

# The Politics and Economics of the Armaments Industry in South Africa

Simpson, G. (1989). ***The Politics and Economics of the Armaments Industry in South Africa***. In Cock, J. Nathan, L. (eds), *War and Society*. Cape Town & Johannesburg: David Philip.

In Cock, J. & Nathan, L. (eds), *War and Society*, pp. 217-231, Cape Town & Johannesburg: David Philip, 1989.

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In August 1986, J G J van Vuuren, chief executive of Armscor, when interviewed about his upbringing and the background to his involvement in the armaments industry in South Africa, commented: My childhood was one of clay-pellet fights with the coloured boys and growing up with my parents' interests' (*Finansies en Tegniek*, 12.9.1986).

Were it not for the brutal nature of National Party rule for most of the 50 years since Van Vuuren's birth, the apparent continuity in his life would almost be humorous. Today, however, the struggle with 'die bruin seuns' is over the fundamentals of political and economic power in South Africa. The tools of Van Vuuren's trade include some of the most sophisticated weaponry currently available, and the interests which he is entrusted to protect are those of 'the survival of the free enterprise system' in South Africa and the very security of the apartheid state.

The above quotation provides an apt introduction to this chapter, which attempts to map out briefly the integration of the political and economic features of the developing armaments industry in South Africa.

## A Military-Industrial Complex?

Armscor, and the armaments industry in general, present one of the central points of interface between the security establishment and the business community in South Africa. The strategic importance of the industry in the context of the international arms embargo and of mass resistance to apartheid is self-evident. The aspiration to develop a fully self-sufficient, technologically sophisticated arms production capability in South Africa has also placed Armscor at the cutting edge of technological research and development within South African industry.

This latter feature has been built on an interdependent relationship between Armscor and the private sector. Indeed, key Armscor personnel, including Piet Marais (chairman) and Van Vuuren, boast that Armscor has acted a model of successful 'privatisation' over the past twenty years or so. They argue that the 'privatisation' of the arms industry is of fundamental importance in developing its self-sufficiency in the face of international embargoes. These views are reflected in the recommendations of the Geldenhuys Committee of Investigation into the Future Planning of the South African Defence Force and Related Armscor Matters. On the issue of self-sufficiency:

**The arms embargo against the RSA is currently implemented by the international community to such an extent that it is not envisaged that Armscor will be able to import any weapons systems in the future ... . The armaments industry is a national asset to the RSA, and its survival is of critical importance. In the current situation, the most cardinal aspect is to ensure self-sufficiency, and the concern is to preserve the expertise of contractors. (Defence White Paper, 1986: 8-9)**

Two paragraphs further on, the committee mapped out Armscor's particular approach to the issue of privatisation:

**The Committee accepts the fact that privatisation is indicative of a broad spectrum of measures aimed at reducing the State's share of the economy. The method employed by Armscor to promote privatisation is to encourage provisioning by the private sector, contracting out and industrial leasing. In addition, no facilities are created if they already exist in the private sector. (*Ibid.*:9)**

The existence of this 'privatised' armaments production capacity has prompted writers such as Ratcliffe and Frankel to describe the South African system as a 'military-industrial complex' of one sort or another (Frankel, 1984: 82-95; Ratcliffe, 1983). Their analyses identify the development of mutually dependent relationships between business and the military, characterised by the infusion of the strategic concerns of the security establishment within the South African economy as a whole.

This 'militarisation of the South African economy' was not merely a strategic necessity in a hostile international environment. However obvious, it nonetheless bears stating that the rise of militarism and, indeed, the expansion of arms production in South Africa were responses to internal social, political and economic crises. Furthermore, within this military-industrial collusion, the representatives of capital are also political actors with an agenda of their own.

The responses of business people to the crises have seldom been consistent and have varied from a willingness to engage in discussions with representatives of

democratic black organisations, to active support for the most severe repressive measures adopted by the Nationalist government. Nevertheless, business's primary concern is to secure the conditions for the survival of the free enterprise system in South Africa. It consequently places a high premium on 'political stability'.

In this respect one factor remains constant: ultimately, the military represents the last line of defence against the liberation struggle. This means that in spite of the oft-quoted anti-apartheid rhetoric coming from some sectors of the business community, it remains fundamentally in their interests to ensure that the military capacity of the apartheid state remains intact.

It therefore comes as no great revelation to demonstrate the active involvement of leading South African industrial corporations in the building of a local armaments industry over the last twenty years. However, the extent to which one can talk of the existence of a 'military-industrial complex' is a slightly more complex issue. Smith and Smith suggest: 'The military-industrial complex ... functions on the basis of a structural pairing that inevitably develops into mutual interests' (Smith and Smith, 1983: 74). They go on to assert that this 'structural pairing' is based on two shared, central politico-strategic assumptions. Firstly, there is the assumption that national self-sufficiency in arms production is a requirement of state policy and security; secondly, that the development of advanced technology will service industry and the military simultaneously. In short, the relationship is a reciprocal one in which security priorities are married to the economic strategies of capital. This remains to be demonstrated in the South African case.

The short-term economic benefits for business from its involvement in contract work for Armscor are undoubtedly substantial. It seems to be a universal characteristic of the armaments industry that market prices for armaments-related industrial products tend to be inflated. This is due in part to the fact that either strategic concerns, or profit subsidising, takes precedence over short-term cost effectiveness. As McKenzie argues:

**In military industry, design and innovation is focused on the product alone. Its destructiveness, speed, accuracy, or whatever, is the key criterion. That is what the buyer wants ... . How the product is to be produced, and what it costs to produce it, are strictly secondary considerations. Indeed, [often] ... the interest of the producing firm actually lies in coming up with a product that is more difficult and more expensive to produce. (McKenzie, 1983: 41)**

This is compounded by the fact that there is no 'free market' in the trade of arms. Despite the growing number of arms purchasers, particularly in the Third World, the arms market remains largely controlled by governments which act as both buyers and sellers (McKenzie, 1983: 42). The result is a further inflation of market prices for armaments-related products.

According to Van Vuuren, the economic benefits to the business community through investments in the armaments sector go well beyond their short-term profit potential.

In particular, Van Vuuren notes the developmental potential inherent in the arms industry's brand of privatisation. Furthermore, in a climate of paranoia about the potential effects of sanctions, he also points to the lessons that can be learned by all sectors of South African industry from Armscor's success in breaking the arms embargo (*Finansies en Tegniek*, 2.9.1986 and 30.1.1987).

In this vein, Van Vuuren argues that the armaments industry offers the potential for solving some of the structural limitations on growth in the national economy. This view is based on the calculated beneficial effects for manufacturing industry as a whole, as a result of the development of locally produced high technology in the armaments sector.

Referring to the industrial utility of high technology developed in the US space programme, Van Vuuren claims that domestic technological breakthroughs in the armaments industry are already having the same sort of developmental economic effects. He even asserts that the armaments sector, through its self-sufficiency programme, offers the potential to break the dependence of South African manufacturers on foreign technology. He argues that in this way South African manufacturers could avoid the restrictive licensing agreements which tend to accompany technology transfers and which prohibit competition between the lessor and the lessee of such high technology. On this basis he claims that the armaments industry can offer South African manufacturers the potential capacity to break into foreign export markets with products which are unique, if not always necessarily cheaper.

Van Vuuren places the development of the armaments industry at the heart of an export-led programme of economic recovery. Should there prove to be any realistic possibility of such a scenario occurring, it would substantially affect our analysis of the nature and extent of the militarisation of South African capitalism.

By the end of this chapter, through tracing the development of the arms industry and some of its constraints, we hope to make some evaluation of Van Vuuren's case. In particular, it will be possible to assess the extent to which the relationship between capital and the military is a truly reciprocal one, servicing not only the technological requirements of the SADF but the economic strategies of the business community as well.

### **A Brief History of Armscor and Armaments Production in South Africa**

The genesis of an armaments industry in South Africa can be traced back to the production of munitions during the Second World War in order to supplement the Allied war effort. In the course of the war the industry expanded rapidly, producing 50 million rounds of ammunition a year and employing 12 000 people in six factories countrywide (Frankel, 1984: 84; and Ratcliffe, 1983: 72-3).

Predictably, at the end of the war the industry shrank fast, most factories either closing down or going into 'civilian production'. Nonetheless, in 1940 an advisory committee on Defence Force requirements was set up to investigate available resources for armaments production. In 1949, this committee was transformed into

the Board of Defence Resources, responsible to the Minister of Defence for advice on all matters concerning the country's armaments potential.

In 1951 the Munitions Production Board was established as a sub-division of the Department of Defence. Two years later the Department of Defence set up the first rifle-manufacturing plant. It was from the turn of the decade, however, that the armaments industry really took off in South Africa. On the political front, the development of the arms industry and the form which this took reflect the state's response to a preceding period of intense popular struggle. The mass resistance of the 1950s, culminating in the massacre at Sharpeville on 21 March 1960, the banning of the ANC and PAC and, as a consequence, the launch of organised armed resistance to Nationalist rule, provided the political backdrop to the post-war renaissance of the South African armaments industry.

At a strategic level, with the establishment of the Republic in 1961 and simultaneously the first hints of international arms sanctions against South Africa, the Munitions Production Board was immediately expanded. Despite an initial outflow of capital after the Sharpeville massacre, the early 1960s saw the beginnings of one of the most sustained boom periods in the history of the South African economy. In particular, the rapid expansion of the manufacturing sector provided the economic and financial underpinning for the development of a domestic armaments production capacity. The early 1960s therefore signalled the beginning of a significant shift in emphasis from the importation of arms to the procurement of arms technologies necessary to support local production (Frankel, 1984: 82). By 1965, 120 licences for the local manufacture of military equipment were negotiated with a wide range of foreign sources (Leonard, 1983: 140).

In 1963 the National Institute for Rocket Research was established at the CSIR and it immediately undertook the development of a ground-to-air missile system with radar support (Ratcliffe, 1983: 74; *Sunday Times*, 27.10.1963). With a view to furthering this programme, local scientists were recruited and sent overseas to study the principles and techniques of missile construction. This missile programme was jointly financed by the South African and French governments, and the missiles were developed with the assistance of a French electrical engineering concern – Thomson CSF (Ratcliffe, 1983: 74).

The development of a local armaments manufacturing capability depended on the acquisition of skills and technical know-how, as well as on the creation of the necessary industrial infrastructure. The future of the fledgling industry required access to and local development of the appropriate high technology. In the long term, this demanded substantial investment in the research and development of such technology, whilst in the shorter term it required both training of technicians and securing access to imported technology and licensing arrangements.

In 1964 the Armaments Productions Board was established under the Armaments Act No.87 of 1964. Its immediate objective was to extend ammunition production and its attendant infrastructures. Three years later, in August 1967, the UN Security Council passed its first resolution calling on all states to stop the supply of arms to South Africa. In 1968, when the objective of laying the infrastructural foundations had been sufficiently realised, the Board's name was changed to the Armaments Board under the Armaments Development and Production Act of 1968, and its activities were substantially expanded to include control of production, procurement and supply of

armaments in the broadest sense. In the same year, Armaments Development and Production (Arm Scor) was established as a fully-fledged state enterprise and took over the previously government-controlled munition factories as subsidiary companies.

The objects and tasks of Arm Scor as defined by the Armaments Development and Production Act of 1968 are to

**promote and co-ordinate the development, manufacture, standardisation, maintenance, acquisition, or supply of armaments by collaborating with, or assisting or rendering services to, or utilising the services of, any person, body or institution or any department of the state ... . To develop, manufacture, service, repair and maintain, on its own account or as the representative of any other person to buy, sell, import or export and through advertising or otherwise, to promote the sale of, armaments, including armaments required for export or firearms, ammunition or pyrotechnical products required for supply to members of the public ... . (Armaments Development and Production Act, No.57 of 1968)**

The Act did stipulate that all purchases of armaments by the Board had to be approved by the Treasury. However, this inhibiting measure was discarded in 1974 (Ratcliffe, 1983: 75).

By 1977 it was clear that the procurement of armaments and the control of armaments production would best be served by one body. As a result, under the Armaments Development and Production Act of 1977, the Armaments Board was amalgamated with the Armaments Developments and Production Corporation to form the new Arm Scor.

It is no coincidence that this occurred in the same year that the Security Council imposed a mandatory arms embargo on South Africa. By the time the arms embargo was imposed, and less than a year after the brutal suppression of the 1976 Soweto uprising, a centralised and administratively efficient armaments infrastructure was in place under the autonomous control of the Ministry of Defence.

The strategic imperatives which lay at the root of Arm Scor's development have resulted in the corporation's activities being shrouded in secrecy. This is even true of the central Arm Scor structures. The Arm Scor board is appointed by the State President and is responsible to the Minister of Defence. It includes the Chief of the SADF and the Director-General of Finance. The rest of the board members are primarily drawn from private finance, manufacturing and commercial sectors. The names of the directors of Arm Scor are not made public for security reasons. Very little information is available on the structure of the enterprise, resulting in some disagreement among writers over even the most basic facts.

Both Ratcliffe and Frankel, writing in 1983 and 1984 respectively, suggest that Armscor has twelve nationalised subsidiary companies directly under its auspices (Frankel, 1984: 84; Ratcliffe, 1983: 77). Grundy, writing in 1988, suggests that there are only nine (1988: 45). What is clear is that Armscor's assets increased from R200 million in 1974, to R1,3 billion in 1984 and approximately R1,7 billion in 1987/8 (Frankel, 1984: 83; Grundy, 1988: 45; Ratcliffe, 1983: 77). The corporation presently employs 23 000 people within its immediate subsidiaries – down from 29 000 in 1984 – and supports at least a further 100 000 jobs in the private sector (1986 Defence White Paper; Grundy, 1988: 45).

There is further uncertainty about the exact extent of Armscor's contractual relationships with private sector companies. Armscor's chief executive refers to 975 companies supplying Armscor directly. This implies a much larger number of sub-contractors (Business Day, 21.9.1987). Ratcliffe suggests that in 1983 Armscor was distributing work to over 1 200 private industry contractors and sub-contractors, and that at least 400 companies were dependent on Armscor contracts for their survival (Ratcliffe, 1983: 77). Grundy estimates that the corporation presently has around 3 000 private sub-contractors (Grundy, 1988: 45).

There is little disagreement about the fact that Armscor has been highly successful in developing its production capabilities in the past decade or so. The corporation's turnover for 1987/8 is estimated at over R3 billion (*Leadership SA*, 1988: 137). The Economist Intelligence Unit (EIU) reports that Armscor now produces at least 4 000 items and only imports 5% of its requirements, as compared to 70 per cent before the arms boycott began (EIU Country Report, 2, 1988: 14). Grundy claims that today around 15 per cent of the defence budget is spent on material imports (1988: 46). These figures are not officially made available by Armscor and it is therefore difficult to distinguish between the facts of the matter and political propaganda.

Perhaps even more significant is the growth of the armaments industry into the largest manufacturing exporter in the country. Armscor exports to at least 23 countries worldwide, and exports in 1988 were expected to realise 60 per cent of the corporation's turnover (*Leadership SA*, 1988: 137; EIU Country Report, 2, 1988: 14).

Today Armscor boasts a particularly impressive arsenal of locally designed and produced weapons. These include the G-5 and G-6 155-mm Howitzers, a 127-mm multiple rocket-launcher, frequency-hopping radio equipment, the Buffel mine-protected armoured personnel carrier, the CB-470 cluster bomb, the V3 air-to-air missile with a 'unique slaved target acquisition system', as well as various light- and heavy-duty infantry weapons, mines and armoured cars (Heitman, 1988).

Frankel summarises this impressive record: 'in the fifteen years of its existence Armscor has proved an almost unattenuated success – in developing the South African arms industry to a high degree of self-sufficiency in the face of international sanctions and, of no lesser importance for domestic politics, in locking together the military, government and economic elite into a tight tripartite network in support of Apartheid policy' (Frankel, 1984: 82).

However, the exact nature of Armscor's proclaimed self-sufficiency needs to be more closely analysed. Richard Leonard has examined several of Armscor's claimed technological achievements, and argues that they are all dependent on circumvention of the embargo regulations. From the lowly Ratel armoured personnel carrier, which

he implies is a copy of the French Berliet VXB, to the 127-mm truck-mounted multiple rocket-launcher, which he says has some remarkable similarities to the Taiwanese Working Bee 6 system, Leonard questions the extent of Armscor's proclaimed self-sufficiency (Leonard, 1983: 141-6). Other examples are the much-vaunted G-5 and G-6 155-mm Howitzers mentioned above. A close examination reveals that the technology required to develop the weapons was supplied in the form of shells, gun barrels, technicians and testing equipment by the Space Research Corporation of Canada and the United States. This was done in a large-scale violation of the arms embargo between 1976 and 1978 (Leonard, 1983: 141). The G-5 was produced by Cementation Engineering, a South African subsidiary of Trafalgar House, which is a large British conglomerate. Cementation Engineering is formally involved in the manufacture of mining equipment. Special lathes for producing the G-5 shells were imported from CIT Alcatel of France, and equipment for filling the shells from Rheinmetall of West Germany (Leonard, 1983: 141-2).

The extent of the industry's self-sufficiency seems to have been overstated. In particular, Armscor's technological independence is based largely on the involvement of private-sector companies, which facilitate access to vital technology by acting as conduits for US and Western European multinational corporations.

### **Armscor and the Private Sector**

From the early days of arms production in South Africa, the concern of armaments producers was to encourage the active involvement of the private sector in producing armaments and related technology and components. Thus, prominent figures in the arms industry have argued that 'privatisation' is not a new strategy, but has always been pursued as a priority by Armscor.

The process of integrating security and business interests was, however, not left to chance. On one hand, the material benefits involved for the private sector were great. Cost-effectiveness being of less significance than strategic considerations, it was viewed from the outset as essential to give business a material stake in the expansion and upgrading of the armaments sector.

On the other hand, legislative measures were introduced to ensure that some degree of security was observed by the business community. These measures included the Atomic Energy Act as amended in 1978, the Petroleum Products Amendment Act of 1977, and the National Supplies Procurement Act of 1970 as amended in 1979. The last-mentioned Act provides the Minister of Defence with the power to order any company or individual to produce or supply any goods or services required in the defence of the country. Under the Act it is also illegal to disclose 'any information in relation to the acquisition, supply, marketing, import, export, development, manufacture, maintenance or repair of, or research in connection with, armaments'. It is not surprising that these Acts were introduced or amended only a short time after the adoption of Security Council Resolution 418, which imposed the mandatory arms embargo on South Africa.

Furthermore, the state's approach to integrating the interests of the business community with those of the arms-producing sector was also an ideological one – captured in the alluring concept of 'total onslaught – total strategy'. This ideological

appeal did not by any means consistently guarantee business support for the security concerns of the government. However, if apartheid policies were regarded by many business leaders as reprehensible or undesirable, this did not at any stage compromise their contribution to the military and security concerns of the state as expressed in the needs of Armscor.

The developing relationship between the security establishment and the business community had two main objectives: to foster industrial input into the armaments sector whilst at the same time infusing the whole of industry with the ideological and material concerns of the military.

As has been noted, the achievements attained in armaments production have been impressive. Yet despite this there is still some doubt as to the extent to which they represent the attainment of military self-sufficiency through import-substitution. It appears as if local corporations, rather than producing and upgrading armaments technology, are acting as conduits through which this technology is smuggled into the country via links with multinational corporations. This is best demonstrated by considering the example of a leading local industrial supplier of Armscor, Barlow Rand.

### The Barlow Rand Experience

Barlow Rand is the biggest industrial corporation in the country and one of the largest South African monopolies. The corporation presents itself as an enlightened opponent of apartheid, and its chairman, A M Rosholt, regularly expounds business's role in bringing about meaningful change in South Africa. Yet despite this 'liberal' image, the corporation is a major contributor in the production of technology and armaments fundamental to the repressive capacity of the apartheid state.

Thomas Barlow and Sons began as a British textiles producer, and at the beginning of the century established itself in South Africa as an importer and distributor of electrical supplies. Following the economic boom of the 1960s, Barlows entered the mining sector through the takeover of Rand Mines in 1971. In the following year P W Botha, then Minister of Defence, established the Defence Advisory Council to discuss broad policy issues. Invited to sit on the first council were the Chief of the SADF, his retired predecessor, the chairman of Armscor, and two industrialists – Wim de Villiers, chairman of General Mining (Gencor) and C S ('Punch') Barlow, chairman of Barlows. One of Gencor's subsidiary companies is Sandrock Austral, a manufacturer of French-licensed armoured cars. Barlow's presence on the council at that stage seemed to have no such logical connection.

However, by 1977 the connections had become somewhat clearer. Barlows had already become involved in the limited distribution of electronic components from the 1960s. The corporation began to supply the SADF through Barlows Electronics Limited, which from 1965 secretly became one of the two chief electronics suppliers to the SADF (*Rand Daily Mail*, 21.2.1985). This included a contract to supply the army with locally assembled Thomson-CSF radios from France (*Jane's Defence Weekly*, 4.9.1983: 830).

In 1977 Barlow Rand bought the C J Fuchs group, best known in South Africa as a manufacturer of household appliances. Soon thereafter they bought a 50 per cent stake in the British-owned giant, General Electric Company (South Africa). Included in this deal was Marconi South Africa, a major supplier of radar and communications equipment to the SADF. Less than a year after these acquisitions, Barlows established Barlab, a training research and design facility in electronics at the University of Pretoria. By the end of 1980, Barlows employed about 4 000 people in its electronics division, with a turnover of R120 million. 1980 also saw Barlows launch into the computer sector by buying a 51 per cent stake in Perseus, local agent of the US giant, Data General (Barlow Rand Annual Report, 1980). The head of the Barlows electronics division during this period was Johan Maree. In 1979, Maree was seconded by Barlows for three years to serve as the Armscor chief executive.

In 1980, with P W Botha's rise to power, the old Defence Advisory Council was replaced by an enlarged Defence Advisory Board to which 13 of the biggest names in South African industry were appointed. Included were the new Barlows chief executive, A M Rosholt, and two other members of the Barlows board, R Goss (managing director of South African Breweries) and F Cronje (chairman of Nedbank) (*Paratus*, June 1980).

In 1983 Barlows embarked on a major restructuring process. Reunert, a Barlows subsidiary in property and the motor industry, was stripped of all its assets and the corporate shell was used to group together all of Barlows' high technology operations. Reunert was subdivided into four groups: Reunert Information Systems (computers and control systems), Reunert Technology Systems (Reutech), GEC (electrical engineering), and a mechanical division (later to be sold to allow Reunert to concentrate on the electrical and electronic fields) (*Financial Mail*, 31.8.1984).

Within four years Reutech became one of the most important suppliers of military electronics in South Africa. It is made up of five companies which, despite adverse publicity, continue to operate primarily within the sphere of the South African armaments industry. The companies include:

- Fuchs Electronics, which produces a wide range of radios including frequency-hopping versions. It also manufactures the electronic fuses for most of the bombs, mortars and rockets in SADF service (*Armed Forces*, March 1986).
- Barcom, which produces the Z66, the standard area-defence radio, linking white farmers throughout the rural areas with their local commando unit. Barcom is also active at the high-tech end of the market, most probably in electronic warfare equipment (*Armed Forces*, March 1985).
- ESD, which appears to be an amalgamation of Barlows Electronics and Marconi (still apparently half-owned by its British parent company, GEC).

When Marconi (UK) updated the S247 radars of the SA Air Force's northern air-defence sector in 1983, it was through ESD that the equipment was channelled (*Observer*, 24.4.1983). ESD is involved in 'avionics, weapon electronics, digital systems, electronic warfare, radar systems and radio communications systems' (*Paratus Suppl.*, Nov. 1982). ESD was also responsible for completion of the SADF's 'large telecommunication network'.

Little is known of Reutech's other two companies, Aserma and OMC Engineering. In 1983, OMC, operating in Kempton Park with a workforce of over one thousand, dismissed a senior executive because he was unable to obtain an upgraded security clearance from the SADF. The new clearance was required because OMC work was reclassified from 'confidential' to 'secret priority'. (*Sunday Times*, 21.8.1983).

Why Barlows was chosen to be the standard-bearer of high-tech private sector co-operation with the military is not entirely clear. But the fact that Barlows, despite having no manufacturing experience whatsoever in these fields, was an active distributor of electronic components, could well be a pointer. The Reunert group lies at the centre of a web of connections with international business on which the South African electronics industry is completely dependent. Components, designs, test equipment and a variety of other essential elements flow into the country relatively unhindered. Since the 'disinvestment' of IBM in 1987, Reutech has also been able to establish itself as an important conduit in the field of computer technology. A survey of Armscor weapons systems published in the Geneva-based *International Defence Review* highlighted a Reutech product, the AS80 Artillery Fire Control System, supposedly designed by ESD for use with the SADF's G-5 Howitzers. *Defence Review* claimed that the computer components were all of US origin, and an Armscor spokesperson was quoted as saying that getting the components 'was not a problem' (3, 1983: 270).

In 1985 Barcom won a South African award for the design of a synchronisation processor – microprocessor for frequency-hopping communications. Despite the boasts of local self-sufficiency and import-substitution, the chip was in fact designed 'in consultation' with AEI Henley's micro-electronics division. AEI Henley is a Reunert subsidiary, but it is still half-owned by its British parent, GEC. Telcor, another Reunert company, operates a range of distribution agencies for US and British electronics companies. On the computer side, Barlowdata represents amongst others Hitachi and US-based Data General. In a nutshell, Reunert is an amalgamation of subsidiaries and agencies of international companies. In the words of the Reunert managing director, 'Most local manufacture is merely assembly of imported parts' (*Financial Mail*, 21.6.1985).

This is by no means a comprehensive survey of Barlows' contribution to the South African armaments industry. Nonetheless, the Barlow Rand experience, as it is described here, casts some light on the claims of self-sufficiency in arms production in South Africa.

It is no secret that Armscor takes pride in its ability to break the arms embargo. Despite the high level of security involved, many cases of boycott-breaking have found their way into the commercial press and even into the courts in other countries. They include the establishment of clandestine foreign companies, bogus disinvestment schemes or management buy-outs, a range of other corporate manoeuvres, as well as straightforward smuggling.

## Conclusion

In the final analysis, the South African armaments industry remains technologically dependent. Where military technology is locally available, it is still largely based on

the remodelling of licensed military hardware. Furthermore, there are some areas in which the Armscor arsenal is still severely lacking, most notably in the capacity to produce militarily competitive aircraft and naval vessels. This was graphically demonstrated in the scandal which emerged in 1986 as a result of the smuggling of submarine blueprints out of West Germany in a consular bag. It was alleged that top-ranking German politicians were involved in the affair, as well as top South African consular staff (*Beeld*, 27.11.1986 and 26.1.1987). Similarly, in the battles waged in Angola in 1987-8, the vulnerability of South Africa's dated Mirage and Cheetah fighter-aircraft exposed the urgency of developing an updated fighter which could match the latest Soviet or Cuban technology.

The implication seems to be that the South African armaments industry is still more of an assembly than a production enterprise. The fundamental technological dependency at this stage remains, if for no other reason than because of South Africa's undeveloped research and development capabilities. As a Third World economy, South Africa remains dependent on periodical rehiring of updated technology.

However, the South African oil-from-coal industry does provide an example of the local capacity to generate novel and strategically indispensable technological innovations. These seem not to be completely beyond the reach of the South African arms industry. In the sphere of arms production, the potential for growing independence and innovation should not be too easily dismissed. Where the know-how itself is lacking, there is the possibility of importing the necessary skills, as was rumoured to have taken place with regard to Israeli engineers working on the Lavi jet-fighter project (*Citizen*, 13.2.1988; *Business Day*, 13.12.1987).

There can be no doubt that, despite the long-term vulnerability of the armaments industry to effective international sanctions, at present Armscor is successfully able to supply the SADF with most of its immediate needs. In fact, the industry is having to cut back to avoid over-production.

Perhaps of even greater significance is the extent to which the South African arms industry has been able to cultivate an export market. Today Armscor can claim to be the biggest single exporter in the South African manufacturing industry (*Business Day*, 22.1.1988). In some senses this is less surprising than it may seem. The arms trade is a notoriously dirty business and South African arms, uniquely suited to Third World terrains, are extremely marketable by virtue of having been tried and tested. Fellow 'pariah states' in Latin America and the Middle East provide a willing and eager market for arms from South Africa (see Vayrynen, 1980).

The successful cultivation of an export market in armaments has some bearing on the assertions of Van Vuuren, referred to at the beginning of this chapter, regarding the potential of the arms industry to lead economic growth and recovery in South Africa. Indeed, this 'spin-off benefit' for the rest of South African manufacturing is given considerable coverage in the 1986 Defence White Paper. Albeit in somewhat convoluted style, the White Paper argues that defence expenditure, through supplementing and renewing industrial production, as well as developing resources and industrial infrastructure, stimulates economic growth and provides both direct and indirect benefits to industrial economic activities in all sectors (Defence White Paper, 1986: 34-8). To the extent that this is true, it represents a central process in the developing militarisation of the South African economy.

The White Paper focuses on two primary 'spin-off' benefits resulting from investment in the armaments industry: the benefit of technology transfer to other sectors of the economy; and job creation and skills development in the wider labour force. While some examples of such technological 'spin-offs' are given in the 1986 White Paper, they are rather specialised and are largely limited to the field of electronics and the steel and metal industries. As both Kaldor, and Smith and Smith, point out, the more sophisticated the armaments themselves become, the less applicable the technology tends to be in other areas of the economy (Kaldor, 1982; Smith and Smith, 1983: 94-6).

It therefore remains to be said that the successes of the armaments industry rest on very insecure technological and ideological foundations. The capacity to cultivate an arms-export market of unique and cost-efficient products is not simply transferable to other sectors of the economy as are the technological benefits. South Africa's dependent economic status is not about to be altered, in spite of the Armscor propaganda.

There is considerable debate about the role of military expenditure in resolving crises in capitalist production, much of which revolves around the area of spin-off benefits. For the purposes of this chapter we can say that there is no indication that military rather than any other form of expenditure is necessary to foster economic growth. This is true of both the industry's capacity to create jobs (a dubious contention under any circumstances), and its capacity to generate technological innovation applicable in other sectors of industry.

On the contrary, there is every indication that military expenditure acts as a drain on national resources so desperately needed for improving the standard of living of the majority of South Africans. To the extent that this is true, it represents a disjuncture in the reciprocal relationship between the military and big business over often varying perceptions of what appropriate economic solutions to the current crisis are.

Ultimately, the very political and economic crisis which breathed life into the South African arms industry is simply being exacerbated by its development. The money spent on bullets and buckshot is drawn from the wealth-generating capacity of the South African working class. It is wealth unproductively spent and expended. Rather than generating growth, ever-increasing defence expenditure will contribute to escalating inflation, continued contraction in the growth potential and employment potential of the South African economy, and, inevitably, will play its part in intensifying political conflict and violent struggle in South Africa.