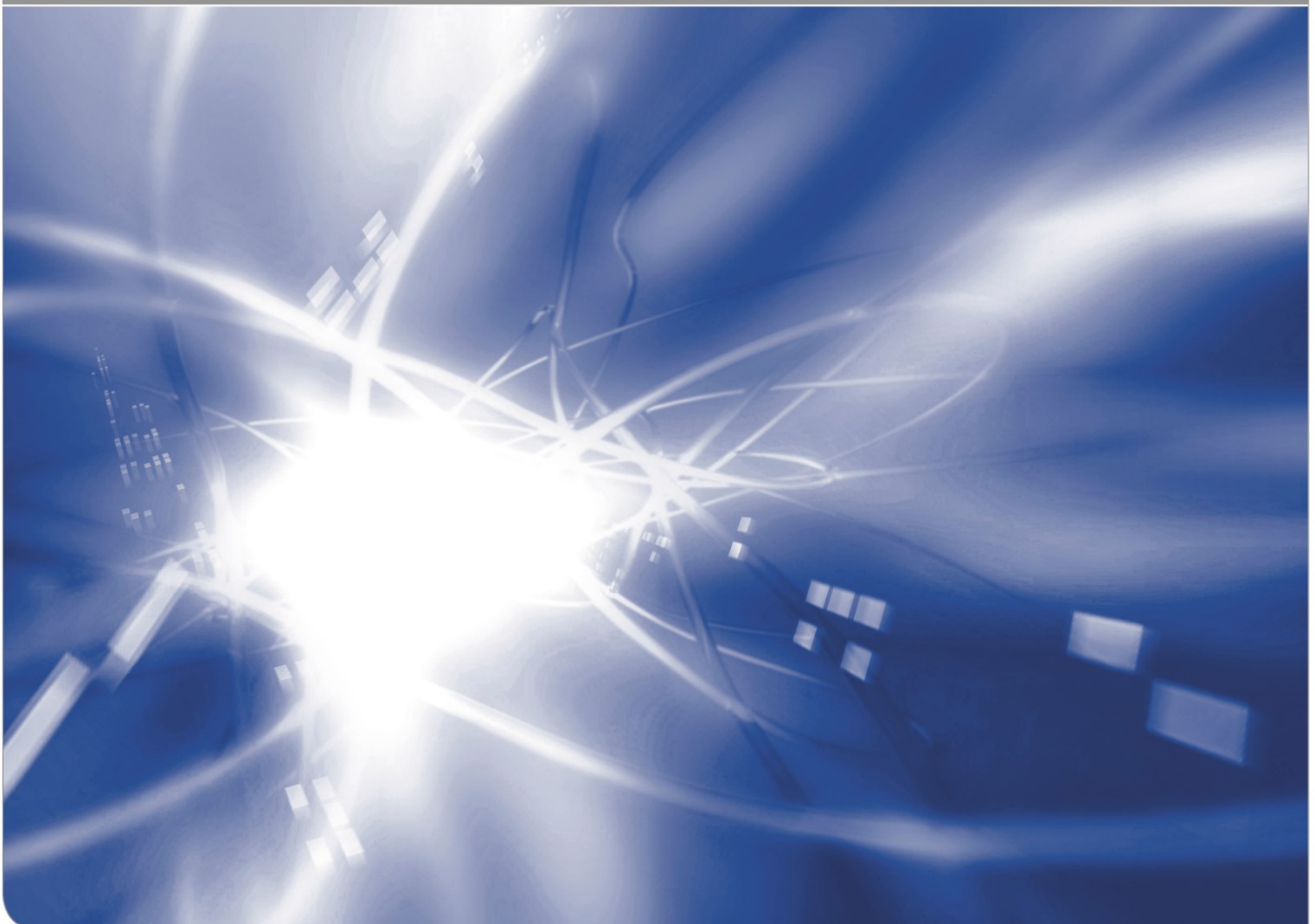


Shaping digital futures in work and society – the case of worker-led innovation

by Linda Nierling (ed.)

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Foreword

This report by the British Think Tank Autonomy was commissioned by the Institute for Technology Assessment and Systems Analysis (ITAS) of the Karlsruhe Institute of Technology (KIT). Technology Assessment (TA) seeks to promote the participatory and inclusive design of technology (Grunwald 2019a), featuring an established methodology to facilitate participation that ranges from Citizens' dialogues and constructive technology assessment (Schot/Rip 1997) to forms of transformative science such as a Real-World Laboratories (Parodi et al. 2018, Parodi et al. 2022). At the same time, TA has dealt extensively with technological change in working environments (e.g. Grunwald 2019b; Nierling et al. 2023). But although research highlights the epistemic advantages of inclusive technology design in the workplace (e.g. Gerlsbeck/Herzog 2020), relatively little attention has been paid to issues of participatory technology design in the workplace (cf. Frey et al. 2020; Frey et al. 2024).

As democratic co-design of technological change in the workplace is not an established practice, the discussion on more inclusive and participatory innovation needs to be grounded in a normative framework that transcends the status quo of innovation within companies. In particular, as extensive scholarship in TA and Science and Technology Studies (Jasanoff/Kim 2015; Lösch et al. 2019) has shown, imaginaries of the future play a key role in negotiating and orienting sociotechnical change. Democratising innovation in the workplace therefore also requires visions “from below” of what more inclusive innovation might look like and lead to (Frey/Schneider 2022). Reconstructing such visions from past and present examples of inclusive innovation in the workplace, in order to learn from them for future innovation in working environments, thus becomes a key challenge for TA scholars interested in transforming existing innovation regimes.

To identify illustrative and visionary case studies for research into inclusive technology design in the workplace, Autonomy was commissioned to explore possible cases for further research. The key case reconstructed in-depth by the report's author, Jessica Thorne, is the so-called Lucas Plan, a visionary plan for the conversion of military production towards “socially useful production” developed by the Combine Shop Steward Committee at Lucas Aerospace in the 1970s. The Lucas Plan is one of the most-discussed cases of worker-led innovation in scientific literature and the report provides new insights that build on extensive archival work and interviews. What is more, it provides a timeline for the history of the Lucas Plan and a number of sketches and extracts from leaflet material which have not been readily available thus far. The second part of the reports consists of four short portraits of forms of worker-led innovation with a focus on historic and contemporary worker-owned companies, namely the Chinese Haier Group, platform co-operatives, worker-recuperated enterprises in Argentina and workers' councils in Yugoslavia. The third part of the report provides a synthesis of the insights gained from the empirical cases, and argues for a stronger role of workers in driving innovation for the public good.

The following study not only provides inspiring empirical material to think about alternative futures in work and society, but it can be also regarded as an element to sharpen the connection between technological changes in work and societal co-construction. We wish you a fruitful reading and look forward towards the future elaboration and joint reflection of these lines of research.

Linda Nierling

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Worker-led innovation. Case studies and lessons from history

by Jessica Thorne

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1 Introduction

In the mid-nineteenth century, Frederick Taylor, a mechanical engineer and foreman in Pennsylvania, detected an undercurrent of resistance among workers. While supervising machine operatives at a steel manufacturing plant in Nicetown, Taylor noticed some startling inconsistencies in the labour process. To improve industrial efficiency, Taylor came up with a series of scientific metrics to analyse and interpret the workplace. Performance had to be measured, set by uniform standards, and maintained by a rules-based order, in order to eradicate the ‘master craftsmen’ mentality among workers, which Taylor viewed as a hangover from the pre-industrial period.

Underpinning this so-called ‘science of work’ was the intent to limit workers’ initiative. This would be achieved by further separating the labour process into minute, repeated, and standardised tasks. As Taylor put it, ‘what constitutes a fair day’s work will be a question for scientific investigation, instead of a subject to be bargained and haggled over’.¹

By the mid-twentieth century, Taylor’s system of scientific management had been adopted by employers throughout the industrialised northern hemisphere. In the post-war period, vast corporations applied Taylorist principles and briefly reconciled antagonisms between labour and capital by setting agreements with trade union leaders. This system began to buckle in the 1970s, as a squeeze on incomes meant workers broke with the social contract which promised wage growth in exchange for increased productivity. As a result, workers absconded, slowed-down production, and went on the offensive with strikes and occupations. Since then, the organisation of work has become more flexible, more globally spread, and more decentralised. But Taylor’s principles are still very much reflected in production methods. Indeed, his emphasis on subdividing labour has only become further entrenched, with the introduction of just-in-time production, call centres, simultaneous engineering, and asynchronous methods.

This report explores how workers have resisted, and shown an alternative to, the ‘scientific’ practice of top-down management inscribed in the labour process. Drawing on fourteen interviews, five case studies, and a range of archival documents, this report builds a rich portrait of innovative practices developed by workers in the last century. The case studies selected highlight some of the factors that have contributed to – and also eroded – worker-led solutions to climate change, war, access to healthcare, and broader issues around social and economic inequality. These case studies include:

- The history of the Lucas Aerospace Combine Shop Steward Committee and the development of the Lucas Plan
- Workers’ councils in Yugoslavia
- Worker-recuperated enterprises in Argentina
- The Haier Group in China
- Platform co-operatives

The report is divided into three parts. Section one offers an in-depth history and re-appraisal of the Lucas Plan, a 1970s blueprint for ‘socially useful production’ developed by workers in the British-based Lucas Industry Group. Section two offers brief appraisals of Workers’ Councils in Yugoslavia, Worker-recuperated enterprises in Argentina, and more recent examples, such as the Haier group in China and platform co-operatives. Each of the case studies examined in this section showcase various models of worker-led innovation, with various levels of state and company influence. The final section synthesises the findings of part one and two and offers some conclusions that will be of interest to trade union leaders and other stakeholders working on issues around climate change, the labour movement, and technology. The report concludes by arguing that with access to versatile technology, workers are more than capable of driving innovation, especially in areas neglected by the market.

¹ Frederick Taylor, *Principles of Scientific Mangement* (1911) [Access date: 31/11/2022: <https://www.marxists.org/reference/subject/economics/taylor/principles/ch02.htm>]

2 What is 'Worker-led Innovation'?

Worker-led innovation refers to a workplace, industry, or economic system, in which *workers* determine production methods and the use of technology. Based on the case studies listed above, this report has established four main principles which underlie worker-led innovation:

- Production is guided by non-profit motives (although it may still operate within the market).
- The work process is determined by workers' knowledge – not abstract principles of 'scientific management'.
- Products or services are made and delivered with the intent to close the gap between technology's capacity to meet social needs and its implementation.

2.1 Research Methods

The empirical material underpinning this report encompasses both textual material and original testimony. In the case of the Lucas Plan, researchers are fortunate to have access to an abundance of archival material – but there is no single Lucas Plan archive. The Plan was developed across multiple engineering plants, with varying levels of engagement. Efforts to preserve its history have largely been undertaken by ex-participants who are now – as they were then – scattered across Britain. This speaks to the decentralised nature of the Lucas Combine and its *relative* autonomy from national trade union structures.

It is also worth mentioning that the archival material included in the Lucas Plan study has been drawn from two very different institutions: the Mayday Rooms archive in London, and the Labour History Archive held in the People's History Museum in Manchester. The loose process of categorisation adopted by the Mayday Rooms situates the Plan within a rank-and-file history of labour activism. In contrast, the People's History Museum sees the Plan as a part of the 'institutional' history of the labour movement. Combining the use of both archives thus further illustrates the tension between rank-and-file members and trade union officialdom – a recurring theme in the Lucas Plan.

Alongside archival material, this report makes extensive use of oral testimony. Fourteen interviews were conducted during the stages of research and development. Interviewees were selected on the basis of their involvement in the Plan and the British trade union movement. They can be categorised into four sub-groups:

1. Ex-participants (Staff personnel at Lucas Aerospace)
2. Academics
3. Trade union activists
4. Rank-and-file workers

The interviews curated for this report offer original, first-hand testimony, as well as engagements from lay members and activists in the contemporary British trade union movement. The intention behind this was to strengthen the practical value of the report and to consider what opportunities exist for worker-led innovation today.

In contrast, the criteria for interviewees in the international case studies used in the report were more selective and can be divided into roughly two sub-groups.

1. Academics and Experts
2. Participants

Finally, it is worth mentioning that not all of the case studies include data from interviewees. In the example of the Haier group in China, accessing reliable data and/or workers' testimony was simply not possible. In this case, the report relies on secondary material, press reports, and a critical analysis of factory visits conducted by Western business schools.

A full list of interviews and a selection of key archival material is provided in the bibliography and appendices at the end of this report.

3 Section 1: The Lucas Plan

In 1976, shop stewards at Lucas Aerospace presented their company with a plan to produce a range of ‘socially useful’ products. Tackling issues such as energy conservation, health inequities, and public transport systems, ‘the Lucas Plan’ showcased workers’ capacity to innovate and act in advance of the market.

Lucas Aerospace was then the largest manufacturer of aircraft systems and equipment in Europe. A significant amount of its output was geared towards military applications and reliant on defence contracts handed out by central government. By the mid-1970s, it had become the only company in the world capable of producing a complete range of electrical aircraft systems ‘within a single organisation’.² A combination of the oil crisis in 1973, the onset of recession, energy scarcity, and possible cuts in Britain’s defence budget, resulted in the company threatening huge job losses.

Lucas workers proposed a positive alternative to recession and redundancies. Rather than accepting the market rationale for laying off workers, the designers of the Plan showed how the aerospace industry could be repurposed through new and existing technologies. These products would not only meet social needs, the workers argued, they would also maintain the company’s profits.

The shop stewards at Lucas never would take over their company, nor did the company formally recognise the Combine Committee. And yet, the Plan is often cited today as one of the most radical and enduring experiments in industrial democracy. What follows is a much-needed reappraisal of the Lucas Plan, its history, and the ways that the Lucas Plan might influence current debates on the future of work, technology, the trade union movement, and post-carbon transitions.

3.1 The ‘White Heat’ Revolution

1963 would turn out to be very important for the workers at Lucas Aerospace. That year, in the lead-up to a general election, the Labour leader, Harold Wilson, delivered a paper to the Party conference entitled ‘Labour and Scientific Revolution’. The title reflected how technological change had become a divisive and compelling electoral issue. Contemporary observers noted the speed with which automated production systems were reducing the need for human labour. The automotive industry in the United States, for example, had already rolled out machine-controlled systems on assembly lines, meaning workers no longer had to move materials from machine to machine.

As Wilson saw it, automated technologies were to be embraced – with certain caveats. Speaking to the Labour Party Conference in October 1963, Wilson argued that, left in the hands of private companies, automation would create massive structural unemployment. Only through ‘indicative planning’ – a three-way partnership between central government, trade unions and industry – could a major crisis be avoided.³

Alongside greater investment in technology, one of the main aims of Wilson’s programme was to reorganise British industry so that it was at the cutting edge of science and innovation. To strengthen this relationship, Wilson proposed a huge building programme of universities and technical colleges. The ‘plate-glass’ universities, as they became known, broadened access to higher education beyond the privileged elite. A defining feature of Wilson’s office, these new sites of education would overcome the perceived failings of traditional redbrick universities, such as over-specialization of the curriculum and the absence of dialogue between industry and academics.⁴

On winning the 1964 election, the new Labour government set about lending support to ‘strategic’ industries which they believed could compete on the world stage. Its main way of achieving this was

² Lucas Aerospace Combine Shop Steward Committee, *Corporate Plan* (1976) p.3.

³ ‘Labour and Scientific Revolution’, a policy statement made to the Annual Conference of the Labour Party, Scarborough, 1963 by the leader, Mr Harold Wilson.

⁴ See Jill Pellew and Miles Taylor (eds.), *Utopian Universities: A Global History of the New Campuses of the 1960s* (London: Bloomsbury, 2020).

through government-led mergers. The rationale behind this was that size-produced ‘advantages of scale’, which would be so great they would guarantee British firms a monopoly.⁵

In 1966, Wilson’s government established the *Industrial Reorganisation Company*, the administrative vehicle tasked with merging companies. The IRC radically transformed the industrial landscape in Britain, overseeing the establishment of vast corporations such as British Leyland and the General Electric Company (GEC). However, instead of balancing the relationship between labour and capital, mergers required a large layer of managerial bureaucracy and support from the civil service. Within this arrangement, managers gained huge institutional power and could implement ‘rationalisation’ – under the guise of increased efficiency – however they saw fit.

It wasn’t long until ‘rationalisation’ soon became a byword for job losses. Between 1964 and 1969, the GEC reduced its workforce from 260,000 to 200,000. In this same period, Lucas Industries, a Birmingham-based manufacturer of motor industry and aerospace components, acquired English Electric. As was cited later in the Plan, ‘it was clear that, if permitted, Lucas Aerospace would embark on a similar rationalisation programme’.⁶ It was in anticipation of such developments that the Lucas Shop Stewards Combine Committee emerged.

3.2 The formation of the Lucas Aerospace Combine Shopstewards Committee

Management at Lucas Aerospace showed no hesitation in using the IRC as a vehicle to extract more profit. In 1965, shop stewards discovered that management was undercutting wages by reducing piece rates. This was the spur for workers at Lucas-owned factories to come together to discuss strategy. One major problem came to surface during these discussions: the official trade union structures were profoundly inadequate. Phil Asquith, who joined the the Lucas Combine a few years later, recalled why a new form of union organisation – namely, the workers’ Combine – was so necessary:

If you looked across the whole fourteen sites of Lucas Aerospace... there were nine manual worker unions and three staff unions. In our factory in Burnley, which was the second biggest to Birmingham (3,500 members), we had six manual unions and three staff unions. So, if you went into dispute, on anything, including fights to save jobs, you had to go through nine trade union procedures... We often described the structure as being of Byzantine complexity. As the multinationals and globalisation developed in the 60s, the companies were able to divide and rule the British trade unions.⁷

The IRC was still in the early stages of development when workers at Lucas Aerospace began to form shop steward networks. At this stage, the workers in Lucas-owned factories were unable to mount a national campaign, mainly because there was no single management structure with which workers could negotiate on a national basis. The craft structure of the British trade unions, as explained by Phil, only added a further layer of complexity.

While posing their own set of problems, the mergers and acquisitions of the 1960s meant that workers could at least respond to management’s proposals collectively across multiple plants. Reorganising the company on this scale obviously required a long lead-in period. As Lucas Aerospace diverted its energy towards takeovers, management was no longer keeping tabs on workers. Making the most of this unsteady transition, workers at the Willesden site called for a meeting with shop stewards from English Electric (one of companies set to merge with Lucas), along with Associated Electrical Industries (AEI). AEI had already undergone a process of rationalisation - merging with the GEC - a decision which had resulted in significant job losses. The meeting would be a turning point for Lucas workers. The failings of the AEI Combine showed what was required of Lucas workers in order for them to avoid the same outcome. Adopting the strategy of fighting to secure or defend jobs would perhaps lead to a year of

⁵ Jill Hills, ‘The Industrial Reorganisation Corporation: The Case of the AEI/GEC and English Electric/GEC Mergers’, *Public Administration* Vol. 59, No. 1,(1981), p.65.

⁶ *Corporate Plan* (1976), p. 4.

⁷ Interview with Phil Asquith [recorded 06/07/2022].

intermittent industrial action before inevitable closures. It was this proactive sensibility among Lucas workers which would draw more and more factories into the Combine.

Between 1969 and 1973, eleven out of the fourteen Lucas sites joined the Combine. Covering both the northern and southern regions, each site had its own tradition of trade unionism and its own peculiar workplace dynamics. Take for instance the site in Willesden, based in North West London. The workforce at Willesden was composed of six hundred highly skilled engineers and had been an important base for Communist Party organising since the 1950s.⁸ Acutely aware of their own power, these workers were unlikely to take any management proposal at face value. Indeed, from a management perspective, it seemed that the only way of containing shop floor militancy at Willesden was to dismantle the factory and relocate workers elsewhere. This was the decision made by management in 1970, resulting in job losses and the relocation of the extant workforce to a new site in Hemel Hempstead.⁹

In contrast to the history of heavy industry in Willesden, Hemel Hempstead was a rapidly expanding 'new town', a product of the post-war Labour government's rehousing programme and the 'huge dispersal of the English working classes'.¹⁰ Critics on the left felt that the suburban working class had adopted a more conservative outlook than their inner city predecessors. It was believed that the suburbs promoted a parochial view of civic engagement which was centred entirely around the home and access to commercial goods. There was certainly a lack of trade union traditions at Hemel and this contributed to its weakness.

The relocation to Hempstead confirmed to Lucas workers elsewhere what exactly was meant by 'rationalisation'. Management wanted a level of control that was uninhibited by workers' exercising any kind of autonomy over the labour process. The 'white heat' modernism at Hemel Hempstead was worlds away from many of the sites in the North. The factories in Burnley, for example, were old converted cotton mills, requisitioned by the state during the Second World War. Nevertheless, while Burnley had a longer history of trade unionism than Hemel Hempstead, it too started from a weak base. Inter-union sectarianism had impeded any united effort to confront management during the post-war years.¹¹

Phil Asquith joined the Burnley site in 1973 as a research engineer. Frustrated with the conventional channels, Phil viewed the Combine as a vehicle for workers to directly assert their power, without any middlemen or intermediaries. In contrast to the glacial pace of procedure maintained by officialdom, the Combine was able to respond quickly to management - and with great effect. In one such example, Phil remembered an occasion in which shop stewards at Burnley co-ordinated with transport workers who delivered Lucas products to London airports:

If a fuel pump stopped working and needed replacing, all we used to do was have a whip round, a pound a member, take the transport drivers out, pay their wages at full wages, and then the planes at Heathrow airport were grounded. So what are the company going to do in that situation? We used to say to them oh you'll have to go through the national officials and we'll see you in six months when we come back from our holidays.¹²

These stories encouraged shop stewards to formalise the Combine into a democratic structure. Throughout 1972, all eleven of the affiliated sites participated in a year-long series of discussions with the intent of producing a constitution. In June 1973, an edition of *Combine News*, a paper written for and by Lucas Workers, was circulated among all sites outlining the structure and objectives of the Combine. The Combine Committee would be constituted by representatives elected by shop stewards at each plant. At the local level, workers would elect a shop steward committee through a one member-one vote system. However, decisions taken by the Combine 'executive committee' would be agreed upon based on 'one

⁸ See Hilary Wainwright and Dave Elliot, *The Lucas Plan: A New Trade Unionism in the Making?* (Nottingham: Spokesman, 2018) p.36.

⁹ Elliot and Wainwright suggest that the threat posed by the Combine was partly behind the decision to relocate. See Wainwright and Elliot, p.37.

¹⁰ See Mark Clapson, *Invincible Green Suburbs, Brave New Towns: Social Change and Urban Dispersal in Postwar England* (Manchester: Manchester University Press, 1998) p.1.

¹¹ Wainwright and Elliot, p.45.

¹² Interview with Phil Asquith, [recorded 06/07/2022].

vote per site'.¹³ That the Combine retained a centralised body was one of the more controversial points in the constitution. At some plants, namely Liverpool and Willesden, the 'one site-one vote' system simply became unworkable. At both sites, 'entrenched hostility' between unions and their representatives put major obstacles in the way of achieving consensus.¹⁴

The Lucas workers were not alone in favouring the Combine model. In the autumn of 1974, at a meeting in the Leeds Trade Club, the *Vickers Shop Stewards National Combine Committee* was launched. Vickers was one of Britain's major engineering firms, with the majority of its output reliant on defence contracts. Support for the Combine at Vickers initially came from the Elswick Works site in Newcastle; a vast monument to imperial production which covered seventy acres and stretched a mile along the river Tyne [see figures 1 and 2].¹⁵



Figure 1: Aerial View of the Elswick Works, Newcastle upon Tyne, April 1962. *Tyne and Wear Archives & Museums*

¹³ *Combine News*, June 1973, Labour History and Study Archive (LHSA) [WAIN 13/3].

¹⁴ Wainwright and Elliot, p. 63.

¹⁵ Tyne & Wear Archives Museum (TWAM) [DT.TUR/2/28699A].



Figure 2: Valentine Tanks on the Assembly Line in the Tank Shop, Elswick Works, Newcastle upon Tyne, 28 September 1942 (TWAM ref. DX1529/1).

Hilary Wainwright, a researcher in the Sociology Department at Durham University was living in Newcastle when the Vickers Combine was formed. During this time, she started interviewing shop stewards at Elswick as part of a research project exploring wage bargaining. As she recalled:

I then got involved in working with the Vickers Shop Stewards Combine Committee and they were facing redundancies up in Tyneside, particularly in the Elswick and Scotswood plants that were involved in making arms. And so they began to think about alternatives... Meanwhile, there was this very important and useful organisation called the Institute for Workers Control that would bring together shop stewards from other companies, including British Leyland, in the context of Tony Benn's industrial policy. The institute brought together shop stewards to try and think beyond wage bargaining and think about the future of the company, investment, and products.¹⁶

The Institute for Workers Control (IWC) had advised shop stewards in a number of tough negotiations during the 1970s. The most impressive dispute, in many ways setting the benchmark for the Lucas Combine, was the 1971 'sit-in' organised by Upper Clydeside Shipbuilders (UCS) in Glasgow. Clydeside was the labour movement's first major litmus test under the newly elected Conservative government. The Labour Party were voted out of office following a period of increased shop floor tension. *'In Place of Strife'*, a white paper, proposed by the Labour minister, Barbara Castle, in 1969, had sought to limit

¹⁶ Interview with Hilary Wainwright [recorded 28/06/2022].

trade union power in an attempt to salvage electoral victory. But the election in 1970 marked a watershed. The Heath government promised to deal with the strain between trade unions and government not with compromise, but with the blunt force of the courts. The gains won by trade unions in the post-war period were now set to be reversed.

In 1971, the Conservative government refused to sign off on a rescue package for the UCS. Instead, they delivered their own (bogus) ‘independent’ report, carried out by merchant bankers, which recommended reducing the workforce by over 70%. The government was unprepared for the vigorous surge of anger that would follow on the shopfloor. In his undervalued (and unpublished) analysis of UCS, Charles Alexander noted that ‘scores of [trade union] delegates’ poured into the shipyards from all over the city, while ‘Clydebank clergymen agreed to hold special services of prayer in their churches’.¹⁷

The UCS workers broke with the normative expectations of government and trade union officialdom. Rather than committing to a course of strike action to defend jobs, workers organised a takeover. Production would continue, but under the instruction of workers and with the financial backing of the wider community. Jimmy Reid, the Clydeside workers’ adored rhetorician, described the novelty of the action in the following address:

The world is witnessing the first of a new tactic on behalf of workers. We’re not going on strike. We’re not even having a sit-in strike. We’re taking over the yards because we refuse to accept that faceless men, or any group of men in Whitehall or anyone else can make decisions that devastate our livelihoods with impunity.¹⁸

Tony Benn, the Minister of Technology under the preceding Wilson government, also joined Reid on the platform and offered his full support. Following electoral defeat in 1970, Benn had become heavily involved in the IWC, developing a close friendship with its founder, Ken Coates.¹⁹ Coates, an ex-coal miner, was a tutor at the Adult Education College in Nottingham. This role gave him direct access to shop stewards in Nottingham and their networks across the North. Industrial democracy and workers’ control were key topics on Coates’ curriculum; workers were encouraged to imagine how they would run their workplace, and drew upon contemporary examples such as workers councils in Yugoslavia. During the Clydeside dispute, the IWC helped frame the workers point of view, and direct their message to the government by offering an analysis of the social cost of closure and unemployment.

In February 1972, eight months after the ‘work-in’ commenced, the Conservative government embarked on a monumental U-turn and agreed to hand over a huge rescue package. The workers at Clydeside had succeeded in demonstrating that productivity relied on workers’ craft, knowledge and commitment to the industry – not management-led restructuring. As Tony Benn noted in a 1971 House of Commons debate:

The steel productivity figures have been higher since the work-in was announced in June, and the first figures which are available to me show that in the two weeks following the announcement of the work-in the steel productivity figures were the highest ever achieved in U.C.S. Absenteeism has been cut by 50 per cent, pilferage has almost gone...²⁰

For the broader labour movement, the Clydeside dispute showcased a new kind of trade unionism, one which shifted its attention from the shop floor toward the higher echelons of control and investment. While there is no mention of U.C.S in the standard histories of the Lucas Plan, there is no doubt that the Clydeside victory set a new precedent for action. The subsequent role of the IWC and Tony Benn in the development of the Plan showed that the ‘work-in’ had widened the parameters of what was considered possible for organised labour, even if the ‘work-in’ fell short of reimagining working practices.

For both the Lucas workers and the U.C.S, the question of ownership would soon become a pressing matter. In 1974, Heath’s government called a snap election with the slogan ‘Who runs Britain - the

¹⁷ Charles Alexander, *Working Class Culture: The Work-In At Upper Clydeside Shipbuilders* (University of Glasgow, 1982) p.97.

¹⁸ *Ibid.*, p.116.

¹⁹ Joe Guinan, *Bring back the Institute of Workers’ Control, Renewal* Vol. 23, No.4, (2015), pp.15-17.

²⁰ Tony Benn, House of Commons Debate, 2 August 1971.

Government or the miners?'. Britain, by then, was in the fourth consecutive month of a state of emergency. The 1973 oil crisis meant that the government became wholly reliant on coal for energy, the supply of which was drying up as miners went on strike over pay and conditions. In the winter of 1973, the government announced that it would be rationing electricity to three days a week. Confident that the promise of new anti-union measures would win over the public - and, gripped by the fear that Britain was on the brink of a revolutionary upheaval - Heath decided it was time for a snap election. But the government's strategy of calling for all-out confrontation backfired. Heath lost his majority, while Labour eventually consolidated its win with a slim victory. Following Labour's return to office, Tony Benn was re-appointed as Secretary of State for Industry. Having learnt some important lessons during his previous cabinet position - and drawing inspiration from the Clydeside 'work-in' - Benn enacted his nationalisation bill, but this time with a new emphasis on workers' control. As Benn put it in a 1974 House of Commons debate:

Who knows what would have happened if some of the skill and energy generated by the Clydeside shipyard workers during their campaign for the right to work had been available more directly to influence Government decisions about the shipbuilding industry, or had been released to serve that industry much earlier still?²¹

3.3 The Workers' Plan

The Labour Party's nationalisation bill did not, however, include Lucas Aerospace in its proposals. Alongside cuts to defence, Lucas workers feared the worst: that rationalisation without government oversight would lead to more redundancies and potentially even liquidation. As a response, the Combine Committee adopted a proactive approach, establishing advisory committees and workplace hubs for knowledge exchange. In 1974, Combine members established the *Science and Technology Advisory Committee*, with Mike Cooley, a leading figure in the Combine and a highly skilled design engineer, as its liaison. Cooley would regularly contact groups of radical, like-minded scientists on issues such as depleting machinery, machine obsolescence, skill fragmentation, and health and safety.

The most significant of these groups was the *British Society for Social Responsibility in Science* (BSSRS), formed in 1968 in opposition to university research on chemical and biological weapons. Emerging from the 1960s anti-war movement, the society quickly became involved in producing critical materials on the situation unfolding in Northern Ireland, focusing on the use of military hardware such as CS gas and rubber bullets. In what constituted a major challenge to neutral claims associated with 'scientific progress', the BSSRS cautioned against: 'the technological imperative that states because H-bombs, satellites, ABM are possible... they must be done'.²²

The rise of a broader movement focused on repurposing science and technology was no doubt important for the development of the Plan. It was also, inadvertently, a by-product of Wilson's 'white heat' revolution; many of the scientists involved in the BSRSS had been radicalised by student activism in the new glass plate universities. However, the Combine Committee demonstrated that it wasn't only academics who were capable of comprehending the various uses of technology. The Advisory committee showed that workers themselves, such as Mike Cooley, were already capable of devising plans for innovation.

In November 1974, Combine delegates travelled across the country to meet with the Secretary of State for Industry in London. The meeting was a historic moment. The tripartite structure which had underpinned social democracy in Britain meant that, in normal settings, national union officials had to be present in government negotiations. In fact, soon after the meeting, the Confederation of ShipBuilding and Engineering Unions (CSEU) passed a motion which prohibited direct contact between shop stewards and government ministers. However, Benn agreed to sit down with the Combine Committee alone [see figure 3].²³

²¹ Tony Benn, House of Commons Debate, 13 March 1974.

²² British Society for Social Responsibility in Science, Manifesto (1970).

²³ The Lucas Plan Collection, Mayday Rooms Archive [uncatalogued].



Figure 3: The Combine Committee meet with Secretary of State for Industry, Tony Benn [November 1974, Mayday Rooms Archive]

Initially, the shop stewards posed to Benn the question of nationalisation. Given that Lucas Aerospace already received large state subsidies, the workers argued that the use of taxpayers' money by the company should at least be subject to some form of public control. Benn indicated that he lacked the power to include Lucas Aerospace in the nationalisation proposals; however, he also encouraged the Committee to consider another, hitherto untested, approach.²⁴ As Phil Asquith recalls:

We posed to him the question [and they had been elected for the second time then] we've got you lot in power again. [Most of us were out working for the Labour Party]. If there's a problem because nationalisation of the air industry was on the manifesto - what are you going to do to help us? And this was the really historic meeting where Benn said, "Well, defence projects have long lead times, you've got skills..." [And everybody then was in the union, whether they wanted to be or not]... He said, "go away, look at your facilities, your plants, your machine tools, your skills and audit what you have - then think about what you can make instead, possibly with government support."²⁵

The two-and-a-half hour meeting with Benn was hugely important for building confidence among the Lucas workers. But the question of ownership was left unanswered. While Benn sat down with the Combine alone, he made it clear to the committee that any future agreement with the government would have to be done on a tripartite basis. Phil Asquith remembers why the Committee rejected this proposal:

...There's two quotes I often use which turned the tide and sharpened the focus: one was from Ron Mills our liaison officer... he said, the problem is if you have a meeting on a tripartite basis, which Benn said he was willing to organise (between government, the company and ourselves) we would be having to work with the company's emphasis on profitability in a conventional sense. And we would be transferred from being victims of the crisis to actually a part of the crisis. So that's why we rejected Benn's offer to sit down with the company and the officials. And then Mike Cooley chimed in and basically said we need to plan independently and actually use the criteria of social value rather than profit value as a criterion for success.²⁶

²⁴ For an account of the historic meeting see Wainwright and Elliot, pp. 83-84.

²⁵ Interview with Phil Asquith, [recorded 06/07/2022].

²⁶ Ibid.

Following the meeting with Benn, the Combine Committee embarked on a company-wide audit. Workers across Lucas Aerospace were asked by the Combine to fill out a questionnaire which asked them to detail the technical capacity of each plant along with suggestions for alternative products. The Combine understood that in order to get workers to commit to an alternative plan they would need to develop their own system of gathering information.²⁷ Management's panoramic view of the industry had so far posed significant obstacles to shop stewards. On issues such as pay and redundancies, Lucas Aerospace had shown a preference to negotiate on a local, rather than national basis, with the intention of dividing the workforce.

A worker-led inquiry meant that the Combine was able to pose a national plan to rescue the aerospace industry based on the concrete reality of workers' technical capabilities. This exercise was necessary in a practical sense, but it was also an experiment in more utopian forms of thinking. Empowering workers with the knowledge of their craft, and their ability to carry out work autonomously, contested the principle of 'scientific management' that had evolved from Frederick Taylor's time and motion studies at the turn of the twentieth century. In the nineteenth century, the artisan controlled the pace of their work. Under Taylor's system, control passed to management, while the knowledge of craftsmen was extracted and combined with new technologies. 'Taylorism' got rid of workers' autonomy and established a regimented system of supervision and management.

The Combine cut through the Taylorist division of labour based on rank and responsibility. This had a profound effect on workers' consciousness. As it was later remarked upon in an internal report on the Plan:

'The stewards' questionnaire was criticised by social scientists who said that, in filling in the questionnaire, workers' consciousness would be changed, they would be made aware of their possibilities - 'fine', said the stewards, that's just what we want...'²⁸

Workers responded to the audit with a list of 150 'alternative products', which were collated by the Combine into six main product areas. None of the products suggested by the workers were geared towards military applications, adhering instead to Mike Cooley's concept of 'social use'. What constituted 'socially useful' production was thought out collectively in mass meetings and centred on three main principles. First, it was decided that production must be energy efficient, which meant there was to be zero waste in the manufacture and use of products. Second, it was argued that plants must retain labour-intensive forms of production - opposed to the capital-intensive methods favoured by management - 'so as not to give rise to structural unemployment'.²⁹ Finally, the kind of labour performed by workers had to be 'non-alienating' - this, the Combine suggested, meant embedding the imagination of the worker within the practice of work. For the uninitiated, these discussions radically transformed understandings of what constituted an organised workforce and pointed towards a new form of trade unionism. John Routley, an electrician at the Birmingham plant, remembers the profound impact these meetings had on his own political trajectory:

I had never sat in meetings and listened to the sort of language that was coming out. It was mind blowing to hear some of the political arguments they were putting forward... the strategic thinking of looking at five years ahead, it was just mind blowing to me.³⁰

In the process of coming up with the Plan, draughtsmen and designers at Lucas Aerospace began to question the choices and values embedded in the production process. This marked a departure from the priorities of the trade union movement under post-war social democracy, which was focused on income redistribution and full employment. The Plan was thus uncharted territory for the British labour

²⁷ With the support of CAITS, the Combine Committee began to research what they described as 'Worker Information Systems (WIS) as an alternative to Corporate Management. The Combine noted that in contrast to the evolution of modern industry, and the consequent changes in management and control, trade unions had largely retained structures developed during earlier periods of capitalism. See Martin Lockheed, *Worker Information Systems: Towards An Analysis*, The Open University, (1978). Labour History Archive and Study Centre, [WAIN 13/1].

²⁸ CAITS Report, August 1979, Mayday Rooms Archive, CAITS 222.

²⁹ Wainwright and Elliot, p.107.

³⁰ Interview with John Routley [recorded 19/08/2022]

movement, combining socialist critique of capitalism with scientific innovation on the shopfloor. Prior to the Plan, knowledge production within the post-war British left had centred on cultural and social scientific thought, with little attention to how such ideas could be applied to engineering and design. In fact, the Combine Committee did initially approach sympathetic academics for input on the plan. But out of 180 letters sent to academics, only three responded, illustrating the extent to which the divide between intellectual and manual labour was firmly entrenched – even among critical scholars.³¹

The Plan starts by acknowledging that the traditional method of fighting for the right to work ‘has not been particularly successful’.³² Challenging the ‘narrow economism’ which had constrained the British labour movement, the Combine pressed instead ‘for the right to work on products which actually help to solve human problems rather than create them’.³³ The prototypes proposed in the plan included medical equipment for the disabled, oceanics, hybrid transport systems, braking systems, and alternative energy sources.

The selection of products was based on the criteria of social need and sustainability. These were neither abstract nor utopian concepts, they were based on the problems workers saw and experienced in their own communities. John Routley, a Combine member in Birmingham, recalls the ad-hoc, bottom-up process in which products were selected by the Combine:

Workers looked towards the people that they knew, the people that they loved, and the communities in which they lived. So when you’ve got people struggling with the heating, you say what about a heat pump? When you live out in the sticks of Burnley or the Yorkshire moors and you can’t get into work because there’s no bus service, you come up with the road rail vehicle... So when you actually dig down into the product ideas, they came from social need based on personal understanding or personal experiences. And it was then that we could see that this plan was morphing into something that was tangibly different to the company’s. But we also knew that whatever we designed or moved forward with had to have not only a social value, but it’s got to be profitable, it’s got to pay our wages and all the other things. It can’t be profitable, but it’s got to be sustainable.³⁴

The innovative features of the Plan thus drew heavily upon working-class experience. But the Combine was still pressed into a corner in the fight to safeguard the future of the company and their jobs. As John Routley indicates above, the products chosen had to be capable of fulfilling or stimulating market demand. With only words of encouragement from ministers in the Labour government, the Combine had no control over investment and was only in the position to negotiate with management.

The strength of the Combine’s negotiating position hinged on their ability to mobilise workers. Support and capacity varied across plants and laboratories. At Birmingham, the Plan was rejected on the basis that many of the products required a huge initial investment, which, in the words of management, was at odds with the ‘fundamental objective to provide work in the short-term’.³⁵ But management was only able to reject the plan because of their confidence in the restraint of trade union officialdom. Combine members at Birmingham had to contend with the local right-wing leadership of the Amalgamated Union of Engineering Workers (AUEW).

The only site which saw the company engage with the products showcased in the Plan was Burnley. This was down to the growing industrial strength of the Combine locally. In 1972, the Combine Committee participated in a thirteen-week strike over pay which resulted in a wage increase much larger than the offer initially negotiated by the trade unions. As a result, shop stewards at Burnley became strong advocates of the Combine model.

To consolidate support for the Plan, Burnley members ran a series of ‘teach-ins’ at their local Town Hall. In July 1976, the Open University recorded one of these meetings.³⁶ The footage shows Mike

³¹ Wainwright and Elliot, p. 95.

³² Lucas Aerospace Combine Shop Steward Committee, *Corporate Plan*, p. 6.

³³ *Ibid.*, p.8.

³⁴ Interview with John Routley [recorded 19/09/2022].

³⁵ Wainwright and Elliot, p.128

³⁶ The Story of the Lucas Aerospace Shop Stewards Alternative Corporate Plan [Access date 05/09/2022: <https://lucaspian.org.uk/more-about-the-lucas-plan/>]

Cooley, the design engineer from the Willesden plant, discussing a prototype for a ‘road rail’ vehicle. The product had been developed with the assistance of Richard Fletcher, a lecturer at the North East London Polytechnic and a joint director of the *Centre for Alternative Industrial and Technological Systems* (CAITS) with Cooley. CAITS had been established in 1977 with funding from the Joseph Rowntree Foundation. It was believed that academic support for the plan would strengthen the Combine’s authority and bargaining position. CAITS was also a response to the cosy relationships that had developed between universities and multinational companies during the era of the IRC. As Hilary Wainwright recalls:

The Combine Committee had a sense that they had a right to public money, particularly university money. They thought that universities should be, in some ways, like civil servants for the people; supporting the initiatives of workers on issues to do with innovation, to do with job saving, and to do with alternatives.³⁷

A crucial part of the Plan was thus the democratisation of knowledge. Where profit had limited the use of technological knowledge, the Combine was able to extend its application to everyday social needs. The so-called ‘road-rail vehicle’ provides one important example of this kind of advanced thinking (see figure 4).³⁸ The idea behind the design was that these lighter and more affordable vehicles could support railway systems that ran limited services. This was not only a problem in the underdeveloped ex-colonies, but in the metropole itself. By the 1970s, many of Britain’s historic railway lines had been devastated by cuts and closures led by Richard Beeching, the chairman of British rail, during the early-mid 1960s.

There was little enthusiasm among company management for the road-rail vehicle – its technology was too cumbersome, they argued, and there were significant questions around potential collisions with trains using the same line. And yet, in February 2022, the state-owned railway company in France declared it was trialling a fully electric road-rail vehicle (figure 5). While the latter is a more advanced version of the Lucas prototype, the underlying principle is essentially the same: a hybrid shuttle capable of traversing road and rail which reduces reliance on the car and carbon emissions.³⁹



Figure 5: SNCF, ‘Draisie’ Road-Rail shuttle prototype, *Railway News*, February 2022.

³⁷ Interview with Hilary Wainwright, [recorded 29/06/2022]

³⁸ The Lucas Plan Collection, The Mayday Rooms.

³⁹ SNCF’s Innovations Serving Tomorrow’s Mobility, *Railway News*, 28 February (2022) [Access date 05/09/2022: <https://railway-news.com/yellow-window-supports-sncfs-innovations-serving-tomorrows-mobility/>]



Figure 5: The Road-Rail Vehicle by Clifford Harper (1978). *Mayday Rooms*

While the road-rail vehicle toured the country, the prototype never went beyond the stages of research and development. The only product that was endorsed by the company was in the field of alternative energy technologies. Following the 1973 hike in oil prices, energy scarcity was beginning to pose major problems to industry in Europe and the US. The crisis was also a huge domestic issue, with soaring costs of household energy compounded by poor household stock. As a partial solution to the crisis, the Lucas workers came up with the idea of a heat pump. Phil Asquith, who assembled the heat pump, remembers its development at the laboratory in Burnley:

The whole point of doing gas-powered heat pumps was to make much better use of the primary energy containing gas, rather than wasting it by generating electricity... It was the only thing that Lucas ever agreed to make in our factory [they put one of our senior engineers on it]. We actually put it together in our laboratory... And it worked like a dream.⁴⁰

The company match-funded a grant from the Department of Energy to support the trial of the heat pump. In one sense, the heat-pump tapped into the ‘advantages of scale’ which had shaped the industrial policy of the 1960s. As Phil Asquith recalled, ‘we had to work with economies of scale’; the ‘heat-pump’ would be vastly more efficient for a block of flats, for example, than a terraced home with single-glazed windows.⁴¹ Moreover, with its design based on the modern refrigerator, it required modest company investment compared with some of the other alternative products. But there was also another factor which contributed to the company’s endorsement. In April 1977, management and trade union representatives were given a document by Frost & Sullivan which estimated that by 1985 the market value of heat pumps

⁴⁰ Interview with Philip Asquith, [recorded 06/07/2022]

⁴¹ Ibid.

in Europe would be close to £1 billion.⁴² Management at Burnley signed this document – indicating they had read it – and yet, at first they rejected the heat pump on the basis of its commercial viability. This incident revealed a lot about the company’s approach to the Plan: they couldn’t believe that workers were capable of making sound decisions on investment and strategy.

Alongside new *forms* of energy use, the Lucas workers also proposed new *sources* of energy, including solar, wind, and fuel cell technology. At this stage, the Combine could only make speculative guesses at the potential market for renewable gas and electricity. While things have radically changed since the 1970s, many of these technologies could be classed as ‘utopian’ at the time, as was noted by David Elliot.⁴³ Nonetheless, this area of the Plan challenged the idea that entrepreneurial enthusiasm, risk-taking, and technical innovation were qualities innate to corporate management.

3.4 Successes and Challenges

Few of the products proposed by the Plan ever went beyond the stages of research and development. However, the aim of the Plan, first and foremost, was to prevent redundancies – and on this metric, the Combine was partially successful. Out of the 2000 potential redundancies presented by management in 1977, only 100 jobs were lost at Lucas Aerospace. But it wasn’t only on the level of collective bargaining that the Plan was effective; it also challenged orthodox ideas of what constituted technological innovation. If the workers at Lucas had relied solely upon traditional methods of collective bargaining, it would have been easy for the company to claim that they were simply ‘behind the times’ or delaying the inevitable. Certainly, in the case of the heat-pump, the Combine was able to mount a rebuttal to such claims by pointing towards a growing commercial market. The Plan also showed the levels of complacency and myopia that ran through conventional institutions such as government and the civil service. For instance, when the Combine approached the Department of Energy for funding in 1977, it took them eighteen months to receive a simple “no”.⁴⁴

Labour politicians’ support for the Plan was an important victory for the Combine, but what first appeared as an olive branch soon became an unreliable crutch. The clientelist character of the British civil service successfully restrained what little political will was left in the Labour Party to reimagine its industrial policy. Indeed, one of the main obstacles to consolidating government support was the corporatist relationship between the Aerospace division of the Department of Industry and Lucas Aerospace.

Throughout the 1950s and 1960s, there was essentially a revolving door between the Department and the company. As Wainwright and Elliot note, in October 1976, the Permanent Secretary at the Department of Industry took up a seat on Lucas Industries’ Board of Directors.⁴⁵ Following this appointment, the civil service would only engage with the board of directors and made no contact with shop stewards at either the national or local level. With the company refusing to recognise the Combine, the viability of the Plan was almost entirely reliant on access to Whitehall. This turned out to be a major weakness in the Combine’s strategy. When Tony Benn, the Combine’s conduit to power, was relocated to the Department of Energy during the Callaghan Labour administration (1974-79), state support more or less collapsed. Benn’s replacement, Gerald Kaufman, had little faith in the Plan, favouring a compromise deal with recognised trade unions and management instead.

Another weakness in the Plan was its proposals for job redesign. As David Elliot recalls, ‘in theory the big gap between intellectual and manual labour was bridged in the proposals, but, since they were never acted on, we don’t know how it would’ve gone in reality’.⁴⁶ In the original document, the Plan argued against Taylorism on the basis that it contributed to a process of ‘de-skilling’ the workforce.

⁴² Wainwright and Elliot, p. 137.

⁴³ Dave Elliot, Workers Plans and Transitional Demands - A review of strategy, SSRC ‘Open Door’ Project, Lucas Aerospace (November 1979), p. 2. *Labour History Archive and Study Centre*, [WAIN13/3].

⁴⁴ Wainwright and Elliot, p. 136.

⁴⁵ *Ibid.*, p. 177.

⁴⁶ Interview with David Elliot, [recorded 06/09/2022].

Various papers were produced by CAITS on human-centred alternatives to automation, which would both harness technology and avoid structural unemployment. One such paper looked at the ‘human centred lathe’, a computerised cutting machine which enabled a ‘skilled operator’ to programme sequences of operations and methods of fixing.⁴⁷ Other proposals by Combine members included reducing the working week. And yet, while the Combine celebrated the Plan, the majority of the workforce discovered that very little had changed around them. As Hilary Wainwright recalls, women workers at Lucas Aerospace were more or less all concentrated in the administrative offices and ‘very rarely’ attended Combine meetings.⁴⁸ Phil Asquith partly attributes the lack of women involvement to traditional gender roles. However, he also argues that this was compounded by the administrative staff’s trade union:

It wasn’t the kind of union that had a gritty industrial background because of its makeup. So, they were a bit on the fringes... Because of the structure of APEX’s membership, they just weren’t as switched on or as interested as the manual and technology unions.⁴⁹

Support for the Plan was not only gendered, it was also led by workers considered senior and highly skilled. While the Combine managed to bridge the blue and white collar divide, it remained difficult to establish a real base among the machine operatives, many of whom had just left school. Jim Brown, a graduate from Leeds University, joined Lucas Aerospace in January 1977 as a personnel and training officer at the site in Bradford. Jim remembers the profound disconnect between the ambitions of the Combine and the unaffected reality of less senior staff:

Working in an engineering factory is supremely boring. And there was this idea that we were moving forward at Bradford by creating these production committees around the idea of job redesign. There was this actuator department where people made these incredible tiny little electric motors, they were winders... It was incredibly fiddly delicate work... And did they know what these things were for? Did they understand what they were making? They didn’t. So I went to find out where these bits fit into the bigger picture of things and could we show the staff this... I remember showing the staff this promotional video produced by Lockheed, the American company. These parts went into cruise missiles... People were really disgusted at what they were making. They didn’t know. What I witnessed there was extraordinary levels of alienation from work... People just accepted it; that work was alienating. The Plan passed over the heads of most people, apart from the senior people who were in a position where they were actually in control of what they were doing. So, it was sort of a privileged position to be into the Plan.⁵⁰

A few days into the job, Jim discovered that he was also selected by the company to be a part of a small national team working on introducing ‘industrial democracy practices’. The company’s engagement with this project was of course deeply cynical. As Jim recalls, ‘it was most likely a means for the company to distract the energies of the Combine’.⁵¹ It was also likely that the company saw this as an opportunity to press Labour ministers for further state subsidies, with the Callaghan government talking up the possibility of central planning agreements.

Jim’s appointment showed that the company perceived the Plan to be a popular, if not politically viable, alternative for the future of Lucas Industries. While the company itself never formally recognised the Combine, it was clear that disputes over the future of jobs could no longer be siloed by trade union officialdom. The Combine had radically altered the terms of debate; no longer was the focus solely on the terms of the job, but rather, the nature of the job and its function in the broader economy. Instead of simply opposing automation, workers questioned management’s appeal to ‘technological necessity’ and showed how workers could in fact harness technology to create jobs. The Lucas workers were able to reconnect production processes with imagination, intuition and creativity. In this sense, what was proposed by the Plan was reminiscent of William Morris’ call for the ‘right to useful work’. However,

⁴⁷ M.J Cooley, *The New Technology: Social Impacts and Human Centred Alternatives*, *The Open University*, TPG Occasional Paper 4, (April 1963).

⁴⁸ Interview with Hilary Wainwright, [recorded 29/06/2022].

⁴⁹ Interview with Philip Asquith, [recorded 06/07/2022].

⁵⁰ Interview with Jim Brown, [recorded 09/08/2022].

⁵¹ *Ibid.*

Cooley and others were not arguing for an economy centred on artisans and luxury crafted goods, but a worker-led or system of production capable of responding to the social needs of the masses.

3.5 The Lucas Plan, The Future of Work, and The Trade Union Movement

As an enterprise in its own right, Lucas Aerospace no longer exists, but the Plan itself outlived the company. In 2017, the Trades Union Congress passed a resolution entitled, ‘Defence, Jobs and Diversification’, calling on trade unions to lobby the Labour Party to establish a Shadow Defence Diversification Agency (DDA).⁵² The Labour Party never acted on this resolution, but support from the trade union movement marked an important shift away from the traditional defensive approach. Without the example set by the Lucas workers, it is highly unlikely that the TUC would have endorsed such a proposal. Even so, the TUC’s support fell short of implementing the motion as a binding policy. Sam Mason, policy officer at the Public and Commercial Services union (PCS), spoke with Autonomy, and explained how ‘in reality, they [the TUC] kicked it into the long-grass... I expect under pressure from unsupportive unions’.⁵³ This interpretation accords with that of Raymond Morrel, a shop steward for Unite in the Aerospace and Shipbuilding sector. Following the TUC discussion, Unite initially supported diversification. However, as Raymond explains:

[Unite’s position] sits alongside a commitment to campaign for defence contracts to be honoured, with pressure to ensure that skills are retained in the UK. So, the union faces both ways on the question of diversification. However, in reality the focus is on ‘defend our spend’ which prioritises efforts on campaigning to ensure that contracts are being awarded in the UK.⁵⁴

The progress made in 2017 on arms conversion and diversification has now been set in reverse. In response to the Ukrainian conflict, GMB, one of Britain’s general trade unions, has argued that the policy carried in 2017 ‘is no longer fit for purpose’. Alongside demands such as ‘end outsourcing’, the GMB called on the General Council to campaign for immediate increases in defence spending and to commit to ‘a 30-year pipeline of defence work across sectors’.⁵⁵ The motion narrowly passed.

The careful guarding of the arms trade by certain sections of the British trade union movement poses a major obstacle for worker-led innovation. Many of the unions involved in the aerospace and engineering sector subscribe to a ‘partnership model’, under the logic that ‘what is good for the employer is good for the worker’. Raymond Morrell suggests it is this outlook that ‘leads reps to conclude that little can be done to oppose the closure or rationalisation of defence sites where workload is in decline.’ Moreover, despite the rise of outsourcing and the shift towards overseas production, the relationship between the military, the Ministry of Defence, and British arms companies is structurally the same as it was in the 1970s. As in the case of Lucas Aerospace and the civil service, there is a revolving door between government, ex-army officials, and state-subsidised private arms firms. In order for trade union interests to be disentangled from the defence industry, rank-and-file support for alternative technological methods must be consolidated first. A steward-led Combine, much like the kind adopted at Lucas Aerospace, may raise expectations for industry-wide action.

While the British military has acknowledged that climate change is real, it also recognises that the crisis presents an opportunity to increase defence spending. ForcesWatch, a British-based military watchdog, explains that ‘the nation state and national interest will continue to be prioritised’ and that ‘the new competitive age – powered by defence and security industries – falls far short of the co-operative approaches demanded by the climate emergency’.⁵⁶ In the military context, sustainability hinges on its

⁵² A Shadow Defence Diversification Agency, May 2018 [Access date: 17/09/2022: <http://lucasplan.org.uk/arms-conversion/shadow-dda/>]

⁵³ Interview with Sam Mason [11/10/2022]

⁵⁴ Interview with Raymond Morell [11/10/2022]

⁵⁵ Motion 04, Defending Manufacturing Jobs, TUC Congress Motions (October, 2022) [Access date 12/10/2022: <https://congress.tuc.org.uk/motion-04-defending-manufacturing-jobs/#sthash.X9W2YVvK3.7tY1UhyA.dpbs>]

⁵⁶ Interview with ForcesWatch [12/10/2022]

capacity to pursue overseas operations in a net-zero, post-carbon world. However, without worker involvement and resistance to military technologies, it is likely that states will invest in ‘climate security’ as a buffer against the *symptoms* of climate change, rather than the *cause*.

On the question of energy systems and conversion to renewables, it is more difficult to measure the Plan’s impact or success. Many of the alternative energy products proposed by Lucas workers are now part of the policy repertoire of governments. The production of wind, solar, and fuel cell technology almost certainly would have happened anyway. Energy providers across the UK and beyond are currently drawing up long-term plans for conversion. For example, Wales and West Utilities (WWU), a gas distributor in Wales and the West of England, has delivered a series of ‘Network Innovation Reports’, which detail plans towards replacing gas with hydrogen. In a September 2022 report, WWU showcased the Redcar Hydrogen Community run by Northern Gas Networks (NGN), a project which proposes to supply around 2,000 homes in areas of Redcar with locally-produced, clean-burning hydrogen. This appears to be a genuinely innovative proposal. As workers involved in the project note, ‘it’s exciting because we are submitting proposals which have never been suggested before. Not only that, the Redcar Hydrogen Community involves using hydrogen that has been produced through electrolysis [using electricity to split water into hydrogen and oxygen], so it really is genuinely a decarbonisation route’.⁵⁷ However, while these energy providers welcome innovation from external stakeholders, there is less enthusiasm for enabling workers to lead on product ideas and proposals. One worker at WWU spoke to *Autonomy* in confidence and explained:

Yes, the work towards converting our gas network to hydrogen is already underway... This is obviously welcome and it’s likely we will see more jobs created. But it’s a very top-down process. There’s a massive gap between those making these decisions and the average worker on the tools. The company’s main priority is ensuring profit for its stakeholders, it’s unlikely the profit that will be yielded from conversion will benefit the workers that oversee the day-to-day maintenance of our networks.⁵⁸

It is fair to say that workers themselves are not viewed by energy companies as champions of innovation. But the Lucas workers were not only concerned with decisions on product ideas or investment, they also questioned how, why, and where things were made. Indeed, if we look at the nature of production in the alternative energy sector, the Lucas Plan continues to probe important questions. As noted by David Elliot, the contemporary discussion on renewable energy often ignores how products for these systems are made:

It may be more satisfying, and more ethical, to work on green products, but as one trade unionist put it, ‘a green boss is still a boss’. Much of the boom in low-cost solar PV energy has been due to the mass production of PV modules often in non-union plants, where wage levels and working conditions were often poor. In the 2010s, as market competition intensified, PV production mostly moved to China, where conditions and pay could be even worse, at least initially.⁵⁹

As indicated above, it is not beyond the realms of possibility to imagine that global capitalism will be able to harness a future transition to a green economy. Various campaign groups have argued that a shift to a post-carbon economy would lead to a new era of full employment. Advocates of a ‘Green New Deal’ evoke the old tone of Wilson’s ‘white heat’ revolution, promising well-paid unionised jobs – and a balanced approach to work and leisure. But without centering job redesign, there is a danger that such strategies will incorporate the same structural flaws as 1960s Keynesianism; a system wherein technological change was implemented from the top-down and resented by workers. When the Lucas Combine made their premature case for a ‘just transition’, they understood that if they fought only to defend their jobs, they would easily be defeated. Instead of asking for security, they argued for better kinds of jobs that made better things, in better ways.

⁵⁷ Wales and West Utilities, *Making a Difference Together: Net Zero by 2050*, (October 2022), p.10.

⁵⁸ Interview with W&WU worker, anonymized [07/10/2022]

⁵⁹ David Elliot, ‘Technology and the Future of Work: The Why, How, and What of Production’ in Nora Rathzel, Dimitris Stevis, and David Uzzell (eds.), *The Palgrave Handbook of Environmental Labour Studies* (Cham: Palgrave Macmillan, 2021) p. 846.

4 Section Two: Global Experiments

The second section of the report appraises other experiments in worker-led innovation, drawing on popular examples from the post-war period, to those that emerged in the wake of the 2008 financial crisis. The case studies examined invariably cover a much larger scale than the Lucas Plan, with workers coordinating across multiple companies, and in some cases, with full state support. While not all of the examples engage in the debate on ‘socially useful production’ to the same degree as Lucas workers, they do pose various different models of organising production. Some of these experiments have been more successful in withstanding the pressures of the market than others. Levels of worker participation also vary; for example, workers are much more centred in the Argentinian example than in China. What follows below is a summary of the pressures and opportunities set in motion by workers’ self-management, starting first with the example of workers councils in Tito’s Yugoslavia.

1. Workers’ Councils in Yugoslavia
2. Empresas recuperadas por sus trabajadores: Unemployed autoworkers in Argentina
3. Haier Group
4. Platform Cooperatives

4.1 Workers’ Councils in Yugoslavia

Workers’ councils in Yugoslavia represent the most durable and comprehensive example of worker-led innovation in the modern industrial age. The first ‘workers’ council’ was established in the Croatia city of Solin in 1949, following Yugoslavia’s expulsion from the Soviet-controlled Communist Information Bureau in 1948. In this new system, workers were given the right to manage the shop floor and greater autonomy was ceded to local communal governments. From its inauguration in the 1950s, right through to the 1960s, workers’ self-management delivered unprecedented levels of economic growth, with Yugoslavia’s GDP rising second to Japan.

What follows is a brief history of the workers’ councils, an analysis of the system’s proclaimed achievements, and an exploration of the possible factors which limited it.

4.2 The Formation of Workers’ Councils

The founding moments of Tito’s Yugoslavia were crucial in opening the path for workers’ councils. Yugoslavia had achieved its revolution through an anti-fascist war, resulting in a profoundly changed political and social landscape. This full-scale, internationalised conflict mobilised the entire Yugoslav population, physically and psychologically. The leading light of the communist-led Partisan forces, Josip Broz Tito, played a central role in the mobilising efforts, adopting a ‘Popular Front’ style military offensive, inspired by the Republican forces in civil war Spain. But Partisan forces in Yugoslavia had to contend with the impossibility of communists taking part in ‘official’ government, which was then a monarchical dictatorship, so the Yugoslav ‘Popular Front’ was organised from below by party and worker activists. During this period (1941-45), self-organised liberation committees emerged all over the country as a shadow government. Having gained support by successfully liberating the country, and largely without the support of the Soviet Red Army, representatives of the ‘Popular Front’ went on to win 90% of votes in the 1945 constituent assembly.⁶⁰

After the war, Tito’s government collectivised land, integrated workers within the Communist Party’s Confederation of Trade Unions, and nationalised industries. Initially, this appeared to be a direct import of the Soviet model. But when Tito’s government continued its ‘Popular Front’ style offensive in support of the communist resistance in civil-war Greece – a policy at odds with Stalin’s more cautious

⁶⁰ Geoff Swain and Nigel Swain (eds.), *Eastern Europe since 1945* (New York: Palgrave Macmillan, 2009) p.25

approach – the Yugoslav state found itself engulfed in a profound geopolitical crisis. Not only was the relationship with the Soviet Union questioned, so too was the political character of the Yugoslav state. At this moment the idea of worker’s councils began to enter the lexicon of government officials: a proposed ‘withering away of the state’, in favour of self-organisation, would be the hallmark of Yugoslavia’s ‘national road to socialism’. The liberatory fervour among the population following Tito’s victory meant that there was a popular incentive to ‘advance’ their political programme. As Nigel Swain put it, any compromise with the USSR would have meant ‘abandoning his revolutionary heritage’, on which his support rested.

In June 1950, three years after the Tito-Stalin split, it was written in law that: The factories, mines, communications, transport, trade, agricultural, forestry, municipal and other state economic enterprises, as national property, are to be managed by the workers’ collectives, in the name of the community, within the scope of the state economic plan.⁶¹

In effect, those workers prone to the mobilisation drives of the wartime period were now given the opportunity to empower themselves as both direct producers and managers of their workplace.

To what extent did this new economic programme resonate with workers? Exactly what decision-making powers were given to workers? And did the state simply ‘wither away’? These questions appear front and centre in the historiographical literature and will be explored in the following section.

4.2.1 *The Role of Workers*

Each Yugoslav worker belonged to a Basic Organization of Associated Labour (BOAL) dependent on the particular role played by the worker in the production process. The BOALs then elected worker delegates to the workers’ councils, an executive body set up to oversee the day-to-day running of an enterprise. The elected council did not replace management (see figure 1). The council, usually composed of 15-20 members in each workplace, (larger workplaces had up to 120 members), nominated a board of managers for a term of one year. The demographic statistics of those elected to the councils gives a good indication of exactly what kind of workers were represented in this system. By 1972, just under 50% of those elected onto the council were categorised as either skilled or highly skilled workers, while only 6.7% of those elected were ‘unskilled workers’.⁶² The council structure did not, therefore, remove the social division of labour, nor the subordination of certain kinds of labour in the production process. In fact, other than being state-sponsored, Taylorist methods of production remained largely unchanged.⁶³

⁶¹ Excerpt from the Basic Law on Management of State Economic Enterprises and Higher Economic Associations by the Workers’ Collective, (Belgrade, 1950).

⁶² Functioning of Workers’ Councils in Yugoslav Enterprises, *Radio Free Europe/Radio Liberty Research Institute*, February 1974 [Access date: 15/05/2022: <https://catalog.osaarchivum.org/catalog/osa:861b5a9c-6bca-491b-9166-57f610a6d8a4>]

⁶³ Monty Lynn, Matjaz Mulej, Karin Jurse, ‘Yugoslav self-management: The World’s Largest Experiment in Work Teams’, in Martin M. Beyerlein (ed.), *Work Teams: Past, Present and Future* (Dordrecht: Springer, 2000).

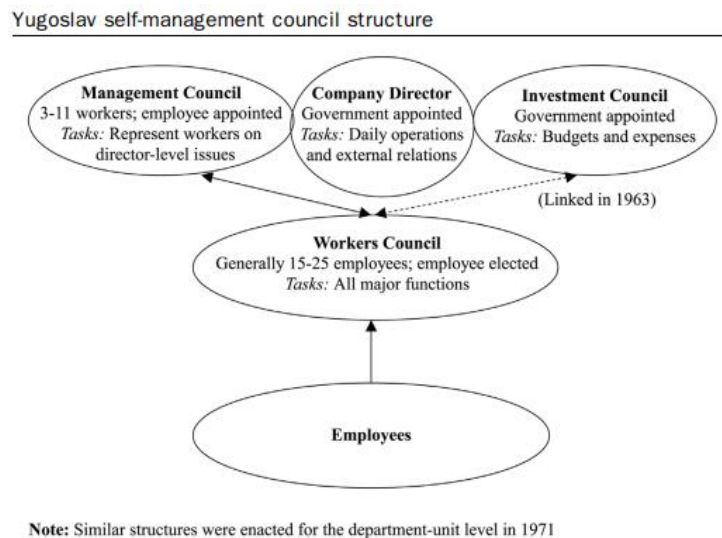


Figure 1: Yugoslav self-management council structure.⁶⁴

According to Goran Marković, the relationship between the council and management boards was ‘analogous to the relationship of parliaments to governments’, with ultimate power resting with the latter.⁶⁵ While workers’ councils did not overhaul management command structures, they did strip away some of its vertical power. The councils were given the power to set work discipline norms, allocate wages, and approve the financial accounts of their company.

Each company continued to be overseen by a company director, a position which was appointed by the state. Company directors were appointed by government-supervised ‘special committees’, which were composed of worker delegates, trade unions, and local political (government) actors. One of the major disciplinary powers that the company director retained in their role was to fire and hire workers. The directors thus continued to play a decisive role in shaping the work environment.

In the fifteen years that followed the state’s promise to move away from a centrally planned economy, change occurred very gradually. Up until the mid-1960s, the state was still fixing prices and setting the budgets for workers’ incomes. In 1965, state ministers, keen to improve business efficiency, made a move to further ‘decentralize’ production by introducing components of a market-based economy. Investment funds controlled by the state were abolished and left to the banks which became ‘independent self-managed organizations’.⁶⁶ Critical Marxist sociologists and historians have argued that the impact of this restructuring on workers was mixed. Gal Kirn, a historian of socialist Yugoslavia, explains how the process quickly unravelled:

In the beginning, it was positive; it started a democratic process within the sphere of production and in the enlarged sphere of reproduction. It meant more discussions, it meant that budgets had to be negotiated... So, it was more democratic, but it was definitely less efficient. In terms of crisis, when you give more political capacity to the lower levels, you see more bottlenecks. Moreover, because some workers were extremely tired after the working day, they didn’t want to engage in the political process. In some companies, it worked well, in some factories, it didn’t; they just said, “ok, you leave me alone, we have a delegate...” There were strong resistances to work, there was still strong Taylorist discipline. Even if there was no Stakhanov, as

⁶⁴ Monty L. Lynn, Matjaz Mulej, Karin Jurse (eds.), ‘Democracy without empowerment: the grand vision and demise of Yugoslav self-management’, *Management Decision*, Vol.40, No.8, (2002), p. 800.

⁶⁵ Goran Marković, ‘Workers’ Councils in Yugoslavia: Successes and Failures’, *Socialism and Democracy*, Vol.25, 2011, p.113.

⁶⁶ Mohammed Ali Taslim, The Evolution of Market Socialism in Yugoslavia: A Critical View, *Critical Sociology*, Vol.12, I, No. 1-2, (1984), p. 46.

there was in Russia, there were figures like Alija Sirotanović, the miner from Bosnia and Herzegovina. Most workers hated this, because it meant that they had to work more.⁶⁷

Worker disengagement only became more pronounced as market reforms inadvertently led to the creation of a new managerial class. While the role of the state was reduced, a managerial strata emerged which began to monopolise enterprises and wield significant social and political power. Attempts by the state to reverse this process in the 1970s resulted in an ‘overproduction of legal acts’ and only alienated workers from what was fast becoming a heavily bureaucratized process.⁶⁸

4.2.2 Successes and challenges

The ‘self-management’ system in Yugoslavia appears as one of the most comprehensive attempts to restructure the modern workplace. Even if power was only partially redistributed, ‘self-managed’ socialism enabled considerably greater worker participation in the production process than the parallel Keynesian system in Western Europe’s social democracies. In terms of economic output and raising living standards, it was also, for a time, extraordinarily successful. Between 1953 and 1964 national income rose by about 148 per cent, while industrial production increased by 267 per cent.⁶⁹

Nonetheless, as Carol Lilly has shown, many of the workers that participated in the liberation committees during the war ‘remained stubbornly resistant to cultural transformation’ on the shopfloor.⁷⁰ But was this because the means of production were not, in fact, owned nor controlled by workers? Certainly, both the state and the market technocrats of the post-1965 order continued to indulge in excessive bureaucracy. But the persistent urge of elite party actors to control social practices only partly explains why workers remained alienated from the production process.

Historical circumstances posed a major obstacle in changing workers’ conception of their place in society. Rapid industrialisation after the war caused a major wave of rural-urban migration, the speed of which outpaced the building of vital infrastructure. As the ensuing flight from the countryside collided with the mythology of the metropolis, these new, traumatically assembled, and predominantly young worker constituencies began to disassociate with the state-imposed narrative of workers’ empowerment. In the Slovenian port of Koper, for example, a beacon of the country’s industrial socialism, staff turnover remained high, poor working conditions were endemic, and work stoppages were almost constant.⁷¹ These workers were then stigmatised and condemned by the state as ‘layabouts’.⁷²

Workers on strike in Yugoslavia were dependent on a collective bargaining system which lacked independence from the state. This political context ensured that exploitation continued within the councils, with workers often pressured to accept poor deals pushed by management for the sake of stability. A national discourse of ‘sacrifice’, with all its historical baggage, played a significant role in managing labour protest.

4.2.3 Conclusion

The Yugoslav model certainly meets the criteria of ‘worker-led’ innovation identified at the beginning of this report, but there are few ‘lessons’ in this case which can be extrapolated and applied to the present. The creation of workers’ councils would have been inconceivable without the unique historical interaction between war and revolution. The Partisan-led liberation set the tone for Tito’s Yugoslavia; behind

⁶⁷ Interview with Gal Kirn [02/09/2022]

⁶⁸ Marković (2011), p. 116.

⁶⁹ Taslim (1984), p. 45.

⁷⁰ Carol S. Lilly, *Power and Persuasion: Ideology and Rhetoric in Communist Yugoslavia, 1944-53* (Taylor and Francis: 2018).

⁷¹ S. Rutar, ‘Containing Conflict and Enforcing Consent in Titoist Yugoslavia: The 1970 Dockworkers’ Strike in Koper (Slovenia)’, *European History Quarterly*, Vol. 45, (2), (2015) pp. 275-294. doi:10.1177/0265691415571530

⁷² *Ibid.*

trench lines, in makeshift hospitals and canteens, organic structures for workplace democracy appeared almost overnight. But the institutionalisation of Tito's victory set a different tone. Within the formalised structure of the workers' councils, workers' involvement in production was highly managed and subject to elite influence. Following the decision to decentralise production in 1965, the space for worker participation and democratic deliberation increased. However, this also opened up the space for a new managerial strata, whose focus was delivering efficiency, not shopfloor democracy.

4.3 Unemployed Autoworkers in Argentina

Argentina's worker-recovered enterprises, or *empresas recuperadas por sus trabajadores*, emerged in the mid-to-late 1990s following a decade-long implementation of neoliberal reforms. Under the presidency of Carlos Menem (1989-1999), the state let the global capitalist market tear through its protective collective bargaining laws and shrink public expenditure. Public sector firms were privatised, trade unions were repressed, and production was offshored; while those firms remaining within Argentina were supported by foreign capitalization and handouts from the International Monetary Fund (IMF). With traditional trade union tactics in Argentina proving incapable of addressing workers' demands, workers took matters into their own hands by occupying closed factories and reactivating production. What follows is an analysis of the *empresas recuperadas*, the role of workers within occupied factories, and the obstacles both political and economic, national and international that this experiment in worker-led democracy faced.

4.3.1 The formation of worker-recovered enterprises

The origins of worker-recovered enterprises can be traced back to the scattered take-overs that occurred during Argentina's first wave of deindustrialization in the 1970s. It was during this context of labour struggle that wages in Argentina reached their historic peak, an achievement made possible by tripartite agreements between the state, trade unions and industry (and further bolstered by grassroots activity). But these earlier episodes of labour conflict were short lived and became suppressed in popular memory by the 1976 military coup. During the years of the military junta (1976-1983), the labour movement was reordered within a new corporatist-national model, which was 'a-political and state-controlled'.⁷³ In the workplace, this anti-union policy translated into mass dismissals, killings, and the disappearance of thousands of political and shop steward activists.

When democracy returned in 1983, the labour movement faced a series of crises converging on multiple fronts. The Falklands War led by the junta had now receded, but the damage waged on the labour movement during those years had eroded workers' confidence. The official trade union bureaucracy remained strong and the economy was buckling under rampant inflation. The more heterodox economic policy adopted by the democratically elected Raúl Alfonsín (1983-1989) did little to restore the Argentinian economy. After defaulting on IMF debt payments in 1984, the government implemented its 'Austral Plan', a form of neoliberal shock therapy, which froze prices and wages. Similar to previous attempts, the Austral Plan led to social and economic disaster: unemployment levels swelled, inflation increased by over 600 per cent, and successive strikes eventually removed Alfonsín from office in 1989.

In the 1989 election, Alfonsín was defeated by Carlos Menem, whose economic team came largely from the ranks of the multinational companies in Buenos Aires. The Menem government undertook a liberalisation programme which aimed to 'liberate' the public sector by reducing its scope.⁷⁴ However, by the end of the year, the Argentinian economy was imploding as a result of further hyperinflationary

⁷³ Pablo A. Pozzi, 'Argentina 1976-1982: Labour leadership and military government', *Journal of Latin American Studies*, Vol.20, No.1 (May: 1998), p.114.

⁷⁴ Paul Beckerman, 'Central Bank Distress and Hyperinflation in Argentina, 1989-1990', *Journal of Latin American Studies*, Vol.27:No.3, (October 1995), pp.663-664.

spirals. While unemployment continued to rise, the General Confederation of Labour (CGT), a national trade union federation in Argentina, remained loyal to Menem on the basis of his alignment with the left-populist leader Juan Perón. With few other viable options, workers experimented with new tactics, as mass unemployment took away workers' leverage. Spilling out from the factories and into the streets, workers set up roadblocks on Argentina's major national highways, which gave this growing movement its eponymous title: *piqueteros* (or picketers). Out of desperation, many of the *piqueteros* broke into closed enterprises and reactivated production without the oversight or permission of their previous owners. Argentina's ERTs thus first arose out of necessity and often on a localised basis. While the origins of ERTs were mostly spontaneous and reactive, workers soon came to view ERTs as the most democratically robust vehicle for organising production.

4.3.2 The role of workers

ERTs existed independently of the state while remaining producers within a free market economy.⁷⁵ This sets the Argentinian experiment apart from workers' councils in Tito's Yugoslavia, where the state, industry and the market were closely aligned *from the outset*. In recent years, the Argentinian government has actively encouraged the formation of worker cooperatives through its *Programa Trabajo Autogestionado*, but ERTs initially emerged as a bottom-up response to impotent state administrations (the majority of which were opposed to ERTs).⁷⁶

One of the major innovative features of the ERTs was the establishment of the workers' assemblies. In the majority of the large ERTs, the workers would gather monthly, while other, mostly smaller firms, would meet weekly. During these meetings, workers would discuss issues ranging from workplace issues like pay, as well as social and cultural problems arising in the wider community. Crucially, as Marcelo Vieta points out, the assembly had the power to elect and recall delegates on the firm's administrative worker-run council.⁷⁷

In the city of Córdoba, workers in the automotive sector indirectly shared the 'learning as we went along' ethos of workers at Lucas Aerospace. The structure of the assembly and the workers' council was first sketched out during factory occupations. This initial moment of 'taking back' the factory probed some challenging questions, such as the issue of job redesign and operating outside of the union bureaucracy. These were practical problems that required an immediate response by workers. Victor, a worker and shop steward at the (Italian owned) car plant FORPROF (in Córdoba), shows how factory occupations in the 1990s became laboratories, or antechambers, for the ERTs:

I have been in various processes of struggle, entirely controlled by the union bureaucracy. I have participated in assemblies and mobilisations, 30,000 of us went to Buenos Aires to protest against privatisation. Thus I know very well these situations, but I have never seen a mobilisation like that. First of all because it was completely based on workers' self-determination, without any union officer, activist or organisation behind it. It was 100 percent democratic, everybody could talk, say whatever they wanted to say and be listened to by the rest... We voted for an independent union SITRAMF in a big assembly with people from FORPROF Brazil, from Uruguay, it was a plebiscite ... we started a new organisation far from the traditional union and with a class solidarity programme. We supported people living in the factory's neighborhood who were at risk of expropriation to enlarge the railway used by FORPROF because of "just in time".⁷⁸

⁷⁵ M. Atzeni and M. Vieta note that 'as of 2009 95.3% of ERTs were self-organised as workers co-operatives'. See M. Atzeni and M. Vieta 'Between Class and the Market: self-management in theory and in the practice of worker-recuperated enterprises in Argentina' in Martin Parker (ed.), *The Routledge Companion to Alternative Organization* (London: Routledge, 2013) p. 54.

⁷⁶ Programa Trabajo Autogestionado [Access date: 28/06/22: <https://www.argentina.gob.ar/trabajo/autogestionado>]

⁷⁷ Marcelo Vieta, 'Recuperating and (re)learning the language of autogestión in Argentina's empresas recuperadas worker co-operatives', *Journal of Cultural Economy*, Vol.12 (2019), pp. 401-402.

⁷⁸ Maurizio Atzeni, 'Conflict and Repression in an Argentinian Car Factory: a cycle of resistance from a workers' perspective', *On The Front Line*, Vol 24, I.2, (2010), p.370.

Automotive workers at FORPROF never succeeded in transforming the plant into an ERT. However, they maintained a democratic and semi-clandestine assembly for three months.⁷⁹ While the multinational owners successfully ‘rationalised’ the factory, by imposing job cuts, the factory occupation became a ‘reference point’ in the struggle against Menem and neoliberalism. The occupation in Córdoba preceded the occupation of *Industrias Metalúrgicas y Plásticas de Argentina (IMPA)* in Buenos Aires in 1998, which became the first formalised ERT.⁸⁰

4.3.3 Successes and Challenges

ERTs thrived in periods of crisis. Following Argentina’s 2001 sovereign debt default, worker-occupied factories expanded and started to gain legal recognition. An initial challenge for ERTs was their ambiguous and often illegal status. Old bankruptcy laws gave the courts executive power to sell remaining assets (i.e land and property) of bankrupt firms in order to pay taxes and creditors. In 2002 and 2010, as a result of increased protests, the law was changed to enable workers to continue production under a ‘self-managed’ system. With ERTs no longer struggling against criminalisation, how were factories rebuilt without private owners or bosses? By reclaiming the factory, was production demarkitized or were the same deficiencies of the market replicated in an ostensibly egalitarian setting? Marcelo Vieta, a sociologist who was born in Argentina to a family of working-class Italian immigrants, outlines some of the problems he uncovered in his fieldwork on ERTs:

The initial challenges – and these are still challenges that exist for newly recuperated enterprises – were restarting production with depleted machinery. What many owners did was capitalise on that moment in the 90s when they were uncompetitive, and declare bankruptcy, empty the shop – it’s called *vaciamiento* – and either sell off machines to pay these debts or open up shop elsewhere with cheaper labour, often in collusion with local bankruptcy courts and with court trustees. The court trustees got paid for bankruptcies, so if you managed this bankruptcy you received “X” amount of the bankruptcy, so it was in their interest to collude with owners. This was happening a lot in the 90s. This meant that machines were either missing or they weren’t maintained, so they were depleted. And so the workers had to restart production. That’s why the first slogan was “occupy, resist, produce” – that was the major slogan, and it traces out the steps you need to do to take over a workplace – or at least you needed to before, you don’t need to do it as much now. But when this wasn’t institutionalised, it was really controversial in the sense that you were violating property laws. As a worker you would occupy machines, and sleep next to them, so the bankrupt owner wouldn’t come and take them away.

So, restarting the production, regaining the confidence of customers, of clients that didn’t want to deal with workers, or had long gone; markets were depleted themselves, so, how do you restart production? How do you become competitive? How do you learn how to manage your firm when you were unemployed for twenty years; now you’re asked to manage, and not only that, you’re asked to learn how to be a co-operator because you’ve started a co-op. Another challenge was funding; reinvestment in new machines - banks wouldn’t give them credit because, as workers told me, they weren’t “subjects of credit”.⁸¹

As explained above, ERTs worked within and against the free market. Competitive social relations between workers were lessened by the implementation of pay parity across all (technical and manual) levels. But ERTs still had to cater to market demand. This no doubt limited the scope for radical job redesign. In a 2003 interview, Eduardo Morua, then president of the National Movement of Recuperated Enterprises, explained how the system was far from a workers’ utopia:

⁷⁹ *Ibid.* p.371.

⁸⁰ Federico M. Rossi, ‘Building Factories without Bosses: The Movement of Worker-Managed Factories in Argentina’, *Social Movement Studies*, Vol 14, (2015), p.2.

⁸¹ Interview with Marcelo Vieta [19/09/2022]

Interviewer: Is this a real ‘workers’ paradise’?

EM: ‘No, not at all, because the job is still boring... I see many of my colleagues working almost nine hours a day making tubes. Making tubes for nine hours isn’t paradise. And sometimes we work eleven hours to produce more. I don’t think that’s paradise’.⁸²

In short, some elements of the old system in some workplaces (i.e. routinized assembly lines) remained in place, especially within heavy industry. Even if labour ‘hired’ capital in this scenario, workers still remained subject to a familiar rhythm of production. If the nature of the work did not fundamentally change, the removal of the boss did not mean workers were no longer alienated from the labour process. But there has been no uniform experience of developing ERTs. Andrés Ruggeri, an anthropologist and professor at the University of Buenos Aires, outlines how practices of self-management were influenced by local experiences:

In case-by-case reports, we find that the nature of self-management, and how it is practised, depends on depth of the conflict that led to the ERT’s creation, the ability to achieve legal recognition, the specific methods used to restart production, and the characteristics of formerly waged workers that now lead it...

...In ERTs where attempts are made to democratise the production process itself, it is possible to go further than recovering jobs, and to envision a different conception of work and, therefore, a different logic of production... At the same time, this is the area where change is the most difficult, and where more factors are involved.⁸³

Some ERTs radically transformed production methods. In the Buenos Aires neighbourhood of Nueva Pompeya, the worker-run *Cooperativa de Trabajo Chilavert Artes Gráficas* incorporated ‘unstructured moments of play and rest’ into the working day’, slowing the pace of work down, and centring the health and wellbeing of the worker.⁸⁴ Major innovations in production usually occurred when ERTs were plugged into a wider solidarity economy. ERTs based in the same sector often shared skills, machines, surplus profits and training.

At the same time, many recuperated factories extended their open decision-making forums to residents in the local community. In the province of Neuquén, workers running a ceramics factory used surplus profit to help build a local hospital, while other ERTs ran free health clinics for workers and local residents. In so doing, ERTs were able to show at a micro level what the rest of society could look like if other areas of life, work and governance ran on the principle of worker-led democracy. This egalitarian vision has proven to be both sustainable and resilient. According to studies carried out at the University of Buenos Aires, today there are more than four hundred ERTs which involve around 15,000 workers.⁸⁵

4.3.4 Conclusion

Workers in Argentina have shown that it is possible to assert control over economic decision-making – even in times of crisis. The 1990s was a starkly anti-labour environment; unemployment became widespread and factories were hit by an exodus of investment. Recuperated companies first emerged as a defensive measure, to protect workers from ‘lock-outs’ from bankrupt business owners. Nonetheless, what was first a pragmatic response soon evolved into a viable means of reorganising the economy, at least at a local level. ERTs grew in popularity because they were rooted in the lived experiences of workers. Indeed, the Argentine example shows that worker-led innovation thrives off direct action and struggle – without which, the ERT model would collapse.

⁸² The Rise of Worker Cooperatives in Argentina (2003), Journeyman Pictures.

⁸³ Interview with Andrés Ruggeri [14/10/2022]

⁸⁴ Marcelo Vieta, *Recuperating a Workplace, Creating a Community Space: The Story of Co-operativa Chilavert Artes Gráfica*, *Scapegoat Journal* [access date: 06/06/2022: http://www.scapegoatjournal.org/docs/04/04_Vieta_RecuperatingAWorkplace.pdf]

⁸⁵ El Salto, May 2022 (Access Date 29/06/22: <https://www.elsaltodiario.com/argentina/empresas-recuperadas-litoralena-tiempos-uber>).

4.4 Haier Group

Haier Group Corporation is a Chinese multinational consumer electronics company based in Qingdao. Over the course of decades, the Haier group has radically reinvented itself from a top-down, government-administered enterprise into a network of more than 4,000 autonomous microenterprises. When Zhang Ruimin took over Haier as CEO in 1984, the firm was on the verge of bankruptcy. Now, Haier Group is the leading appliance manufacturer in the world, with a workforce of around 80,000. These micro-enterprises run on a principle of ‘self-management’, with an organisational culture that is purportedly ‘self-venturing’, ‘self-organising’ and ‘self-driving’. What follows is a critical analysis of the microenterprise model and an examination of whether the abolition of management really empowers its workers.

4.4.1 The Formation of ‘Self-managed’ Microenterprises

Since the takeover of Haier in 1984, Zhang Ruimin has overseen ‘six stages of strategic development’, each approximately lasting seven years.⁸⁶ Zhang Ruimin’s philosophy was partly informed by his personal trajectory and his experience as a factory worker in his teens during the height of the Chinese Cultural Revolution. In a recent interview with Danah Zaha, he recalled: ‘many of the fellow young workers and I had ideas for how the factory could be run better and improve its production, but we were always told by our supervisor, “You are not here to think. Just get to work and do as you are told”.’⁸⁷

Zhang Ruimin’s economic philosophy, an idiosyncratic mix of Marxism, Taoism, and ecology, all feeds into the Haier model. In his essay, ‘Management Model Innovation in The Internet of Things Era’, Ruimin outlines why the Haier Group broke with Western management systems based on Taylorism or neoliberalism. ‘Traditional organizations’, he writes, ‘regard employees as tools, but Haier sees them as value creators’.⁸⁸ Leaning on the ‘business ecosystem’ approach of American economist, James Moore, Ruimin views workers as co-creators in an ecosystem which, like plants in the Amazon forest, can be left to ‘thrive on their own’. Gardens, by contrast, which he implies are analogous to bureaucratic organisations, are rarely fertile or sustainable environments for new species (or in this case, innovation). The blending of these philosophies came to form what Ruimin called the ‘Rendehayi’ model, ‘an integrated and all-encompassing management model with the overall goal to create “zero distance to the user”’.⁸⁹

During the most recent stage of development (2012-2019), Haier Group focused on adopting a management model suitable for the ‘Internet Era’. In 2014, the entire management structure was reorganised, transforming the Haier Group into independent micro-enterprises called ‘xiaowei’, which, it claimed, made all employees CEOs. Haier is now purportedly a platform. Through the establishment of ZZJYT’s (Zi Zhuu Jing Ying Ti, or ‘autonomous business units’), workers were given greater autonomy, with each team having its own accounting system and the ability to set its own internal rules. The autonomy of micro-enterprises are formally enshrined in its three commitments:

1. **Strategy.** The right to decide what opportunities to pursue, to set priorities, and to form both internal and external partnerships.
2. **People.** The right to make hiring decisions, align individuals and roles, and define working relationships.
3. **Distribution.** The right to set pay rates and distribute bonuses.⁹⁰

⁸⁶ Sun, Xinbo & Cao, Yi & Li, Suxiu & Li, Xin (eds.), Building a Global Responsive Organization: The Case of the Haier Group: New Insights from Global Strategy and International Business. (Bingley: Emerald Publishing Limited, 2017), pp.149-168.

⁸⁷ Danah Zohar, *Zero Distance: Management in the Quantum Age* (Singapore: Palgrave Macmillan, 2021) p.166.

⁸⁸ Zhang Ruimin in (ed.), Danah Zohar, *Zero Distance: Management in the Quantum Age* (Singapore: Palgrave Macmillan, 2021) p.xi

⁸⁹ Frynas, J. G., Mol, M. J., & Mellahi, K, ‘Management Innovation Made in China: Haier’s Rendehayi’, *California Management Review*, 61(1),(2018),pp. 71-93.

⁹⁰ Gay Hamel and Michele Zanini, The End of Bureaucracy, *Harvard Business Review*, November/December (2018).

4.4.2 The Role of Workers

Existing literature on Haier has almost exclusively been undertaken by Western business schools from a purely business management perspective. This has meant that the specific role of workers in the company is not always clear. In contrast to the *empresas recuperadas* in Argentina, there are few reflections on the micro-enterprise model from workers themselves.

Reflections from an American business scholar who visited one of the Haier factories and hailed the Rendenhayi model a ‘success’ suggests that all is not what it seems:

When I visited Haier’s air conditioner manufacturing facility in the Haier High-Tech Industrial Park at Yellow Island in July 2004, the factory floors were clean, and workers wearing uniforms and photo ID badges operated in an orderly manner at the assembly lines. Banners featuring quotes such as “A Product with Defects Is Useless” and “Innovation Is the Soul of Haier Culture” lined the factory walls...

Each employee receives a daily grade for actual performance and progress toward achieving his or her target. Daily evaluation results are shown to workers the next day on the bulletin boards in the factory. The employees who are acknowledged as the best workers for three consecutive days have the honor of telling their experiences to fellow workers. The employees who become the best workers most frequently in one month are considered the best workers of the month. They have more opportunities to attend job training and more social benefits, while employees who become the worst workers most frequently in one month are demoted to probation workers.⁹¹

The intrusive surveillance of workers at the Haier factory described above suggests that the micro-enterprise model is not concerned with workers’ empowerment. In contrast to the ERTs in Argentina, the ‘self-management’ model used by Haier imposes an unrelenting set of competitive conditions among its workforce through rigid incentive mechanisms. Poor performance by workers (measured by output or defects in products) results in losses being counted against the worker’s wages. As mentioned in the above report, ‘all employees fill in a form daily and calculate their wage using the following formula: wage = rate × quantity + award – penalty’. In short, this means that workers’ remuneration is not tied to a salary but performance. ‘Self-management’ in this case does not liberate the worker, but rather adds layers of disciplinary red tape.

4.4.3 Successes and challenges

If the metrics of success were solely growth and profitability, then the Haier model could be viewed as the most lucrative ‘self-managed’ workplace in the world. As reported in Forbes, the Haier ‘Smart Home’ product ranked 405 on Fortune’s Global 500 list with a revenue of \$28 billion.⁹² However, the firm’s soaring profits have attracted attention from the Chinese state. In 2016, a Chinese pricing regulator fined the Haier Group for monopolistic behaviour, which was then followed by other governments imposing sanctions on the multinational for ‘anti-competitive behaviour’.⁹³

Haier’s profits notwithstanding, it’s clear that the micro-enterprises are not ‘self-managed’ at all. Directed by incentive mechanisms which are controlled by factory supervisors, Haier plants have become what sociologists Mann, Nolan and Wellman described as an ‘inverse panopticon’.⁹⁴ In practical terms, this means that the Haier group is able to disrupt top-down forms of management by creating a climate

⁹¹ Thomas W.Linn, ‘OEC Management System Helps China Haier Group Achieve Competitive Advantage’, *Management Accounting Quarterly*, Vol.6, No.3, Spring (2005), pp.1-11.

⁹² Steven Denning, Can Firms Survive Without Managers? The Case of Haier, Forbes, January 2022 [Access date: 29/06/2022: <https://www.forbes.com/sites/stevedenning/2022/01/30/can-firms-succeed-without-managers-the-case-of-haier/?sh=3d72a4394d47>].

⁹³ Haier, Dawlance penalised for anti-competitive conduct, *Profit by Pakistan Today*, March 15 2022 [access date: 29/06/2022: <https://profit.pakistantoday.com.pk/2022/03/15/haier-del-penalised-for-anti-competitive-conduct/>]

⁹⁴ Steven Mann, Jason Nolan, Barry Wellman, ‘Sousveillance: Inventing and Using Wearable Computing Devices for Data Collection in Surveillance Environments’, *Surveillance & Society*, Vol. 1(3) (2003), pp.331-355.

of fear and surveillance which percolates from the bottom-up. Not only are workers punished for poor performance by a deduction in wages, they are also publicly humiliated in front of their fellow employees. The poorest performing worker is ‘encouraged to stand in footsteps painted on the floor and explain publicly how she/he will do better’.⁹⁵ While Haier relentlessly shapes its employees’ behaviour, there is little evidence to suggest that workers on the shopfloor have any meaningful influence on the design or strategy of the firm.

4.4.4 Conclusion

The Haier example shows how a genuine desire for worker participation can be used by employers to extract further value out of its workforce. In the factories, workers at Haier are subject to the discipline of real-time surveillance, supervisors, and algorithmic management. Nor is there any worker-led input or decision-making power over targets, pay, or the company’s budget. Ultimately, Zhang Ruimin’s philosophy of treating workers as ‘co-creators’ in a self-regulating ‘ecosystem’ falls short of including those value creators on the shopfloor. While Haier delivers innovation in manufacturing smart goods, this innovation is extracted from highly exploited labour in conditions which are built to be hostile to workers self-organising.

4.5 Platform Cooperatives

In response to platform giants dominating the so-called ‘sharing economy’, platform cooperatives have emerged as an alternative model of worker-led innovation. Arriving on the scene in the late 2000s, there are now around 400 cooperative initiatives spread across the globe.⁹⁶ Platform cooperatives claim to replicate the technologies of platform giants while severing themselves from the exploitative labour practices now associated with the tech conglomerates. The alternative vision proposed by platform cooperatives is that of workers’ ownership, a shared, open and common knowledge base, and a transition to sustainability, both economic and environmental. By positioning workers as co-owners, its proponents argue that the use of data and services can be directed away from profit-driven shareholders towards improving workers’ lives. What follows is a brief history of platform cooperatives, some contemporary examples, and the various challenges these initiatives face.

4.5.1 The Formation of Platform Cooperatives

In order to understand platform cooperatives, we first have to trace the origins of the platform giants. Platform firms emerged in the late 2000s as a new form of capitalist organisation which connected consumers, suppliers, producers and workers ‘on-demand’ through the digital economy. From Amazon’s algorithmically managed shelves to Uber’s outsourced drivers, platforms engineered a new kind of ‘just in time’ economy, faster and more seamless than the ‘lean systems’ pioneered by Toyota in the 1970s. For all actors involved, this was supposedly a good deal. The platform promised convenience for the consumer and flexibility for workers. No longer subject to the rhythm of the 9-5, workers could simply plug into an app and select the one-off tasks to perform each day. This was not labour hiring capital, as in the case of the *empresas recuperadas*, but capital *platforming* labour.

The early roots of platforms can be traced back to the Dot.com years, when a rush of venture capital fed into Internet start-ups. Nick Srnicek, author of *Platform Capitalism*, locates both the Dot.com bubble

⁹⁵ Jean-François Manzoni, in Marc J. Epstein and Jean-François Manzoni (eds.), *Performance Management and Management Control: Measuring and Rewarding Performance* (Bingley: Emerald Group Publishing Ltd, 2008), p.34.

⁹⁶ Autonomy, *The Cooperativist Challenge To The Platform Economy* (2020) [Access date: 12/07/2022: <https://autonomy.work/wp-content/uploads/2020/09/Muldoon.pdf>]

and the 2008 financial crash as the key intertwined historical junctures.⁹⁷ As recorded by the National Bureau of Economic Research, corporate savings slowed but remained intact after 2008.⁹⁸ This was a direct result of government imposed austerity. While the profits of corporate companies continued to grow through a reduction in corporate taxes, labour income saw a steady decline. This meant that a ‘glut of cash’ was then accrued and ready to be invested in what was now becoming a low-interest rate climate. While profits were saved by corporate companies, workers remained in a vulnerable position as the rate of unemployment, alongside a more general trend of underemployment, sharply increased.

This brief history is important because the minimal labour costs involved in running platforms encouraged early investors. In the case of Uber or Deliveroo, for example, workers must use or purchase their own equipment (i.e a car or a bike), cover maintenance costs, and purchase their own insurance. Moreover, under ambiguous legal employment status, gone were the days of minimum wage guarantees and sick pay. In essence, the appearance of flexibility outlined above belied the fact that workers had to make enormous compromises.

Another stimulus for investors was the promise of growth through the extraction of data. Data could be continuously scraped by platforms in order to optimise production processes, give insight into consumer behaviour, sell to advertisers, and monitor workers. Data extraction from both workers and consumers thus provided ‘a stream of capital whose value [was] infinitely speculatable’, offering a vast resource for owners, with minimal redistribution down the chain of the firm.⁹⁹ For local communities, the mining of data by platforms has resulted in massive wealth extraction. Michel Bauwens, an academic and platform coop advocate, writes that ‘the effect UBER and AirBnB has on local economies is similar to a great grocery-shop that takes about 30% of the value out of a local community’.¹⁰⁰

Platform companies have faced little resistance and have successfully suppressed collective bargaining through surveillance and outsourcing. But in recent years, platform workers have embarked upon efforts to unionise. Research conducted by *Notes From Below* identified a wave of worker resistance within Europe’s food platforms during 2016-17, revealing 41 incidents of informal strikes and/or protest organised by courier riders in the space of 18 months.¹⁰¹ In Britain, alternative (non-recognised) unions such as Industrial Workers of Great Britain (IWGB) have been active in mobilising workers across various platforms. Recently, the IWGB won a groundbreaking legal challenge against Uber which granted its drivers worker status.¹⁰²

However, it is only after years of labour organising that unionisation drives have started to yield results. Platform cooperatives emerged some years before these gains were made and were proposed as a different - albeit parallel - route to take back control from platform giants. The academic Trebor Scholz described ‘platform cooperativism’ as embracing the technology of platform giants but putting it to work ‘with a different ownership model, adhering to democratic values’.¹⁰³ The following section will dive into some examples of platform cooperatives, including their governance structures, which Scholz views as being part of both a social movement and an emerging economy.

⁹⁷ Nick Srnicek, *Platform Capitalism* (Polity: Cambridge, 2017).

⁹⁸ National Bureau of Economic Research, *The Global Rise of Corporate Saving* (May, 2017) [Access date 10/07/2022: <https://www.nber.org/digest/may17/global-rise-corporate-saving>]

⁹⁹ The Century Foundation, *The Datafication of Employment* (December, 2018) [Access date 10/07/2022: <https://tcf.org/content/report/datafication-employment-surveillance-capitalism-shaping-workers-futures-without-knowledge/?session=1&agreed=1>].

¹⁰⁰ Thomas Dönnebrink, Ela Kagel, *Platform Cooperativism: an international movement on the rise* (Berlin, 2016).

¹⁰¹ Notes from Below (2018), *The Wave of Worker Resistance in European Food Platforms* [Access date: 13/07/2022: <https://notesfrombelow.org/article/european-food-platform-strike-wave>].

¹⁰² Al Jazeera (2021), *UK Supreme Court’s Uber decision is a victory for all gig workers* [Access date: 13/07/2022: <https://www.aljazeera.com/opinions/2021/2/25/the-uk-supreme-courts-uber-decision-is-a-victory-for-all-workers>]

¹⁰³ Trebor Scholz, *Platform Cooperativism: Challenging The Corporate Sharing Economy* (New York: Rosa Luxemburg Stiftung, 2016).

4.5.2 The role of workers

Platform cooperatives share much in common with older formulations of worker ownership, which go as far back as the guilds of the Middle Ages. There have been various iterations of the ‘co-operative’ model, with each iteration incorporating a range of theoretical, historical and political influences. One can draw upon the communitarian socialism of Robert Owen, the right to useful work proclaimed by William Morris, the council communists of Germany and Netherlands in the 1920s, or the collectivisation drives in revolutionary Spain. What separates platform cooperatives from their historic predecessors is that the members of platforms do not occupy a physical workplace. Value within platforms is not tied to physical sites of production, or commodities, but rather the exchanges of services and data in a digitalised info factory. Given the obstacles this poses to the co-operative ambition of building democratic engagement, defining the role of workers within the platform is imperative.

One regularly cited example in the literature on platform cooperativism is Fairmondo, a co-op version of Ebay based in Germany. Fairmondo was established in 2012, and emerged quickly as the vanguard model for platform co-ops globally. From its constitution, Fairmondo used a multi-stakeholder mode of governance. This allows ‘for ownership and governance by two or more stakeholder groups who share a common goal that is broader than the interests of each individual stakeholder group’.¹⁰⁴ Democratic control of the platform is guaranteed through the one-member-one vote principle. Other stand-out features of the Fairmondo project include reinvesting surplus profits into the platform’s ‘common fund’, as well as a ‘binding commitment to open source and open innovation’.¹⁰⁵ However, Fairmondo views itself mainly as a provider of open source digital infrastructure. In contrast with other platform organisations, there is very little mention of labour at all in Fairmondo’s binding principles.

One example of where workers are coded explicitly into the programming of platforms is Driver’s Seat, a data co-operative operating out of the US. In its mission statement, Driver’s Seat claims to be ‘proactively shaping the future of work’ by ‘putting gig workers first’.¹⁰⁶ The platform enables riders to collect their own data (for instance, on delivery movements, vehicle miles travelled, and dwell times) which they then sell to public agencies aiming to reduce congestion and carbon emissions. The aim of Driver’s Seat is for community-owned data to steer public agencies away from the big platform giants and to use data responsibly (i.e for social benefit, not profit). Alongside improving the local urban environment, the data co-operative aims to ‘level the playing field in the gig economy’ by sharing data on labour conditions and wages - and often doing so in collaboration with organised workers and unions. For example, in response to rocketing fuel prices, the platform extracted data on Uber and Lyft’s fuel surcharge and detailed its negative impact on workers.¹⁰⁷ In terms of its democratic structure, co-op members have the power to elect the majority of the board’s seats, vote on major co-op decisions, and are eligible for shares of surplus profit.

The ownership and selling of data has profound implications for civil liberties and social inequality. With the aim of re-empowering patients and giving them control over their data, *Equal Care* was registered as the first platform-based social care co-operative in the UK in 2018. *Equal Care* operates a multi-stakeholder model supported by community shares, which, unlike shares in a typical platform or company, cannot be sold, traded or transferred between members. Similar to the examples listed above, *Equal Care* maintains the one-member-one-vote principle, but has four categories of co-operative members: supported members, advocate members, worker members and investor members. Investor votes are weighted so that they only count for ten per cent. Examples of worker-led innovation in *Equal Care* include ‘reversing’ the symptoms of dementia that had been exacerbated by the revolving door of

¹⁰⁴ Margaret Lund, *Cooperative Equity and Ownership: An Introduction* (University of Wisconsin Center for Cooperatives, 2013) [Access date 14/07/2022: <https://community-wealth.org/content/cooperative-equity-and-ownership-introduction>]

¹⁰⁵ Fairmondo mission statement [Access date 15/07/2022: <https://www.fairmondo.de/global>]

¹⁰⁶ Driver’s Seat mission statement [Access date 15/07/2022: https://driversseat.co/data_customers/1658407264194x200532301676300770]

¹⁰⁷ Driver’s Seat, How has the rideshare fuel surcharge actually worked out for drivers? [Access date: 15/07/2022: <https://blog.driversseat.co/post/how-has-the-rideshare-fuel-surcharge-actually-worked-out-for-drivers>]

different faces from the previous agency, enabling people to stay at home for much longer than they could have', all while care workers experience 'respected, decently-paid work'.¹⁰⁸

4.5.3 Successes and challenges

A frequent criticism of the co-operative model, including both platform and non-platform examples, is their inability to survive in a competitive market world. These critics argue that the co-operative will either go bankrupt or that its survival will eventually entail a "race to the bottom" for workers. Moreover, many platform co-ops still rely on software owned by tech conglomerates. Ludovica Rogers, a researcher at Co-Operatives UK with an interest in the commons, tech and finance, notes that:

The ambition from the start has always been that the co-ops own the tech, but I think that's a bit of a Utopia. And actually in the programme I develop, I encourage them to start with existing platforms – because often they tend to start with, "oh we're going to build this platform". Well, actually, you need to test your business first. Start with what's available, what's low cost, before you start investing a lot of money and you haven't tested the business idea itself.¹⁰⁹

While the technology used by platform co-ops is not owned by its members, the examples listed above have so far shown remarkable resilience in empowering both users and workers. Some platform co-ops have tackled the issue of software head on. As noted by Rich Mason, founder of the British-based worker-run courier service, *Wings*:

We are connected to a network of international rider co-ops. This is the federation called the Co-Op Cycle Federation... You might have heard of them. They started off in France, they built their own platform software... I think, very far-sightedly, very astutely, they realised, five or six years ago, that in order to enable co-ops to come in and challenge things, you needed to have the software, because that's such a big barrier to entry for a rider collective. So, they just did it, they built it. And, it's pretty good. So, they've just attracted all the co-ops to them, because all the co-ops want to use the platform, it's cheap to use, it's just a share of revenue. A good little community has emerged from this, there's a big slack channel where everyone hangs out, shares tips, shares news, etc...¹¹⁰

Nevertheless, there are significant obstacles, both political and economic, national and international that these experiments face. First, in the case of platform co-operatives in Germany, there is no legal framework that can easily accommodate digital membership systems. As detailed in *The Politics of Platform Cooperativism*, Article 15 of the country's cooperative law code clearly specifies that a "written and unconditional declaration of accession" constitutes a formal requirement for membership'.¹¹¹ Second, in the US context, corporate companies have been able to weaponize competition law in order to impede the growth of co-ops. Somewhat paradoxically, the ambition of platform cooperatives to connect with other ethically-run businesses, as part of a broader solidarity economy, could be viewed by legislators as horizontal collusion between firms, which goes against competitive processes enshrined in US law.¹¹² Thirdly and finally, in the UK, platform co-operatives are massively hindered by a lack of funding and there being no clear statutory processes for establishing a worker-owned business.¹¹³

The potential for platform co-operatives to scale up and expand is also limited by its imprecise and divergent aims. As sociologist Marisol Sandoval writes, the movement clumsily treads the line between

¹⁰⁸ Equal Care Co-op, *Our Co-op* [Access date 16/07/2022: <https://www.equalcare.coop/join>]

¹⁰⁹ Interview with Ludovica Rogers [18/08/2022]

¹¹⁰ Interview with Rich Mason [04/08/2022]

¹¹¹ Institute for the Co-operative Digital Economy (2020), *The Politics of Platform Cooperativism* [Access date 18/07/2022: https://www.researchgate.net/profile/Jonas-Pentzien/publication/348267738_The_Politics_of_Platform_Cooperativism_-_Political_and_Legislative_Drivers_and_Obstacles_for_Platform_Co-ops_in_the_USA_Germany_and_France/links/5ff5b00392851c13fef008c9/The-Politics-of-Platform-Cooperativism-Political-and-Legislative-Drivers-and-Obstacles-for-Platform-Co-ops-in-the-USA-Germany-and-France.pdf]

¹¹² Sandeep Vaheesan and Nathan Schneider, 'Cooperative Enterprise as an Anti-Monopoly Strategy', *Penn State Law Review*, Vol.124, I.1 (2019), pp.33-36.

¹¹³ See Autonomy (2020), *The Cooperativist Challenge*.

‘subverting digital capitalism’ and ‘being co-opted by it’, through an unreflexive embrace of ‘entrepreneurial’ drive and rhetoric.¹¹⁴ Indeed, it is worth noting here that platform co-operatives have largely emerged outside of any culture of direct action. Cooperative efforts have also, on the whole, been led by academics, and while attempts have been made to connect worker-run platforms with trade union struggles, there remains a lack of dialogue between both groups.

4.5.4 Conclusion

Platform cooperatives offer a practical, contemporary example of worker-led innovation. Through various governance models, platform co-ops promote redistribution, pay protection, and improved working conditions. At present, platform co-ops are growing but limited by scale. It is simply not possible for platform co-ops to compete with the large conglomerates over access to data; nor is it necessarily desirable. Large capital investment, from the state and/or local government, is vital in order for platform co-ops to thrive. But investment is not the only key to success. The evidence presented above demonstrates that platform co-ops are most successful when they are plugged into direct action and other networks of solidarity and activism.

5 Section Three: Reflections and Lessons

This report has shown how worker-managed firms are open to experimentation and innovation, often in advance of product ideas and solutions sanctioned by the market. There are various methods of instilling democracy in the workplace; decisions can be reached directly among workers, through a one member, one vote system, or overseen by official institutions such as trade unions and the state. Workers may own shares in the company, invite external investors – or production may be requisitioned and devolved by the state. Across multiple scales of analysis, national and local, across factories and new digital platforms, worker-led innovation paves the way for a more just allocation of resources. The benefits for workers in this system included higher wages, greater autonomy, increased confidence, and dignified work. For wider society, worker-led models are more responsive and attuned to community needs and the pressures of certain production methods on the environment.

In all of the case studies analysed, the formation of worker-owned enterprises hinged on the weight of social and labour movements behind them. Where this support was lacking, or unevenly distributed, workers sought out sympathetic elements within the state. At various stages, worker-led models have had to consider institutional recognition in order to grow. Alliance with state actors often came with strings attached: workers reported that the support for self-management by state actors granted access to funds, *but* circumnavigated more radical proposals for altering production methods. In many instances, state support had the initial effect of raising workers' confidence by allowing them close proximity to political power. However, workers often reported that this optimism quickly faded, with governing actors leaning towards ‘higher’ forms of representation and influence; usually more “official” and more industry-led.

The question of state support ties into another important question on worker-led models: do they simply reproduce capitalist relations? Institutional support has undoubtedly assimilated worker-led innovation within elite - even neoliberal - perspectives on the economy, as in the case of Haier. Furthermore, workers themselves have had to incorporate a capital-focused vision of the economy. Primarily, they need access to credit from banks, global trade and supply routes, as well as legal recognition from courts. Nonetheless, in the vast majority of cases, state and/or company actors have been enormously reluctant to engage with worker-led proposals. Indeed, governing institutions have by and large rejected

¹¹⁴ Marisol Sandoval, ‘Entrepreneurial Activism? Platform Cooperativism Between Subversion and Co-optation’, *Critical Sociology*, Vol. 46, I.6, (2020), pp. 7-9.

labour-managed systems on the basis that they are unable to generate profit and thus sit outside of current socio-economic arrangements.

If worker-led models either sit outside or adjacent to the dominant mode of production, then it is because of this perception that they are accused of only being viable in conditions of crisis. However, not all of the case studies analysed indicate that this is necessarily the case. In the context of workers councils in Yugoslavia, it is fair to say that a crisis of national identity and the nation-state were, at the beginning, driving forces. Nonetheless, workers' councils became embedded within Yugoslav society at a time when the Tito-led government enjoyed popular support and the economy was thriving – in spite, or perhaps, because of the various international obstacles they faced. National income and industrial production both soared during the 1950s, a helix-like trend which continued throughout most of the 1960s. Workers' councils in Yugoslavia arguably aided efforts in this economic recovery, with productivity harnessed by worker participation and increased morale on the shopfloor. This enthusiasm only began to wane when a new generation, detached from the war and the previous monarchical dictatorship, began to enter the workplace and resist Taylorisation.

In contrast to the Yugoslav experiment, the Lucas workers, the recuperadas empresas, and platform co-ops were, or still are, crisis-riddled experiments. Lucas workers established a combine just as the post-war economy of growth was coming to an end; the ERTs in Argentina were formed during a period of hyperinflation and capital flight; and platform co-ops emerged in response to the 2008 crash and the rise of the gig economy. All of these examples experienced oscillating degrees of 'crisis'. Some of the worker-led experiences were formed in response to a complete ruptures, others emerged slightly in advance of a major historic 'break'. As it was put by Marcelo Vieta in one of our interviews:

What usually happens in Argentina is that ERTs emerge from firms in crises; like in the UK and Italy, or France, it's mostly succession, it's mostly worker buy-outs. So the workplaces tend to stay intact, so there isn't a challenge in production so much, whereas in Argentina, they tend to be crisis-riddled workplaces.¹¹⁵

To some extent, the Lucas Plan sits outside of the crisis framework. With hindsight, it is easy to see the 1970s as a moment when social democracy in Britain unravelled and collapsed. And yet, the scale of the changes that ensued from the 1970s – namely, Thatcher's 'shock therapy' – was inconceivable when Lucas workers first presented their Alternative Corporate Plan. Additionally, the labour movement was still strong - in fact, 1970s Britain was shaped by a massive rise in labour militancy, which often couldn't be contained by official institutions like trade unions. Nonetheless, trade unions were still a major pillar of civil society in Britain, and even though the British state faced a major constitutional crisis, with two snap elections in 1974, it was still intact. Finally, Lucas workers were, of course, in favour of 'worker buy-outs', but they refused to accept the tripartite corporatist structure on which state subsidies were premised. Some might argue that it was this resistance to the state which contributed to the Plan's failure; however, Lucas workers would have needed more than one or two sympathetic ministers to safeguard their plans.

The other claims frequently associated with worker-led models is that they are cumbersome, inefficient and uncompetitive. This is usually a claim asserted by advocates of neoclassical economic theory, who view the market as a mechanism which ensures natural efficiency. As discussed throughout this report, worker-led models did find it difficult to compete with the market, as they lacked direct ownership of assets (i.e property), technology (i.e machines and laboratories), as well as control over investment. In very few instances were workers really in charge of these decisions; except for the Yugoslav example, market conditions continued to influence the acquisition of credit, and demands for goods and services.

The ERTs in Argentina, along with the more recent example of platform co-operatives, show that worker ownership of production is certainly possible – and, at a local level it can be successful, even in market terms. It is of course a challenge for these initiatives to scale up and compete with global companies without state support – but then, few worker-led models support neoliberal visions of growth anyway. It is fair to say that this – that is to say, neoliberalism – is the model which has been pursued by the Haier group in China, where 'abolition of the bosses' has been supplanted by 'surveillance which

¹¹⁵ Interview with Marcelo Vieta [19/08/2022]

percolates from the bottom-up'. It is only because of this set up that Haier has been able to compete within the global market.

Finally, a key variable which enabled workers to enact in advance of the market was access to versatile technology. This kind of innovation is only detectable in the example of the Lucas Plan (although there are contemporary echoes in the current energy sector). Those involved in the Combine at Lucas Aerospace were able to connect social needs with resources because they were highly skilled workers capable of dismantling military applications, and repurposing the engineering methods that underpinned them, to a better use. As a result, they were able to challenge the ingrained idea that the market was (or still is) efficient, and revealed how its mechanisms are both bureaucratic and wasteful. By a similar token, Lucas workers showed that the struggle over technology – to see technological progress as political, not neutral – could actually be won. Defeat would be assured if trade unions continued on a defensive path, resisting technological change, and demanding plants to continue their operations, whatever the social or environmental cost. They were right in this prediction.

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The Combine Committee meet with Secretary of State for Industry, Tony Benn [November 1974, Mayday Rooms]

The Road-Rail Vehicle by Clifford Harper (1978) [*Mayday Rooms*]

Valentine Tanks on the Assembly Line in the Tank Shop, Elswick Works, Newcastle upon Tyne, 28 September 1942 (TWAM ref. DX1529/1).

List of Interviews

1. Interview with Hilary Wainwright [Researcher for the Lucas Aerospace Combine]
2. Interview with Philip Asquith [Engineer and member of the Lucas Aerospace Combine]
3. Interview with Jim Brown [Researcher employed by Lucas Aerospace]
4. Interview with John Routley [Electrician and member of the Lucas Aerospace Combine Committee]
5. Interview with David Elliot [Researcher for the Lucas Aerospace Combine]
6. Interview with Raymond Morell [Shop steward for Unite in the British Aerospace and Shipbuilding Industry]
7. Interview with Sam Mason [Policy Officer at PCS Union]
8. Interview with Marcelo Vieta [Associate Professor, University of Toronto]
9. Interview with Gal Kirn [Research Fellow, Institute of Cultural Inquiry, Berlin]
10. Interview with Andrés Ruggeri [anthropologist and professor at the University of Buenos Aires]
11. Interview with Ludovica Rogers [Co-Operatives UK]
12. Interview with Rich Mason [Founder of Wings, UK]
13. Interview with ForcesWatch [UK Military Watchdog]
14. Interview with anonymised [Wales and West Utilities Worker, UK]

Appendix One: Selected Archive Material



Fig. 1: The Lucas Aerospace Workers' Road-Rail Vehicle (1978) Archive: Mayday Rooms, London.



Fig. 2: Aerial View of the Elswick Works, Newcastle upon Tyne, April 1962. *Tyne and Wear Archives & Museums*



Fig. 3: Valentine Tanks on the Assembly Line in the Tank Shop, Elswick Works, Newcastle upon Tyne, 28 September 1942. *Archive: Tyne and Wear Archives & Museums*



Fig. 4: The Combine Committee meet with Secretary of State for Industry, Tony Benn, November 1974, Archive: Mayday Rooms

FORSCHUNG

aktuell

HEAT PUMP →

Gaswärmepumpe für das Ein- und Mehrfamilienhaus



Das ist keine Utopie. Wir stellen den Prototyp einer gasbetriebenen Wärmepumpen-Kompaktanlage vor. Entwickelt aus einem serienmäßigen 1.1-Vierzylinder-VW-Motor. Entstanden aus einer Kooperation zwischen dem Volkswagenwerk und der Ruhrgas; mit Förderung des Bundesministeriums für Forschung und Technologie.

Mit solchen Anlagen wird ohne Zusatzheizung der gesamte Wärmebedarf – Heizung und Warmwasser – von Ein- und Mehrfamilienhäusern gedeckt. Solche Anlagen sollen bald in Serie hergestellt werden.

Entscheidender Vorteil der Gaswärmepumpe sind der hohe Nutzungsgrad der Primärenergie Erdgas und die sich daraus ergebende Wirtschaftlichkeit. Die Gaswärmepumpe erreicht einen Wirkungsgrad von 160% bis 185% durch Wärmeerzeugung aus der Umwelt, z. B. aus der Luft. Dadurch werden durchschnittlich 50% Primärenergie gegenüber konventionellen Heizsystemen eingespart.

Technische Daten:
Max. Wärmeleistung: 58 kW
Wärmequelle: Außenluft bis -15°C
Radiatorleistung: Vorlauftemperatur 70°C

Wärme, die einfach da ist
erdgas

Fig. 5: Gaswärmepumpe, German Advert for a Heat Pump (1979) Archive: Mayday Rooms

6.3. Heat Pumps

Mr Asquith gave a brief report on the 'state of the art' of heat pumps, particularly natural gas fired heat pumps. A recent publication from the Ford motor company was circulated which demonstrated their enthusiasm for such devices.

'This time our policy of thinking well ahead and backing to the hilt what we believe are certainties, may well result in the largest ever application for small - and even bigger - gas fuelled industrial engines.

Heat pumps, like the weather are here to stay'.

It was agreed that the heat pump would constitute one of the Unions' products.

Other product areas put forward by the Union side for discussion were:-

Fig. 6: Minutes from Lucas Alternative Products Working Group meeting, Birmingham (1979). Archive: Mayday Rooms

Appointments and Situations

The ENGINEER 7 September 1978 83

* = CORPORATE PLAN.

Design for your future with Lucas.

The Lucas Research Centre performs a central role in the Company's engineering and product development activities and is firmly committed to the principle that high quality engineering and design has a vital role to play in our continued progress as a highly successful major British Company with world wide interests.

The Research Centre is deeply involved in new and exciting projects to carry Lucas into the 21st Century.

- * Alternative energy sources.
- * Advanced vehicle control systems.
- * Electric vehicles.
- * Advanced materials.
- * Microprocessor application.
- * Advanced manufacturing processes.
- * Sophisticated transducers and actuators.
- * Computer aided design and manufacture.
- * Medical engineering.

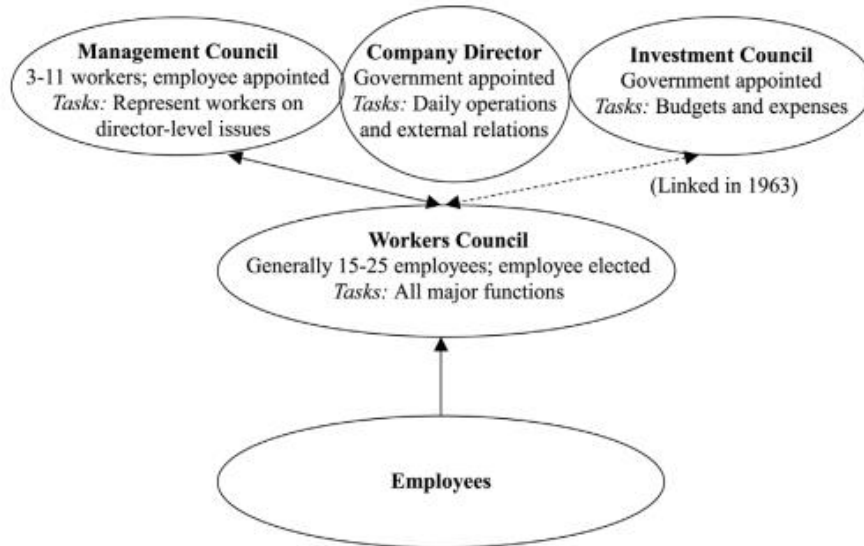
To enable us to carry our plans forward we require high calibre ENGINEERING DESIGNERS, male or female, with the highly developed draughting skills, ability and drive necessary to meet the demands of today's technology and to help lay the ground rules for the future.

If you satisfy the following criteria we want to hear from you:-

- Preferably qualified to degree level. HNC level (Mechanical)
- Have original design draughting experience in light, medium mechanical engineering
- Ability and ambition to apply your theoretical and practical knowledge effectively and creatively
- Desire to progress with a modern high technology company

Fig. 7: 'Design for your future with Lucas', The Engineer, 7 September 1978. Archive: Mayday Rooms

Yugoslav self-management council structure



Note: Similar structures were enacted for the department-unit level in 1971

Fig. 8: Taken from Monty L. Lynn, Matjaz Mulej, Karin Jurse (eds.), 'Democracy without empowerment: the grand vision and demise of Yugoslav self-management', *Management Decision*, Vol.40, No.8, (2002), p. 800.

Appendix Two: Lucas Plan Timeline

The Story of The Lucas Plan: Timeline

1963 - Harold Wilson delivers the famous ‘White Heat’ speech at the Labour Party Conference.

1964 - The British Labour Party wins the October election and embarks on a programme of industrial reorganisation.

1966 - The Industrial Reorganisation Company is established, a government vehicle tasked with merging companies into vast corporations, to compete on the global stage.

1968 - First meeting of the Lucas Aerospace Combine Shop Stewards’ Committee takes place in Willesden. Fifteen shop stewards attend this first meeting.

1969 - Barbara Castle presents ‘In Place of Strife’ to parliament, a white paper proposing to reduce the power of trade unions.

1970 - The Conservative Party enters government on an anti-trade union manifesto.

1971 - Management at Lucas Aerospace draw up plans to ‘streamline’ the workforce through mass redundancies.

- Workers at Upper Clydeside Shipbuilders (UCS) declare a ‘work-in’ in response to proposed redundancies.

1973 - Phil Asquith joins the Burnley site in 1973 as a research engineer.

1974 - The Labour Party goes on an electoral footing promising cuts in defence expenditure.

- The Lucas Aerospace Combine Shop Stewards’ Committee expands to include all 14 affiliated sites.
- Thirty-four Combine delegates meet with Tony Benn, the newly elected Secretary of State of Industry, and push for state ownership.
- The Combine agrees to come up with a Plan for transitioning away from the Company’s reliance on military contracts.

1975 - The Lucas Plan is drawn up.

- John Routley joins Lucas Aerospace as a maintenance electrician and becomes an active member of the Combine.

1976 - The Combine publishes its Alternative Corporate Plan, presenting 150 alternative product proposals.

1977 - Jim Brown joins Lucas Aerospace as a personnel and training officer at the Bradford site. He was also part of a small national team working on plans to introduce industrial democracy practices. It turned out that this latter project was in fact a management response to the shop stewards’ combine.

1978 - The Centre for Alternative Industrial & Technology Systems (CAITS) is established, led by Mike Cooley and Richard Fletcher. Work begins on ‘socially useful’ prototypes, including the Road-Rail vehicle.

- Lucas Aerospace announces 2000 redundancies

1979 - The Conservative Party wins a sweeping majority on a neoliberal manifesto. Margaret Thatcher becomes Prime Minister.

1980 - The ‘road-rail’ vehicle takes its first test run, making its first successful journey from Townend to Wakebridge.

1981 - Lucas Management introduces automation in the Birmingham Clerical Departments, threats of wider redundancies loom.

- Mike Cooley is sacked for spending 'excessive' time on union duties. Cooley finds work as a Technology Director at the labour-run Greater London Council (GLC).

1982 - Phil Asquith resigns from his post as union official and a research engineer.

- The Combine begins to slowly dismantle as its leading activists are dismissed by the company.

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