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Port Automation Special Edition

A GREAT FRIEND of mine and our Branch's fellow worker, Martin Thomas has written this outstanding article on Port Automation which I believe all members, not just wharfies, should read.

Martin is an outstanding working class activist and thinker. Martin has dedicated his entire life to the working class movement and its struggles.

Martin lives in London and travels to Australia yearly to visit family. He was an outstanding supporter during the Hutchison dispute and was a frequent visitor to the assembly.

I hope those who take the time to read this important article enjoy and ponder on it. Bob Carnegie – Branch Secretary

Port Automation Shifts and Changes Jobs Rather Than Wiping Them Out

"THE RWG TERMINAL [in Rotterdam, 2.35m teu capacity], with its fully automated cranes, is

operated by a team of no more than 10 to 15 people on a day-to-day basis. Most of its 180 employees aren't longshoremen, but IT specialists" (Journal of Commerce, 4/2/16). The Managing Director says: "we are in fact, an IT company that handles containers." However, a total of 180,000 workers are employed in the Port of Rotterdam, by 1,200 firms. "It is expected that by 2030, there will be a demand for 10,000 additional employees" (Port of Rotterdam website).

amated both functions that are

In the USA "no terminal has automated both functions that are ripe for automation: horizontal ground transport from the foot of the ship-to-shore crane to the container stacks, and the movement of containers within the stacks" (JoC, 2/10/14). The TraPac terminal at the Port of Los Angeles is the leader in automation. It says it will be fully converted to ASCs by 2018. "Automation will reduce overall longshore jobs at the facility by 40 to 50 percent. The use of auto-strads will reduce the number of workers needed per crane by 53 percent.

Automating the container backland reduces the number of workers per transtainer by 85 percent... Although it eliminates some jobs, automation fosters creation of new jobs that call for a higher level of skills and higher pay. TraPac, for example, has hired 40 additional mechanics to maintain and repair the costly, sophisticated machines" (JoC, 2/10/14).

The US Bureau of Labor Statistics estimates employment in logistics may increase by 21.9 percent between 2012 and 2022.

The industry already employs about six million people, and according to a trade group it will be looking to fill about 1.4 million jobs by 2018, or roughly 270,000 per year. In Australia the logistics industry employs about one million people.

Only 2.5% of Global Container Volume

"ONLY AROUND 2.5 percent of global container volume is currently handled by fully automated terminals and their market share will rise to between 4 percent and 5 percent when ongoing projects are completed," according to a crane-making company boss. (JoC 15/6/16) Full automation, as in the RWG terminal in Rotterdam, or Jebel Ali Terminal 3 in Dubai, where even the quay cranes are operated from an office, is rare. Much more common is semi-

automation of various degrees, autostrads, ASCs, etc. Often terminals which boost themselves as highly automated are in fact only semi-automated.

And: "Antwerp doesn't have highly automated terminals, but it is achieving higher productivity than its rivals in Rotterdam" (JoC, 4/2/16). "Shanghai, the world's biggest container port, runs primarily a manual operation" (JoC, 2/10/14). Even the optimists of automation cite a minimum rate of one million teu a year to make it viable, which suggests that by world standards the Brisbane container terminals are overautomated, not under-automated. Automation or high semi-automation is found mostly in Europe and Asia, less in the USA.

As yet, anyway, automation is not producing "shake-out" among ports as containerisation did. Containerisation radically concentrated traffic in big ports (or what became big ports: Felixstowe and Busan were previously small); got big-city ports rebuilt in new areas, outside the cities; and destroyed smaller ports. A further "shake-out" among ports looks more likely to come from the development of mega-ships (which want to stop only in a few ports, and which only a few ports have the channel depth and wharf length and space to deal with) than from automation as such.

"Is this a good time to automate? Probably not"

"IS THIS A GOOD time to automate? Probably not. We've got an oversupply of terminal capacity", OECD official Olaf Merk told a port bosses' conference (JoC, 15/6/16). Other experts say: "not to get too excited too soon about automation because it is hugely expensive. Also, terminal operators are waiting for the

approximately 25 automated container terminals worldwide to achieve the level of productivity they were designed to reach" (JoC, 9/3/16).

World trade grew faster than world output from after World War 2 through to 2008, and especially fast after the spread of containerisation in the 1970s. But, since a recovery in 2010 from the extreme slump level of 2009, in recent years it has grown much more slowly.

Hong Kong's container volume fell 9.5% in 2015, and Singapore's 8.7%. Shanghai's grew slightly, but a trade journal estimates "China port volume set for slowdown after 2015 growth" (Journal of Commerce 22/1/16).

The Port of Brisbane's total trade is down in 2015-6, at 30 million tonnes compared to between 37 and 39 in each year from 2011-2 to 2013-4. Its container trade in 2015-6 was up on 2014-5, but only slightly.



At the same time, large investment projects planned before 2008 are coming on stream. The World Economic Forum describes "The

Container Shipping Industry" as "Global Trade's Weakest Link" because of the difficulties.

"The total current container fleet contains almost 5,000 ships with a total capacity of almost 16 million TEUs. Almost 3 million TEUs of this capacity is from the 'super-Post Panamax' ships (i.e. those with more than 8,000 TEU capacity), with another 2.5 million TEUs on order. There is no apparent place to profitably assign these big ships".

Marc Levinson, author of "The Box", comments on his blog: "Slow steaming [which saves fuel, and which the mega-ships are designed for] looked brilliant when oil sold for more than \$100 per barrel, as it did in 2008 and again from 2010 to 2014. Mega-ships seemed attractive when the demand on key containership routes was growing six or seven percent per year. With oil below \$40 and the world economy heading into what looks like a prolonged period of slow growth, neither circumstance applies today. Which leads to the question of whether ship lines will again pay the price for having guessed wrong."

Further: "in Europe... there has been massive investment in container ports to handle the extremely large vessels now coming on line... ports are deepening their channels, lengthening their wharves, expanding their storage areas, and installing bigger cranes. Every port wants the mega-ships to call. The ship lines that own these vessels, though, don't want to stop in every port; they want their ships to spend as little time in port as possible. Moreover, as these giant ships replace smaller vessels, most ports will see fewer containerships, not more. The bottom line: Europe's ports now have far more container-handling capacity than required".

The growing number of very big ships has brought conflicting responses. US marine infrastructure engineer Ashebir Jacob says: "As we start to receive bigger and bigger vessels on the West Coast, [automation] becomes really critical. Some terminals cannot handle it any more with conventional systems" (Wall Street Journal 28/3/16). Yet, as Levinson points out, most of the modifications needed for mega-ships are not to do with automation: deeper channels, longer wharves, bigger storage areas, bigger cranes. Neil Davidson of Drewry Maritime Research makes a more cogent case when he writes that the combination of the surge of mega-ships with sluggish global trade growth will slow down and deter investment in automation. "It's a very hard time to make those investments when the port industry is facing slow growth, higher operating costs and declining margins" (JoC, 15/6/16).

The biggest and most automated ports have an advantage in handling huge ships quickly. But automation is very expensive. Once a terminal has automated equipment, its operators have vast depreciation and debt-servicing charges, and so need to keep it constantly busy. If containers arrive, not in a steady stream of smaller instalments, but at intervals in huge numbers, the operators can't do that.

The other complication about automation is that it is difficult to do it piecemeal. In an existing terminal, it calls for comprehensively rebuilding the site, as well as scrapping still-viable equipment. Thus automated terminals are usually new developments, on greenfield sites. Rotterdam's, for example, are on the reclaimed land of Maasylakte 2.

And the infrastructure behind the terminal is as important as the terminal itself. It is no use having a highly automated terminal if the containers come in to it, and go out of it, on trucks trying to navigate overcrowded roads. One of the advantages of US ports, notably Los Angeles and Long Beach, over European ports which are often more automated, is their good rail connections to logistics hubs.

The new DP World terminal at London Gateway has ASCs, but its quay cranes are still manually operated, and it touts for business on the strength of the 300-hectare logistics park being built behind it with "road connections to the North, South, East and West via an eight-lane highway; and the UK's largest port rail terminal".

The new JadeWeserPort in Wilhelmshaven, Germany, just west of Bremerhaven, likewise boasts about its 160 hectare logistics park, which it claims to be "one of the most efficient transport hubs in Northern Europe". Its straddle carriers are not automated, but it claims that its deep water and long wharves will make it the only port in Germany able to deal with megaships.

Opened in 2012, JadeWeserPort moved hardly any traffic in 2013, 60,000 teu in 2014, and 426,700 teu in 2015. But its scheduled capacity is 2.7 million teu.

In January 2016, London Gateway boasted about a vessel carrying 18,600 teu (reputedly the biggest load ever) diverting to its terminal rather than Felixstowe. But overall it moved only 300,000 containers in 2014, and DP World are giving no figures for 2015. It is designed to move 3.5 million teu. Having 23 days' traffic arrive on a single ship, which has to be turned round fast, is not good for limiting idle time on the terminal's A\$2.6 billion fixed investment.

Despite such setbacks, the world's biggest shipping companies and container terminal operators are still profitable. According to Maersk boss Nils Andersen, "the industry is losing money, probably pretty big sums and after a period of five, six years", but Maersk made US \$3.1 billion profit in 2015 and expects some, though smaller, profits in 2016. CMA CGM also made profits in 2015, of US \$567 million. Cosco made profits of US \$43.7 million, small in relation to its revenues of US \$9 billion.

DP World made profits of US \$883 million in 2015, and Hutchison Port Holdings US \$370 million.

So far there are no clear signs of a big shake-out in the industry, such as happened in the 1970s when the big surge of investment in container ships and facilities after 1968 ran in to the 1969-71 and 1973-5 global recessions. But container terminal operators and shipping companies are likely to be slow and cautious about big new investments not yet committed to.

The Experience of Trade-Union Resistance

SLUGGISH TRADE FIGURES and the overhang of investments planned before 2008 will apply pressure for some years, and are likely to incite attacks by employers on port workers' conditions. These attacks are not specially to do with automation, and are likely to happen in ports with all degrees of automation. Port workers, however, have a strong strategic position in economic life, even stronger now in the era

of "just in time". So long as they are well-organised, they will also be well-placed to resist those attacks.

Port operators cannot move their business to another country or another city, and are not likely to shut down.

In the broad historical overview, the mechanisation of ports (through containerisation), and now automation, make it easier, not harder, for port workers to get permanent full-time jobs rather than the casual work which was the norm in ports for centuries.

According to Marc Levinson's book on containerisation, before the 1960s "only in Rotterdam and Hamburg, where semi-casual workers were guaranteed income equal to five shifts per week in 1948, could most dockers look forward to earning steady incomes". British dock workers were guaranteed a fallback wage under the National Dock Labour Scheme, but a very small one, a bit over £3 per week when the average wage was almost £20 per week. Into the 1970s, Boston dock workers worked an average of one and a half days a week; New Orleans workers, two days a week.

With expensive equipment, needing careful maintenance and well-trained handling, bosses have an interest in a more permanent workforce. Yet the European Transport Workers' Federation reports that "since the 1990s, when many EU countries have started liberalising and/or privatising their ports... attempts to dismantle port labour schemes (often referred to as 'labour pools')... casualisation has come back".

Technologically, ports are now much more suited to permanent workforces. Casualisation is being used by employers only to divide workforces, reduce labour costs, to increase their control, and to put on the workers all the burden of flexibility in relation to irregular ship arrivals. Using the strategic strength which port workers now have to reduce casualisation is both feasible and

necessary for the struggles ahead.

The experience with containerisation, as with other technological revolutions, is that workers and unions do better to fight for influence and control over the terms of their introduction than simply to oppose or try to delay them. As Marx wrote: "It took both time and experience before the workpeople learnt to distinguish between machinery and its employment by capital, and to direct their attacks, not against the material instruments of production, but against the mode in which they are used".

Automation should not be regarded as a challenge which union organisation is unable to meet. If a crane driver is in an office with other workers, that is not obviously worse for building solidarity than if he or she is in a little cabin far above other workers. The automation does not even remove skills; it just modifies them. According to Levinson, the first automatic cranes had to be modified to relay sound as well as vision from the crane so that the driver in the office could hear what was happening as well as see it: the designers hadn't realised how much crane drivers go by hearing as well as sight.

Unions like the ILWU on the West Coast of the USA, and the WWF in Australia, which saw containerisation coming and quickly set about negotiating terms, suffered setbacks, but they did better than others. In 1969, Sydney was the fourth biggest container port in the world, and Melbourne the eighth biggest. In Britain, the previously dominant ports in London and Liverpool, where union organisation was strongest, were pushed aside by new developments in Felixstowe, Southampton, and Tilbury.

In Britain, dock workers were mostly organised in a general union, the TGWU, which also covered warehouse workers and truck drivers. That should have been a help, but in fact it meant that the top leadership had little focus on the ports, which were a minor part of their membership. The top union leaders essentially had no strategy. Their only contribution was the Jones-Aldington report of 1972, which offered little more

than better voluntary redundancy terms.

Such strategy as there was came from the dock workers' shop stewards, especially in London. But it was a corporatist, reactive strategy. For all its excellent qualities of militancy and solidarity, the dock labour force tended to see solidarity in sectional terms. Although the leading shop stewards, Danny Lyons and others, were Communist Party members, there were no black dockers in London, and in 1968 500 dockers from East India dock marched to support the Tory racist Enoch Powell. In Manchester, there were black dockers, but the difficulties were illustrated in an incident I remember from 1972. Building workers were on national strike, the only such strike ever in the history of the industry. Comrades working in the port persuaded an older, better-known port trade unionist to come to speak in solidarity to a building workers' rally. His speech, fortunately mostly incomprehensible because of his strong Irish accent, abused the building workers for ever having accepted miserable pay rates such as they were striking to improve, rates which no dock worker would ever accept.

The latest five-year deal between the ILWU and the US West Coast port employers' federation, the Pacific Maritime Association (PMA), summer 2015, repeats the shortcomings of

the first Mechanisation and Modernisation Agreement in 1960. Even Marc Levinson, the conservative author of "The Box", a history of containerisation, writes: "[ILWU leader] Bridges drastically underestimated the speed with which containers would alter work on the waterfront, and demanded far too little for his members as a result". In 1960 the MMA gained employment security for "core" workers who were registered union members ("A" men), but at the expense of job control and of the wiping-out of the jobs of the "B" men and the casuals. The latest deal is on similar lines: pay and benefits increases for the existing workforce in exchange for a dwindling degree of control over the labour process and a reduced workforce in the future.

In January 2016 dock workers struck in three terminals at Rotterdam, over a threat to jobs from new fully-automated terminals in the port coming into service in the next few years. They estimated 800 out of 3700 jobs in the terminals were at risk. The dispute ended in July 2016 with a deal which provides job security until 2020 for existing workers, including workers employed by a labour-supply firm for the terminals which is folding, and allows workers over 60 to work 60% hours for 90% pay, but effectively concedes that union strength will gradually decline.

It is wise to try to negotiate conditions in advance over automation, rather than waiting for it to come and then reacting defensively. (And employers who are currently feeling doubtful about automation may well be more easily pushed to concede good conditions now than when they have definitely decided on the automation). To take the negotiating-in-advance approach requires promoting discussion among wharfies of developments and difficulties not yet visible, and of how they relate to workers in jobs not currently seen as wharfies' work. But such activity is a large part of the essence of the work of politically-knowledgeable, broad-visioned, socialist trade unionists. As Marx put it, "The Communists are distinguished from the other working-class parties by this only... they point out and bring to the front the common interests of the entire proletariat, independently of all nationality... in the various stages of development... they always and everywhere represent the interests of the movement as a whole... they have... the advantage of clearly understanding the lines of march, the conditions, and the ultimate general results of the proletarian movement". And Lenin: "the 'ideologist' is worthy of the name only when he *precedes* the spontaneous movement, points out

Key aims should include: job security, with provision for retraining and redeployment, of the existing workforce; decasualisation; consultation with the union over every technological innovation; shorter hours, better breaks, and the right for workers to have breaks at common times; union agreements covering not only manual work on the wharves, but also other port and hinterland work including IT work, security-guard work, and logistics-hub work.

In the USA the ILWU did try to win rights to represent workers in the new logistics centres outside the ports. That effort was thwarted by jurisdictional disputes with the Teamsters (at one point ILWU leader Bridges proposed a merger between the ILWU and the Teamsters). In Britain, in the early 1970s, TGWU union dockworkers tried to secure container-depot work for dockworkers by picketing and trying to shut down the depots. This failed not only because of the

the road..." employers' strength, but because it set the workers inside the depots and the truck drivers, who were members of the same union, the TGWU, against the dockworkers who they saw as threatening their jobs.

The change in technology since the 1960s and 70s has made some of the new logistics hubs into strategic points in the economy scarcely less powerful than the ports. These are not a few warehouses sited wherever industrial land is cheap somewhere near the port, and easily substitutable by similar warehouses on another piece of cheap land: they are big industrial complexes, with big fixed investments. The developers of London Gateway claim that when the terminal and the logistics hub are in full swing, they will employ no fewer than 36,000 workers.

Technological change has also made IT work, security-guard work, and other "ancillary" work in the container terminals strategically important. A union approach which aims only at conserving jobs and pay for a dwindling workforce of core manual workers on the wharves can win successes for a while - operators are likely to be cautious about automation, and can afford guarantees for limited numbers of workers - but is likely to lead to diminishing union power. At some time in the automation process, not very soon, but some time, terminals will reach the point where at least for short periods they can be operated by managers alone, and the workers' strategic strength will be diminished.

The unionisation of the British dockworkers, through the 1889 strike, got crucial help from workers from already-organised sectors, like Tom Mann and John Burns, members of the engineering union, the ASE. The best way for port workers to defend their conditions is to make their existing strength a base for efforts to spread union organisation, and win comprehensive agreements, among all workers in the ports (IT staff, security guards, etc. included) and the thousands of other workers who are now in closely-linked jobs around ports. Those agreements should also allow for re-training of workers. That activity will require coordination between different unions; dwindling rates of unionisation across industry should give unions the necessary sense of urgency about overcoming secondary conflicts.

And in that way port workers can not only win a better working life for themselves, but contribute to the winning of a better society and a better life for all workers.

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