



Presidential Address Manufacturing Matters

Dick Philbrick

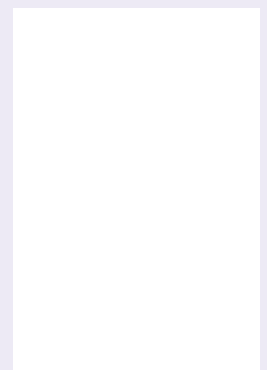
Dick Philbrick is a former managing director and co-founder of Clansman Dynamics. He was installed as the 86th IES President in September 2022

Abstract

I was distracted from a career as an engineer, but not as a manufacturer. I could not help but compare how farmers and their farm workers, in the Suffolk village where I was born, collaborated in hard work with the poor management, lousy productivity and working relations of the shipyard where I trained. There were numerous strikes, sabotage and demarcation disputes between unions, but excellent craft skills in the shipyard. I sought answers to the demise of UK manufacturing in other industries and countries.

In this article I:

1. describe the avoidable collapse of UK manufacturing.
2. trace, from personal experience, the silent death of Europe's then largest mobile crane maker.
3. describe commercial lessons learned in starting an engineering company.
4. explain how many of the technical mistakes we made in the start-up might have been avoided.
5. argue the case for how we can achieve collaborative working.



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20th Century Collapse in UK Manufacturing And Its Consequences

Peter Drucker, the management guru, argued that British manufacturing could have remained great after WW2. He believed the UK had a strong position in anti-biotics, jet engines, body scanners, even computers were a British invention, and we still had our traditional industries like shipbuilding and vehicle manufacture. This optimism was undone by 'short termism', industrial disputes, a wildly fluctuating currency; all a dreadful climate for serious manufacturing.

The 1970's was an unhappy period throughout British industry as the post WW2 consensus broke down and the easy flow of orders ceased. UK shipyards were overwhelmed with orders after 1945, building half the world's merchant

ships, and simply continued with 'craft based' methods while other countries invested¹ in new methods that produced a 40% productivity advantage by the 1970's. Of 246 all-welded ships built in the world, above a certain size, between 1946-49, only 7 were made in the UK. Japan had overtaken the UK in shipbuilding by 1956. A UK industrial crisis was brewing.

399,000 of the 523,000 cars made in the UK in 1950 were sold abroad which amounted to half of all cars exported worldwide. Competition was limited then. The car industry was blighted with unattractive and unreliable designs and poor industrial relations with many working days lost.

Younger readers may find the level of industrial strife of the 1970's hard to envisage. Derek Robinson, known to the press as Red Robbo, was union convenor at the Oxford Cowley car plant that was then BL (British Leyland, now BMW producing the Mini). His despairing sentence in one

¹ Weldon D (2022) 200 Years of Muddling rough: e surprising story of Britain's economy from boom to bust and back again, Abacus

interview, “*But that is what we had to make,*” (referring to the unsuccessful Morris Marina, Allegro etc) neatly encapsulates so much that was wrong with the management of British industry. Robinson claimed, “*workers, were progressively demoralised by knowing that the cars that they were producing were mostly wrong for the market and often sub-standard. Worse, we also knew that in the opinion of management, our views would be worthless and never be listened to.*”

The placing of an MI5 mole in the BL factory’s Trade Union committee, illustrates the serious concern of some in government.

We have to make stuff and we have to export it, if we are to achieve a balance of trade. In the 1970’s we faced the strongest international competition since the start of the industrial revolution and had lost our captive markets in the colonies. It was thought by some politicians that we could live off our service sector, while employment in manufacturing declined, as it had in agriculture (now 1% of employment). There is another consequence of this decline, which is only now being fully understood. Manufacturing provides a band of skilled and well-paid jobs, that cannot so easily exist in the service sector. Germany has three times the numbers employed in manufacturing as the UK. The result is a less stable economy and greater inequality in UK society. We have many on low and high incomes compared to other developed countries, but many fewer with middle incomes, as manufacturing has shrunk.

German industry, with its miraculous recovery after WW2, was often cited as a great example that we could learn from. I went to Germany with the pretentious aims, for a 23 year old, to learn the language and experience how they managed their companies, while taking any low-grade job I could get. Germany has a system of ‘Mitbestimmung’ (‘Codetermination’) in their larger companies, whereby trade unions sit on company Boards and are directly exposed to issues affecting the business. I met nobody in Germany in 1974 who was aware of the system and with the impetuosity of youth, concluded that imposing changes in U.K. like ‘Mitbestimmung’ would not foster the collaboration we desperately need. I still believe we need something more radical.

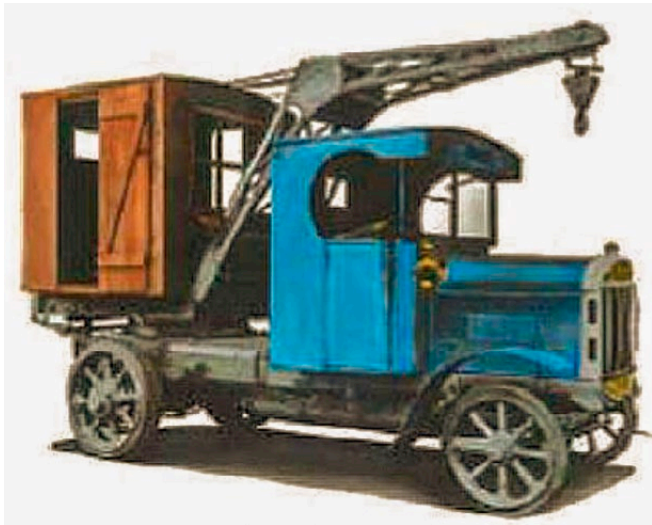
Rapid Decline and Fall of Europe’s Largest Crane Maker

I am not an academic and this liberates me to describe some of the lessons learned from my brutal experience at Coles Cranes (maker of mobile cranes) in a more anecdotal, but hopefully still useful way. It is not just shipbuilding, motor bikes and power generation manufacture that declined.

The story of Coles Cranes shows a company that grew from solid engineering foundations in 1878 to become, post WW2, the largest European mobile crane maker,



employing 3,500 at its peak. Henry Coles was a significant contributor to the proceedings of what are now IMechE and ICE.



A large order from the Air Ministry triggered rapid growth in 1937 which continued till 1945. Coles Cranes cemented its reputation with a range of reliable diesel-electric powered cranes, rejoicing under names like Adonis, Aeneas... (The names from Greco-Roman mythology perhaps indicate something of the classical education of later generations of directors of the family owned company!)

Coles exported widely but not to a number of key markets like USA and Japan. Today's leading mobile crane maker, Liebherr, established sales in Virginia, USA in 1970 and in Yokohama, Japan in 1983. A capital equipment



Coles Aeneas crane in a shipyard

manufacturer needs to export widely to gain production volumes and more consistent sales. Liebherr remains family owned, with a vast product range, in Germany, having overtaken Coles by 1980 from its 1949 start.

Coles bought a number of related companies until financial troubles loomed in 1972 when it was hurriedly sold to Acrow, maker of the simple Acrow prop – owned by wealthy, Swiss born, Bill de Vijier), in order to escape the clutches of asset stripper Slater Walker; only to be sold later to American competitor Grove Cranes whose owner, Walter Kidde Inc. asset stripped and closed them down in 1997.

Liebherr's great leap in the crane market came in the early 1980's when Russia tendered for 270 cranes for a new Siberian pipeline. Cranes would have to operate at -50°C, be made of special steels, have all wheel drive. It became a duel between Coles and Liebherr with negotiations lasting months and switching from Moscow to the Russian Consulate in Cologne and back, till Coles was abruptly excluded. Coles' prospects were snuffed out as if a candle, as Chancellor Helmut Schmidt agreed to buy Russian gas if the Russians bought German cranes and excavators. Mrs Thatcher did not play that game. Liebherr's specially developed 8 wheel drive crane is still in production. Coles never recovered their lead. I learned that politics could severely impact business.

America appears to make that connection between politics and business rather more pragmatically than Britain. We rigidly followed the monetarist wisdom of the Hayek and Friedman/Chicago School that the market would somehow always determine the best course. We were blind to the fact that in the USA i-pads, pods and phones, touch screens, hard drives, voice recognition, etc had their roots in risky, federally funded projects². Our governments and civil servants are frightened by risk and look for short term returns. Too often projects are abandoned after a short term reappraisal of cost; like the 1 mile of channel tunnel bored into the Kent chalk in 1974, like the TSR-2 fighter.

Salesmanship is a rather less accepted skill in Britain than in the USA. There is a disdain in society for salesmanship captured in the snobbish lines of a John Betjeman poem:

*I am a young executive. No cu s than mine are cleaner;
I have a Slimline brief-case and I use the rm's Cortina*

2 Mazzucato M (2013) e Entrepreneurial State: Debunking Public v. Private Sector Myths, Anthem Press

Technical stuff must be sold by technical people. Engineers have a squeamishness about accepting a sales role. Brilliant design and manufacture still needs selling. Certainly it is useful to wine and dine customers, like the Coles salesman here with Haile Selassie's tiger cub, but

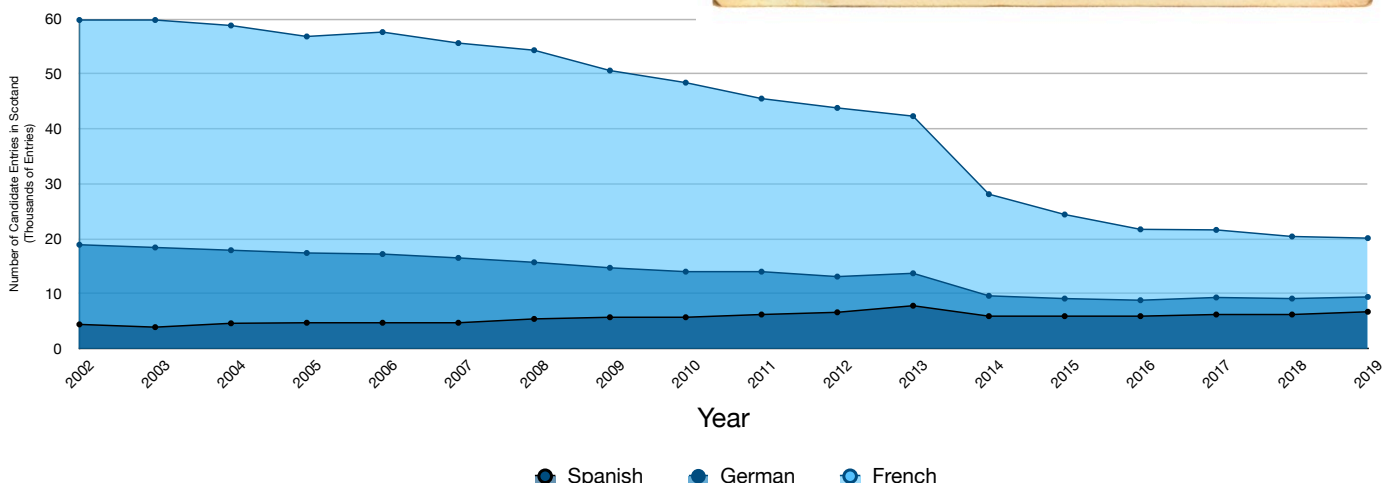
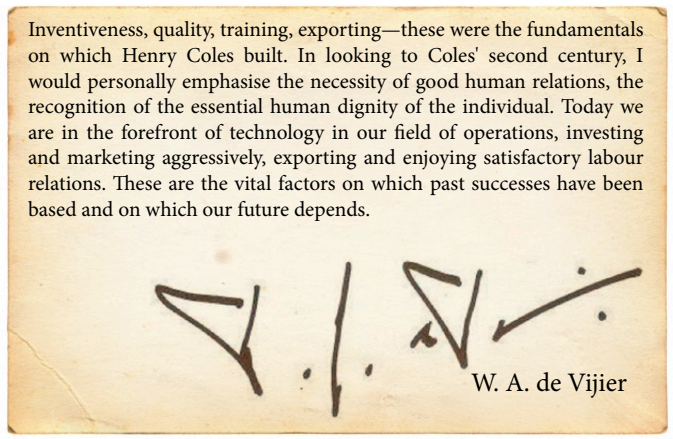


Coles salesman with one of Emperor Haile Selassie's tiger cubs

I have observed the most effective 'order-getters' for product selling have combined their integrity with a deep engineering expertise. Without the latter they have simply failed, no matter how good their schmoozing skills. Engineers complain when accountants run their companies. Sales experience, meeting a customer directly, understanding their needs, puts engineers in a much stronger position to lead a company or manage their team.

Coles Cranes understood the need for linguists. Language skills in the UK are notoriously poor in relation to all other European countries. Only a quarter of the world has any knowledge of English and as Nelson Mandela famously said, "If you talk to a man in a language he understands, that goes to his head. If you talk to him in his language, that goes to his heart." In reality language skills will allow the salesman to engage with a wider range of customers' personnel, like our German and Italian competitors. We believe Clansman would not have survived beyond a very difficult start-up, without our ability to communicate in French, German and Italian. Senior university personnel claim their engineering students have the opportunity to learn a language – where are those engineering students? Calling foreign languages a soft skill detracts from their importance. Business needs to press for language skills. Unless universities demand them, schools will not teach them. It is a simple chain with missing links. The graph below shows the 90% decline in German and 75% in French at Scottish secondary schools from 2002-19.

Coles celebrated 100 years of crane making in 1978. The chairman, Bill de Vijier's, introduction to the Centenary Year Book summarised what I believe manufacturers need to understand and practice:



School pupil numbers in Scotland learning (SQF3-5) foreign languages (Ref <https://assets.publishing.service.gov.uk> > le >

Many proclaim the need to increase UK exports. Try to imagine a well-run company with brilliantly designed products, carefully controlled costs and the best productivity which is then faced with a 20% revaluation of the £ in order to tame inflation. That is an impossible obstacle for an exporter. Until our economic policies reflect the need of serious exporting manufacturers (like Japan, S Korea, China, Germany did) we will remain a second rate industrial power.

Conclusion

I return to the wise words of Mausu Ibuka and the lessons from the demise of Coles Cranes. Coles did not manage to have every aspect of its business in order and, despite excellent products, failed. Those cranes could still be being made – there is still an obvious demand for them. Employment costs in the UK are lower than for competitors in France, Germany and Japan – costs cannot be the excuse for the failure. A lack of collaboration was a key problem which I believe the radical change to employee ownership has addressed for the long term at Clansman.

The passion to put customers' needs first, to compete internationally, to innovate, to develop new processes, to keep all employees informed of the good and the bad news, to produce absolutely reliable engineering is very

evident at Clansman; the interests of all employees and shareholders are shared through employee ownership. The level of participation and expectation of answers to questions increased dramatically when just the structure of ownership of the company was changed.

Engineering companies can be started and can flourish in the UK if all collaborate with that passion. However the serious re-establishment of a significant manufacturing sector within the UK for a more balanced economy does also require big changes within society, education and government policies.