

Article

A reactive approach to technological changes: Solidarity's responses at the ArcelorMittal Vanderbijlpark Plant, 1989 to 2012

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Abstract

Academic debates about Solidarity's 'reinvention' in a post-apartheid South Africa do not include a discussion on the trade union's responses to technological changes and production. As a contribution to debates on the role of Solidarity in the post-apartheid South Africa, my research was conducted on how Solidarity and its processors at the Vanderbijlpark steel plant responded to technological changes. In-depth interviews, factory visits, and archival sources were the main data sources for the article. The main finding of the article is that Solidarity was unable to respond proactively to technological changes at the plant. In other words, Solidarity's 'reinvention' has not expressed itself in the sphere of production processes and technological changes in the plant. The union left the terrain of production to management, and reacted to the effects of technological changes such as retrenchment long after management had implemented changes in production technologies. The strategy of the union was asymmetrical in the sense that it only focused on wage struggles, and ignored technological changes at the plant.

Introduction

Solidarity is a trade union whose history is embedded in a 'racialised' labour regime which provided white workers with political, social, economic rights and citizenship.¹ Consistent with policies of racism and apartheid, the state, capital and white labour crafted a labour regime characterised by white workers occupying strategic positions at the workplace as artisans and technicians, having better working and living conditions and earning higher wages compared to their black counterparts (Morris and Kaplan 1976, Hlatshwayo 2003). However, the transition from apartheid to democracy

meant that white unions had to reorganise themselves in order to be part of a new ‘deracialised’ industrial relations system (Pillay 2008). Visser (2006:1) argues that ‘by 2002 it [the Mine Workers Union (MWU)] had reinvented and transformed itself into Solidarity, adequately equipped and geared for addressing the labour challenges and demands of a post-apartheid South Africa’.

The literature on Solidarity tends to argue that in the post-apartheid era Solidarity is a union that has been innovative because, among other things, it has accepted black workers as members, developed new organising strategies, established a training college and has also been involved in helping the poor through its social programmes called the ‘Helping Hand’ (Backer 2001, Diamond 2008, Visser 2011). Furthermore, the union’s response to the restructuring of Telkom in particular was considered to have managed to save jobs (Visser 2006).

While all this is factually correct, others (Boesak 2012, Gumede 2009, Mantashe 2008) have argued that in the post-apartheid South Africa Solidarity continues to act as a union that protects privileges of white workers. Its association with Afriforum, a political formation advancing the interests of Afrikaners, indicates that the union wants to advance exclusive racialised interests of white workers and the white minority in a post-apartheid context.

In this debate on Solidarity’s ‘reinvention’ and the union’s role in the post-apartheid South Africa, what is missing is a critical discussion on how Solidarity has responded to technological changes at the workplace. According to Jennings (2000), the conundrum is that technological changes play a substantial role in redefining skills, occupations and the mere presence of workers at the workplace. This article seeks to fill in this gap in the literature on Solidarity by examining how the union responded to technological changes at the ArcelorMittal Vanderbijlpark plant from 1989, when the plant was privatised, to 2012. As a prelude to a critical examination of how Solidarity responded to technological changes at the plant which is the focus of the study, the article introduces the reader to the nature of technological changes at the plant and the impact of these changes on work and workers. The article is not examining how Solidarity responded to lean production – a production system which puts an emphasis on reducing waste, worker participation, team work, logistical revolution, producing according to customer specification and technological innovation (Maree and Godfrey 2005, Masondo 2005, Webster et al 2009, Womack et al 1990). There is an extensive literature on how South African trade unions have

responded to lean production (for example, Buhlungu 2010, Mashilo 2010, Masondo 2010, Rosenthal 2000).

This article isolates one element of work reorganisation, namely technological innovation, an area that has been neglected by labour studies in a South African context. Yet technological changes do play an important role in shaping the nature and form of work and the article provides evidence showing how they impacted on the size and nature of the work force at the plant. Technology alone does not account for all the changes at the plant; there were other factors which led to changes at the plant including lean production, 'deracialisation', the separation of mining of ore from iron and steel making under the label of unbundling in 2002, political democratisation and the global integration of the plant and the management (Xaba 2003). The specific question this article asks is how has Solidarity, a union that is generally regarded as being innovative, responded to technological changes at the ArcelorMittal Vanderbijlpark Plant.

Research methodology

Researching Solidarity was a thought-provoking experience in the sense that in a South African context black researchers rarely conduct research into unions whose history is deeply rooted in racism and apartheid. Yet Solidarity organisers and shop stewards co-operated and this might have had something to do with the fact that they are used to being researched and were also keen on using the research to strengthen the union's ability to respond to technological changes. Conceivably this co-operation represented what Diamond (2000) would regard as the union's attempt to 'adjust' to conditions under post-apartheid South Africa.

The first set of data collected was interviews. Given that the research sought to provide space for the union to reflect on how it responded to technological changes at the Vanderbijlpark plant, the study had to be qualitative in the sense that the interviews were in-depth and allowed for interviewees to recall how technology was introduced, the impact of new technology on work and workers and how the union responded to technological changes (see Nygren and Blom 2001, on reflective studies).

Based on the fact that the study sought to examine the union's responses to technological changes at the plant, the majority of the interviewees are from the plant and even those based at the head office of the union have direct interaction with the plant (see Kvale 1996:32 on various types of interviews). There was also an attempt at giving all sections of the union

some voice, ranging from membership and shop stewards to union officials at the union head office. In 2010, the plant employed 4,500 people (ArcelorMittal 2011). The ArcelorMittal Vanderbijlpark plant employs almost 50 per cent of ArcelorMittal South Africa's workforce. Solidarity has more than 2,000 members in the whole company and was a majority union at the time of the writing of this article (Liebenberg, 2012, interview).

In total, 22 in-depth interviews were conducted between 2009 and 2012. The majority of interviewees were from various structures of Solidarity and they included nine shop stewards, three ordinary members, three organisers, a former organiser, a researcher, a union spokesperson, and a head of the membership section. Interviewees were located at various sections of the production process at the plant, from the raw materials sections of the plant where the production cycle starts to the end of the production cycle at the storage section. In addition, two interviewees were from the management team of the company. A former organiser of the National Union of Metalworkers of South Africa (NUMSA), Osborn Galeni, who worked relatively closely with a Solidarity organiser during the retrenchment phase in the 1990s and 2000s, was also interviewed. An official from the Metal, Engineering and Industries Bargaining Council (MIEBC), Velaphi Mjijakho, was also interviewed, providing crucial information on Solidarity's bargaining positions on wages, technological changes and production issues (see Neuman 2010 on interviews and sampling).

The second aspect of data collected was documentary evidence. Sources such as the company's annual reports dating back to the 1980s and production plans of the plant, gave insight into the nature and forms of technological changes in the plant. Archival sources such as collective agreements on wages and working conditions between the unions and the company, and minutes of union meetings were collected from the University of the Witwatersrand's Historical Papers and Solidarity offices (see Hlatshwayo 2003 on union archives).

The final aspect of data collection was factory visits which took place in 2003 and 2010. The objective of these visits was the deepening of the understanding of the production process from the raw materials sections of the plant, to iron-making, steel-making and finally to the storage of flat steel products. The visits also confirmed the highly mechanised and computerised nature of steel production at the plant accompanied by the drastic reduction of the workforce. As was the case in 2003, in 2010 there were very few workers to be seen. In fact, I only saw seven workers at the section of plant which

turns steel slabs into flat steel coils. Most of the activity happens in control rooms which are on top of the production line (Hlatshwayo 2003 and 2010).

Eisner contends: 'Objectivity, like democracy and virtue, are things we believe we should strive for' (Eisner 1992:10). How do we strive for objectivity? 'Triangulation' then becomes our approach for striving towards 'objectivity'. 'Triangulation' is a 'matrix' of a 'multi-method' involving a use of various data collections techniques and different data sources to enhance 'validity' (Mathison 1988:13). Triangulation was performed at various levels. The first aspect of the process entailed comparing narratives as told by each interviewee. The second aspect was about comparing stories as told by interviewees with documentary material, such as annual reports and production process reports, and archival sources. There were no inconsistencies between stories told by the interviewees and the documentary evidence. For example, all sources acknowledge that there were technological changes in the plant and these had an impact on skills, work and employment.

Pyett (2003) states that presenting research to research subjects can be a tool of validating the research findings. The research findings were presented to four high ranking officials of Solidarity on March 22, 2012, at the Solidarity head offices in Centurion. The findings were not disputed and, in fact, the union promised to start looking at technology as a significant bargaining issue in the future (Hlatshwayo 2012:1).

All interviewees who participated in the research did sign the basis of informed consent (Homan 1991). There is only one interviewee who did not want his name to be mentioned in the research report and this perhaps had to do with his being a member of Solidarity while also occupying a very top production planning process position at the plant. In general, the overwhelming majority of the interviewees did not have problems with their names being mentioned in the research reports. Maybe this had to do with the fact that the research was reflective and there were no explicitly controversial issues.

The plant: a site of technological contestation

Formerly owned by the apartheid state, the steel plant is in the town of Vanderbijlpark in Gauteng, which is about 70 km south from the city of Johannesburg. It is the largest inland steel mill in sub-Saharan Africa (ArcelorMittal 2008). The plant became ArcelorMittal South Africa (SA) in 2007. ArcelorMittal International, with its international headquarters in Luxemburg, owns ArcelorMittal SA which has plants as well in Newcastle,

Pretoria and Saldanha Bay (ArcelorMittal 2008). ArcelorMittal SA employs about 9,886 workers (ArcelorMittal 2012) and the plant in Vanderbijlpark employs about 4,500 (ArcelorMittal 2011). Union density at ArcelorMittal SA is 85 per cent (ArcelorMittal 2011:59). NUMSA and Solidarity are the unions that are recognised at ArcelorMittal SA and their membership numbers are more or less equal (ArcelorMittal 2011).

White unions and black workers

The organising strategies of white unions were based on white supremacy and saw black workers as inferior human beings. In the 1960s, black workers entered the steel plant in the Vanderbijlpark plant not just as unskilled workers but also as semi-skilled machine operators. White workers saw black machine operators as blacks 'taking over their jobs' (Hinshaw 2001). White workers and their unions such as the MWU and South African Iron and Steel Trades Association (ISTA) saw this as 'threatening a white man's position' in the factory. Despite the cheap black labour system which meant that black workers were earning very low wages and subjected to what von Holdt (2003) regards as the 'apartheid workplace regime', white workers saw black workers who worked as machine operators as encroaching on their territory. The foundation of unionism at the Vanderbijlpark plant was not based on a proactive strategy which sought to engage technology and production with the view to advance the interests of workers regardless of their colour. Rather, white unionism was based on wages and benefits for white workers, and that was part of protecting white workers' privilege at the workplace and in society (Hinshaw 2001).

Technological changes and workplace changes

Writing about technological changes in steel firms globally at the end of the 20th century and the beginning of the 21st century, Jennings (2000:1) makes the following observations: 'The transformation of steel mills from fairly basic, product-oriented operations to ones that are *high technology* (my emphasis) and market-oriented is either complete or irretrievably underway throughout the majority of the industry'. Piet du Plooy who worked at the plant and organised white workers from the 1970s until the 1990s reflected on technological changes in a context of globalisation and the post-apartheid South Africa:

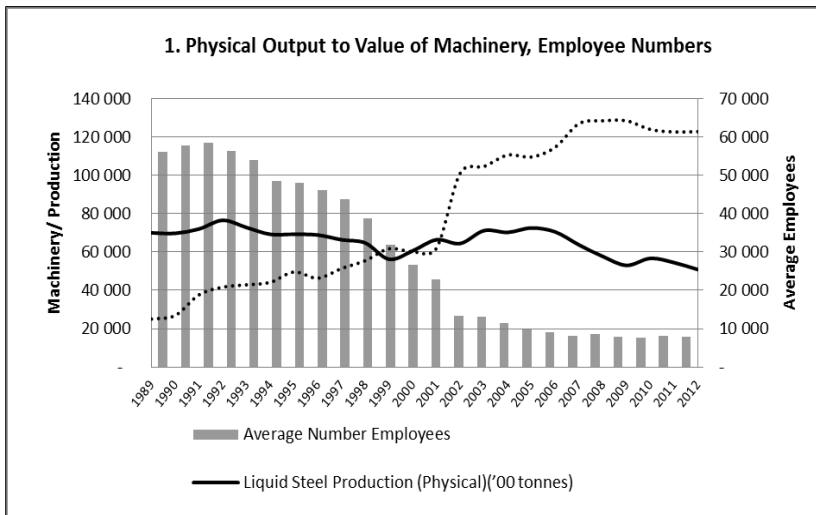
So it was in this process of technological changes and changes in the country.There were technological changes and there was this globalisation thing. Iscor and all the companies suddenly became part

of the global village. So, those things brought in a hell of lot of changes.
(Interview, du Plooy, 2010)

Faced with global competition and a need to survive in a very competitive global steel market, Iscor was privatised in 1989 and subsequently its plant in Vanderbijlpark was involved in a number of lean production initiatives and technological changes. For example, in 2006, the merger between Arcelor International and Mittal Steel International to create ArcelorMittal International meant that the plant became part of ArcelorMittal International Group (IG), the biggest global steel company. One of the key drivers of the merger was technological innovation that ArcelorMittal IG would bring to the plant. In 2006 the company said: 'Our partnership with ArcelorMittal [IG] ... will also assist us to provide the South African market with the latest in steel *product technology*' (my emphasis) (Mittal Steel 2006:20).

Meanwhile, the graph below shows a relationship between physical output, the number of employees, use of machinery from 1988 to 2012.²

Chart 1: Physical output to value of machinery, employee numbers



Source: Croock and Hlatshwayo 2013:1

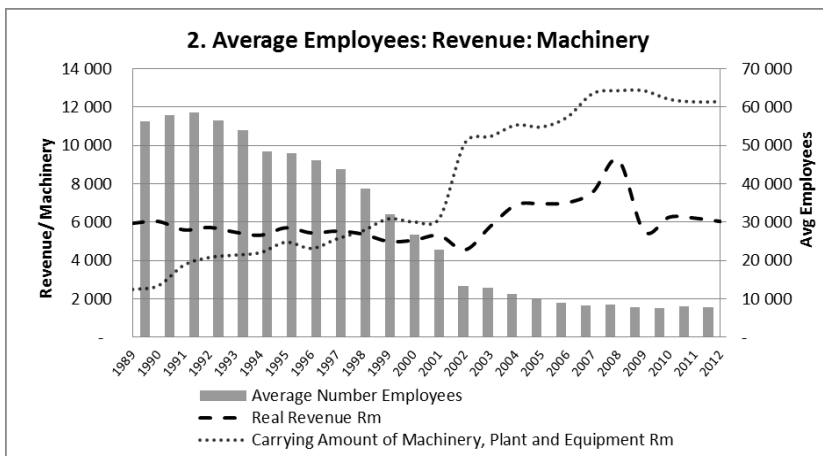
Analysing company data, it has been observed that employee numbers at Iscor/Arcelormittal SA have declined from an average of 56,200 employees in 1989 to 7,900 average employees in 2012. This denotes a compound growth rate of negative 7.85 per cent over the 24 year period and an average annual

decline of 7.59 per cent. Since revenue generated by the entity has continued to increase steadily (see below), it can be concluded from these figures that the level of reliance on physical labour by the ArcelorMittal SA is low. Of course, technological changes alone cannot account for the reduction of the number of employees; there were other factors such as the restructuring of the company and the unbundling of mining and iron and steel sections of the company which also played a role. In 2003, the former mining section of Iscor (Kumba) was left with 9,674 workers during unbundling at a time when otherwise Iscor had 12,935 employees. (Iscor 2003:59)

The carrying value of machinery, plant and equipment as disclosed in the annual reports of the company has increased fivefold since 1989, representing a compound growth rate of 6.86 per cent and an average growth rate of 8.01 per cent. The carrying value, or net carrying amount of machinery, plant and equipment represents the cost price of those items used in production, less depreciation and any other loss of value such as impairment due to damage or obsolescence. As such it can be inferred that a continued increase in capital assets has been necessary in order to support increasing production and sales levels over the past 24 years.

During this period, Iscor/ArcelorMittal SA’s physical output in the form of liquid steel production (in tonnes) has declined slightly. An average annual growth rate of -1.18 per cent has been experienced in this area of production.

Chart 2: Employees, revenue and machinery



Source: Croock and Hlatshwayo 2013:1

Meanwhile, revenue generated by the company's operations has increased from R5,950 million (m) to R32,291m on a nominal basis – increasing by a multiple of 5.5 times, closely mirroring the escalation in the value of machinery, plant and equipment employed by the company. On a real basis, excluding the effects of inflation, revenue has increased from R5,950m to R6,043m at a real average growth rate of 1 per cent.

A strong positive correlation of 0.96 (real: 0.53) was found to exist between the value of machinery, plant and equipment and revenue – as can be observed in chart 2, again emphasising the entity's reliance on capital assets. Piet du Plooy, a former Solidarity organiser at the plant, confirmed that there was an increase in the use of technology and computers in the 1990s and 2000s. He said: 'I can recall quite well that the older cranes were operated by operators and they brought these remote control things and the locomotives as well' (Interview, du Plooy, 2010). The Vanderbijlpark plant introduced new machines, new sections of the plant were built and computer technology which played a role in the monitoring of work became a major factor at the plant. Computer technology played a major role in the collection of data based on customer specification, configuration of the amount and quality of raw material, quality control at each production phase, measuring of productivity of labour and the delivering of the exact steel product to a customer (Interview, Grobbelaar, 2013).

Despite their location in skilled positions, Solidarity members at the plant were also affected by the technical restructuring of work at the plant. Du Plooy had this to say about the introduction of new technology in the 1980s and early 1990s: 'They [IsCOR] were introducing new machines in the plants like the tin plant, for instance. This was the start of the new technology. ... New machines and automation led to the reduction of personnel' (du Plooy, interview 2010). Some of Solidarity's members who were located in human resources and training departments lost jobs as computer technology was introduced and as black workers they were managing declined numerically (Rosenthal 2000).

Besides the retrenchments, technology also changed the nature of work and skills. For example, fitting and turning is a trade which deals with the identification of machine errors and faults. It also involves fixing these faults and errors. Before the introduction of computers in the production process, fitters and turners had more power to control the labour process and the speed of work. The introduction of computer technology took over the machine diagnosis aspect of the job. Henry Adams, a Solidarity shop

steward who is a fitter and turner at the plant, commented:

When I came here everything was about handwork. In 1998 there were new computers. ... I have seen a lot of new machines. It makes work to be simpler. The PLC [Programmable Logic Controller] or the computer gives you an error code. Yes. It also led to retrenchments. It does affect us. (Interview, Adams, 2011)

The retrenchments also affected the presence and the strength of the unions. John Rodrigues, a chairperson of the Solidarity shop steward committee at the plant and a fitter and turner at the machine shop, admitted that retrenchments as a result of restructuring and the introduction of new machines and computers affected not only the workers but also the union. He reflected that 'at the time [in the 1980s and 1990s] we were about 22,000 strong workers [at the Vanderbijlpark Plant] on the side and now we are only 5.000 including those who are working on contracts' (Interview, Rodrigues, 2011).

Solidarity's responses to technological changes at the plant: a reactive approach

Examining a reactive approach to trade union responses to technological changes and the restructuring of the steel industry in the United Kingdom, Bacon et al (1996:26) argue that such responses can be described as 'business as usual'. Bacon et al further state: 'There is little evidence that the unions [in the UK] have been able to forge new methods of interest representation' (Bacon et al 1996:26). A reactive approach which puts an emphasis on wages and bargaining over the 'after-effects' of technological changes such as retrenchments was also the trend in Nigerian and Indian unions (Okafor 2007, Saiyadain 2001). Bamber argues that '... American and British unions have traditionally placed more emphasis on bargaining after decisions have been made, rather than on participation in making decisions, in contrast to many of their German and Scandinavian counterparts...' (Bamber 1988:212).

Scannell (1993:115) sums up the impact of a reactive approach to technological changes and production by saying: 'If production decisions are left completely in the hands of management, with unions restricting their role to bargaining over the impact, then organized labor will become adept to negotiating funeral arrangements'. While it is generally accepted that factory owners control the labour process and technological changes in the production process, unions can also contest the nature and form of

technological changes. To paraphrase Scannell's (1993) warning, in the final analysis, trade unions can either choose to adopt a proactive approach which has a potential to defend jobs as was the case with the *Industriegewerkschaft Metall* (IG Metal) example, or a reactive approach which is akin to a union bargaining with an undertaker about a price of a worker's coffin rather than keeping a worker alive.

Despite Solidarity being known for being 'innovative' and 'reinventing itself' (Visser 2006), Solidarity and its predecessor tended to respond to effects of technological changes such as retrenchments long after plant management had introduced these changes. The union's internal structures such as its research and education departments were not geared towards developing a proactive response to technological changes. Use of collective agreements as a response long after retrenchments had taken place, participation in structures that had a predetermined agenda of management, a continued emphasis on wages and working conditions and neglecting building capacity, not knowing how to respond to technological changes, and not using the union's research department to help the union in responding proactively to technological changes are indicators that the union did not adopt a proactive approach to technological changes. In other words, Solidarity adopted a reactive approach similar to the one adopted by unions in the UK, India and Nigeria (see Bacon et al 1996, Okafor 2007, Saiyadain 2001).

Du Plooy stated that the management did not consult the unions when it introduced programmes like *Omega*, a lean production programme introduced in the 1980s, and new technology. The programme was also about collecting ideas of workers on production and training workers in team work. However, du Plooy felt that all these workplace changes programmes were not predicated on consulting trade unions.

He said:

Well, in those days they never consulted the unions. There was a continuous construction at Iscor in Vanderbijlpark. They were building. They were putting new plants. So, with the new plants came the new technology. So, they never consulted us at first. (Interview, Du Plooy, 2010)

Du Plooy also stated that the union's demands included consultation around technological changes and work place restructuring.

We wanted regular consultations with management. But you would also understand that at that stage we were not clued up on what is to be

consulted about. We did not have an understanding of new technology, workplace restructuring and globalisation. (Interview, Du Plooy, 2010)

Trade unions tend to demand that management consults and discloses information on technological changes and lean production, but they do not have essential capacity to analyse and engage this type of information. Even when the information is analysed, this is done under time and resource constraints as no systems exist in the unions which enable them to anticipate technological changes and devise proactive responses. According to Buhlungu (2010:83), this reactive approach leads to unions being ‘... caught off guard’.

As part of its responses to workplace change and the introduction of machinery in the production process, Solidarity’s predecessors insisted on consultation and management’s duty to disclose information clauses and these demands were captured in collective agreements between trade unions and management of the company. For example, in 2009 the determination of the Minister of Labour which covered Solidarity members and other unions stated that:

Where an employer intends introducing technological change he shall notify the representative party trade union(s) and/or employee representative body not less than 90 days prior to the implementation date of such change. (Minister of Labour 2009:41)

The collective agreements had consultation clauses but they proved to be blunt tools because jobs were definitely lost. Collective agreements were also meant to provide space for retraining workers in the use of new technology, rehiring and redeployment of redundant workers in the plant (Iscor Works Centres 1993). However, just a tiny minority of workers benefited from such arrangements. Workers like Marcel Harris, a Solidarity shop steward, was retrenched in 1994 but managed to come back to the plant in 2007 (Interview, Harris, 2011).

Participation?

In the 1990s the company and the union visited overseas plants with the view to understanding production methods and technologies in these plants (Xaba 2003). Themba Makhathini, a black member of Solidarity, who also works as a process controller for the plant section which produces steel for the automobile sector, argued that technological changes at the plant were influenced by developments in the overseas steel plants. He reflected on this:

Our managers would go overseas in a certain steel plant and find that in a department overseas there are five people working with one machine in a steel plant. In South Africa there may be 13 people working on one machine in a section. Then they [managers] come back to South Africa and decide to multitask and retrench workers. (Interview, Makhathini, 2011)

The MWU was also part of the Vanderbijlpark Project which was meant to provide the plant management and the union with a space for discussing production technologies and operational plant issues (Vanderbijlpark Project 1993). It was represented by Piet du Plooy and Jock Allison at the meetings of the Vanderbijlpark Project. At times during the meeting, unions would ask to be given time to study management proposals (Vanderbijlpark Project 1993). The unions, such as MWU, raised concerns and made proposals which were supposed to ameliorate the conditions of their members in a context of technological changes and work reorganisation.

Judging from the minutes, management initiated the changes and then steamed ahead to implement the new shift system, training, and technological aspects of work. This means management had already made decisions about restructuring and technological changes and workers were brought into a process that had predetermined conclusions. Asked to reflect on participation during the introduction of new technology and lean production and whether workers' suggestions were taken seriously by management, du Plooy summed up the experience succinctly when he stated, 'I think it was all a complete fuss' (Interview, du Plooy, 2010).

Wages versus production and technology

Like the UK's steel unions, MWU and later Solidarity focused on wages and working conditions as an implicit strategy for responding to technological changes in the plant. For example, the union signed an agreement which covered wages, leave periods, hours of work and allowances for its members. The agreement was signed in 1990 for the period 1990 and 1991 (Isacor Works Centres 1991). Similar agreements were also signed by trade unions and Isacor in 1993 and 1994 (Isacor Works Centre 1993 and 1994). In 2008 Solidarity and NUMSA signed a three-year wage and conditions of service agreement with the management of ArcelorMittal. The agreement stated the following about a wage increment: 'Both actual pay of employees and respective salary scales ... shall increase by 12%' (ArcelorMittal et al 2008:clause 3.1). Just like other unions in steel, Solidarity largely paid attention to wages and working conditions. This brings this article to the important point raised by

Mjijakho. (Interview, Mjijakho, 2011). He believed that the unions put more emphasis on wages as opposed to work reorganisation and technological changes because they wanted ‘to deliver immediate benefits to their members’ (Interview, Mjijakho, 2011). I asked the Solidarity officials at the head office to explain the union’s focus on wages. The union officials’ response was that the members determine issues and demands for collective bargaining; union leadership did not view technology as an issue that must be tackled. The union employs wage negotiators, lawyers, accountants and organisers but does not employ engineers and technicians who might be able to help it respond to technological changes. Solidarity structures do not discuss technological changes and yet technology plays an important role in eliminating the union membership on the shop floor.

As part of providing intellectual support to the union, Solidarity has a research institute which conducts research on wage trends and wage demands, among other things. Paul Joubert, who works for the institute, further clarified the role of research in Solidarity when he stated that ‘...a big bulk of what we do is supporting our organisers, our shop stewards and so on in specific companies and that includes any issue that they are encountering including technological changes and issues like that’ (Interview, Joubert, 2010). When asked if the union conducts research on the role of technology in work processes, the response was: ‘We have not looked at it [technology] as subject specifically’.

According to Reint Dykema, a Solidarity spokesperson, the union also educates its shop stewards about technological changes and its impact on work and workers but this is discussed together with other issues such as wages and working conditions. He was asked if the union has a shop steward training and education programme which focuses on technological and workplace changes. His response was: ‘Not really...’ (Interview, Dykema, 2011). He explained that the focus of shop steward education is on labour laws although it can be noted that there was a limited attempt at using Solidarity’s website for educating the membership about technological changes (Nieuwoudt 2011:1).

A proactive approach

While the context in Germany and South Africa is different, there have been attempts at comparing trade union responses to changes at the workplace including technological changes (Webster et al 2009, Mashilo 2010, Masondo 2010). By presenting the case of IG Metall as a proactive example, I am not trying to argue that there is no weakness in the manner in which IG Metall

has responded to work reorganisation and technological changes. In fact, Price and Steinger (1987:108) who are critical of the way the German trade union responded to technological changes and work reorganisation, nonetheless accept that 'the German unions have gone further than their British counterparts in facing up to problems so far encountered ...'. Therefore there is a general agreement among scholars that the German unions tend to use a proactive approach when responding to work reorganisation and technological changes (Bacon et al 1996, Forrest 2009, Masondo 2010, Mashilo 2010, Webster et al 2009). This proactive approach has a lot to do with the evolution of codetermination and the state support for union research into technological changes and work reorganisation from the 1970s. Trade unions like IG Metall use the Works Councils at the workplace as platforms for intervening in technological changes (Thelen 1991, Masondo 2010).

In 1987 tens of thousands of workers, community members and their families blocked busy roads in Duisburg because Krupp Rheinhausen, a steel mill, wanted to end its operations in the area due to heavy competition in the global steel industry. About 6,600 workers were going to lose jobs in 'one fell sweep' (Drinkhut et al 453). In the end fewer jobs were lost after the union had discussions which were based on research with the regional government and the company. The proposal centred on relocating other jobs in the area. This created 1,500 jobs for the local community in 1987. The union put pressure on the regional government to create more jobs and a regional trade organisation was created. Unused land was availed and about 7,500 new jobs were created between 1987 and 1997 in the Duisburg area. There were also training initiatives for young people of the area.

Konrad Siegel, a member of IG Metall who worked for a German based agricultural technology company until 1993 and later for the Technology Department of IG Metall at head office in Frankfurt, spoke about a proactive approach used at the agricultural equipment plant. Siegel continues to be a member of IG Metall and plays a crucial role in building the capacity of IG Metall and its sister union NUMSA in developing a proactive approach to production technologies and work reorganisation (Forrest 2009). Siegel indicated that, contrary to the notion that Germany has 'industrial peace', trade unions like IG Metall also use strikes as a tool for challenging managerial power over the production processes and wages (Siegel, interview, 2012). He spoke concretely about how a proactive approach to technological changes and production helped his union in saving jobs. He said: 'Initially,

as a worker I used to fight the industrial engineer'. He continues, 'Later on when I was a union official [and a member of the Works Council] my personal position was to be proactive' (Siegel, 2012, interview).

Reflecting on his involvement in work reorganisation, Siegel argues that:

In our plant we changed plant layout, reorganised the machines and we also reduced inventory costs. The discussion started earlier in 1986. The pilot projects started in 1989 and went on until 1993 when I left the company. In all these case autonomous teams led by myself restructured work and productivity increased on average by 20%. In some cases it was 40%. The plant is still productive. (Siegel 2012, interview)

He also states that restructuring led by workers and the unions in a plant had the blessing of union membership and workers in general. There were general meetings which provided workers with updates. Workers were also enthusiastic about the changes because jobs were saved. Workers were also paid for 'thinking' about productivity. According to Siegel, there were always debates about the role of the union in production issues, because some unionists saw this as collaboration. He also stated that the unions cannot just ignore engagements with production and technology questions because by so doing they give management free rein to restructure work and introduce new technology which then displaces union members (Siegel 2012, interview).

The proactive approach of IG Metall also entails the union and the Works Councils to co-operate with universities and research centres in developing an understanding of industrial change (Masondo 2010). Siegel argues that 'this proactive approach to workplace restructuring is motivated by a philosophy that management is too important a task to be left to management alone' (cited in Masondo 2010:90). Concerning IG Metall's strategy, Masondo (2010:76) cautions against 'protectionism' and says: 'Implicit in these [collective] agreements is the nationalist-protectionist tendency based on IG Metall's fear for possible capital flight into cheap labour zones'. As a way of undermining protectionism, Webster et al (2008:211) point out:

Corporations now work space relentlessly, moving production to places of greater advantage. In this process workers experience insecurity, whether they are from the North or the South.

At the end of the day mobility of capital requires 'global unionism' and a move away from narrowly finding solutions within national boundaries (Webster et al 2008:211). Put differently, a proactive approach is based on

building the union's internal research and education capacity so that the union can focus better on production, technology and wage struggles. Unlike Solidarity, IG Metall also uses its skilled membership such as engineers and production workers in works councils to enable it to have a full understanding of the production process and the membership is also involved and is consulted in union meetings.

During the research process it became clear to me that Solidarity is also beginning to grapple with the IG Metall approach to collective bargaining. Solidarity's Paul Joubert spoke about the importance of understanding production and technology, on one hand, and, wages and working conditions, on the other. He reflected that:

I would agree that in many cases that [technology] is the strong factor in determining the effects on unions. It [the Solidarity approach] is just about wages and working conditions. ... Maybe because the union itself does not understand exactly what is happening [in production]. (Interview, Joubert, 2010)

Conclusion

There is no doubt that Solidarity has been innovative, and, in fact, its actions and projects when compared with other trade unions in South Africa demonstrate that the union is a model here. However, Solidarity's responses to technological changes at the plant were not innovative but reactive. Recently the union has begun to realise that it has to be innovative here too and start grappling with questions of technology and production. This has to do with the fact that evidence provided in this article has shown that workers and members of Solidarity in the plant have lost jobs and many tasks have been taken over by machines and computers.

For the unions to be able to save jobs and defend their membership, a proactive approach which includes research, training of shop stewards and organisers and building the general capacity to respond to technological changes is called for. In other words, unions need to combine issues such as wages and technological changes and production.

Notes

1. The author uses the conventional South African racial terminology but he strongly believes that there is only one human race.
2. Charts 1 and 2 were constructed from annual reports of Iscor and ArcelorMittal SA with the assistance of Shaun Croock of the University of Johannesburg Accountancy Department.

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