue that early post-war intransigence can be seen to have imposed later costs. In their famous mid-1980s comparison of the British and German metal industries, Daly, Hitchens, and Wagner conclude that the U.K. lag in efficiency did not just reflect low investment levels:

> in our judgment the greater part of the productivity gap came from...a lack of feeding devices, frequent machine breakdowns, poor maintenance procedures, inadequate control of the quality of raw materials and similar deficiencies in basic production technique [7].

The irony is that this reads like an AACP diagnosis of forty years before.

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