CHEMICAL AND BIOLOGICAL WARFARE (CBW) is the intentional use of chemical agents or living organisms to cause death, disability or damage in man, animals or plants. During the past few years there have been protests in many countries against CBW, inspired particularly by the massive use of chemical defoliants by the Americans in Vietnam. In America, Fort Detrick is the Army’s CBW research and manufacturing centre. The main British establishment, run by the Ministry of Defence, is at Porton Down. But how involved is Australia in CBW research?

Australian participation was disclosed publicly for the first time in a feature article in *The Sydney Morning Herald* (9/3/67) by Noel Lindblom, the paper’s science correspondent. He stated that CBW research was conducted by a small group of scientists at the Department of Supply’s Defence Standards Laboratories (DSL) situated in the Melbourne suburb of Maribyrnong. Australia was said to have a three-year quadripartite agreement with Britain, the USA, and Canada on the exchange of the most recent developments in the field. Lindblom reported that Mr. W. G. Jowett, Chairman of the Australian quadripartite working group and acting Head Superintendent of the DSL’s Protective Chemistry Division, was not free to discuss the nature of his duties or whether they were confined to the Maribyrnong laboratories. However, the article did disclose that Jowett visited Britain and the USA from time to time, including a visit to Porton Down in 1966. In the same year he lectured on modern developments in CBW to various Australian defence establishments, including HMAS Cerberus at Westernport in Victoria, the Army Staff College at Queenscliff in Victoria, and the Navy and Air Staffs in Canberra. Only a small proportion of the research efforts of Jowett’s team were said to be ever published; the proportion being probably less than the 15 per cent of the Fort Detrick researchers’ findings.
published in conventional scientific outlets. Lindblom concluded that although Porton Down had been recently opened up to inspection on a limited basis to the British Press and at least some of the aims and intentions of American CBW scientists had been made public, there was "almost total secrecy" about research and development in Australia.

The article prompted Mr. Whitlam, the Leader of the Opposition, to address a question to the then Prime Minister, Mr. Holt, in Federal Parliament on March 15, 1967. Asked about the extent of CBW research in Australia, Holt replied:

I am informed that a small nucleus of Australian scientists is charged with the responsibility for keeping up to date our technology of defence against chemical warfare, and this involves some research work as well as keeping in touch with allied activity in this field. No work on bacteriological agents is being undertaken in Australia. The activities that I have mentioned are not in contravention of the 1925 protocol for the prohibition of the use in war of asphyxiating, poisoning or other gases and of bacteriological methods of warfare.

The subject of CBW research did not come up again in Federal Parliament for almost a year and a half. However, anti-Vietnam groups were not inactive in this period: the Queensland Peace Committee for International Cooperation and Disarmament published *Chemical and Biological Warfare in Vietnam* which reproduced material from a number of overseas sources; the Sydney Vietnam Action Campaign's *Vietnam Action* (July 1967) carried a three-page article on CBW in Vietnam; the Vietnam Day Committee in Melbourne organised a demonstration outside the DSL on October 22, 1967.

Around the same time the Bulletin of the Vietnam Day Committee, *Viet Protest News* (Vol. 2, No. 3, 1967), brought out a full issue on CBW research, compiled by Humphrey McQueen and Ian Morgan. They devoted an excellent case study to Dr. R. G. Gillis, Principal Research Scientist at the DSL, based on the Annual Reports issued by the establishment. It was found that since 1958 Gillis had published five papers on nerve gases and related compounds. He had also published two papers on stonefish venom and one on a north Queensland stinging-tree called Laportea. Research into stonefish and the stinging-tree is important because by examining natural poisons it is possible to develop new weapons and to improve existing ones. Gillis' research into nerve gases was found to be more immediately alarming since all nerve gases are lethal.

Two general articles on CBW appeared in the Press in December (*The Australian*, 13/12/67; *The Sydney Morning Herald*, 30/12/67). Unfortunately, both articles neglected Australia's involvement in CBW, but one of them led to correspondence from
a number of scientists, including Professor L. C. Birch, Challis Professor of Biology and Head of the School of Biological Sciences at the University of Sydney, who spoke out strongly against the misuse of scientific knowledge by CBW researchers. (The Australian, 26/12/67). At the same time, a statement expressing concern over the use of herbicides in Vietnam and endorsed by 677 Australian scientists appeared in The Australian (13/12/67).

Further evidence of Australia's part in CBW research and development came to light in two of the papers presented at the London conference on CBW in February 1968, and subsequently published in Steven Rose (ed.), CBW: Chemical and Biological Warfare (London: Harrap, 1968). The joint authors of the contribution on CBW research in Britain, Robin Clarke, editor of Science Journal and author of We All Fall Down: The Prospect of Biological and Chemical Warfare (London: Allen Lane, 1968), and J. P. Robinson, of the International Peace Research Institute in Stockholm, referred to one specific area involvement: the development of protective clothing impervious to radioactive dust and chemical and biological weapons. "Various other types of protective overclothing have been developed in Britain", they wrote, "sometimes as a result of close collaboration with the American, Canadian, and Australian establishments."

Dr. J. H. Humphrey, an immunologist, provided more evidence of Australian participation when he discussed his reservations about the work being conducted at Porton Down:

The study of defensive measures may not be so innocent as it might appear if studies of offensive measures and discoveries relating to these are left to our American allies on a reciprocal basis. In the absence of other information it may be wiser to assume that the collaboration which began during World War II has not ended. The existence of an agreement between Britain, Canada, Australia and the US and of shared proving grounds for CBW research at Suffield, Alberta and Innisfail, Queensland, are examples. It is important to know what are the general terms and duration of this quadripartite agreement.

In the British House of Commons on March 11, 1968, Mr. Tom Dalyell, Labor MP and member of the House Select Committee on Science and Technology, asked the Secretary of State for Defence with which countries there were shared facilities for testing equipment and weapons developed at the CBW establishment at Porton Down, and where these facilities were located. The Minister replied:

In the United States, at Dugway proving ground, Utah; in Canada, at Suffield, Alberta; and in Australia, at Innisfail, in Queensland. The term 'weapon' in this context refers solely to riot control apparatus.

A front-page article in the London Observer (26/5/68) repeated the charge that Britain was not merely exchanging information
on CBW with the other three powers in the quadripartite agreement, but had joined in the sharing of the use of proving grounds at Dugway, Suffield, and Innisfail. The Observer article continued that CS gas, the "riot control apparatus" developed at Porton Down and used by the US army in Vietnam and against the French students in the May 1968 revolt, was supplied to "certain foreign and Commonwealth countries." Thus it is quite possible that Australia is importing the agent.

A radio programme on CBW appeared on July 27, 1968 in the ABC series "The World Tomorrow." A team of experts was assembled including two CBW enthusiasts — Dr. Gordon Smith, Director of the Biological Warfare Research Group at the Microbiology Research Establishment at Porton Down, and Brig.-Gen. J. H. Rothschild, former Commanding General of the US Army Chemical Corps Research and Development Command and author of the bible of CBW fans Tomorrow's Weapons (New York: McGraw-Hill, 1964) — along with two opponents in Seymour M. Hersh, former Pentagon correspondent for Associated Press and author of Chemical and Biological Warfare: America's Hidden Arsenal (London: MacGibbon & Kee, 1968), and Robin Clarke. Clarke refuted British and Australian claims that work was being conducted only on the defensive aspects of CBW:

I think anyone who tries to do this is really pulling the wool a little bit. One of the things is that to do the defence you must in fact manufacture the agent you're going to try and defend yourself against; otherwise, you can't test it.

The producer of the programme, Dr. Peter Pockley, charged that CBW research was being conducted in Australia at the DSL, but the Department of Supply declined an invitation to participate in the report. Another ABC reporter, Michael Daley, noted that the DSL Annual Report for 1966-67 referred to research on tracing the movement of chemical and biological aerosols through foliage, the theoretical prediction of low concentrations of physiologically active vapours in air, and the mode of action of drugs on the nervous control of muscle, while on the germ front there had been work on the reactions of bacterial endotoxins in the blood of rabbits. These disclosures by Daley are of critical significance for all the projects he listed have direct application to biological warfare: aerosols are important as efficient means of disseminating pathogenic bacteria such as some of the rickettsia (Q fever, etc.), and microbial toxins and toxins taken from plants all have potential use as weapons for poisoning water, food and so forth. In the previous Annual Report research had been shown on poisonous plants, involving the isolation of active substances from the Giant Stinging Tree and the Blister Bush from WA. Professor L. C. Birch concluded the programme with a challenge to the Depart-
ment of Supply to comment on the allegations that Australia was preparing for CBW:

So the whole thing, the devastating effect of these chemicals and diseases, the extent to which they spread and we don't know how they will spread, and the fact that so much of the work has to be done in secrecy—all of this just burns into, I think, the scientific conscience of all of us. Why should any of it be going on in Australia? And if it is going on, shouldn't the Department of Supply let us all know now? Why and what are the details?

An article with a London dateline appeared in the *Daily Telegraph* (8/8/68) claiming that the Joint Tropical Research Unit at Innisfail was being used as a testing ground for germ warfare. The Minister for Supply, Senator Anderson, immediately issued a Press release:

The simple facts are that the JRTU was not established for the purpose of making chemical or biological warfare tests, and has not been so used; nor am I aware of any plans to use it for such tests in the future.

Parliament came to life again in the same month. During the previous 17 months in which not one parliamentarian had raised the subject of CBW, even “leftwing” members of the Opposition approached by members of the Vietnam Day Committee declined to bring it up either in question time or in general debate. However, on August 13 Whitlam reminded the Minister for Defence, Mr. Fairhall, that one of the parties to the quadripartite agreement on CBW research—the USA—was not a party to the Geneva Protocol of 1925. He asked for an assurance that the Department of Supply had not at Maribyrnong or elsewhere received information or materials from that country in breach of the protocol. Fairhall replied:

It must be understood that other countries which may at some time be opposed to Australia’s interests have available to them a considerable amount of knowledge of such forms of warfare. It would be folly of the worst kind if Australia were not to keep abreast of what is available in terms of knowledge so that if the time should come for us to defend our own troops in action we would know how to do it...we have never been involved in the testing of chemical or biological agents in the field of Australia, nor have we used the test areas of any other nation.

At the end of the Senate debate relating to the appropriations for the Department of Supply (17/9/68), Senators Georges and Keefe (both ALP) asked the Minister for Repatriation, Senator McKellar, whether any of the increase in the coming year’s expenditure would be spent on the development of biological warfare, but on both occasions McKellar was adamant that nothing was being spent on this form of warfare. Georges returned to the subject on September 26 with a question to Senator Anderson, asking for an assurance that some experiments described in the current DSL Report were in no way connected with biological warfare. Anderson stated again that no experiments in biological warfare were being conducted in Australia, but he added: “We
must be in possession of certain information and we must ensure that our scientists study what is happening in other countries in all manner of matters which lie within the responsibility of my portfolio.”

Anderson made a further statement in the Senate on October 8, which he prefaced by noting that “a small number of Australian scientists are charged with the responsibility of keeping up to date our technology of defence against biological and chemical materials. This involves some research work as well as keeping in touch with allied activity in these fields.” He concluded his remarks: “No work on offensive biological or chemical warfare agents is undertaken in any establishment of my Department. Investigational work in the fields covered in the report is essential to defence against these types of agent.” This heavy emphasis on “defensive” policy calls to mind a passage from Rothschild’s book, *Tomorrow’s Weapons*, where the author noted that “until I retired . . . I was not able to speak of a chemical or biological weapon without prefacing my remarks with the statement that the enemy might use it. I was never able to speak of the offensive, only of the defensive.”

In the meantime, Professor S. D. Rubbo, Professor of Microbiology at the University of Melbourne, had been active writing a series of articles against CBW (*Nation*, 28/9/68; *Pacific*, Sept.-Oct., 1968; *The Australian Quarterly*, Dec. 1968) and also speaking on the subject at various public meetings. A speech at one meeting which was reported in *The Australian* (19/8/68) so infuriated “John C. Calhoun”, the columnist for *News-Weekly* (25/9/68), that he wrote: “To the persistent propaganda about the horrors of nuclear war . . . is now being added some very imaginative stuff about bacteriological warfare — basically a revival of Wilfred Burchett’s germ warfare canard of the Korean War.” (Rubbo effectively answered the psuedonymous columnist in *News-Weekly*, 16/10/68). Perhaps, one could ask, Australia’s possession of the embryo of a biochemical weapons establishment will provide the DLP with a cheaper and more effective “deterrent” than nuclear weapons? In another of his speeches Rubbo stated that Australia, as a party to the Geneva Protocol of 1925, should have no part in the use of chemical warfare in Vietnam and he called on the Federal Government to make a statement on the dangers of CBW (*The Australian*, 14/10/68).

On October 15 Senator Cohen (ALP) asked the Government to make a statement as suggested by Rubbo and on November 19 he received the following reply from the Prime Minister, Mr. Gorton: “There is no reason why the use of the types of chemicals employed in Vietnam for defoliation should lead to the use of
substances which would contravene the Geneva Protocol of 1925 or the general humanitarian principles which inspired it." Shortly afterwards, a letter appeared in *The Australian* (31/10/68) stating that Rubbo should have challenged the government to do a lot more than make a general statement on the dangers of germ warfare. The correspondent, Dr. A. B. Lloyd, Lecturer in Microbiology in the Department of Agricultural Biology at the University of New England, reminded readers that scientists at the DSL were actively engaged in research on biological warfare:

The Prime Minister has stated that this research is of a defensive nature. If he is sincere, then why not transfer the control of research from the Department of Supply to the Department of Health which is already responsible for natural epidemics and the development of vaccines, for such diseases as influenza, etc.? For if the biological warfare centre at Maribyrnong is engaged only in defensive work, then it too should be making vaccines and devising methods for protecting this country against man-made epidemics.

Lloyd then went on to question the secrecy surrounding the work of the DSL:

The great danger of conducting research in secret is that the public is unaware of the nature of the work and the dangers from any discoveries.

At present most biological scientists in this country know more about the biological warfare centres in Porton, England, or Fort Detrick, USA, than they do about the Defence Standards Laboratories, Maribyrnong, Victoria.

We as citizens have a right to know what is happening and to insist that this work is entirely defensive.

Senator Wilkinson (ALP) asked Senator Anderson on November 6 whether he would consider transferring the DSL from Supply to the Health Department, thereby establishing that the research being conducted at Maribyrnong was entirely defensive and not related to CBW. Once again, Anderson replied that "no part of my Department has in the past engaged in, is now engaged in or has any plans for future research work involving the handling of disease-producing biological agents, nor is there any facility in the Department that is set up to handle, or could be immediately converted to handle, such work." The defensive aspects of Supply’s activities, he continued are those with chemical and physical rather than biological aspects of this field... They include work on respirators and protective clothing and on studies of the rates of diffusion or dissemination of agents in the atmosphere.

On November 27 Senator Cohen asked the Minister for Supply to make a statement covering the terms of the quadripartite agreement for the sharing of CBW research findings and the shared use of testing grounds. Replying on the following day, Anderson stated that in July 1965 Australia had joined TTCP (The Technical Co-operation Programme) which related to co-operation in the whole of non-atomic military research and development. One field in which Australia exchanged information with the other
parties was called "Chemical and biological defence." The Minis-
ter continued:

I and other members of the Government have on previous occasions stated
that it is Australia's policy to be well informed on defensive measures in this
subject, but in accordance with Geneva protocol, not to have an offensive
capability. In relation to the joint tropical research unit at Innisfail, I stated
that it was not a testing ground for chemical and biological warfare, and at
that time and on other occasions I have stated that Australia has no other
testing ground which is used for this purpose. Although TTCP makes
provision for the joint use of facilities, it will be clear from what I have just
said that this provision cannot apply to the shared use of a chemical and
biological warfare testing ground which Australia does not have, nor, as
will be clear from my previous explanations of the nature of the work that
we are doing, is it necessary for Australia to make use of, or participate in
the use of, the testing ground operated by any other member of TTCP.

Meanwhile, public interest in CBW had been maintained by
the screening on ABC T.V. of an excellent BBC documentary
entitled "A Plague on Your Children" and by the publication of
two lengthy reports on CBW by Christopher Forsyth in The
Australian (2 and 4/11/68). Towards the end of December, Mr.
Barnard, Deputy Leader of the Federal Opposition, stated in a
radio broadcast that the fact that CBW research was carried on in
laboratories attached to the Department of Supply implied that
it was "more than merely defensive." If the research was genuinely
preventive and defensive, he went on, it should be transferred to
the Department of Health. (The Australian, 30/12/68).

CBW came back into the headlines in February 1969. A BBC
feature on the subject was screened on ABC television on Febru-
ary 16; it included an allegation by Mr. Tom Dalyell, British
Labor MP and member of the House Select Committee on Science
and Technology until he was sacked at the end of 1968 for his
part in the agitation against the secrecy surrounding Porton
Down, that the Joint Tropical Research Unit at Innisfail was
being used as a testing ground for chemical weapons "and perhaps
biological weapons, too." A senior British scientist engaged in re-
search at Porton Down also claimed that field tests were carried
out at Innisfail. Immediately, Senator Anderson and an Army
spokesman denied that the JTRU was being used for "germ
warfare" experiments. The Army spokesman added: "Even if
testing for germ warfare was being carried out here, I would not
be in a position to disclose it." (The Australian, 18/2/69).

An item in The Herald (18/2/69) reported that the JTRU
was established in 1961 as a joint venture between Australia and
Britain. Britain had provided the cost of running the unit, al-
though Australia contributed $25,000 last year. Most of the scien-
tists working at Innisfail are British, and most of the research
is initiated from Britain. The report went on to state that after
the London Observer had claimed in May 1968 that work on CBW was taking place at Innisfail, Whitlam arranged for two members of his staff to visit the unit. They reported back that all they saw at Innisfail was the examination of the effects of tropical weather and conditions on army uniforms and equipment. An article in The Age (21/2/69) stated that there was a second establishment at Innisfail, jointly operated by the Department of Supply and the British Ministry of Technology.

It was unfortunate that the Press consistently referred to Dalyell's charges under banner headlines reading "Germ Warfare." The Federal Member for Leichhardt, Mr. Fulton (ALP) and two journalists visited the JTRU establishment to see whether "germ warfare work" was being conducted there. Fulton said that he had been at Innisfail 18 months previously but he was certain there had been no germ work going on at the time. "I would be very much against that type of thing" in the electorate of Leichhardt, he said. If trials associated with germ warfare were necessary, he continued, they should be conducted in a very remote place, "like a desert", or a confined area. (The Age, 19/2/69). Following his visit to Innisfail, Fulton dismissed claims of germ warfare: "I went there with an open mind and came away satisfied with what I saw, and with the assurance from the unit commander that its function was to test military equipment." (The Sun, Melbourne, 20/2/69). One of the journalists who accompanied Fulton headed his report "White Ants, Not Germs at Innisfail." (The Age, 21/2/69).

Dalyell, however, did not claim that germ warfare research was being conducted at Innisfail. He said that Innisfail was the "hot-and-wet" proving ground, whereas Suffield provided "cold-and-wet" conditions, and Dugway was a "hot-and-dry" establishment. He went on to say that he believed testing at Innisfail was probably connected with herbicides (e.g., rice fungus) and with riot control agents such as CS gas, and it was also possible that toxic nerve gases were being tried out:

We do the work at Porton, and you Australians provide the proving ground. Innisfail could obviously simulate jungle conditions for trying out gases of the type used in Vietnam. (The Age, 22/2/69.)

It is most unlikely that germ warfare research is being carried out in Australia. We simply have not the facilities available to undertake the type of research for which Porton Down is infamous. On the other hand, chemical warfare research into nerve gases is almost certainly going on at the DSL. For the moment, a question mark must be placed against Innisfail, although it is possible that nerve gases have been tested there on protective clothing.

The public record on CBW research in Australia has enormous gaps. Little more information can be expected from the Govern-
ment, apart from what Ian Moffitt described in *The Australian* (17/8/68) as "bland denials" and "Canberra semantics". It is known, however, that the Government set up a committee which investigated problems of defence for Australia in case of an attack by an enemy employing CBW weapons. The committee discussed such aspects as a hypothetical case where Australia was attacked from the North (Asia?) by an enemy using biological warfare weapons which caused an epidemic of Q fever. Not surprisingly, the Government has refused to acknowledge the existence of the committee.

Many US and British universities are heavily involved in CBW research. Are Australian universities participating in similar programmes for either the Australian Government or the US Defence Department? Some people are suspicious about the University of New South Wales — which is still believed to conduct security checks on new appointments to its staff — on the grounds that this institution now has a Faculty of Military Studies, based at the Royal Military College, Duntroon. Recently the Faculty of Military Studies advertised the position of Professor of Chemistry, whose department's interests inter alia were claimed to be nitrogen and organo-phosphorus chemistry and structure. Opponents of CBW research would be well advised to keep acquainted with activities at Duntroon. The Department of Zoology at the University of Queensland has for some time been actively working with potent toxins, especially some of the gastropod toxins which will paralyse vertebrae. The leader of the research group involved, Dr. R. Endean, denies that its work is in any way concerned with biological warfare and he states that neither he nor any of his group have been contacted by outside people with an interest in biological warfare research. Nevertheless, his published work is undoubtedly read with interest at Maribyrnong.

CBW research in Australia is insignificant compared to the work being conducted overseas. By refusing to acknowledge the extent of Australian participation in CBW research and development, however, the Government is preventing public debate on yet another aspect of the close links they have developed with the USA, a country which has never signed the Geneva Protocol of 1925 and which is patently violating the Protocol in its imperialist war against the Vietnamese people. It is to be hoped that an unrelenting campaign to end the secrecy which surrounds CBW research will be waged by the Federal Opposition in Canberra as well as the extra-parliamentary opposition and members of the scientific community who have refused to turn themselves into academic Eichmanns.